EAST OAK RECYCLING AND DISPOSAL FACILITY
OKLAHOMA COUNTY, OKLAHOMA
ODEQ PERMIT NO. 3555036

TIER III PERMIT MODIFICATION
LANDFILL EXPANSION

VOLUME 1 OF 4

Prepared for

Waste Management of Oklahoma, Inc.

June 2015
Revised January 2016

Revised May 2016

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

Prepared by

Weaver Consultants Group, LLC
CA 3804 PE 06/30/2017
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 0086-356-11-42-04

EAST OAK RECYCLING AND DISPOSAL FACILITY
OKLAHOMA COUNTY, OKLAHOMA
ODEQ PERMIT NO. 3555036

TIER III PERMIT MODIFICATION
LANDFILL EXPANSION

VOLUME 1 OF 4

CONTENTS

TIER III PERMIT APPLICATION FORM

TIER III PERMIT MODIFICATION

APPENDIX A
Waste Management, Inc. Annual and Quarterly Reports

APPENDIX B
Permit, Proof of Publication, Legal Description, and Volume Calculations

APPENDIX C
Temporary Easement for Access

APPENDIX D
Location Restriction Correspondence

APPLICATION TO MODIFY A SOLID WASTE DISPOSAL FACILITY PERMIT

Date: June 5, 2015 County: Oklahoma

Send to:

Solid Waste Permitting Unit
Waste Management Division
Dept. of Environmental Quality
707 N. Robinson (PO Box 1677)
Oklahoma City, OK 73101-1677

FOR DEQ USE

DEQ Log No. _____
No. Copies _____

Date Received: _____

Waste Management of Oklahoma, Inc. proposes to modify the permit of
(Applicant's Name)
the East Oak RDF, located at (see attached)
(Facility Name) *(Exact legal description:*

metes & bounds, platted lot, or land survey. Append extra sheets if necessary)

in Oklahoma County, Oklahoma. We hereby make application for a modification of existing permit number 3555036 as required by the **Oklahoma Solid Waste Management Act** and the Rules pursuant thereto.

Remarks & brief description of proposed modification:

An expansion of an existing municipal solid waste landfill. The expansion includes an 41.4-acre lateral expansion of the solid waste disposal area, and the permit boundary will increase from 158.8 acres to 282.96 acres.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

Applicant or Authorized Agent:

Signature

Donald J. Smith
Typed Name

Address: 3201 Mosley Road
City: Oklahoma City State: OK

Date signed: 6-5-2015
Phone: (713) 365-2750

Preparing Engineer:

Signature

Jonathan V. Queen
Typed Name

Address: 6420 Southwest Blvd., Suite 206
City: Fort Worth State: TX

Date signed: 6/5/15
Phone: (817) 735-9770

Facility Address (if any): _____

DEQ USE ONLY

VERIFICATION[1]

STATE OF ~~OKLAHOMA~~ TEXAS)
) ss
COUNTY OF TARRANT)

Guy R. Campbell, of lawful age, being first duly sworn, upon oath state that I have read the foregoing APPLICATION TO MODIFY A SOLID WASTE DISPOSAL FACILITY PERMIT, that I am familiar with the matters set forth therein, and that the same are true to the best of my information and belief.

Guy R Campbell
Applicant

Subscribed and sworn to before me this 5th day of June, 2015, by Guy R. Campbell (Applicant or legal representative).

Helen M. Hanson
Notary Public

My commission expires:

5/17/17

NOTARY PUBLIC STATE OF TEXAS
HELEN M HANSON
My Commission Expires
May 17, 2017

[1] This Verification is required for a Tier III modification application.

Legal Description for Permit Boundary

LEGAL DESCRIPTION (TRACT 1)

A part of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Northeast Corner of said Section 21

THENCE N89°47'56"W, along the North line of said Section 21, a distance of 100.00 feet;

THENCE S00°30'38"E, parallel to the East line of the Northeast Quarter of said Section 21, a distance of 100.00 feet to the POINT OF BEGINNING;

THENCE continuing S00°30'38"E a distance of 464.72 feet;

THENCE S45°30'38"E a distance of 70.71 feet;

THENCE S00°30'38"E a distance of 524.64 feet;

THENCE N80°21'02"E a distance of 50.64 feet to a point in said East line;

THENCE S00°30'38"E a distance of 35.40 feet;

THENCE S40°15'14"W a distance of 866.24 feet;

THENCE S39°36'06"W a distance of 372.00 feet;

THENCE S36°04'06"W a distance of 317.37 feet;

THENCE S33°28'06"W a distance of 323.68 feet to a point in the South line of the Northeast Quarter of said Section 21;

THENCE S32°41'41"W a distance of 2324.55 feet;

THENCE N20°49'00"W a distance of 537.57 feet to a point in the West line of the Southeast Quarter of said Section 21;

THENCE N00°21'36"W, along said West line, a distance of 1450.38 feet to Southeast corner of the Northwest Quarter of said Section 21;

THENCE S89°51'56"W, along the South line of said Northwest Quarter, a distance of 2244.87 feet;

THENCE N13°51'44"E a distance of 498.85 feet to a point of curvature;

THENCE along a curve to the right, having a radius of 2814.76 feet, a chord bearing of N18°23'44"E, a chord distance of 444.96 feet, an arc length of 445.42 feet;

THENCE N22°55'44"E a distance of 488.61 feet;

THENCE N67°55'44"E a distance of 70.71 feet;

THENCE N22°55'44"E a distance of 74.47 feet;

THENCE N59°45'36"E a distance of 742.14 feet;

THENCE N32°28'39"W a distance of 303.61 feet;

THENCE S58°44'37"W a distance of 358.10 feet to a point on a non-tangent curve;

THENCE along a curve to the left, having a radius of 2009.86 feet, a chord bearing of N08°04'29"E, a chord distance of 555.65 feet, an arc length of 557.43 feet;

THENCE N00°07'38"E a distance of 116.69 feet;

THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 3958.27 feet to the POINT OF BEGINNING, containing 11,709,925.23 square feet or 268.82 acres more less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on September 13, 2013.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

LEGAL DESCRIPTION (TRACT 2)

A tract of land located in the Southwest Quarter (SW/4) of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Southeast Corner of the Southwest Quarter of said Section 21;

THENCE North 00°21'36" West, along the East line of said Southwest Quarter, a distance of 388.09 feet to the POINT OF BEGINNING;

THENCE South 32°55'14" West a distance of 213.24 feet;

THENCE South 45°10'58" West a distance of 197.54 feet to a point in the East line of the Billy Williams property, warranty deed filed in Book 6736 at Page 1181;

THENCE North 00°00'08" West, along said East line, a distance of 284.89 feet to the Northeast corner of said Billy Williams's property;

THENCE South 89°59'34" West, along the North line of said Billy Williams's property, a distance of 232.21 feet;

THENCE North 04°00'04" East a distance of 2.82 feet;

THENCE North 24°22'33" West a distance of 250.00 feet;

THENCE North 36°46'03" East a distance of 544.27 feet;

THENCE North 25°05'09" East a distance of 110.82 feet;

THENCE North 47°16'25" East a distance of 289.42 feet to a point in the East line of the Southwest Quarter of Section 21;

THENCE South 00°21'36" East, along said East line a distance of 929.91 feet to the POINT OF BEGINNING, containing 391,257.69 square feet or 8.982 acres of land, more or less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on January 21, 2010.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

L a m o r e n n e S u r v e y i n g , L L C
Norman – 3226 Bart Conner Dr. – Norman, OK 73072 – P 405.366.8541 – F 405.366.8540
Tulsa – 7136 S. Yale Ave., Suite 120 – Tulsa, OK 74136 – P 918.895.9383 – F 918.895.9768

LEGAL DESCRIPTION (TRACT 3)

A part of the Northwest Quarter of Section Twenty-One (22), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as Beginning at a point on the West line of said Section 22, said point being 918.00 feet S00°29'01"E of the Northwest corner of said Northwest Quarter:

THENCE N43°28'59"E, a distance of 596.95 feet;

THENCE N23°34'59"E a distance of 424.18 feet;

THENCE N89°36'31"E a distance of 359.39 feet to a point on the West right-of-way of the S.L.& S.F Railroad;

THENCE S40°59'06"W, along said right-of-way, a distance of 1429.80 feet to a point on the West line of said Northwest Quarter;

THENCE N00°29'01"W, along said West line, a distance of 255.14 feet to the point or place of Beginning, said tract to containing 224,706.05 square feet or 5.159 acres more or less.

Basis of Bearing is Deed Bearings as filed in Book 6178, Page 1287 of the Oklahoma County Clerk's records.

This legal description prepared by Robby L. Johnson, PLS 1539, on August 11, 2014.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

EAST OAK RECYCLING AND DISPOSAL FACILITY
OKLAHOMA COUNTY, OKLAHOMA
ODEQ PERMIT NO. 3555036

TIER III PERMIT MODIFICATION
LANDFILL EXPANSION

Prepared for

Waste Management of Oklahoma, Inc.

June 2015
Revised January 2016

Revised May 2016

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

Prepared by

Weaver Consultants Group, LLC
CA 3804 PE 06/30/2017
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 0086-356-11-43-03

CONTENTS

FIGURES V

DRAWINGS VI

APPENDICES VIII

1 GENERAL INFORMATION REQUIREMENTS 1

1.1 Introduction and Project Overview 1

1.1.1 Zoning Authorization 2

1.1.2 FEMA CLOMR 3

1.1.3 USACE and ODEQ Water Quality Division Authorization 3

1.1.4 Other Agency Coordination 4

1.2 Name and Type of Facility 5

1.3 Proposed Operational Description 5

1.4 Name, Address of Applicant 5

1.5 Owner Information and Disclosure 5

1.6 Legal Description 6

1.7 Location of Facility 6

1.8 Right to Use Documentation 6

1.9 Land Use of Adjacent Property and General Area 6

1.10 Waste Streams 7

1.11 Life and Design Capacity of Facility 7

1.12 Record Keeping Procedure 9

1.13 Access Roads 9

1.14 Air Quality Permitting Status 9

1.15 Aesthetic Enhancement 9

1.16 Variance Requests 10

2 LOCATION STANDARDS 12

2.1 Introduction 12

2.2 Scenic Rivers 12

2.3 Recreation/Preservation Area 12

2.4 Endangered and Threatened Species 13

2.5 100-Year Floodplain 13

2.6 Public Water Supply 14

2.6.1 Public Water Supply Surface Water Intakes 14

2.6.2 Public Water Supply Well 14

CONTENTS (Continued)

	2.7	Wellhead Protection Area	14
	2.8	Wetlands	15
	2.9	Terrace Deposits	15
	2.10	Karst Terrain	17
	2.11	Earthquake Epicenter Areas	17
	2.12	Asbestos Monofills	17
	2.13	Utility/Transmission Lines	18
	2.14	Fault Areas	18
	2.15	Seismic Impact Zones	18
	2.16	Unstable Areas	19
	2.17	Airports	20
3	**SUBSURFACE INVESTIGATION**		**21**
	3.1	Introduction	21
	3.2	Monitoring Wells	21
	3.3	Design and Construction	21
	3.4	Plugging	21
	3.5	Monitoring Program	22
4	**EXPLOSIVE GAS CONTROL**		**23**
	4.1	Methane Monitoring Program	23
	4.2	Landfill Gas Monitoring Probes	23
	4.3	Excessive Gas Procedure	23
	4.4	Landfill Gas Collection and Control System	24
	4.5	LFG Regulatory Compliance	24
5	**STORMWATER MANAGEMENT**		**25**
	5.1	Surface Water Protection	25
	5.2	Run-on Control System	26
	5.3	Run-off Control System	26
	5.4	Stormwater Pollution Prevention Plan	27
6	**LINER AND FINAL COVER SYSTEMS**		**28**
	6.1	Liner Design and Installation	28
	6.2	Liner Installation and Testing	29
	6.3	Final Cover Design	29
7	**LEACHATE COLLECTION/PROTECTIVE COVER SYSTEM**		**30**

CONTENTS (Continued)

	7.1	Leachate Collection/Protective Cover System Design	30
	7.2	Leachate Management	31
	7.3	Performance Evaluations	31
8	**OPERATIONAL PLAN**		**33**
	8.1	Hours of Operation	33
	8.2	Public Access Control	33
	8.3	Measuring Procedure	34
		8.3.1 General Information	34
		8.3.2 Existing Customers	34
		8.3.3 New Customers	35
		8.3.4 Existing Equipment	35
		8.3.5 New Equipment	35
	8.4	Asbestos	35
	8.5	Litter Control	35
	8.6	Cover Material Requirements	36
	8.7	Buffer Zones	36
	8.8	Air Criteria	36
	8.9	Salvage or Recyclery Operations	36
	8.10	Disease Control	37
	8.11	Dust Control	37
	8.12	Dead Animals, Containers, and Municipal Sewage	37
	8.13	Animal Feeding	38
	8.14	Discharge	38
	8.15	Waste Placement	38
	8.16	Accident Prevention and Safety	38
	8.17	Recordkeeping and Reporting	38
	8.18	Liquid Waste Restriction	39
	8.19	Exclusion of Hazardous Waste	39
9	**CLOSURE AND POSTCLOSURE PLAN**		**40**
10	**CLOSURE AND POSTCLOSURE COST ESTIMATES**		**41**

FIGURES

In accordance with OAC 252-515-1-4(b) and 252-515-3-51(e), figures/drawings have been provided in an alternative scale. The alternative scales are clearly identified on each figure/drawing.

Figure 1	General Site Location Map
Figure 2	Topographic Site Location Map
Figure 3	Land Use Map
Figure 4	FIRM
Figure 5	Generalized Geology Map of Oklahoma
Figure 6	Regional Geology Map and Stratigraphic Column
Figure 7	Regional Geologic Cross-Section
Figure 8	Seismic Impact Zone Map
Figure 9	Surface Geologic Map
Figure 10	Groundwater Resource and Recharge Area Map
Figure 11	Public and Private Water Wells
Figure 12	Existing and Proposed Monitoring Well Locations
Figure 13	Existing and Proposed Landfill Gas Probe Locations
Figure 14	Aesthetic Enhancement Plan
Figure 15	Earthquake Locations

DRAWINGS

In accordance with OAC 252-515-1-4(b) and 252-515-3-51(e), figures/drawings have been provided in an alternative scale. The alternative scales are clearly identified on each figure/drawing.

1 Cover Sheet and Site Vicinity Map

2 Location and Boundary Map

3 Existing Ground Contour Map

4 Existing Permitted Drainage Plan

5 Post-Development Drainage Plan

6 Site Map

7 Excavation Plan

8 Top of Liner Plan

9 Top of Protective Cover Plan

10 Closure Contour and Stormwater Management Map

11 Cross-Section Location Map – Open Phases

12 Cross-Section Location Map – Closed Phases

13 Cross-Section A

14 Cross-Section B

15 Cross-Section C

16 Cross-Section D

17 Cross-Section E

18 Cross-Section F

19 Liner and Leachate Collection System Details

20 Liner and Leachate Collection System Details

21 Liner and Leachate Collection System Details

22 Liner and Leachate Collection System Details

23 Liner and Leachate Collection System Details

DRAWINGS (Continued)

24 Final Cover Details

25 Final Cover Details

26 Final Cover Details

27 Drainage Details

28 Drainage Details

29 Drainage Details

30 Drainage Details

Full-size Permit Design Drawings are provided in a separate package.

APPENDICES

VOLUME 1 OF 4

APPENDIX A
Waste Management of Oklahoma, Inc. Annual and Quarterly Reports

APPENDIX B
Permit, Proof of Publication, Legal Description, and Volume Calculations

APPENDIX C
Temporary Easement for Access

APPENDIX D
Location Restriction Correspondence

VOLUME 2 OF 4

APPENDIX E
Subsurface Investigation and Groundwater Study

APPENDIX F
Groundwater Sampling and Analysis Plan

VOLUME 3 OF 4

APPENDIX G
Landfill Gas Management Plan

APPENDIX H
Surface Water Management Plan

APPENDIX I
Floodplain Information

APPENDIX J
Alternative Final Cover System Design

APPENDICES (Continued)

APPENDIX K
Quality Assurance/Quality Control Plan for Liner and Leachate Collection System Installation and Testing

VOLUME 4 OF 4

APPENDIX L
Leachate Collection System Design

APPENDIX M
Alternative Liner System Demonstration

APPENDIX N
Geotechnical Assessment

APPENDIX O
Waste Exclusion Plan

APPENDIX P
Closure and Postclosure Plan

APPENDIX Q
Closure and Postclosure Cost Estimates

APPENDIX R
Title V Operating Permit

APPENDIX S
Economic Life Estimate

APPENDIX T
Recordkeeping and Reporting Example Forms

APPENDIX U
Copy of Surety Bond

APPENDIX V
Liquid Waste Bulking Facility Operating Plan

APPENDICES (Continued)

APPENDIX W
Alternative Daily Covers

APPENDIX X
Recycling Plan

APPENDIX Y
Roofing Shingles Recycling Plan

APPENDIX Z
USACE Information

1 GENERAL INFORMATION REQUIREMENTS

1.1 Introduction and Project Overview

The purpose of this Tier III Permit Modification is to expand the existing East Oak Recycling and Disposal Facility (RDF) operation to the north and south of the current permitted area. The expansion of the East Oak RDF permit boundary also includes the incorporation of the Mosley Road Landfill permit boundary. This incorporation of the Mosley Road Landfill permit boundary is being done as discussed with the Oklahoma Department of Environmental Quality (ODEQ) to simplify the required monitoring and site inspection efforts by both Waste Management of Oklahoma, Inc. (WMO) and the ODEQ. Both East Oak RDF and Mosley Road Landfill have separate ODEQ approved groundwater and landfill gas monitoring systems. Therefore, this Tier III Permit Modification will combine the separate groundwater monitoring systems into one groundwater monitoring system and combine the separate landfill gas monitoring systems into one landfill gas monitoring system.

Mosley Road Landfill was originally owned by Floyd Swan, who operated the site from 1971 to 1975 under the name A-1 Sanitation Company, From 1975 through 1984, Mosley Road Landfill was owned and operated by Oklahoma City Disposal, Inc. (OCD). Mosley Road Landfill was permitted by the Oklahoma State Department of Health (OSDH) in June 1973. OSDH authorized the acceptance of industrial waste between February 20, 1976 and August 24, 1976 due to the temporary closure of the Royal Hardage Landfill in Criner, Oklahoma. In 1984, the ownership of Mosley Road Landfill was transferred to Waste Management of Oklahoma, Inc. (WMO). The landfill reached its permitted capacity in November 1987 and was closed in accordance with governing landfill regulations in 1988. In February 1987, the Environmental Protection Agency (EPA) scored the site using the Hazard Ranking System. Mosley Road Landfill was added to the National Priority List (NPL) in February 1990. A Record of Decision (ROD) for the Mosley Road Landfill was signed in June 1992. The ROD identified remedial action activities to be completed. The remedial action activities were completed in September 2004. Five-Year Reviews (FYR) were completed in September 2005 and September 2009. A final close-out report (FCOR) documenting that all remedial activities were completed and the remedial action goals achieved was issued in May 2013. Mosley Road Landfill was deleted from the NPL on September 26, 2013.

The East Oak RDF was permitted by the ODEQ in December 1986, originally known as Mosley Road II Landfill. In March 1989 the landfill was renamed East Oak RDF and in July 2002 it was permitted to expand (east) and fill the valley between East Oak RDF and

Mosley Road Landfill. This valley fill expansion included the East Oak RDF waste disposal area overlying the Mosley Road waste disposal area. The East Oak RDF was separated from the Mosley Road Landfill by means of a separation liner overlying the Mosley Road Landfill. East Oak RDF was permitted to expand again in May 2008 to the north of the Mosley Road Landfill. The proposed waste disposal area overlaid the north side of Mosley Road Landfill and, again, a separation liner was utilized between Mosley Road Landfill and East Oak RDF. This Tier III Permit Modification proposes the expansion of East Oak RDF to the north and to the south. The southern portion of the expansion will also utilize a separation liner between Mosley Road Landfill and East Oak RDF in the expansion areas where an existing Subtitle D lined area is not already constructed. The northern portion of the expansion will not require a separation liner as it will tie in to an existing Subtitle D lined area.

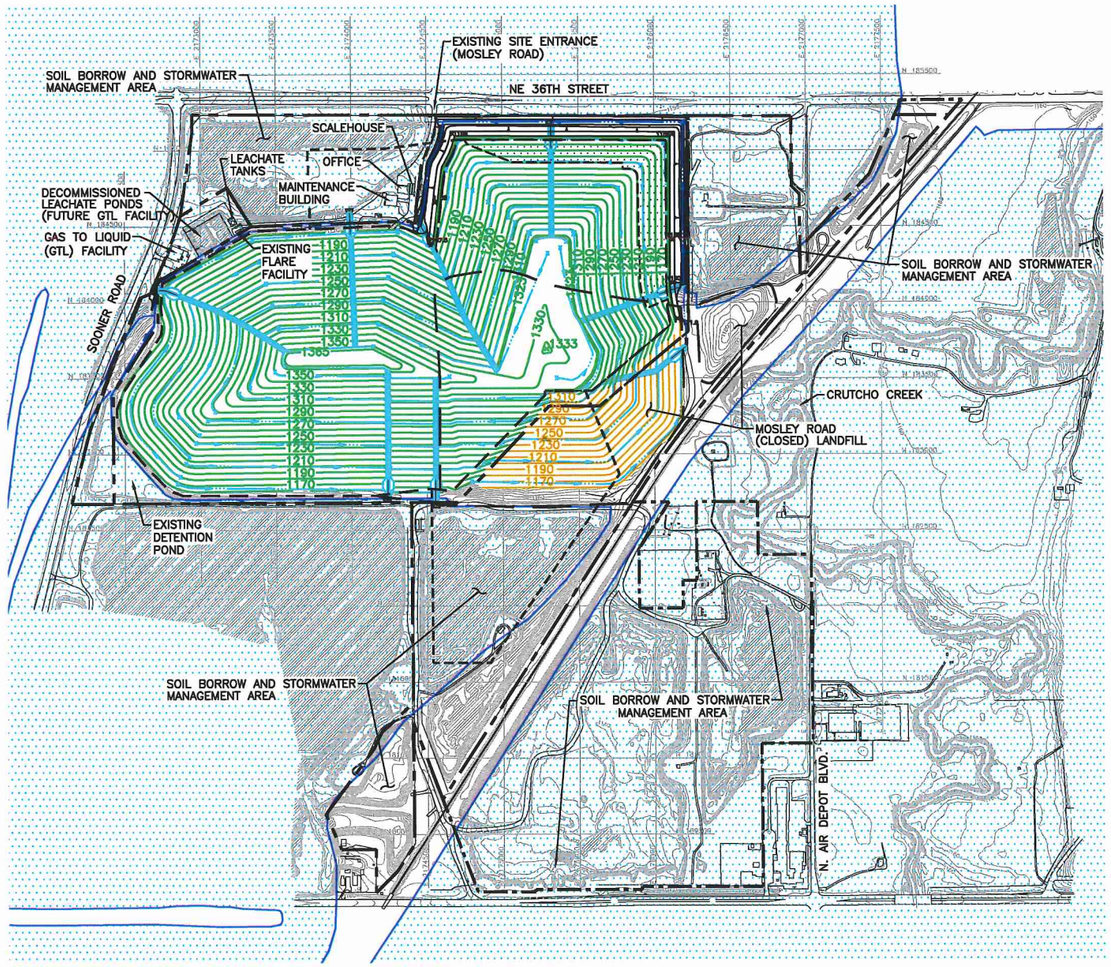
The existing East Oak RDF 135.2-acre disposal area will be expanded by 41.4 acres. Therefore, the permitted East Oak RDF waste disposal area will increase to 176.6 acres. With the addition of the Mosley Road Landfill waste disposal area, the total waste disposal area on site will be 191.8 acres. The East Oak RDF permit boundary will increase from 158.8 acres to 282.96 acres and again will encompass both East Oak RDF and Mosley Road Landfill into one site permit boundary. The maximum permitted final cover elevation for the site will remain 1,365 ft-msl. The resulting capacity increase is 7.0 million cubic yards.

This Tier III Permit Modification will ensure that this critical service will continue for the landfill's service area. A comparison between the currently permitted completion plan of the site and the proposed completion plan is shown on Figure 1.1. The site's existing permittee and operator is WMO. WMO is a subsidiary of Waste Management, Inc. (refer to Section 1.5 for more information).

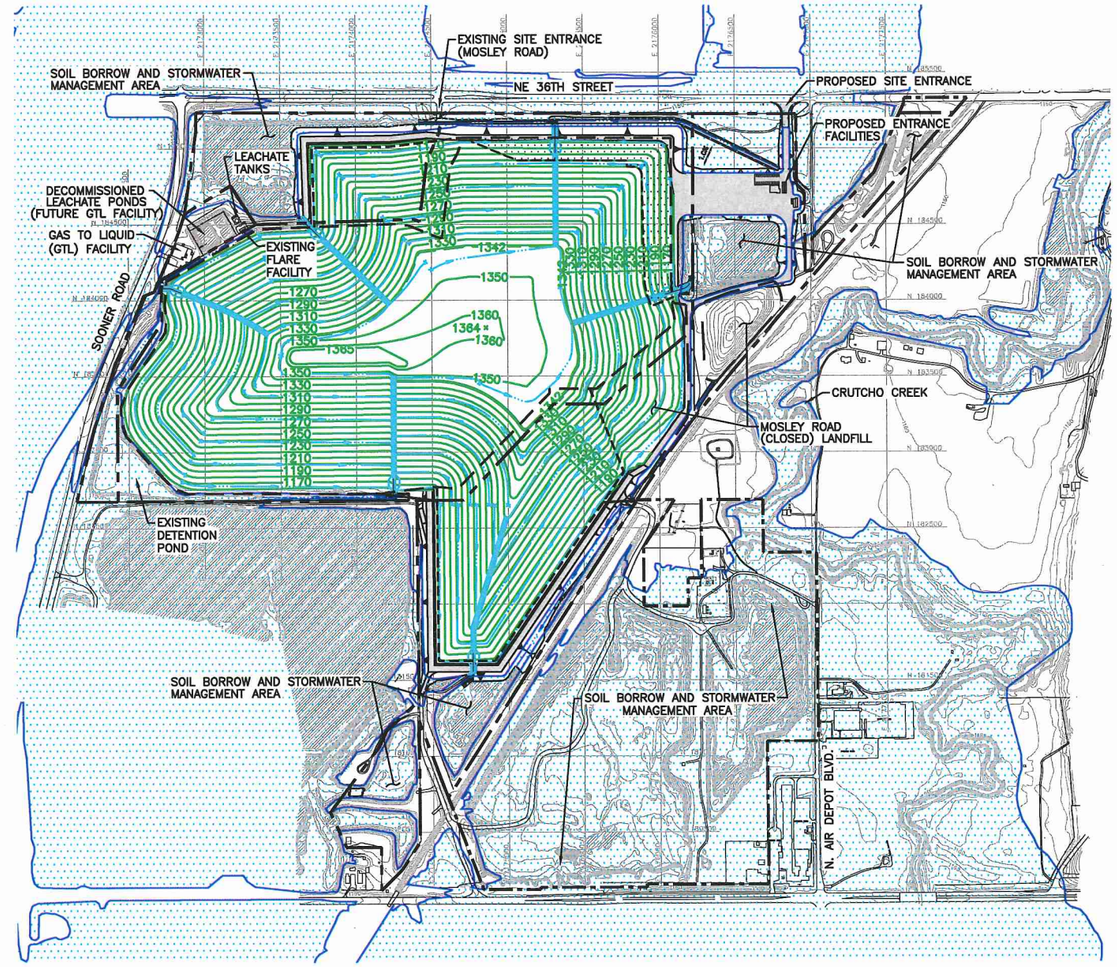
This project site is located within the City of Oklahoma City (OKC); therefore, authorization from OKC was required. OKC controls all development activities within the city limits of the City of Oklahoma City through zoning requirements to ensure that compatible land uses are grouped together. The proposed development also includes a modification of the current 100-year floodplain. A Conditional Letter of Map Revision (CLOMR) was ~~submitted to~~ approved on February 18, 2016 by the Oklahoma City Floodplain Administrator to obtain a floodplain permit. ~~After OKC approves t~~The CLOMR Request~~, it will be~~ was forwarded on to the Federal Emergency Management Agency (FEMA) for final approval. Furthermore, the proposed completion plan also requires filling a portion of an unnamed tributary of the North Canadian River. A Section 404 Individual Permit Application was submitted to the United States Army Corp of Engineers (USACE) to obtain a Section 404 Individual Permit for the proposed completion plan. Each authorization is summarized in Sections 1.1.1. through 1.1.3.

1.1.1 Zoning Authorization

Prior to the submittal of this Tier III Permit Modification, WMO updated the zoning for the site to obtain the OKC's approval for the expansion of the East Oak RDF. OKC



PERMITTED COMPLETION PLAN



PROPOSED COMPLETION PLAN

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- STATE PLANE GRID COORDINATE
- EXISTING CONTOUR
- FINAL COVER CONTOUR
- PERMITTED FINAL COVER (MOSLEY ROAD LANDFILL)
- DRAINAGE CHANNEL
- DRAINAGE SWALE
- DRAINAGE CHUTE
- IN-PLACE FINAL COVER
- 100-YEAR FLOODPLAIN (SEE NOTES 7 AND 8)

N

0 500 1000
SCALE IN FEET

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. A WASTE-FREE BUFFER ZONE OF AT LEAST 100-FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY FOR THE LANDFILL EXPANSION AREA INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. IN-PLACE FINAL COVER LIMITS REPRODUCED FROM SOIL VERIFICATION SURVEY PREPARED BY LEMKE LAND SURVEYING, INC. DATED JUNE 2013.
6. THE PERMITTED FINAL COVER CONTOURS WERE REPRODUCED FROM THE TIER III PERMIT MODIFICATION LATERAL EXPANSION, PREPARED BY WEAVER BOOS CONSULTANTS, LLC-SOUTHWEST IN AUGUST 2007.
7. 100-YEAR FLOODPLAIN (PERMITTED COMPLETION PLAN) DELINEATED BASED ON THE APPROVED INCLUDED IN THE APPROVED 2008 CLOMR (CASE NO. 08-06-0163R) PREPARED BY WEAVER BOOS CONSULTANTS, LLC-SOUTHWEST IN JANUARY 2008.
8. 100-YEAR FLOODPLAIN (PROPOSED COMPLETION PLAN) FROM THE POST-PROJECT CONDITION HYDRAULIC ANALYSIS INCLUDED IN SITE THE CLOMR.
9. THE MOSLEY ROAD LANDFILL MARCH 1975 PERMIT (INCLUDED IN APPENDIX B-4) INDICATES THE MAXIMUM PERMITTED HEIGHT OF THE MOSLEY ROAD LANDFILL IS 1176 FT-MSL. HOWEVER, HISTORICAL AND CURRENT TOPOGRAPHY INDICATES THAT MOSLEY ROAD WAS FILLED TO APPROXIMATELY 1300 FT-MSL.
10. THE MOSLEY ROAD LANDFILL MARCH 1975 PERMIT (INCLUDED IN APPENDIX B-4) INDICATES THE DESIGNED FILL VOLUME OF THE MOSLEY ROAD LANDFILL IS 1,376,000 CY.

Landfill Expansion Summary

Item	Existing East Oak RDF	Existing Mosley Road Landfill	Proposed Site
Permit Boundary	158.8 acres	71.765 acres	282.96 acres
Disposal Area	135.2 acres	55.7 acres	191.8 acres
Maximum Permitted Height	1365.0 ft	See Note 9	1365.0 ft
Permitted Capacity	18,455,405 cy	See Note 10	25,455,405 cy
Remaining Site Life	4.7 years	0 years	11.6 years

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 1.1-OVERVIEW.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE-06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
PROJECT OVERVIEW

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

FIGURE 1.1

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O:\0086\356\EXPANSION 2013\FIGURES\FIG 1.1-PROJECT OVERVIEW.dwg, uacholonu, 1:2

approved a Planned Unit Development (PUD) for the proposed modifications to the site on July 30, 2014 (PUD-1534). This PUD application included a site-wide Master Development Plan that authorizes the northern and southern expansion of the East Oak RDF. This PUD also consolidated the previous PUD and a Special Permit that were previously approved for the operation of the East Oak RDF. PUD-1534 allows for the eventual transition of portions of the soil borrow areas to a state-of-the-art landfill that will be operated, regulated, tested, and maintained in a safe and environmentally responsible manner. This PUD will also take advantage of buffers, natural buffers, and landscape buffers previously established in accordance the previous PUD. Excerpts from the PUD application are included in Appendix D-6.

1.1.2 FEMA CLOMR

FEMA is responsible for implementing the regulatory program that controls development within a floodplain. FEMA manages the National Flood Insurance Program and is also responsible for approving updates of Flood Insurance Rate Maps (FIRM). The FIRM defines flood hazard areas for a community, including the floodplain. By defining flood hazard zones and maintaining community FIRM, FEMA manages flood risks to property and human safety. The process for changing the delineation of a floodplain area involves submitting a Condition Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) including detailed hydraulic and hydrologic data to FEMA and the community floodplain administrator for review and approval.

WMO recently (December 18, 2015) obtained a LOMR based on a CLOMR that was approved in 2008 to remove the previous expansion area out of the North Canadian River floodplain. WMO submitted a CLOMR for the current expansion ~~to~~ that was approved by OKC on ~~November 19, 2015~~ February 18, 2016. ~~After OKC approves t~~The CLOMR~~, it will be~~ was forwarded on to FEMA for final approval. Approval from FEMA will be provided to ODEQ upon receipt.

The CLOMR analyzes the pre-project condition of the landfill site, which represents the existing condition of the area in and around the permit boundary as of a January 2014 aerial survey and the post-project condition (consistent with the completion plan in this modification). The CLOMR will demonstrates that a minimum of 3 feet of freeboard will be maintained between the 100-year water surface data and the channel banks or perimeter road for the proposed conditions, with minimal impacts to the 100-year and 500-year floodplains and the floodway.

1.1.3 USACE and ODEQ Water Quality Division Authorization

The USACE is given the authority under Section 404 of the Clean Water Act to issue permits for all construction activities that affect the nation's waters and wetlands, including dredging or placement of fill material into or adjacent to Waters of the United States (U.S.). The regulatory program that governs these permits is focused on protecting the nation's aquatic resources, while allowing reasonable development. Therefore, as part of the expansion process, a determination of Section 404 Jurisdictional Waters of the United States was performed to delineate the waters of the U.S. and wetlands within the permit boundary. The determination indicated that there are jurisdictional waters of the

U.S. on the landfill property including an unnamed tributary of the North Canadian River. WMO evaluated several options to avoid and minimize impacts to the jurisdictional waters. The option selected balances the long-term solid waste disposal needs of Oklahoma City while minimizing the impact to existing jurisdictional waters.

As part of the USACE permit process, a Section 401 ODEQ Water Quality Division (WQD) certification will be required. A primary function of ODEQ's WQD is to work with other regulatory agencies to maintain water quality standards in Oklahoma's lakes, rivers, and streams. ODEQ WQD is the lead state agency that administers the Section 401 certification program in Oklahoma. The purpose of ~~these~~ this certification ~~reviews~~ is to determine whether a proposed discharge will comply with Oklahoma water quality standards. A Section 401 ODEQ WQD certification was received on February 25, 2016.

A USACE Section 404 Individual Permit Application was submitted to the USACE in April 2015. Excerpts from the 404 Individual Permit Application are included in Appendix Z. Any additional USACE and/or ODEQ WQD submittals will be placed in the site operating record, along with the USACE Section 404 Individual Permit and the ODEQ Section 401 WQD Certification. The northern expansion area will not be developed until the Section 404 Individual Permit is approved by the USACE as shown on Drawings 6 and 7.

1.1.4 Other Agency Coordination

In addition, numerous agencies have issued approval/coordination letters regarding the landfill expansion, and these approvals are summarized in the following table.

Agency	Coordination Topic
Federal Aviation Administration (FAA)	FAA identified no objection to the proposed landfill expansion from the standpoint of potential wildlife hazards to aircraft or obstruction to air navigation.
Oklahoma Biological Survey	According to these state agencies, the proposed landfill expansion poses no danger to endangered or threatened wildlife. Additionally, an on-site habitat assessment was performed and determined no endangered or threatened species are known to exist near the proposed landfill expansion.
Oklahoma Department of Wildlife Conservation	
Oklahoma Scenic River Commission	There are no state-designated scenic river areas located within or near the proposed landfill expansion.
Oklahoma Natural Areas Registry	There are no public recreation or preservation areas designated by a federal, state, or local agency located within ½ mile of the proposed landfill expansion. This includes no scenic river drainage basins, no natural heritage areas, and no federal or state parks or recreation areas.
Oklahoma Tourism and Recreation Department	
United States Department of the Interior Bureau of Reclamation	
Oklahoma City Parks & Recreation	
Oklahoma Water Resource Board (OWRB)	The OWRB identified no existing or planned public water supply surface water intakes located within 1 mile or less upstream from the proposed landfill expansion.

Each of the above approvals is discussed further in Section 2.

1.2 Name and Type of Facility

The current permitted name of the facility is East Oak Recycling and Disposal Facility. This landfill is a municipal solid waste facility.

1.3 Proposed Operational Description

The East Oak RDF is an existing municipal solid waste landfill facility (ODEQ Permit Number 3555036). The existing landfill currently provides solid waste disposal service for residences and businesses in the City of Oklahoma City, Oklahoma County, and the surrounding areas. With this expansion, the existing landfill permit boundary will expand from approximately 158.8 acres to a proposed 282.96 acres. The waste disposal area will increase from approximately 135.2 acres to 191.8 acres.

1.4 Name, Address of Applicant

Waste Management of Oklahoma, Inc.
(East Oak RDF)
3201 Mosley Road
Oklahoma City, OK 73141
Telephone (Applicant): (405) 417-8124
Telephone (Facility): (405) 427-1112

c/o Mr. Guy R. Campbell, Engineering Manager

1.5 Owner Information and Disclosure

WMO is a subsidiary of Waste Management, Inc. (WM). The company employs more than 42,000 employees worldwide and is the leading provider of comprehensive waste management services in North America. For over 43 years, the landfill has been a part of the community and is one of the main recipients of waste from the residents and businesses in the city and surrounding areas. WM's 2014 annual report is included in Appendix A.

Sheet B-3-6 in Appendix B shows the property ownership within the 282.96-acre permit boundary. The deeds associated with each tract owned by WMO are included on Sheets B-3-9 through B-3-26. As shown on Sheet B-3-6, WMO owns each tract within the expansion area.

Sheets B-3-7 and B-3-8 in Appendix B show the location and holders of easements located on the site.

1.6 Legal Description

The legal description of the proposed permit boundary is included in Appendix B.

1.7 Location of Facility

The existing East Oak RDF and the proposed landfill expansion areas are located within Section 21 of Township 12 North, Range 2 West in Oklahoma County, Oklahoma. The site is south of Northeast 36th Street, east of Sooner Road, and north of Northeast 23rd Street within the Oklahoma City limits. This location is approximately eight miles east of downtown Oklahoma City.

1.8 Right to Use Documentation

The executed right to use documents are included in Appendix C. The purpose of this appendix is to provide a temporary easement for access that will allow the ODEQ the right to access the property.

1.9 Land Use of Adjacent Property and General Area

The landfill expansion area zoning was approved by OKC on July 30, 2014 through the approval of PUD-1534. Land use of the adjacent properties is mostly closed landfill, undeveloped property, agricultural property, commercial/light industrial, and mining. The locations of residential areas and businesses are presented on Figure 3 – Land Use Map. Water well locations in the vicinity of the facility are presented on Figure 11.

In general, the land use is described below for the surrounding areas:

North – The land use to the immediate north of East Oak RDF is the Northeast 36th Street right-of-way, which is the access route to the facility. A closed landfill owned by OKC exists to the immediate north of Northeast 36th Street. A single residence and animal shelter are located northeast of the area. The area north of Northeast 36th Street area is zoned "R-1" Residential.

East – Located directly east of the East Oak RDF is the Burlington Northern Santa Fe Railroad right-of-way, predominantly agricultural property, soil mining, and other mixed uses within the City of Midwest City MWC. The MWC Wastewater Treatment Facility is also located approximately a half-mile east of the site.

West, Northern Portion – Located directly west of the northern portion of the East Oak RDF is the N. Sooner Road right-of-way and an undeveloped woodland property owned by OKC that extends to the North Canadian River. This area west of N. Sooner Road is zoned "R-1" Residential.

West, Southern Portion – Located directly west of the southern portion of the East Oak RDF includes the Mosley Road right-of-way, property that is used as a sand mining operation and property owned by OKC that extends to the North Canadian River. The sand mining property is zoned "A-A" Agricultural and SP-266 Special Permit. The OKC property is zoned "R-1" Residential.

South – Located directly south of the southernmost portion of the East Oak RDF is a single residency, Northeast 23rd Street right-of-way and a variety of uses within the MWC. This area contains several small commercial/light industrial businesses and a mining operation.

The use of this area for a municipal solid waste landfill represents a compatible land use for the following reasons.

- Landfill operations have occurred in the area of this facility since 1971.
- The land use of property adjacent to the facility is dominated by landfill, mining, and agricultural activities and undeveloped property.
- OKC has approved a PUD (PUD-1534) for the site.

1.10 Waste Streams

The facility is classified as a Municipal Solid Waste (MSW) Landfill and follows the guidelines for operations as defined in OAC 252:515. The facility currently receives residential and commercial waste, construction and demolition waste, non-hazardous "other" industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste and sludges. Special waste is handled under the requirements set forth in this permit. This Tier III Permit Modification does not propose to change the types of waste accepted at this facility. No hazardous, radioactive, or Polychlorinated Biphenyl (PCB) waste will be knowingly accepted at this facility.

The major sources of waste come from OKC, Oklahoma County, and the surrounding communities. During the 12-month period beginning on January 22, 2013 and ending on January 19, 2014, East Oak RDF accepted 485,151 tons of waste.

1.11 Life and Design Capacity of Facility

A summary of the capacity increase associated with this landfill expansion is listed below:

- Current Design Capacity = 18,455,405 cubic yards
- Proposed Capacity Increase due to Landfill expansion = 7,000,000 cubic yards
- New Design Capacity = 25,455,405 cubic yards

The expansion of the landfill will increase the remaining airspace as of January 19, 2014 to approximately 11,760,700 cubic yards (cy). The existing permitted area and previous final grading plan has a remaining airspace of 4,760,700 cy (as of January 19, 2014). As noted above, the proposed landfill expansion will increase the existing remaining airspace by 7,000,000 cy.

Based on the remaining airspace and volumes calculated for daily cover and intermediate cover, the remaining volume for waste only is estimated as follows:

Remaining Volume for Waste Only = Total remaining airspace – Volume of daily and intermediate cover (20% of total remaining airspace)

= 11,760,700 cy – 2,352,140 cy

= 9,408,560 cy

Assuming an in-place density of waste/cover soils of 1,473 lb/cy (1,234 lb/cy density of waste only), the above remaining waste volume can be converted to a total remaining volume in tons (as of January 19, 2014).

Total Remaining Volume (Tons) = (80% of 11,760,700 cy)(1,234 lb/cy * 1/2000 tons/lb)

= 5,803,905 tons

The estimated initial waste stream received for disposal by the landfill (in 2014) is approximately 1,707 tons per day. The site is open for operation approximately 286 days per year. It is assumed that the incoming waste rate will increase consistent with the growth rate projections for Oklahoma County. The growth rate projections were obtained from the Oklahoma Water Resources Board's (OWRB's) "2012 Oklahoma Comprehensive Water Plan." The incoming waste volume is assumed to increase at the same rate as the population projections of Oklahoma County after each year of operation.

The waste inflow rate is estimated to increase at the rates shown below:

Projected Use Rate (years 2014-2020) = 4.85% or annualized projected use rate of 0.4745%
Projected Use Rate (years 2021-2030) = 4.11% or annualized projected use rate of 0.4033%

Using the above growth rates, the estimated waste inflow rate will gradually increase from 488,163 estimated tons per year in 2014 (1,707 tons per day based on a 286-day operating schedule) to 510,017 estimated tons per year in 2024 (1,790 tons per day based on a 286-day operating schedule). Over the life of the facility, the expected average daily volume of incoming waste is projected to be approximately 1,749 tons per day. These projections are based on current market conditions and may vary as market conditions change.

Supporting calculations are provided in Appendix B, Appendix B-4. In summary, the site life is projected to be approximately 11.6 years, which would result in the site's closure during the year 2025.

In addition, an economic "life of site" estimate has been developed consistent with OAC 252:515, Subchapter 27 (for the purposes of this regulation, it is our understanding that "life of site" is defined as the remaining life of the capacity over the currently constructed fill areas). This estimate is included in Appendix S. Consistent with OAC 252:515-27-8(c), the Economic Life of the facility as of December 31, 2014, is approximately 3.9 years.

1.12 Record Keeping Procedure

The facility will follow record keeping procedures set forth in accordance with OAC 252:515-19-40. These items are listed in detail in the Operational Plan section (Section 8) of this permit.

1.13 Access Roads

The primary access to the site is from Northeast 36th Street, which is adjacent to the northern permit boundary. Northeast 36th Street is an asphalt paved road and is in good condition. Traffic is restricted by a locked gate at the landfill entrance controlled by East Oak RDF and all roads inside the facility are maintained by the facility.

1.14 Air Quality Permitting Status

Currently, the site is subject to New Source Performance Standards (NSPS) Subpart WWW requirements, given that it has had a capacity increase since May 31, 1999. The site is currently authorized by Title V Operating Permit No. 2011-226-TVR2, dated June 30, 2014, which is included in Appendix R. The site will continue to follow all applicable NSPS requirements. In addition, the site will maintain compliance with applicable air quality permit requirements. All applicable NSPS and air quality documentation will be placed in the Site Operating Record.

1.15 Aesthetic Enhancement

In accordance with OAC 252:515-3-37. The visual harmony of the expansion areas will be enhanced by (1) creating buffer zones greater than the required minimum of 100 feet, as shown in the permit figures/drawings and as discussed in Section 8.7 and the PUD (Appendix D-6) and (2) the establishment of interim and permanent vegetation as noted in Appendix J. Noise will be controlled by the established buffer zones as discussed in Section 8.7 and the PUD (Appendix D-6). Dust will be controlled as discussed in Section

Section 8.11. The aesthetic enhancement plan is presented on Figure 14 – Aesthetic Enhancement Plan.

1.16 Variance Requests

This application includes ~~three~~ two variance requests. The variance requests include ~~(1) spacing of LFG monitoring probes,~~ (~~2~~1) location of the disposal area as it relates to the 100-year floodplain~~,~~ and (~~3~~2) location of the site within an area designated as alluvium or terrace deposits.

~~Consistent with OAC 252:515-3-32, this application requests a variance to OAC 252:515-15-4(b)(1), which requires LFG monitoring probes to be installed at a minimum spacing of 500 feet along the permitted boundary if off-site structures are located within ½ mile. It is requested that ODEQ approve a variance to the 500-foot spacing between GP-7R and GP-19 on the east side of the site. GP-7R is replacing GP-7 to verify that the depth is below the deepest placement of waste in the East Oak RDF. GP-19 is currently Mosley Road Landfill GP-5 and is being renamed GP-19 to avoid confusion with East Oak RDF GP-5. Therefore, given that (1) there are no changes to the permit boundary/waste placement area along the east side of the site, (2) GP-7R (GP-7) and GP-19 (GP-5) are part of the approved Mosley Road Landfill probe system, (3) the site has an existing gas collection and control system (GCCS) that extends to eastern portions of the site, and (4) Cruteho Creek, east of the site, will act as a natural barrier, it is requested that ODEQ approve a variance to the 500-foot spacing between GP-7R and GP-19. Refer to Appendix G – Landfill Gas Management Plan, Section 2.1.1 for more information.~~

Consistent with OAC 252:515-3-32, this application requests a variance to OAC 252:515-5-32(a). A Conditional Letter of Map Revision (CLOMR) Request that includes the final configuration of the proposed East Oak RDF was ~~submitted to~~ approved by OKC ~~in November 2015~~ on February 18, 2016. ~~After OKC approves t~~The CLOMR Request ~~it will be~~ was forwarded to ~~the~~ FEMA for final approval. The CLOMR Request will revise the limits of the 100-year floodplain, as shown on Figure 4. As shown, no portion of the waste disposal area will be located within the 100-year floodplain after the perimeter berm has been constructed. In addition, the perimeter berm will provide over 3 feet of freeboard between the 100-year floodplain elevation and the top of the perimeter berm.

Consistent with OAC 252:515-3-32, this application requests a variance to OAC 252:515-5-51(a). OAC 252:515-5-51(a) states that no MSWLF shall be located within an area designated as alluvium or terrace deposits and their recharge areas as shown on Oklahoma Geologic Survey (OGS) publication "Map of Aquifers and Recharge Areas in Oklahoma," compiled by Kenneth S. Johnson, Oklahoma Geological Survey (1991). A portion of this map, which has been reproduced as Figure 10, shows that the expansion areas are located on an OGS mapped alluvium/terrace deposit and recharge area. To ensure that the development of the expansion area does not adversely impact the underlying deposit, the proposed liner system for the expansion areas has been designed to provide a barrier layer that greatly exceeds the requirements for an MSW landfill. The

additional protection provided by the proposed liner system will ensure that human health and the environment is protected. The proposed liner design includes both a compacted clay and geosynthetic clay liner (GCL) component, as well as a 60-mil-thick HDPE geomembrane, leachate collection layer, and protective cover layer. The addition of the GCL significantly increases the environmental protection of the proposed liner system for the East Oak RDF expansion areas. As discussed in Section 2.9, the variance request for the terrace deposit location restriction is applicable because the proposed liner system design, which greatly exceeds the Subtitle D composite liner requirements, meets the intent of OAC 252:515-5-51(a) by providing equivalent protection of the underlying deposits. This variance request and proposed liner system were approved as part of the Tier III Permit Modification approved on May 15, 2008.

2 LOCATION STANDARDS

2.1 Introduction

OAC 252:515-5 identifies location identifies location restrictions related to solid waste disposal facilities. The location restrictions pertain to scenic rivers, recreational/ preservation areas, endangered or threatened species, 100-year floodplain, public water supply, wellhead protection area, wetlands, terrace deposits, karst terrain, earthquake epicenter areas, asbestos monofills, utility/transmission lines, fault areas, seismic impact zones, unstable areas, and airports. The following is a summary of those findings. Appendix D contains the correspondences associated with the Location Restriction Demonstrations.

2.2 Scenic Rivers

OAC 252:515-5-31(a) requires that no new MSWLFs shall be located within the drainage basin of any river designated under Oklahoma Scenic Rivers Commission (OSRC) Act (82§21-1452) unless a statement is obtained from the OSRC or the Oklahoma Tourism and Recreation Department stating the proposed site is not expected to adversely affect the river or point of public interest. The Oklahoma Scenic Rivers Act provides protection for designated Oklahoma scenic rivers including the Illinois River, Lee Creek, Little Lee Creek, Barren Fork Creek, Flint Creek, and the Mountain Fork River. The proposed expansion permit boundary is within the North Canadian River drainage basin, which is not part of any designated scenic river drainage system. As indicated in the OSRC response letter included in Appendix D-3 of Appendix D, the proposed expansion does not pose an adverse impact to any of Oklahoma's scenic river areas. Therefore, the proposed landfill expansion complies with the scenic rivers location restriction.

2.3 Recreation/Preservation Area

OAC 252:515-5-31(b) states that no new MSWLF shall be located within one-half mile of an area dedicated and managed for public recreation or natural preservation by any federal, state, or local governmental agency. The Oklahoma City Parks and Recreation Department, Oklahoma State Tourism and Recreation Department, Oklahoma Natural Areas Registry, and the United States Department of Interior Bureau of Reclamation to determine the potential proximity of public recreation and natural preservation areas. According to these agencies, no public recreation and natural preservation areas are located within one-half mile of the proposed expansion. The nearest public

recreation/natural preservation area is Diggs Park, located more than ½ mile from the proposed expansion. Therefore, the proposed expansion complies with the Recreation/Preservation Area location restriction. Copies of the agency correspondence are included in Appendix D-4 of Appendix D.

2.4 Endangered and Threatened Species

OAC 252:515-5-31(c) states that owners/operators of new MSWLFs obtain a statement from the Oklahoma Department of Wildlife Conservation (ODWC) and Oklahoma Biological Survey (OBS) concerning endangered or threatened wildlife or plant species within one-mile of the proposed site. Supporting correspondence from the ODWC and OBS are included in Appendix D, Appendix D-2. According to the agency responses, no endangered or threatened species of concern are known by these agencies to exist within or near the proposed permit boundary.

In addition, Goshawk Environmental Consulting, Inc. (Goshawk) conducted an on-site field reconnaissance for endangered or threatened wildlife and plant species habitats and completed a habitat assessment report on September 24, 2013. Goshawk's report also concluded that, due to a lack of suitable habitat on the landfill property, no endangered or threatened species are known to exist near the proposed permit boundary. As part of the survey, Goshawk obtained information from the U.S. Fish and Wildlife Service regarding threatened and endangered species. Goshawk's report is included in Appendix D, Appendix D-2. Therefore, the proposed landfill expansion area complies with this location restriction and no mitigation plan is required.

2.5 100-Year Floodplain

OAC 252:515-5-32(a) states that no new MSWLFs shall be permitted in the 100-year floodplain. The 100-year floodplain for the North Canadian River and its tributaries near the site were evaluated using the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps (FIRM) for the East Oak RDF area (Community Panels Nos. 40109C0195H and 40109C0310H. As shown on Figure 4 and the drawings included in Appendix I, the proposed waste disposal area will be protected from the 100-year floodplain by a perimeter berm.

Consistent with OAC 252:515-3-32, this application requests a variance to OAC 252:515-5-32(a). A Conditional Letter of Map Revision (CLOMR) Request that includes the final configuration of the proposed East Oak RDF was ~~submitted to~~ approved by OKC ~~in November 2015~~ on February 18, 2016. ~~After OKC approves t~~The CLOMR Request~~, it will be~~ was forwarded to ~~the~~ FEMA for final approval. The CLOMR Request will revise the limits of the 100-year floodplain, as shown on Figure 4. As shown, no portion of the waste disposal area will be located within the 100-year floodplain after the perimeter berm has been constructed. In addition, the perimeter berm will provide over 3 feet of freeboard between the 100-year floodplain elevation and the top of the perimeter berm.

The site is and will remain in compliance with OAC 252:515-5-32(a).

The site is and will remain in compliance with OAC 252:515-5-32(a).

2.6 Public Water Supply

OAC 252:515-15-5-32(b) states that no MSWLF shall be located within one mile up gradient of a public water supply surface water intake that is in existence or permitted for construction at the time a complete modification is filed or within a one-year travel time of a public water supply well. The following subsections address public water supply surface water intakes, wellhead delineations, and aquifer recharge or discharge areas.

2.6.1 Public Water Supply Surface Water Intakes

The online geographic information system (GIS) ODEQ database indicated that there are no public water supply surface water intakes within one mile of the proposed permit boundary (http://gis.deq.ok.gov/flexviewer/) The nearest downstream surface water intake located on the North Canadian River is near Henryetta, Oklahoma. The nearest surface water intake is 9 miles away on Lake Arcadia. In addition, an April 17, 2014 letter from the OWRB is included in Appendix D-5 of Appendix D that indicates there are no existing or pending public water supply surface water intakes within one mile of the proposed landfill expansion area.

2.6.2 Public Water Supply Well

The online GIS ODEQ database was queried for locations of area public water supply wells. The locations of the recorded public water supply wells are shown on Figure 11. A complete discussion of public water supply wells located within 2 miles of the site is provided in Section 2.7.

The nearest public water supply well (Well ID #OK8005562) is located approximately 4,000 feet south of the proposed permit boundary . As discussed in Section 3.6.4 of Appendix E, the maximum one-year travel time in the Alluvium Unit is 15.98 feet/year and 2.39 feet/year for the Garber Wellington Unit. Therefore, no public water supply wells within a one-year groundwater travel time from the landfill (as required by OAC 252:515-5-32(b)).

2.7 Wellhead Protection Area

OAC 252:515-5-32(c) requires the establishment of a wellhead protection area if any public water supply well is located within two miles of the proposed landfill expansion. As noted on Figure 11, there are 26 public water supply wells located within 2.0 miles of the proposed permit boundary. Of the 26 public water supply wells, 18 have associated wellhead protection areas. Of the remaining 8, the closest public water supply well is approximately 4,000 feet southwest of the proposed permit boundary. As noted on Figure 11, based on a travel time of 2.39 feet/year in the Garber Wellington Unit 10-year groundwater travel time radius is 23.9 feet. Additionally, of the 8 public water supply

wells without wellhead protection areas, 7 are located upgradient of the North Canadian River and Crutcho Creek, the two surface water receiving bodies of the site. The 1 remaining public water supply well without a wellhead protection area is located approximately 2 miles northeast of the proposed permit boundary and approximately 1/3 mile east of the North Canadian River. Therefore, there is no potential for contamination from surface water discharge.

The Wellhead Protection Program (WHPP) is a pollution prevention and management program used to protect underground sources of drinking water. The national WHPP was established under Section 1428 of the 1986 Safe Drinking Water Act (SDWA) amendments. The law specified that certain program activities, such as delineation, contaminant source inventory, contingency planning, and source management be incorporated into state WHPPs, which are approved by the EPA prior to implementation. The WHPP in Oklahoma is a program that relies on education to encourage action. The goal of the Oklahoma WHPP is to minimize the risk of pollution by limiting activities on the land around public water supply wells.

2.8 Wetlands

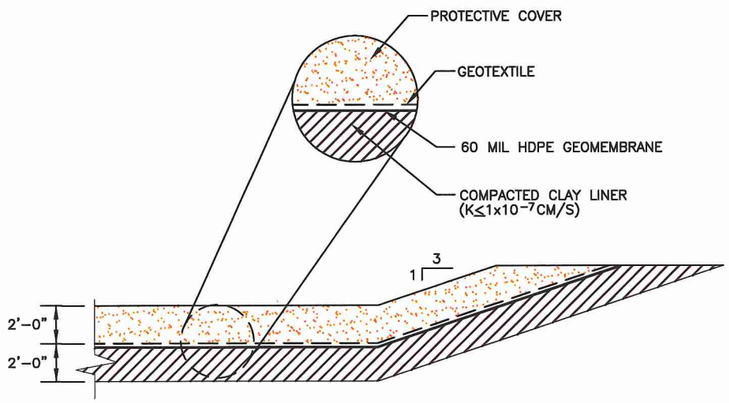
OAC 252:515-5-32(d) requires that new MSWLFs and expansions not be located in wetlands. The proposed permit boundary area was examined for wetlands by Goshawk Environmental Consulting, Inc. (an environmental services firm with experience in wetland delineation). As noted in Goshawk's report, the open water pond that occupies the southern half of the southern expansion area meets the criteria to be classified as a wetland; however, the area has been excavated with an upload for purposes of borrow or aggregate mining. Therefore, it was Goshawk's opinion that the area was considered isolated and not regulated by the USACE. The USACE concurred with Goshawk's opinion, as noted in their August 26, 2014 response letter.

Also as noted in Goshawk's report, the only potential waters of the U.S. (including wetlands) located in the northern expansion area is a stream/swale. However, as indicated by Goshawk, since there is no defined bed-and-bank condition within the vegetated swale and the mapped stream is hydrologically isolated from the surrounding watershed, it was Goshawk's opinion that the stream/swale no longer exhibited the criteria to be considered waters of the U.S. The USACE disagreed with Goshawk and requested a Section 404 Individual Permit Application be submitted to the USACE for the northern expansion area. A USACE Section 404 Individual Permit Application was submitted to the USACE in April 2015. Excerpts from the Section 404 Individual Permit Application are included in Appendix Z.

2.9 Terrace Deposits

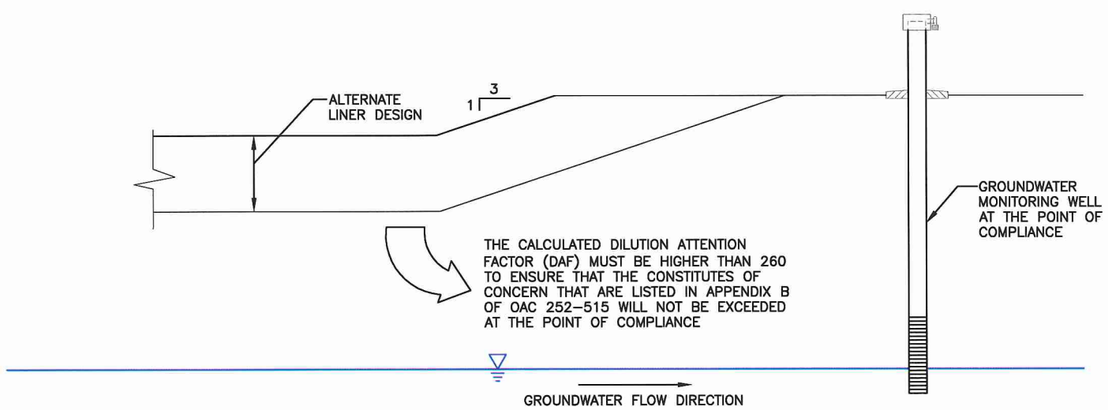
OAC 252:515-5-51(a) states that no MSWLF shall be located within an area designated as alluvium or terrace deposits and their recharge areas as shown on Oklahoma Geologic

STANDARD SUBTITLE D LINER OPTIONS



TYPICAL COMPOSITE LINER SYSTEM
SPECIFIED IN OAC 252:515-11-2(b)

0 4 8
SCALE IN FEET



ALTERNATE LINER SYSTEM
SPECIFIED IN OAC 252:515-11-2(c)

0 4 8
SCALE IN FEET

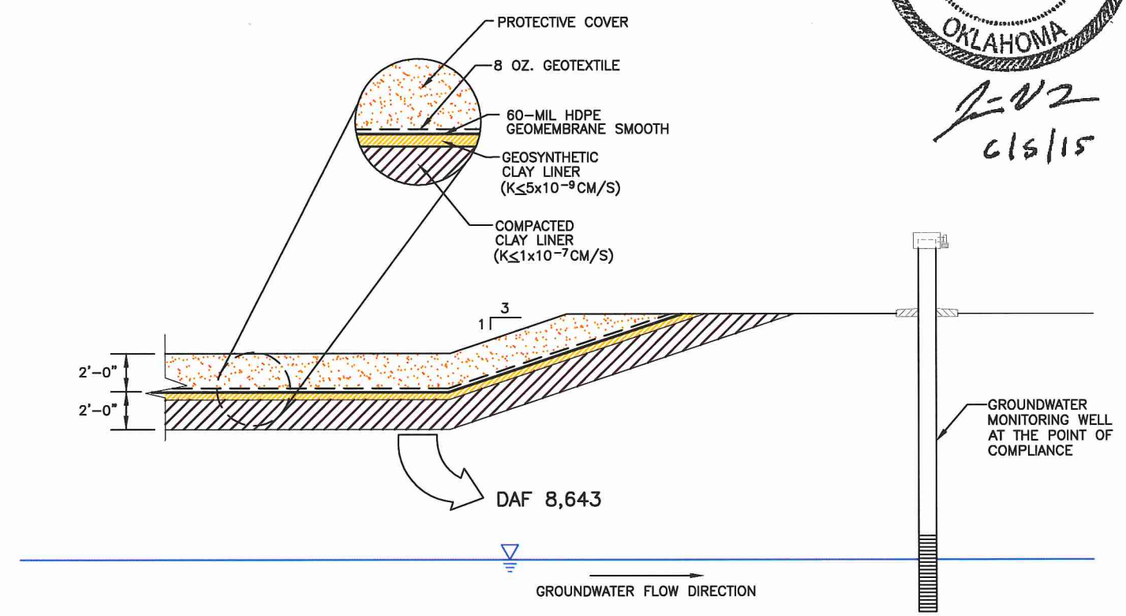
PROPOSED EAST OAK RDF LINER SYSTEM DESIGN

LINER SYSTEM DESIGN DEMONSTRATION SUMMARY

1. THE PROPOSED LINER SYSTEM HAS ALL THE COMPONENTS OF THE STANDARD COMPOSITE LINER SYSTEM REQUIRED PER OAC 252:515-11-2(b).
2. IN ADDITION, A GEOSYNTHETIC CLAY LINER HAS BEEN ADDED TO THE LINER SYSTEM TO PROVIDE ADDITIONAL PROTECTION TO HUMAN HEALTH AND THE ENVIRONMENT. THE CALCULATED DAF OF 8,643 FOR THE PROPOSED LINER SYSTEM IS OVER 33 TIMES HIGHER THAN THE REQUIRED DAF OF 260.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15



PROPOSED LINER SYSTEM DESIGN
FOR THE EAST OAK RDF

0 4 8
SCALE IN FEET

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 2.9-LINER COMPARISON.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE-06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
LINER COMPARISON

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

FIGURE 2.9

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G:\0086\356\EXPANSION 2013\FIGURES\FIG 2.9-LINER COMPARISON.dwg, uacholonu, 1:2

Survey (OGS) publication "Map of Aquifers and Recharge Areas in Oklahoma," compiled by Kenneth S. Johnson, OGS (1991). The 1991 map compiles data previously presented on two maps: one on bedrock aquifers and the other on alluvium and terrace deposits compiled by Kenneth S. Johnson, 1983 (Maps Showing Principal Groundwater Resources and Recharge Areas in Oklahoma; Oklahoma State Department of Health and the Oklahoma Geological Survey, 2 sheets). A portion of this map, which has been reproduced as Figure 10, shows the expansion area is located on an OGS mapped alluvial/terrace deposit and recharge area.

To allow for the development of the 41.4-acre expansion area, a variance is requested for this location restriction. OAC 252:515-3-32 requires that any variance request include a demonstration that the requested variance will equal or exceed the protection accorded by the particular rule for which the variance is being requested. In addition, a variance request also must demonstrate that the proposed request will not result in a hazard to the health, environment, or safety of the people of Oklahoma or their property.

To ensure that the development of the expansion area does not adversely impact the underlying deposit, the proposed liner system for the expansion area has been designed to provide a barrier layer that greatly exceeds the requirements for an MSW landfill. The additional protection provided by the proposed liner system will ensure that human health and the environment is protected. Figure 2.9 provides a summary of the standard MSW landfill liner requirements required by OAC 252:515-11-2(b) and (c), and the liner design proposed for the expansion area. As shown in Figure 2.9, the proposed liner design includes both a compacted clay and geosynthetic clay liner (GCL) component, as well as a 60-mil-thick HDPE geomembrane, leachate collection layer, and protective cover layer. The addition of the GCL significantly increases the environmental protection of the proposed liner system for the East Oak RDF expansion area. Typically, MSW landfill liner systems include only the 2-foot-thick compacted clay liner below the 60-mil geomembrane layer.

To quantify the additional environmental protection created through the addition of the GCL to the standard Subtitle D liner system, a demonstration is included in Appendix M using the MULTIMED Exposure Assessment (MULTIMED) computer model. The MULTIMED modeling demonstrates that the Maximum Concentration Levels (MCLs) of the Appendix B constituents referenced in OAC 252:515-11-2(c) will not be exceeded at the relevant point of compliance (POC). This demonstration is made by calculating a Dilution Attention Factor (DAF) using MULTIMED that represents the effectiveness of the proposed liner system (refer to Appendix M-2, Section 3 for a complete discussion of the DAF). As noted on Figure 2.9, the DAF must be higher than 260 to ensure that the constituents of concern will not exceed MCLs at the point of compliance. The calculated DAF for the proposed liner system is 8,643, which is over 33 times higher than the minimum required DAF. A DAF of 260 is representative of a typical MSW landfill composite liner system. Therefore, the proposed liner system is more protective of human health and the environment as demonstrated by a comparison of the DAF for both systems (i.e., 8,643 for the proposed liner system vs. 260 that represents the DAF for a Subtitle D compliant liner system).

In this case, the variance request for the terrace deposit location restriction is applicable because the proposed liner system design, which greatly exceeds the Subtitle D composite liner requirements, meets the intent of OAC 252:515-5-51(a) by providing equivalent protection of the area deposits.

2.10 Karst Terrain

OAC 252:515-5-51(b) states that no part of a new MSWLF shall be within a locally fractured or cavernous limestone (aquifer) or cherty limestone bedrock or within five miles of any water well owned by a rural water district. The proposed landfill expansion area is not in karst terrain. In addition, the geologic maps (Figures 5, 6, and 7) do not indicate the presence of soluble rock (i.e., limestone, dolomite, and/or halite) within 750 feet of the surface, which is necessary for karst terrain formation. Also, the site topographic map and a site walkover indicated no karst characteristic features were present (i.e., sinkholes, vanishing streams, caves, large springs, and/or blind valleys). The Reconnaissance of Water Resources of the Oklahoma City Quadrangle indicates there is no "karst bedrock aquifer" within five miles of the East Oak RDF. Therefore, the proposed expansion complies with the karst terrain location restriction.

2.11 Earthquake Epicenter Areas

OAC 252:515-5-51(c) prohibits any area within the permit boundary of a new disposal facility that accepts non-hazardous industrial waste to be located within 5 miles of the epicenter of a greater than 4.0 on the Richter Scale magnitude or a modified Mercalli Scale intensity of greater than a category V earthquake as recorded by the Oklahoma Geological Survey (OGS) records. This location restriction does not apply to the East Oak RDF, which is an existing municipal solid waste landfill.

According to the online Oklahoma Geological Survey Earthquake Catalog of Oklahoma (www.okgeosurvey1.gov), which catalogs earthquakes in the State of Oklahoma since 1882, within the past 10 years, 3 earthquakes with more than 4.0 on the Richter Scale or a number V on the modified Mercalli Scale have occurred within a 5-mile radius of the site. The location of the epicenter of these three earthquakes is shown on Figure 15. As stated above, the earthquake epicenter location restriction doesn't apply since the East Oak RDF is an existing landfill. In addition, pseudo-static method was used during stability analysis to account for seismic loads, refer to Appendix N for more information. Therefore, the proposed expansion complies with the earthquake epicenter area location restriction.

2.12 Asbestos Monofills

OAC 252:515-5-51(d) prohibits the location of new asbestos monofills within 500 yards of an occupied residence or 3 miles of a municipally incorporated area. According to 27A Oklahoma Statute 2-10-103(11), a monofill is a landfill which is used to dispose of a

single type of specified non-hazardous industrial solid waste, except for other non-hazardous industrial solid wastes which are not readily separable from the specified waste. This location restriction does not apply to the East Oak RDF because it is an existing municipal solid waste facility and not an asbestos monofill (nor is the proposed expansion area). However, as noted in Section 8.4, the East Oak RDF is approved to accept asbestos and materials containing asbestos.

2.13 Utility/Transmission Lines

OAC 252:515-5-52(a) requires a minimum of 25 feet between the active disposal area and any above ground or underground pipeline or transmission line. There are several known above ground and below ground utilities on site, including utilities along NE 36th Street, Sooner Road, and Mosley Road (Entrance Road). These utilities service East Oak RDF and allow for the operation of the scalehouse/office, maintenance shop, sanitary sewer utilities, leachate systems, and landfill gas systems. Additional discussion on site easements is included in Appendix B. These utilities and/or easements for the utilities will be relocated and/or abandoned to meet the location restriction before the waste disposal area is developed in these areas. Documentation of all utility line and easement relocations will be maintained in the Site Operating Record.

2.14 Fault Areas

OAC 252:515-5-52(b) requires that new MSWLFs and expansions shall not be located within 200 feet of a fault that has had displacement in Holocene (most recent 11,000 years) time. Based on the Oklahoma Geological Survey Map of the East Oak RDF area, there are no mapped faults in the area.

The landfill and the surrounding area were examined for the presence of Holocene (last 11,000 years) fault displacements. This included a physical inspection of the site and surrounding area, review of previous fault investigations, available literature and maps, and a current aerial photograph. No unusual Holocene scarps, topographic breaks, vegetation changes, or lineaments were interpreted within 200 feet of the site. No structural damage to facilities or surface indications of crude oil and/or natural gas accumulations were observed. No apparent Holocene structural influence of stream courses was observed. In addition, no unusual relief or topographic features, such as sag ponds, truncated alluvial spurs, or offset tributary alignments, were observed. The Tectonic Map of Oklahoma (Arbenz, 1956) indicates no mapped faults within Oklahoma County. In summary, there is no evidence of Holocene faulting within 200 feet of the site. Therefore, the proposed expansion complies with the fault area location restriction.

2.15 Seismic Impact Zones

A seismic impact zone is defined as an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage

of the earth's gravitational pull (g), will exceed 0.1 g in 250 years. A 2014 USGS contour map of peak horizontal acceleration, expressed as percent of gravity (%g) values, with a 2% probability of exceedance within 50 years is presented on Figure 8. According to the USGS, the 2% probability of exceedance within 50 years is statistically equivalent to a 10% exceedance within 250 years. The Interactive Hazard Map for the Lower 48 States, dated 2014, from the USGS seismic hazard database indicates that there is a 15.5 percent probability that the maximum horizontal acceleration will exceed 10 percent of the earth's gravitational pull within 250 years.

Therefore, the USGS data indicates the facility is located within a seismic impact zone. However, OAC 252:515-5-52(c)(1) states that no new MSWLF shall be located in a seismic impact zone except as provided in 27A Oklahoma Statute §2-10-501(D)(3), which states that the location restriction does not apply to privately-owned landfills which regularly serve one or more municipalities, and which have been accepting non-hazardous industrial solid waste under approval of the ODEQ. The East Oak RDF serves numerous communities in the Oklahoma City metropolitan area and has been receiving non-hazardous industrial wastes, as permitted by the ODEQ. Therefore, the seismic impact zone restriction does not apply.

Although this location restriction does not apply, seismic impact is considered in the design. Appendices N (Geotechnical Assessment) and L (Leachate Collection System Design) address seismic issues in conjunction with the slope stability analyses for the landfill and demonstrate compliance with OAC 252:515-5-52(c)(2). The leachate collection system will consist of flexible pipes and joints and has been designed to resist the maximum horizontal and vertical displacement caused by a seismic event. The liner materials will be composed of flexible materials and have been designed to withstand a seismic event.

2.16 Unstable Areas

OAC 252:515-5-52(d) states that no new MSWLF shall be located over a subsurface mining area or any other unstable areas. Based on a review of the location of the proposed landfill expansion area by a licensed WCG professional engineer, it was determined that the area is not located within an unstable area. The proposed disposal area excavations will be founded in the non-cohesive, Alluvium Unit and the disposal cells are not likely to experience differential settling as discussed in Appendix N – Geotechnical Assessment.

For determination of unstable areas at the site, a review of existing geotechnical and geological data, along with WCG site observations and a slope stability analysis were conducted as part of the location restriction demonstration (refer to Appendix N). No significant differential settling, geomorphologic features indicative of instability or human caused areas of instability were observed by WCG in the proposed landfill expansion area. Unstable areas, which would be susceptible to natural or human-induced events or forces have not been identified at the site. Therefore, the proposed landfill

expansion area is stable and the proposed expansion complies with the unstable area location restriction.

2.17 Airports

OAC 252:515-5-52(e) states that no MSWLF that has the potential to cause or create bird hazards to aircraft shall be permitted within 10,000 feet of any airport runway used by turbojet aircraft and within 5,000 feet of any airport used by only piston-engine aircraft except as approved by the U.S. Federal Aviation Administration (FAA).

An FAA coordination letter is included in Appendix D, Appendix D-1. No airports are located within 10,000 feet of the facility. Tinker Air Force Base is located about 4.4 miles south of the proposed landfill expansion area. The FAA letter also states that the FAA has no objection to the proposed landfill expansion from the standpoint of potential bird hazards. Therefore, the landfill expansion complies with the airport location restriction.

3 SUBSURFACE INVESTIGATION

3.1 Introduction

Several subsurface investigations have been completed and approved by ODEQ for the existing permit area. WCG conducted a subsurface investigation of the proposed 41.4-acre waste proposed landfill expansion area in May and June of 2014. The subsurface investigation for the proposed landfill expansion area was completed in accordance with OAC 252:515-7-(1-5, 31-38, and 51-56). The investigation includes a drilling plan, completed soil borings and piezometers, a regional hydrogeologic study, and a groundwater study. The subsurface investigation report is presented in Appendix E. The design of the landfill expansion area is based on the new data gathered from this investigation.

3.2 Monitoring Wells

The uppermost unconfined saturated zone occurs in the Alluvium Unit. *The groundwater flow is typically from the south and southeast toward the north and northwest toward the Canadian River valley which is the dominant hydrogeologic feature in the area. During temporary high surface water conditions in the Canadian River normal groundwater flow directions may be temporarily interrupted and on the southeastern part of the site may be temporarily reversed resulting in flow to the east toward Crutcho Creek. When groundwater levels return to normal however the normal groundwater flow is to the northwest.* The proposed East Oak RDF Alluvium Unit groundwater monitoring system will consist of 10 groundwater monitoring wells. The proposed East Oak RDF Garber Wellington Unit groundwater monitoring system will consist of 6 groundwater monitoring wells. The proposed monitoring system is shown on Figures E-1-20 and E-1-21 and is discussed in Section 4.3 of Appendix E.

3.3 Design and Construction

Design, construction considerations, and details of the proposed groundwater monitoring system are included in Section 4 of Appendix E (Subsurface Investigation and Groundwater Study).

3.4 Plugging

All monitoring wells and piezometers that are removed will be plugged and abandoned according to the Oklahoma Water Resources Board and ODEQ requirements of OAC 785:35-11, 252:515-7-3, and 252:515-7-71(b).

3.5 Monitoring Program

The monitoring program will follow the proposed Ground Water Sampling and Analysis Plan (GWSAP). This plan satisfies the regulations put forth in OAC 252:515-9. This document is included in Appendix F. The GWSAP includes the following:

- Groundwater sample collection, preservation, and analysis methodologies;
- Chain of Custody procedures;
- Monitoring Constituents;
- Establishment of background groundwater quality;
- Detection monitoring program; and
- Statistical analyses procedures.

Detection monitoring of the proposed groundwater monitoring system for the proposed landfill expansion area will be performed in accordance with 252:515-9-71 through 72 after the background water quality has been established for the proposed system. None of the existing facility Subtitle D monitoring wells are in assessment monitoring or corrective action at this time.

4 EXPLOSIVE GAS CONTROL

4.1 Methane Monitoring Program

In accordance with OAC 252:515-15, a methane-monitoring program will address the type and frequency of monitoring in all structures and permitted areas. Site boundaries will be monitored to identify any migration of methane gas through the subsurface. Structures inside the permitted area will also be monitored to ensure that methane levels do not exceed 25 percent of the lower explosive limit. The Landfill Gas Management Plan is included in Appendix F. The proposed gas probes for the proposed landfill expansion area are included in Figure 13.

4.2 Landfill Gas Monitoring Probes

Currently, the site has 19 existing LFG monitoring probes. As a result of the proposed landfill expansion, 9 existing LFG monitoring probes will be abandoned, 10 existing probes will remain, and 16 new probes will be installed. At landfill completion, the monitoring network consist of 26 monitoring probes. At a minimum the new probes will extend from ground surface down to the lowest bottom of waste elevation in the East Oak RDF in accordance with OAC 252:515-15-4. The installation of the new probes, construction records, depths, and placement information will be submitted to the ODEQ.

4.3 Excessive Gas Procedure

In accordance with OAC 252:515-15-5 in the event that methane gas levels do exceed the limits specified, East Oak RDF personnel will decide if the threat warrants an evacuation to protect human health. ODEQ will be notified immediately. Documentation of methane measurements and any steps taken to protect the safety of individuals will be recorded in the Site Operating Record and reported to the ODEQ within seven days. Upon review of the exceedances, a remediation plan will be prepared and submitted within 30 days. The plan, upon approval by the ODEQ, will be implemented within 60 days. This plan may be modified to meet the facility's conditions by approval from ODEQ. The ODEQ will be notified that the remediation plan has been implemented and that a copy of the plan has been placed in the Site Operating Record.

4.4 Landfill Gas Collection and Control System

The site has an existing active landfill gas collection and control system (GCCS). This GCCS will be expanded as needed to provide control of LFG.

4.5 LFG Regulatory Compliance

The existing facility has a design capacity that exceeds 2.5 million Mg. As such, the site complies with all applicable requirements of 40 CFR Subpart WWW. The site operates a landfill gas collection and control system in accordance with Subpart WWW.

5 STORMWATER MANAGEMENT

5.1 Surface Water Protection

In accordance with OAC 252:515-17-3, the facility has been designed to prevent discharge of pollutants into waters of the State or waters of the United States, as follows:

- No discharge of solid waste or pollutants into or adjacent to waters of the State, including wetlands, that is in violation of the requirements of the Oklahoma Water Quality Management Plan will occur. During the active life of the facility all stormwater coming into contact with solid waste will be retained as contaminated water and disposed of as outlined in Appendix L.
- No discharge of pollutants into or adjacent to waters of the United States, including wetlands, that violates any requirement of the Clean Water Act, including, but not limited to, the Oklahoma Pollution Discharge Elimination System (OPDES) requirements as demonstrated in Appendix H-2 will occur. East Oak RDF has received a permit from ODEQ to discharge stormwater runoff consistent with an OPDES Stormwater Industrial General Permit for industrial activity. A copy of the authorization to discharge under the OPDES Stormwater Industrial General Permit OKR05 is included in Appendix H-6. In addition to the above, leachate and contaminated water will be disposed of by one of the approved methods listed in Appendix L, Section 5. Consistent with OAC 252:515-13-55, the site has obtained approval from a Publicly Owned Treatment Works (POTW) (the City of Oklahoma City) to discharge leachate and contaminated water. The Industrial Permit (No. 2865) authorizes wastewater discharge from the East Oak RDF into the OKC sanitary sewer system. This industrial user permit complies with the OKC pretreatment ordinance set forth in Oklahoma City Code, Chapter 47. This chapter lists the uniform requirements for users of the wastewater collection system and POTW for OKC and enables the OKC to comply with all applicable state and federal laws, including the Clean Water Act (33 USC 1251 et seq.) and the General Pretreatment Regulations (40 CR 40 et seq.).
- The proposed site development includes the fill a portion of a unnamed tributary of the North Canadian River. The USACE regulates all construction activities within the nation's waters (including wetlands). A USACE Section 404 Individual Permit application was submitted to the USACE in April 2015 for the construction activities associated with the proposed site development. Excerpts from the Section 404 Individual Permit Application are included in Appendix Z.

- No discharge of a nonpoint source pollution of waters of the United States, including wetlands, that violates any requirement of an area-wide or statewide Water Quality Management Plan that has been approved under the Federal Clean Water Act, §208 or §319, as amended will occur. Coordination with the Oklahoma Water Resources Board is included in Appendix D, Appendix D-5.

5.2 Run-on Control System

The Surface Water Management Plan for this proposed landfill expansion design has been prepared in accordance with OAC 252:515-17. The proposed drainage improvements for this expansion includes providing final cover erosion control structures (i.e., chutes and swales), and perimeter drainage channels. A drawing depicting the layout of the proposed drainage system is presented on Drawing 5. As shown on Drawing 5, stormwater runoff will be collected in swales located near the upper grade break on the landfill and on the 4 (Horizontal) to 1 (Vertical) sideslopes, and then conveyed to drainage letdown structures (chutes) and down the 25 percent slopes to the perimeter drainage system. The proposed channels will be constructed before fill is placed above existing grade in each adjacent landfill sector. Stormwater drainage from developed areas will be directed into the perimeter channels or stormwater detention areas that will convey stormwater to existing drainage features. The site is designed so that the expansion area development will not significantly alter existing permitted drainage patterns and to prevent stormwater run-on to the active portion of the landfill during a 24-hour, 25-year storm event. The design of the stormwater management system is included in Appendix H.

The stormwater management system will be constructed as the site is developed. As the site develops, the permanent erosion control structures (i.e., chutes, swales, perimeter channels, etc.) will be constructed. This will provide for the conveyance of all stormwater generated from the developed portions of the site.

Surface waters will be managed throughout the active life of the landfill to minimize the amount of stormwater that will come in contact with waste or enter the leachate collection system. Surface water will be controlled through the use of diversion berms, stormwater diversion ditches, and stormwater detention areas. Stormwater that comes into contact with waste at the working face area will be considered contaminated water and treated as leachate (refer to Section 5.3).

5.3 Run-off Control System

Contaminated water that collects behind the containment berm and does not infiltrate into the landfill will be pumped into tanker trucks and handled in accordance with Section 5 of Appendix L. Contaminated water may also be transported to the leachate storage pond. At no time will contaminated water be allowed to discharge into waters of the United States. The design calculations and the size of the containment and diversion

berms required around the active working face for the 25-year, 24-hour storm event are provided in Appendix L (Appendix L-7).

5.4 Stormwater Pollution Prevention Plan

The Stormwater Pollution Prevention Plan (SWPPP) will be prepared in accordance with the facility's current National Pollutant Discharge Elimination System under the current multi-sector permit (OKR052322). A copy of this permit is included in Appendix H, Appendix H-6.

6 LINER AND FINAL COVER SYSTEMS

6.1 Liner Design and Installation

The waste disposal area will be expanded from 135.2 acres to 191.8 acres. The expansion area will include five additional phases. The excavation plan, top of liner plan, and top of leachate collection layer plan are presented on Drawings 7 through 9. Drawings 19 through 23 include details of the liner system construction for the expansion area.

The liner system design will be an alternative liner system design in accordance with OAC 252:515-11-2(c). The composite liner details are depicted on Drawing 19. The alternative liner system design configuration is shown below (from top to bottom). There are two options for the protective cover layer.

Composite Liner System	
Option 1 (Sideslopes and floor grades)	**Option 2 (Floor grades only)**
12-inch-thick protective cover layer ($k \geq 1x10^{-3}$ cm/s)	12-inch-thick layer of tire chips
12-inch-thick granular drainage layer ($k \geq 1x10^{-3}$ cm/s)	12-inch-thick granular drainage layer ($k \geq 1x10^{-3}$ cm/s)
8-oz/sy geotextile	8-oz/sy geotextile
60-mil-thick high density polyethylene (HDPE) geomembrane liner	
Geosynthetic clay liner (GCL)	
24-inch-thick compacted clay liner	

An unreinforced GCL will be used for the landfill floor, and a reinforced GCL will be used on slopes greater than 7H:1V. The design demonstration for the alternative liner system design is provided in Appendix M. Material specifications, construction, and testing requirements for the alternative liner system design are provided in Appendix K. The stability analysis for the alternative liner system is provided in Appendix N. The results of the stability analysis indicated the calculated factor of safety is greater than the recommended minimum factor of safety.

The expansion excavation area is designed to have a slope of 1 percent (from the phase ridge line to the leachate collection line). The sidewalls will be constructed with a typical slope of 3(H):1(V). The leachate collection trench will be situated down the center of each phase. Sump riser pipes and clean out pipes are provided for each phase.

6.2 Liner Installation and Testing

A Liner and Leachate Collection/Protective Cover System Installation Quality Assurance/Quality Control (QA/QC) Plan has been prepared and will be followed during the construction of each of the new sectors. The Liner and Leachate Collection/Protective Cover System Installation QA/QC Plan is included in Appendix K. The purpose of the Liner and Leachate Collection/Protective Cover System Installation QA/QC Plan is to ensure that the liner and leachate collection/protective cover systems comply with OAC 252:515-11-4 through 76, and OAC 252:515-13.

6.3 Final Cover Design

The proposed evapotranspiration (ET) final cover system is a monolithic soil cover that employs a thick layer of soil with adequate soil-water storage capacity to retain any infiltrated water until it can be removed through ET. The ET final cover system concept relies on the soil to act like a sponge. A key to the design is that the "soil sponge" or "soil rooting medium" be designed thick enough to hold infiltration of precipitation until the water can be consumed by ET. The ET final cover system will consist of the layers listed in the following table.

Evapotranspiration (ET) Final Cover System
12-inch-thick vegetation layer
24-inch-thick vegetation support layer
12-inch-thick foundation layer (intermediate cover)

The ET final cover system design is included in Appendix J. Drawing 26 contains the ET final cover system details. In addition, Appendix J also includes the Final Cover Quality Assurance/Quality Control Plan and the Vegetation Plan.

A geotechnical report including stability demonstrations for both liner and final cover systems is provided in Appendix N – Geotechnical Assessment.

An additional 12 inches of compacted earthen material (intermediate cover) shall be applied over all disposal areas not protected by final cover meeting the requirements of OAC 252:515-19-53 or managed with run-off control structures meeting the requirements of OAC 252:515-17-2(2).

7 LEACHATE COLLECTION/PROTECTIVE COVER SYSTEM

7.1 Leachate Collection/Protective Cover System Design

The purpose of the leachate collection/protective cover system is to control the accumulation of leachate on the bottom liner and reduce the potential for migration of leachate into the environment. The leachate collection system is designed to satisfy the requirements set forth in OAC 252:515-13, these include maintaining 1 foot or less of head above the top of the liner and provide at least 5 feet of separation between the top of the geomembrane liner and the highest groundwater.

The leachate collection/protective cover system consists of a leachate collection/protective cover layer and the underlying leachate collection piping, trenches, and sumps. This system will collect leachate from the phases, minimize head buildup on the liner system, and manage the leachate through its disposal. The 5-foot separation requirement provides a safety factor for groundwater protection.

The leachate collection/protective cover layer is placed above the liner to allow leachate to discharge freely from the overlaying wastes and flow laterally to the perforated collection pipes. The leachate collection layer consists of a 12-inch soil layer with a permeability of $1x10^{-3}$ cm/s or greater overlying an 8oz/sy geotextile. The protective cover layer consists of either an additional 12-inch-thick leachate collection layer ($k \geq 1x10^{-3}$ cm/s) or a 12-inch-thick layer of tire chips (floor grades only).

The leachate collection layer follows the top of the liner slope to promote leachate flow toward the leachate collection trenches and ultimately to the sumps for removal (Drawing 9). This layer provides a high permeability layer to effectively transmit leachate to collection pipes and sumps, thereby reducing leachate head buildup. In each of the phases the top of the liner slopes 1 percent from the phase ridge to the middle of each phase, where the leachate collection trenches are located.

Leachate collection pipes lie in the middle of the leachate collection trenches to aid in the transport of leachate to the sumps. The collection pipes are 6-inch-diameter SDR17 HDPE perforated with 1/2-inch holes. The perforated collection pipes are placed with the holes facing downward in the trench. In the leachate collection trench, a geotextile will encapsulate the piping and drainage stones to prevent clogging of the drainage material and prevent puncture of the underlying geotextile and geomembrane. Washed stone surrounds the collection pipes with a minimum hydraulic conductivity of 1 cm/s. Each trench slopes towards the sumps located on the end of each phase. This ensures that the

leachate in the trenches flows freely to the leachate collection sumps. Drawings 19 and 23 contain details concerning the leachate collection system.

As demonstrated in Appendix L, 100 percent of the leachate generated daily can be recirculated once a 10-foot-thick lift of waste is in place. In accordance with ODEQ guidelines, recirculation of leachate will only occur over areas of the landfill that have been lined with ODEQ approved composite liner systems.

7.2 Leachate Management

The leachate collection sumps and pumps have been sized to limit maximum head above the liner system to 12 inches and provide a reasonable pump cycle time. Leachate removal from each sump is accomplished with a submersible pump. The leachate collected in the leachate sumps is currently pumped from the sumps to a storage tank located northwest of the site. As discussed in Section 5 of Appendix L, the leachate is directly discharged to the OKC sanitary sewer system.

Leachate and contaminated water will be disposed of by one of the following methods.

1. Direct discharge to the Oklahoma City sanitary sewer system. Consistent with OAC 252:515-13-55, the site has obtained approval from a POTW (OKC) to discharge leachate and contaminated water. The Industrial Permit (No. 2865) authorizes wastewater discharge from the East Oak RDF into the OKC sanitary sewer system. This industrial user permit complies with the OKC pretreatment ordinance set forth in Oklahoma City Code, Chapter 47. This chapter lists the uniform requirements for users of the wastewater collection system and publicly owned treatment works for the City and enables the City to comply with all applicable state and federal laws, including the Clean Water Act (33 USC 1251 et seq.) and the General Pretreatment Regulations (40 CR 40 et seq.).
2. Recirculated at the working face, as needed to stabilize waste and facilitate compaction. The recirculation of leachate will be performed following the procedures set for in the Leachate Recirculation System Operating Plan (Section 6).

Refer to Appendix L for additional information.

7.3 Performance Evaluations

Samples will be collected from the existing leachate collection tank, ~~temporary leachate storage pond~~, or additional leachate storage tanks to comply with all applicable permit requirements. A grab sample may be obtained and used for laboratory analysis.

In addition, leachate levels will be monitored at the leachate storage tanks prior to and following pumping cycles to estimate the amount of leachate generated by the landfill.

This allows for a qualitative evaluation of the landfill design. The removal of leachate will occur as necessary to maintain less than one foot of head on the liner system.

The leachate collection system will be routinely inspected, at least quarterly, to ensure the proper operation of the system. In the event that the leachate collection system is shown to have failed to perform as designed, the facility shall submit a corrective action plan to the ODEQ within 30 days. The facility should begin the implementation of such a plan within 30 days of the ODEQ approval.

8 OPERATIONAL PLAN

8.1 Hours of Operation

The site will typically operate Monday through Friday (5 am to 7 pm) and Saturdays (5 am to 1 pm); however, the operating hours are not limited to those time periods. The incoming volume of waste will change the operational hours of the facility. At certain times of the year and with changes in incoming volumes due to special circumstances and/or projects, the facility will increase or decrease the daily hours of operation to accommodate the incoming volume. The facility ultimately will be open to serve the community needs. However, an appropriate amount of staff and equipment will always be maintained during operational hours to ensure that applicable regulations are properly followed.

8.2 Public Access Control

The permitted and proposed landfill area are controlled by a perimeter fence, natural barriers, and/or a gate which are locked when the landfill personnel are not present. The primary entrance to the facility is Northeast 36th Street which runs east/west adjacent to the north permit boundary. The entrance road is constructed of all weather, asphalt/gravel mixture that runs from Northeast 36th Street to the scalehouse. The scalehouse personnel will control the access to the landfill during operation hours. When the site is closed the main entry gate will be closed and locked to prevent unauthorized disposal at the site. Maintenance on the perimeter fences, gates, and locks will be performed as necessary to maintain control of the site.

OKC maintains the access road to the site (i.e., Northeast 36th Street). The vehicular traffic utilizing the facility will consist of waste collection vehicles such as compactors, transfer, transport and roll-off vehicles which vary in type size, length, weight, and capacity. Northeast 36th Street is maintained to support the present and any additional future traffic to the site. Internal roads will be maintained by East Oak RDF and intended to support all traffic in all weather conditions. Temporary roads will be used as waste placement areas are completed. All interior site roads will be graded for proper drainage and drainage culverts will be installed and maintained as needed.

During dry and windy weather water trucks will spray the roads to minimize dust problems. To minimize the tracking of mud from the site to public roads, the entrance road will be maintained and constructed for all weather (paved) and the site wheel wash

will be utilized. The entrance road will be maintained during periods of inclement weather to help ensure that mud-tracking does not become a problem.

8.3 Measuring Procedure

8.3.1 General Information

OAC 252:515-19-33 states that all waste delivered to and disposed of will be measured by either weight or volume. In January of 1996 ODEQ mandated the utilization of weight measurements. Therefore, the landfill personnel will record the amount of solid waste the facility disposes on a daily basis. These records will be maintained for review by the ODEQ at the facility. In compliance with OAC 252:515-19-33(a), scales are located onsite. In addition, the scales will be tested and certified annually in accordance with requirements of the Oklahoma Department of Agriculture, Food, and Forestry.

The East Oak RDF currently has a Tare Weight Plan in place. The Tare Weight Plan incorporates past experience in using tare weights as a means to determine average truck weights over a period of time. Those vehicles that are regular users of the landfill have established historical data that allows for tare weights to become increasingly accurate over time.

Currently, vehicles are identified by unit number or name and stored in the site computer database by means of a customer ID number. As a vehicle enters the scale, the scale attendant enters the ID number in the computer, and the vehicle's tare weight (i.e., weight of vehicle without waste) is automatically retrieved based on historical data for that vehicle.

Due to variations in each individual truck weight (i.e., fuel quantity, removable or added equipment, number of passengers, etc.), an estimated tare weight for each truck will be used. This will be the average sum of all previously measured weights for that truck/vehicle.

Tare weight records are maintained in a computerized truck file listing that can be printed at any time for review. If the scales are inoperative, tonnage will be estimated on a volume basis where one cubic yard of solid waste will be calculated to weigh one-third ton. Monthly reports will also be filed in the operating record and submitted to the ODEQ no later than the 15th of the month following the reporting month. Solid waste disposal fees will be remitted to the ODEQ in accordance with 27A O.S. §2-10-802(B).

8.3.2 Existing Customers

Given the historical data previously gathered for existing customers, existing trucks will reweigh annually to gather current data that can be used to recalculate the average tare weight. With this method, slight variations can be accounted for and the average (estimated) tare weight will remain accurate over time.

Existing customers will be notified that equipment changes (removed and/or added) must be communicated to the site management so that the vehicle can reweigh as soon as possible. Each time a truck/vehicle has a change in equipment, it will reweigh and the new weight will be added to the average tare weight database.

8.3.3 New Customers

New customer vehicles will be weighed empty on their first trip to the landfill. Thereafter, vehicles will reweigh annually as described above.

8.3.4 Existing Equipment

Collection vehicles owned by WM or its subsidiaries have been weighed and tare weights are in the computer database. Each truck has been assigned an ID number. When a facility owned truck enters the landfill, the scale operator will enter the ID number. The computer will subtract measured gross weight, leaving the net weight of the waste load.

Trucks will reweigh annually to gather current data that can be used to recalculate the average tare weight to be used. With this method, slight variations can be accounted for and the average (estimated) tare weight will become more accurate over time.

Equipment changes (removed and/or added to the trucks) will be communicated to the site management so that the vehicle can reweigh as soon as possible. Each time a truck/vehicle has a change in equipment, it will reweigh and the new weight added to the average weight database.

8.3.5 New Equipment

New equipment will be weighed and given an ID number on the first visit to the landfill and this information added to the database.

8.4 Asbestos

East Oak RDF is approved to accept asbestos and materials containing asbestos in compliance with all the requirements set forth in OAC 252:515-19-36, all regulations set forth in 252:100 and 380:50. These requirements are stated in the Waste Exclusion Plan included in Appendix O.

8.5 Litter Control

Blowing litter will be controlled in accordance with OAC 252:515-19-35. The site operations will conduct unloading of waste in such a matter to reduce the blowing of waste from outside the active disposal area. The working face will be covered at the end of each day as well as when necessary during the operational day to help minimize the scattering of waste. In addition, litter fencing will be placed downwind of the active area

during windy weather periods. The entire landfill site and the approaching roadways within 1/2 mile will be cleaned by landfill personnel at least once a week or whenever the site or surrounding area deems necessary. In addition, signage will be posted advising customers to adequately cover their loads to prevent blowing litter.

8.6 Cover Material Requirements

A daily cover with at least 6 inches of earthen material or an approved Alternative Daily Cover (ADC) will be placed over the exposed solid waste at the end of each operating day or more frequently, if needed. The cover is used to prevent and control disease vectors, fires, odors, blowing litter and scavenging at the facility. The material will be compacted sufficiently to minimize washout and keep any rainfall from exiting the active disposal area. The ODEQ approved alternate Daily Cover Operating Plan is included in Appendix W.

8.7 Buffer Zones

In accordance with OAC 252:515-19-38, waste-free buffer zones of at least 100 feet offset from the proposed permit boundary for the landfill expansion area included in this permit modification will be maintained. No disposal waste will be placed inside the buffer zone. The distance between the permit boundary and limits of waste in the lateral expansion area is shown on Drawing 6.

8.8 Air Criteria

Currently, the site is subject to NSPS Subpart WWW requirements, given that it has had a capacity increase since May 31, 1999. The site is currently authorized by Title V Operating Permit No. 2011-226-TVR2, dated ~~June 30, 2014~~ September 24, 2015, which is included in Appendix R. The site will continue to follow all applicable NSPS requirements. In addition, the site will maintain compliance with applicable air quality permit requirements. All applicable NSPS and air quality documentation will be placed in the Site Operating Record.

8.9 Salvage or Recyclery Operations

No scavenging will be permitted at the disposal site. However, in accordance with OAC 252:515-19-39, diversion of the appropriate waste streams to recycling facilities with verification of an ODEQ-approved recycling and salvage plan is permitted. Appendix X includes an ODEQ-approved Recycling Plan and Appendix Y includes an ODEQ-approved Roofing Shingle Recycling Plan.

8.10 Disease Control

With the proper compaction and cover of waste, most disease vectors will be eliminated. If a situation warrants, the use of alternative actions will be available – as required. Professional exterminators will be contacted, if necessary, to eliminate rodents and other pests.

8.11 Dust Control

Dust resulting from vehicular traffic construction activity and landfill operations will be kept to a minimum within the property through the utilization of a water truck, road base material, and/or vegetation establishment. The site water truck is utilized throughout the day to apply water to various haul roads throughout the site.

In addition, several of the site haul roads are covered with various road base materials, including the main site entrance road which is paved with concrete, and the top deck access road which has been covered with gravel. Finally, as portions of the landfill are developed to final grade, final or temporary vegetation is established through means of seeding or sodding.

8.12 Dead Animals, Containers, and Municipal Sewage

East Oak RDF may receive dead animals or slaughterhouse wastes. Dead animals and slaughterhouse wastes will be buried at the working face and covered with a minimum of three feet of other solid waste or a minimum of two feet of soil immediately upon receipt. Additional waste or soil will be added over the dead animals or slaughterhouse wastes if objectionable odors are created by the wastes.

Unless disposed containers follow the criteria below, containers holding liquid wastes will not be disposed of at East Oak RDF in accordance with OAC 252:515-19-72. The containers allowed to be disposed of at the landfill are:

a. containers similar in size and quantity to that normally found in household waste;

b. designed to hold liquids for use other than storage; or

c. derived from household waste.

~~Treated~~ ~~m~~ Municipal sewage sludge treated to Class B requirements as discussed in 40 CFR 503.32(b) is allowed to be disposed of at the East Oak RDF if the sludge passes the Paint Filter Liquids Test (PFLT), EPA Method 9095. If the sludge does not pass the paint filter test, it will be bulked or solidified on-site or removed from the site and disposed of at another permitted site.

8.13 Animal Feeding

In accordance with OAC 252:515-17-2(i), no domestic animals except for guard dogs will be allowed on the site. Furthermore, no animals will be allowed near the active disposal area.

8.14 Discharge

Contaminated water or leachate is currently pumped to a leachate storage tank which discharges to the OKC sanitary sewer system. Additional discussion on contaminated water and leachate management is included in Section 7.2.

8.15 Waste Placement

In accordance with OAC 252:515-19-38(a), no waste will be placed or allowed to enter waters that come in contact with waters of the State located outside the permit boundary. This is further addressed in Section 7. No waste will be allowed in the buffer zones as outlined in Section 8.7.

8.16 Accident Prevention and Safety

Safety training will be provided to new employees as well as refresher courses for current employees in safety and accident prevention.

8.17 Recordkeeping and Reporting

In accordance with OAC 252:515-19-40, the operating record of the facility will be maintained on-site or near the facility. The operating record will include all records concerning the planning, construction, operation, closing, and postclosure monitoring of the facility until the postclosure monitoring period is terminated. Among the documents that will be included in the site operating record will be location demonstrations, the daily operation record, monitoring and test results, closure and postclosure plans, cost estimates, and financial assurance documents.

The location demonstration reports include all permits required by local, state and federal agencies concerning all operation at the site. The daily operational record will record operational information including the amount of waste received, any unusual circumstances that may take place during operations, and any other pertinent information regarding the general work carried out at the facility. The monitoring and test results will be maintained in the operating record and submitted to the ODEQ within 60 days of the sampling event. A copy of all groundwater, leachate, stormwater, and gas monitoring data will be kept on-site for review by any local, state, or federal agency for a period of 5 years, at which time the information and records will be transitioned to a third-party

document storage facility where it will remain for the life of the facility, including the postclosure monitoring period. Identification of the third-party document storage facility will be maintained in the site operating record at the facility and maintained at the facility for the life of the facility and the postclosure monitoring period. Upon request, records stored at the third-party document storage facility will be retrieved within 72 hours and furnished within 72 hours of retrieval for inspection. Examples of the recordkeeping and reporting forms are included in Appendix T.

The operating record will be maintained and updated to abide by any new regulations for the life of the operating landfill and the closure and postclosure period. Out of state waste will only be accepted at a rate of less than 200 tons/day, unless a Disposal Plan is submitted to ODEQ, consistent with OAC 252:515-19-34 (c) and (d). The Waste Exclusion Plan, included in Appendix O, outlines waste acceptance and the rejection of waste.

8.18 Liquid Waste Restriction

Bulk or non-containerized liquid will not be accepted at the landfill with the exception of: (1) household waste; (2) leachate or gas condensate derived from the landfill which is designed with a composite liner and leachate collection system and is recirculated in accordance with 252:515-13-53; or (3) waste that has been sufficiently bulked or solidified with soil or other previously approved material to pass the paint filter liquid test prior to disposal. The Waste Exclusion Plan, included in Appendix N, outlines acceptance requirements for disposal at East Oak RDF.

The facility currently has an existing liquid waste bulking facility constructed over a permitted waste fill area that is lined in accordance with Subtitle D requirements. A copy of the Liquid Waste Bulking Facility Operating Plan is included in Appendix V.

8.19 Exclusion of Hazardous Waste

In accordance with OAC 252:515-29, East Oak RDF has developed a Waste Exclusion Plan designed to prevent the receipt of hazardous waste, radioactive waste, and PCB waste at the landfill. The Waste Exclusion Plan is included in Appendix O. This proactive plan minimizes the potential for hazards or otherwise unacceptable wastes to be transported to the site for disposal. Implementation of this plan provides protection from the potential dangers that a waste could pose to employees, the public, or the environment.

9 CLOSURE AND POSTCLOSURE PLAN

The closure and postclosure plan is included in Appendix P. These plans were developed to meet the requirements of OAC 252:515-25. The closure plan will include the necessary actions to certify the facility as closed. While the postclosure plan sets forth the maintenance and monitoring during the postclosure period.

10 CLOSURE AND POSTCLOSURE COST ESTIMATES

The Cost Estimates for closure and postclosure care has been prepared consistent with OAC 252:515-27-31 through 34. Cost estimates are required for solid waste landfill facilities whose debts and liabilities could become the debts and liabilities of a state or the United States (i.e., in the event of forced closure, which occurs when an operational municipal solid waste landfill facility can no longer operate because of an inability to manage the incurred debts and liabilities). As such time, the responsibility for closure would be assumed by the ODEQ. The closure and postclosure cost estimates are provided in Appendix Q.

FIGURES

In accordance with OAC 252-515-1-4(b) and 252-515-3-51(e), figures/drawings have been provided in an alternative scale. The alternative scales are clearly identified on each figure/drawing.

Figure 1 General Site Location Map

Figure 2 Topographic Site Location Map

Figure 3 Land Use Map

Figure 4 FIRM

Figure 5 Generalized Geology Map of Oklahoma

Figure 6 Regional Geology Map and Stratigraphic Column

Figure 7 Regional Geologic Cross-Section

Figure 8 Seismic Impact Zone Map

Figure 9 Surface Geologic Map

Figure 10 Groundwater Resource and Recharge Area Map

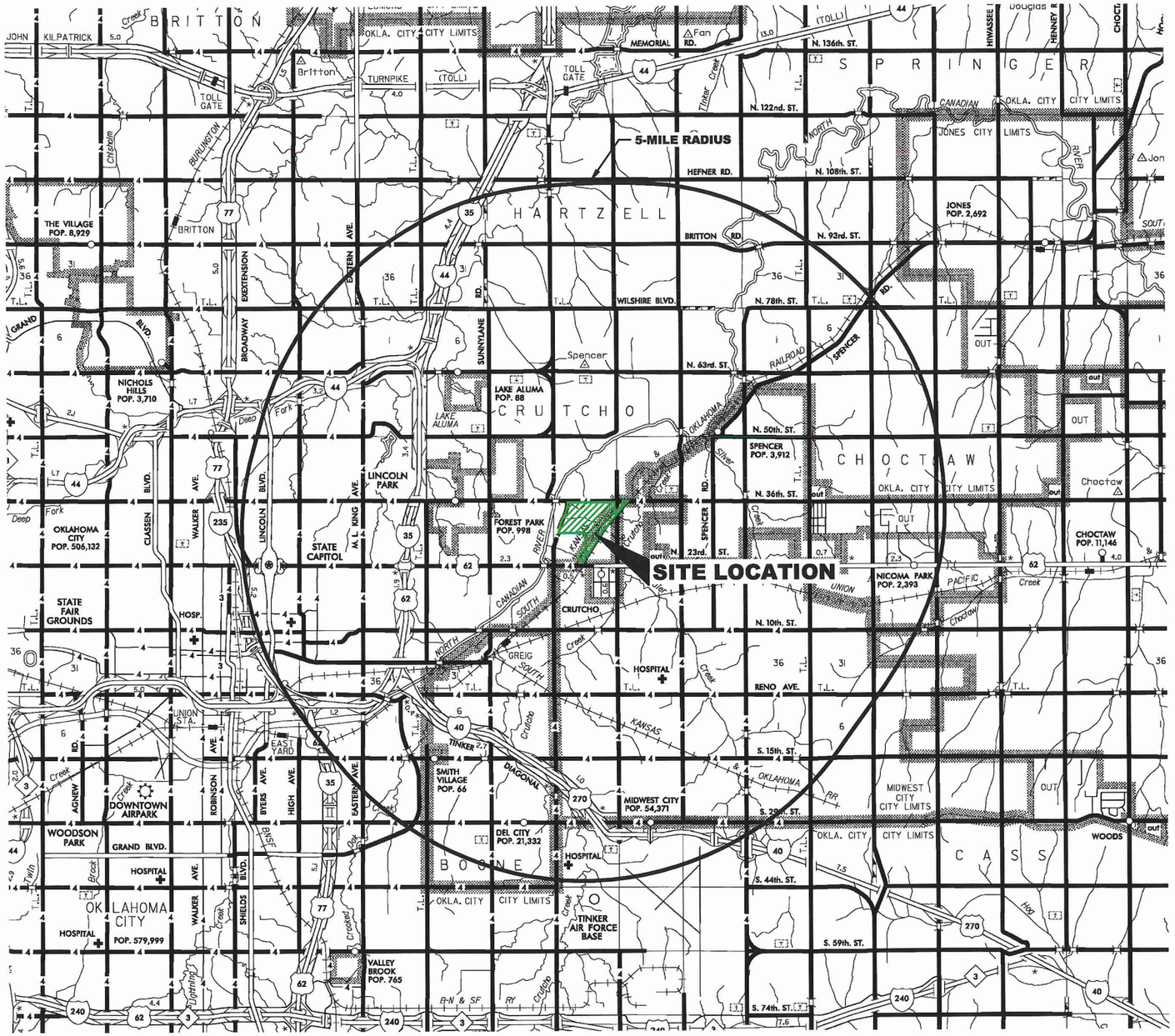
Figure 11 Public and Private Water Wells

Figure 12 Existing and Proposed Monitoring Well Locations

Figure 13 Existing and Proposed Landfill Gas Probe Locations

Figure 14 Aesthetic Enhancement Plan

Figure 15 Earthquake Locations



LEGEND

- U.S. NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
- UNDIVIDED HIGHWAY, 3 OR MORE LANES
- TRAFFIC CIRCLE
- HIGHWAY GRADE SEPARATION
- TRAFFIC INTERCHANGE
- STATE LINE
- COUNTY LINE
- CIVIL TOWNSHIP LINE
- SECTION LINE
- RURAL DEVELOPMENT AREA
- GOVERNMENT PROPERTY LINE
- MATCH LINE
- COUNTY SEAT
- TOWN CENTER
- CORPORATE LIMITS
- CIVIL TOWNSHIP, ROAD IN PLACE
- INSET BOUNDARY
- 1867 ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
- DRY LAKE SUBJECT TO FLOOD
- SMALL BRIDGES CLOSELY SPACED
- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE, W-WOOD, S-STEEL, C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
- WIDE STREAM OR RIVER
- TRIANGULATION STATION
- RAILROAD, ANY NUMBER OF TRACKS
- RAILROAD WITH STATION INDICATED
- GRADE CROSSING
- UNDERPASS, R.R. ABOVE
- OVERPASS, R.R. BELOW
- RAILROAD ON STREET
- MILITARY AIRFIELD
- AIRPORT WITH COMPLETE FACILITIES
- AIRPORT WITH LIMITED FACILITIES
- LANDING STRIP, PRIVATE FIELD
- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds PLAYGROUNDS
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- MOTEL
- CAMP OR LODGE, Permanent with buildings
- SP SMALL PARK SP–State, CP–County MP–Municpal, TP–Trailer Park
- FOREST RANGER STATION
- OBSERVATION OR LOOKOUT TOWER
- CAMP SITE
- FISH HATCHERY
- C GOLF COURSE OR COUNTRY CLUB
- A ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSLEY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- D JUNK YARDS & DUMPS A–Automobile, B–Scrap Building Material, D–Refuse, Garbage or trash dump, F–Sanitary Fill, G–Other
- S SEWAGE DISPOSAL PLANT
- W WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).
2. REFER TO FIGURE 12 FOR WASTE DISPOSAL AREA AND BUFFER ZONE.

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☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 1-GEN_LOC MAP.DWG

DRAWN BY: SRF
DESIGN BY: RSF
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE – 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION GENERAL SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

FIGURE 1

0:\0086\356\EXPANSION 2013\FIGURES\FIG 1 - GEN_LOC.dwg, uacholonu, 1:2

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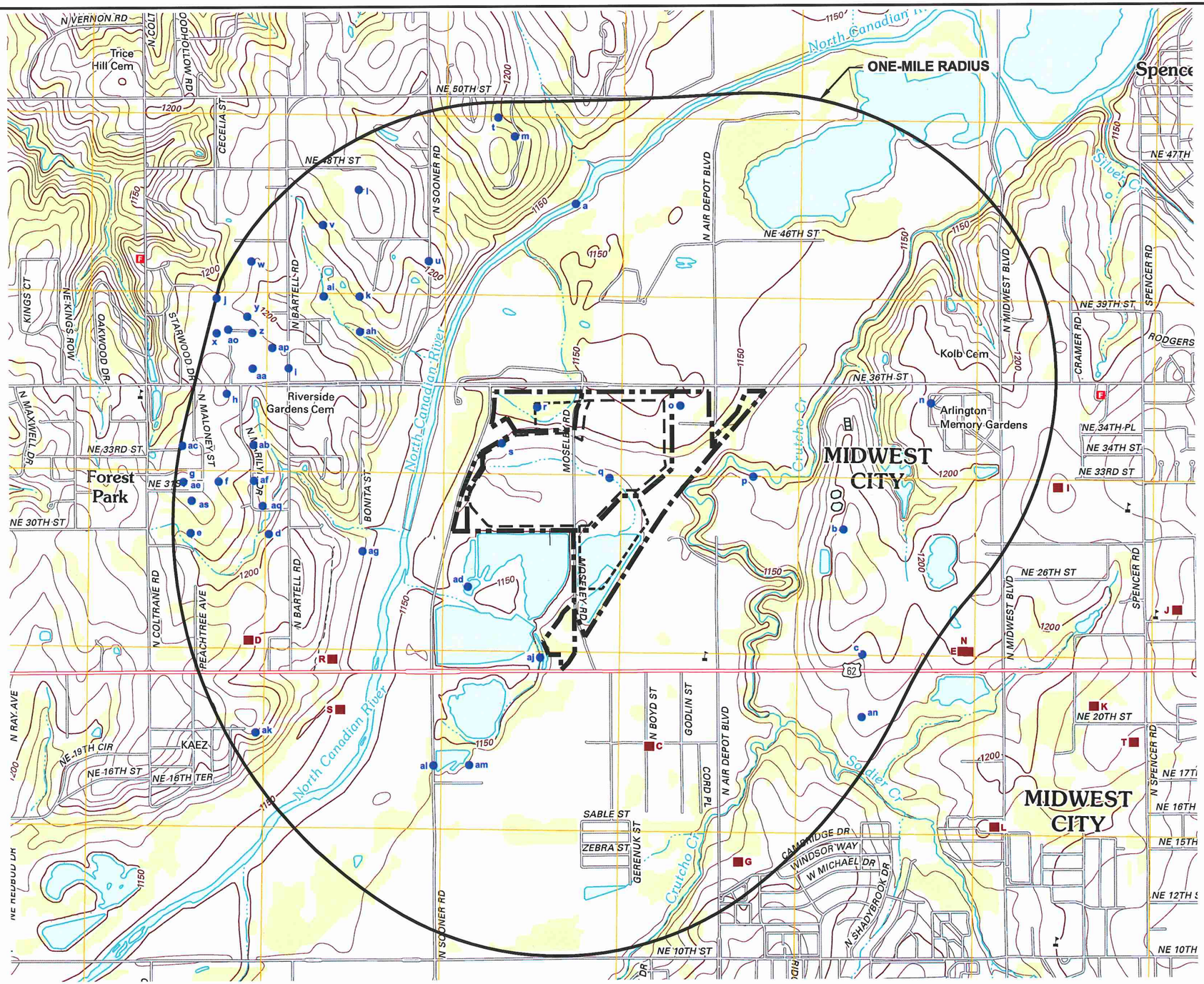

0 1000 2000
SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- ● a — PRIVATE WATER WELL LOCATION WITHIN 1.0 MILE OF PROPOSED PERMIT BOUNDARY
- ■ A — PUBLIC WATER SUPPLY WELL LOCATION WITHIN 2.0 MILES OF PROPOSED PERMIT BOUNDARY

NOTES:

1. ADAPTED FROM USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAP (SPENCER AND MIDWEST CITY, OKLAHOMA, 2012).
2. THE MAP AREA SHOWN IS WITHIN TOWNSHIP 12 NORTH, RANGE 2 WEST.
3. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE SURVEYING, INC.
4. WATER WELL AND SURFACE WATER DIVERSION RECORDS OBTAINED FROM THE OKLAHOMA DEPARTMENT OF WATER RESOURCES (OWRB) AND OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) ON-LINE GIS DATABASES (MAY 2015).
5. NO PUBLIC WATER SUPPLY SURFACE WATER INTAKES WERE REPORTED BY THE OKLAHOMA WATER RESOURCES BOARD (OWRB) WITHIN ONE MILE OF THE FACILITY.
6. REFER TO FIGURE 11 FOR ADDITIONAL WATER WELL DETAILS.
7. HOMES AND BUILDINGS WITHIN ONE MILE OF THE FACILITY ARE SHOWN ON FIGURE 3.
8. TYPICAL PUBLIC UTILITY WATER AND WASTEWATER COLLECTION, TREATMENT, AND DISTRIBUTION FACILITIES OPERATED FOR SPENCER, MIDWEST CITY, CRUTCHO, FOREST PARK, AND OKLAHOMA CITY ARE LOCATED WITHIN ONE MILE OF THE FACILITY.
9. PRIVATE WATER SUPPLY WELLS 55865 (q), 6808 (r), 6807 (o), AND 6809 (s) HAVE BEEN PLOTTED BY THE OWRB ON PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC. (WMO). BASED ON SITE SPECIFIC INFORMATION, THESE FOUR WELLS ARE MISLOCATED IN THE OWRB WATER WELL DATABASE. THESE WELLS ARE NOT LOCATED ON PROPERTY OWNED BY WASTE MANAGEMENT.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 2-TOPO_LOC.DWG

DRAWN BY: VRS
DESIGN BY: JEU
REVIEWED BY: JPY

Weaver Consultants Group
CA 3804 PE - 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
TOPOGRAPHIC SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

FIGURE 2

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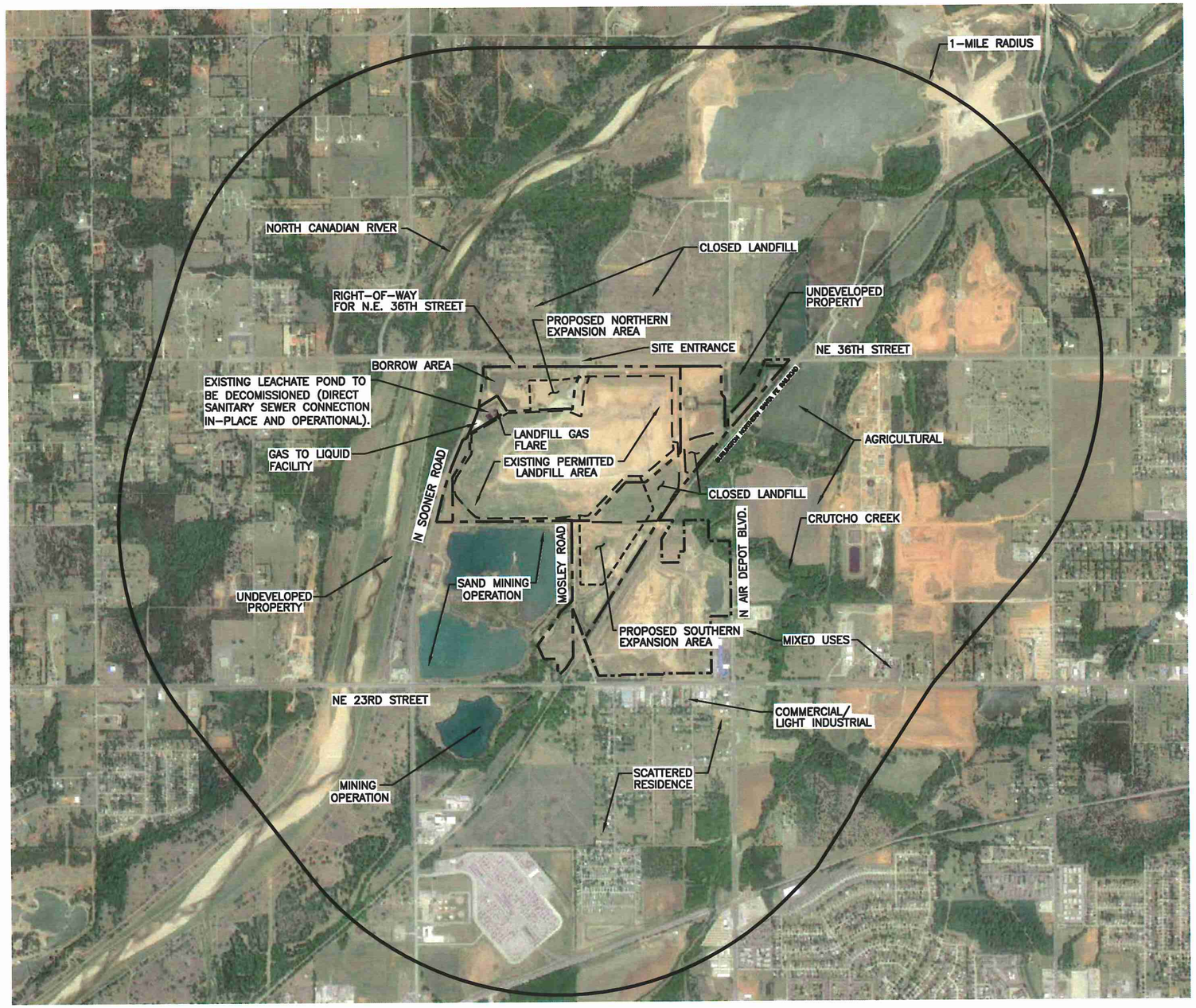
O:\0086\356\EXPANSION 2013\FIGURES\FIG 2 - TOPO_LOC.dwg, 5/21/2015 3:21:01 PM, rsellers, 1:2



N

0 1000 2000
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE

NOTES:

1. AERIAL PHOTOGRAPHY PROVIDED BY WWW.MAPS.GOOGLE.COM DATED 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.

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☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 3-LAND USE MAP.DWG

DRAWN BY: SRF
DESIGN BY: RSF
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE - 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
LAND USE MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

FIGURE 3

O:\0086\356\EXPANSION 2013\FIGURES\FIG 3 - LAND USE MAP.dwg, uacholonu, 1:2

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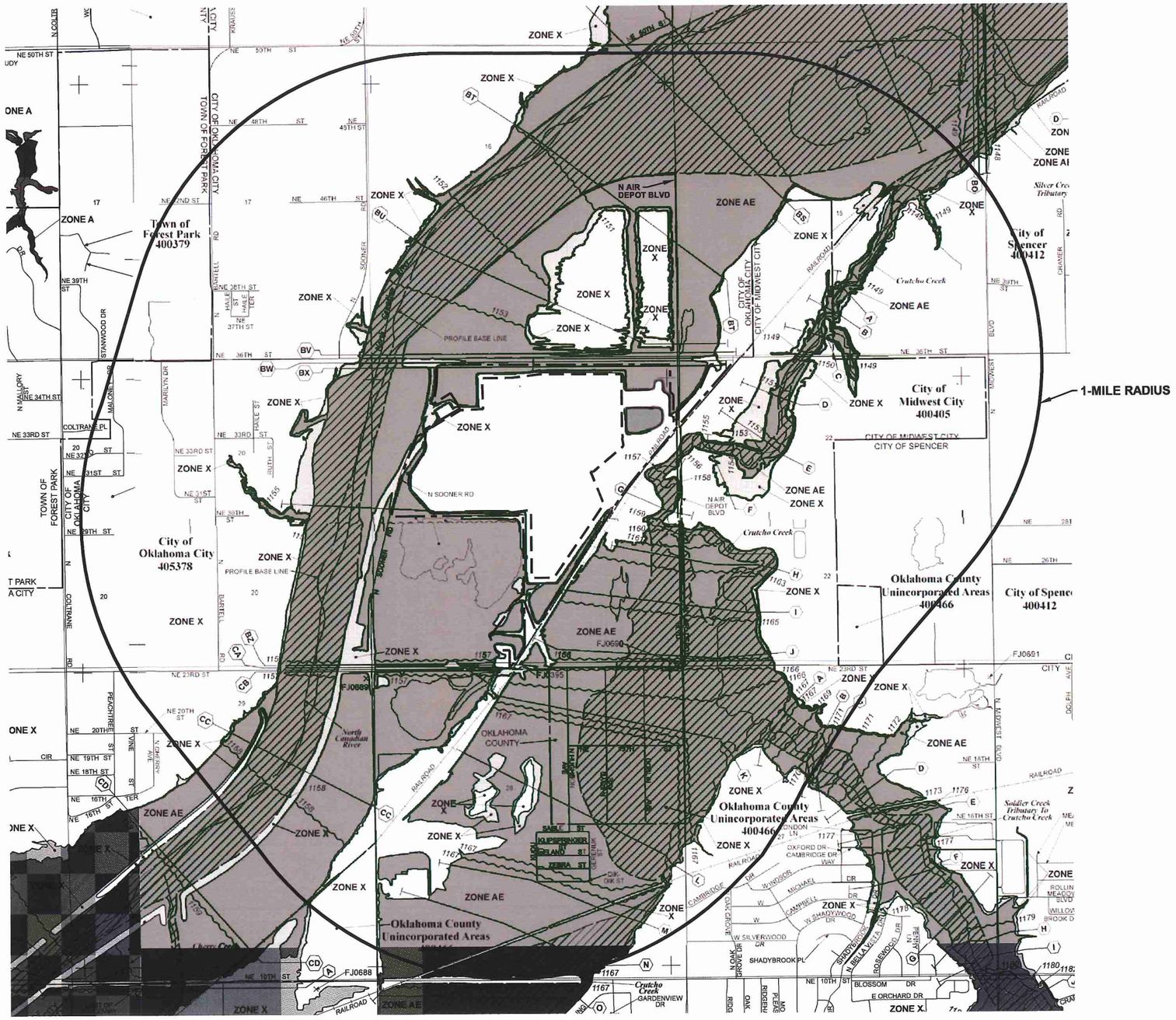

0 1000 2000
SCALE IN FEET

LEGEND

LANDFILL PERMIT BOUNDARY

LIMITS OF WASTE

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevation determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance of greater flood event.
ZONE A99	Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	Floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

A — A	Cross section line
23 - - - - 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
42 75000m E	1000-meter Universal Transverse Mercator grid ticks, zone 14
6000000 FT	5000-foot grid values: Texas State Plane coordinate system, North Zone (FIPSZONE = 4201), Lambert projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

NOTES:

1. REPRODUCED FROM FEMA FIRM NUMBERS 40109C0190H, 40109C0195H, 40109C0305H, AND 40109C0310H FOR OKLAHOMA COUNTY, OKLAHOMA AND INCORPORATED AREAS, EFFECTIVE DECEMBER 18, 2009.
2. REFER TO APPENDIX I FOR ADDITIONAL FLOODPLAIN INFORMATION.

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☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 4-FIRM.DWG

DRAWN BY: SRF
DESIGN BY: RSF
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE - 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION FIRM

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 4

O:\0086\356\EXPANSION 2013\FIGURES\FIG 4 - FIRM.dwg, uacholonu, 1:2

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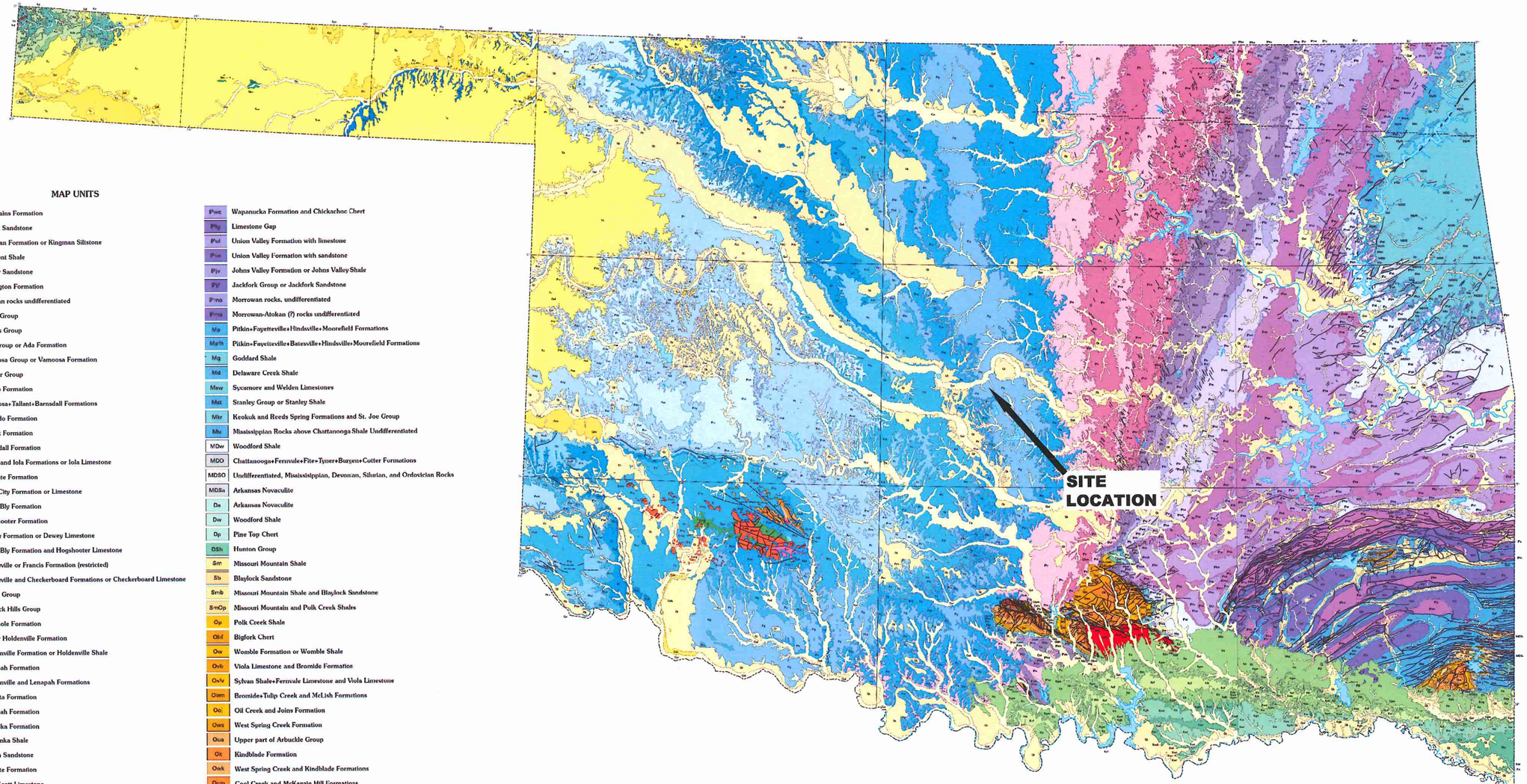

MAP UNITS

Qa	Alluvium
Qal	Alluvium
Qd	Dune Sand
Qds	Dune Sand
Qt	Terrace Deposits
Tb	Basalt
To	Ogallala Formation
Toa	Pleistocene and Pliocene deposits, undifferentiated
Ko	Ozan Formation
Kbr	Brownstown Marl
Kef	Eagle Ford Formation
Kto	Tokio Formation
Kw	Woodbine Formation
Kwt	Templeton Member of Woodbine Formation
Kwl	Lewisville Member of Woodbine Formation
Kwr	Red Branch Member of Woodbine Formation
Kwd	Dexter Member of Woodbine Formation
Kgb	Grayson Marl and Bennington Limestone
Kb	Bokchito Formation
Kpm	Pawpaw Sandstone and McNutt Limestone
Kws	Weno Clay and Soper Limestone
Kdc	Denton Clay
Kcf	Caddo Formation
Kki	Kiamichi Formation
Kgw	Goodland Limestone and Walnut Clay
Ka	Antlers Sand or Antlers Sandstone
Kdq	DeQueen Limestone
Kh	Holly Creek Formation
Kc	Colorado Group
Kd	Dakota Group
Kds	Dakota Sandstone
Kk	Kiowa Formation
Kp	Purgatoire Formation
Je	Exeter (Entrada) Sandstone
Jm	Morrison Formation
Jd	Dockum Group
Mzu	Mesozoic rocks, undifferentiated
Pec	Elk City Sandstone
Pdy	Doxey Formation or Doxey Shale
Pcc	Cloud Chief Formation
Pwh	Whitehorse Group
Pr	Rush Springs Formation
Prw	Weatherford Gypsum Bed of Rush Springs Formation
Prm	Marlow Formation
Prmd	Doe Creek Lentil of Marlow Formation
Prmv	Verden Sandstone Lentil of Marlow Formation
Per	El Reno Group
Pdc	Dog Creek Shale
Pb	Blaine Formation
Pbv	Van Vacter Member of Blaine Formation
Pbe	Elm Fork Member of Blaine Formation
Pch	Cedar Hill Sandstone
Pf	Flowerpot Shale
Pc	Chickasha Formation
Pd	Duncan Sandstone
Psa	San Angelo Sandstone
Phy	Hennessey Group
Pbi	Bison Formation or Bison Shale
Ppo	Post Oak Conglomerate
Psp	Salt Plains Formation
Pp	Purcell Sandstone
Pk	Kingman Formation or Kingman Siltstone
Pfa	Fairmont Shale
Pg	Garber Sandstone
Pw	Wellington Formation
Pu	Permian rocks undifferentiated
Po	Oscar Group
Pv	Vanoss Group
Pa	Ada Group or Ada Formation
Pva	Vamoosa Group or Vamoosa Formation
Pho	Hoxbar Group
Pht	Hilltop Formation
Pbv	Vamoosa+Tallant+Barnsdall Formations
Pto	Torpedo Formation
Pta	Tallant Formation
Pbd	Barnsdall Formation
Pwi	Wann and Iola Formations or Iola Limestone
Pch	Chanute Formation
Pb	Belle City Formation or Limestone
Pn	Nellie Bly Formation
Phg	Hogshooter Formation
Pd	Dewey Formation or Dewey Limestone
Pnh	Nellie Bly Formation and Hogshooter Limestone
Pcf	Coffeyville or Francis Formation (restricted)
Pce	Coffeyville and Checkerboard Formations or Checkerboard Limestone
Pde	Deese Group
Pdo	Dornick Hills Group
Psl	Seminole Formation
Phu	Upper Holdenville Formation
Ph	Holdenville Formation or Holdenville Shale
Plp	Lenapah Formation
Phl	Holdenville and Lenapah Formations
Pnw	Nowata Formation
Pol	Oolagah Formation
Pw	Wewoka Formation
Pwe	Wetumka Shale
Pca	Calvin Sandstone
Plb	Labette Formation
Pfs	Fort Scott Limestone
Psa	Senora Formation
Pst	Stuart Shale
Pth	Thurman Sandstone
Pbo	Boggy Formation
Pbj	Bluejacket Sandstone
Psa	Savanna Formation
Pm	McAlester Formation
Psm	Savanna and McAlester Formations
Psmh	Savanna+McAlester+Hartshorne Formations
Psma	Savanna+McAlester+Hartshorne+Atoka Formations
Pha	Hartshorne Sandstone
Pmh	McAlester and Hartshorne Formations
Pat	Atoka Formation
Plm	Lynn Mountain Formation
Pbh	Bloyd and Hale Formations
Pu	Atoka, Bloyd and Hale Formations Undifferentiated
Pwa	Wapanucka Formation
Pwal	Wapanucka Formation
Pwas	Wapanucka Formation
Pwc	Wapanucka Formation and Chickachoc Chert
Plg	Limestone Gap
Pul	Union Valley Formation with limestone
Pus	Union Valley Formation with sandstone
Pjv	Johns Valley Formation or Johns Valley Shale
Pjf	Jackfork Group or Jackfork Sandstone
Pmo	Morrowan rocks, undifferentiated
Pma	Morrowan-Atokan (?) rocks undifferentiated
Mp	Pitkin+Fayetteville+Hindsville+Moorefield Formations
Mpb	Pitkin+Fayetteville+Batesville+Hindsville+Moorefield Formations
Mg	Goddard Shale
Md	Delaware Creek Shale
Msw	Sycamore and Welden Limestones
Mst	Stanley Group or Stanley Shale
Mkr	Keokuk and Reeds Spring Formations and St. Joe Group
Mu	Mississippian Rocks above Chattanooga Shale Undifferentiated
MDw	Woodford Shale
MDO	Chattanooga+Fernvale+Fite+Tyner+Burgen+Cotter Formations
MDSO	Undifferentiated, Mississippian, Devonian, Silurian, and Ordovician Rocks
MDSa	Arkansas Novaculite
Da	Arkansas Novaculite
Dw	Woodford Shale
Dp	Pine Top Chert
DSh	Hunton Group
Sm	Missouri Mountain Shale
Sb	Blaylock Sandstone
Smb	Missouri Mountain Shale and Blaylock Sandstone
SmOp	Missouri Mountain and Polk Creek Shales
Op	Polk Creek Shale
Obf	Bigfork Chert
Ow	Womble Formation or Womble Shale
Ovb	Viola Limestone and Bromide Formation
Ovlv	Sylvan Shale+Fernvale Limestone and Viola Limestone
Obm	Bromide+Tulip Creek and McLish Formations
Oo	Oil Creek and Joins Formation
Ows	West Spring Creek Formation
Oua	Upper part of Arbuckle Group
Ok	Kindblade Formation
Owk	West Spring Creek and Kindblade Formations
Ocm	Cool Creek and McKenzie Hill Formations
Ob	Blakely Sandstone
Om	Mazarn Shale
Ocs	Crystal Mountain Sandstone
Oc	Collier Shale
Eat	Lower part of Arbuckle Group and Timbered Hills Group
Eb	Arbuckle Group and Timbered Hills Group
ETh	Timbered Hills Group
Ep	Colbert Porphyry
Ebf	Butterfly Dolomite+Signal Mountain Limestone+Royer Dolomite and Fort Sill Li
Ecr	Carlton Rhyolite Group
Ewg	Wichita Granite Group
Er	Raggedy Mountain Gabbro Group
pEt	Tishomingo and Troy Granites
pEs	Spavinaw Granite
d	Diorite Sill
	Water
	Unknown

Faults
- normal,
- dotted where concealed,
- dashed where inferred

A DIGITAL GEOLOGIC MAP DATABASE FOR THE STATE OF OKLAHOMA

Compiled by
William D. Heran, Gregory N. Green, and Douglas B. Stoeser
United States Geological Survey
2003

N

0 200,000 400,000
SCALE IN FEET

NOTE:

1. REFER TO FIGURE 12 FOR WASTE DISPOSAL AREA, BUFFER ZONE, AND PERMIT BOUNDARY.

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 5-GEOLOGY MAP.DWG

DRAWN BY: SRF
DESIGN BY: RSF
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE - 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
GENERALIZED GEOLOGY MAP
OF OKLAHOMA

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 5

O:\0086\356\EXPANSION 2013\FIGURES\FIG 5 - GEN_GEO.dwg, uacholonu, 1:1

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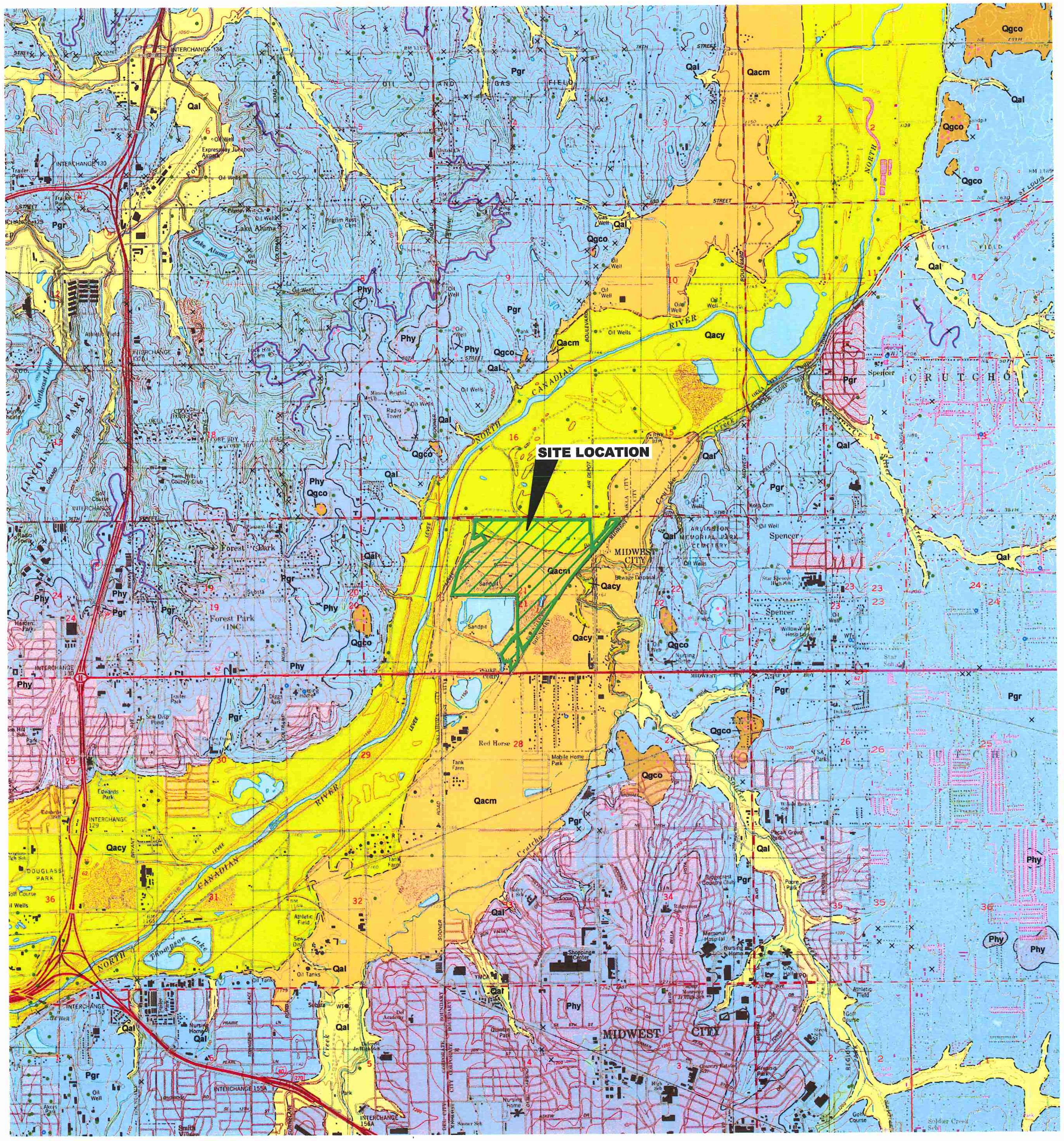

N

0 2000 4000
SCALE IN FEET

SYMBOLS

- Unit contact; dashed where approximate
- Mappable bed
- × Outcrop, geologic observation
- Outcrop, bearing of paleocurrent direction
- Outcrop, location used for composite measured section
- Exotic (quartz, quartzite) pebbles and cobbles
- Petroleum well. Includes oil, gas, oil and gas, dry, service (water supply or injection), junked and abandoned, unknown. Modified from Natural Resources Information System database
- Municipal water well

CORRELATION OF MAP UNITS

Qal — Qacy, Qacm, Qaco (HOLOCENE); Qgcy, Qgco (PLEISTOCENE) — QUATERNARY

UNCONFORMITY

Pgr, Pwe — LEONARDIAN — PERMIAN

DESCRIPTION OF UNITS

Qal ALLUVIUM (Holocene)–Clay, silt, sand, and gravel in channels and on flood plains of modern streams. Includes terrace deposits of similar composition located directly above and adjacent to modern channels and flood plains. Thickness: 0 to about 30 ft

Qacy ALLUVIUM OF NORTH CANADIAN RIVER (Holocene)–Clay, silt, sand, and gravel in channels and on modern flood plain of North Canadian River. Area probably subject to frequent flooding. Thickness: generally 0 to about 40 ft, rarely over 40 ft

Qacm ALLUVIUM OF NORTH CANADIAN RIVER (Holocene)–Clay, silt, sand, and gravel on Recent flood plain of North Canadian River about 5-10 ft above Qacy. Area rarely subject to flooding. Thickness: unknown, possibly as much as 50 ft

(Qal, Qacy, Qacm) — SEE NOTE 3

Qaco ALLUVIUM OF NORTH CANADIAN RIVER (Holocene and/or Pleistocene(?))–Clay, silt, sand, and gravel in valley of the North Canadian River and about 10 ft above Qacm. Present only as small remnants. Thickness: unknown, at least 20 ft

Qgcy REMNANTS OF YOUNGER TERRACE DEPOSITS (Pleistocene)–Clay, silt, sand, and gravel adjacent to the flood plain of the North Canadian River. Sand commonly is medium- to coarse-grained and very light colored; gravel locally consists of concentrations of distally derived pebbles and cobbles, mostly subrounded quartz and quartzite. Base of unit about 15-20 ft above Qacm and ranges in elevation from about 1135 ft to 1160 ft above sea level. The base of the unit increases in elevation away from the river. The top of the unit is as much as 70 ft above Qacm (as high as 1200 ft above sea level). Present only south of the North Canadian River. Thickness: 0 to 30 ft

Qgco REMNANTS OF OLDER TERRACE DEPOSITS (Pleistocene)–Clay, silt, sand, and gravel adjacent to the flood plain of the North Canadian River. Sand commonly is medium- to coarse-grained and very light colored; gravel locally consists of concentrations of distally derived pebbles and cobbles, mostly subrounded quartz and quartzite. Base of unit is about 30-100 ft above the modern flood plain and ranges in elevation from 1140 ft to 1190 ft above sea level. Top of the unit is as much as 130 ft above the modern flood plain and is as high as 1260 ft above sea level. Unit includes small amount of sand and gravel washed down into small north-flowing streams. Present only on north side of the North Canadian River. Thickness: 0 to 40 ft

Pgr GARBER FORMATION (Permian)–Sandstone, mostly fine-grained to less commonly very fine to medium-fine-grained; appears to be very fine grained near base; moderate reddish brown (10R4/6), moderate reddish orange (10R6/6), moderate red (5R5/4), light brown (5YR5/6), and dark yellowish orange (10YR6/6); minor sandstone- and siltstone-pebble conglomerate and/or breccia, dolomite conglomerate and/or breccia, siltstone, and shale. Sandstone typically porous and friable. Commonly weathers to smooth, rounded outcrops; locally with platy to flaggy to rarely slabby appearance. Locally weathers to hard, dark-colored (grayish black [N2]) beds completely cemented with hematite, calcite, and/or silica. Dark-colored sandstone blocks locally form lag deposit over weathered outcrops. Large- and small-scale crossbeds, trough crossbeds common; many outcrops characterized by inclined beds and channelform deposits, although plane-parallel stratification also present. Shale and/or siltstone rip-up clasts uncommon; burrows extremely rare; one plant fossil observed. Sandstone locally color-banded (e.g. moderate reddish brown (10R4/6), grayish red purple (5RP4/2), and grayish yellow green (5GY7/2)) or with mottled appearance. Small calcareous iron-oxide spheres occur locally on weathered surfaces. Sandstone locally contains calcite-, dolomite-, and/or barite-cemented septarian nodules. Circular iron-reduction spots very rare. Sandstone, siltstone, and dolomite conglomerate and breccias appear to be of two types; one is clearly sedimentary, the other appears to be diagenetic and may represent incipient paleosol development on a sand. Conglomerates and breccias common near base of formation. A widespread moderate red (5R6/2) to pale red (5R6/2) 3-, to rarely 7-ft-thick conglomerate bed is also present near top of formation. The bed consists of coarse-granule to pebble-size siltstone, shale, and dolomite(?) clasts in a medium- to coarse-grained sandstone matrix. Siltstone and shale sandy, color-banded (e.g., moderate reddish brown (10R4/6) and yellowish gray (5Y7/2)), stratified to unstratified, and with uncommon iron-reduction spots as large as 2 in. in diameter. Typically soft, weather to "badlands"- type topography. Locally contain abundant septarian nodules similar to those found in sandstone. Siltstone and shale common near base and top of formation. In places, siltstone and shale contain evidence of paleosol development such as blocky weathering, fractures with fracture surfaces marked by small slickensides, through-going curved fractures, and calcareous concretions. South of the North Canadian River and north of NE 50th Street Garber sandstones typically are deeply weathered and large areas are covered with a sandy soil, some of which may include a thin veneer of wind-blown sand. Thickness: about 600 ft, based on cross section

Pwe WELLINGTON FORMATION (Permian)–Sandstone, mostly fine- to very fine grained, moderate orange pink (10R7/4) to moderate reddish brown (10R4/6), moderate reddish orange (10R6/6) to pale red (5R6/2); siltstone, typically color-banded consisting of, for example, pale reddish brown (10R5/4) and light greenish gray (5GY8/1); siltstone- and dolomite-breccia and conglomerate; and minor shale, moderate reddish brown (10R4/6) and light greenish gray (5GY8/1). Sandstone mostly porous and friable, locally with variable amounts of hematite and calcite cement. Sedimentary structures include large- and small-scale crossbeds, trough crossbeds, locally steeply inclined stratification and less common channelform features. In places, weathers to "slickrock" appearance. Sandstone locally color-banded and multicolored. Siltstone commonly contains abundant concretions and septarian nodules with conspicuous calcite, dolomite and possible barite crystals lining radiating fractures. Siltstone and dolomite breccias and conglomerates similar to those in overlying Garber Formation; some clearly are sedimentary in origin and may represent slightly reworked paleosols; others may represent autochthonous paleosols. Shale typically is color-banded.

Principal difference between Garber and Wellington Formations is generally coarser grain size of Garber, although lower part of Garber appears to contain finer-grained sandstones and more siltstone and shale than middle part. In the northeastern part of the Jones quadrangle, the top of the Wellington consists of a widespread shale at least 20 ft thick that is capped by a thick, well-developed paleosol horizon. Thickness: 105 ft, base not exposed

NOTES:

1. ADAPTED FROM THE GEOLOGIC MAP OF THE MUSTANG 7.5' QUADRANGLE OKLAHOMA, CANADIAN AND CLEVELAND COUNTIES, OKLAHOMA, STANLEY, THOMAS M., AND SUNESON, NEIL H., 2000, OKLAHOMA GEOLOGICAL SURVEY.
2. REFER TO FIGURE 12 FOR WASTE DISPOSAL AREA, BUFFER ZONE, AND PERMIT BOUNDARY.
3. CONSISTENT WITH OAC 252.515-3-32, THIS APPLICATION REQUESTS A VARIANCE OAC 252:515-5-51(a). TO ENSURE THAT THE DEVELOPMENT OF THE EXPANSION AREA DOES NOT ADVERSELY IMPACT UNDERLYING ALLUVIAL DEPOSIT, THE PROPOSED LINER SYSTEM FOR THE EXPANSION AREA HAS BEEN DESIGNED TO PROVIDE A BARRIER LAYER THAT GREATLY EXCEEDS THE REQUIREMENTS FOR AND MSW LANDFILL. ADDITIONAL INFORMATION ON THIS VARIANCE REQUEST IS PROVIDED IN SECTION 1.15.

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DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 6-GEOLOGY MAP.DWG

DRAWN BY: SRF
DESIGN BY: RSF
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE – 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION REGIONAL GEOLOGY MAP AND STATIGRAPHIC COLUMN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 6

O:\0086\356\EXPANSION 2013\FIGURES\FIG 6 – REGIONAL GEOLOGY MAP.dwg, uacholonu, 1:2

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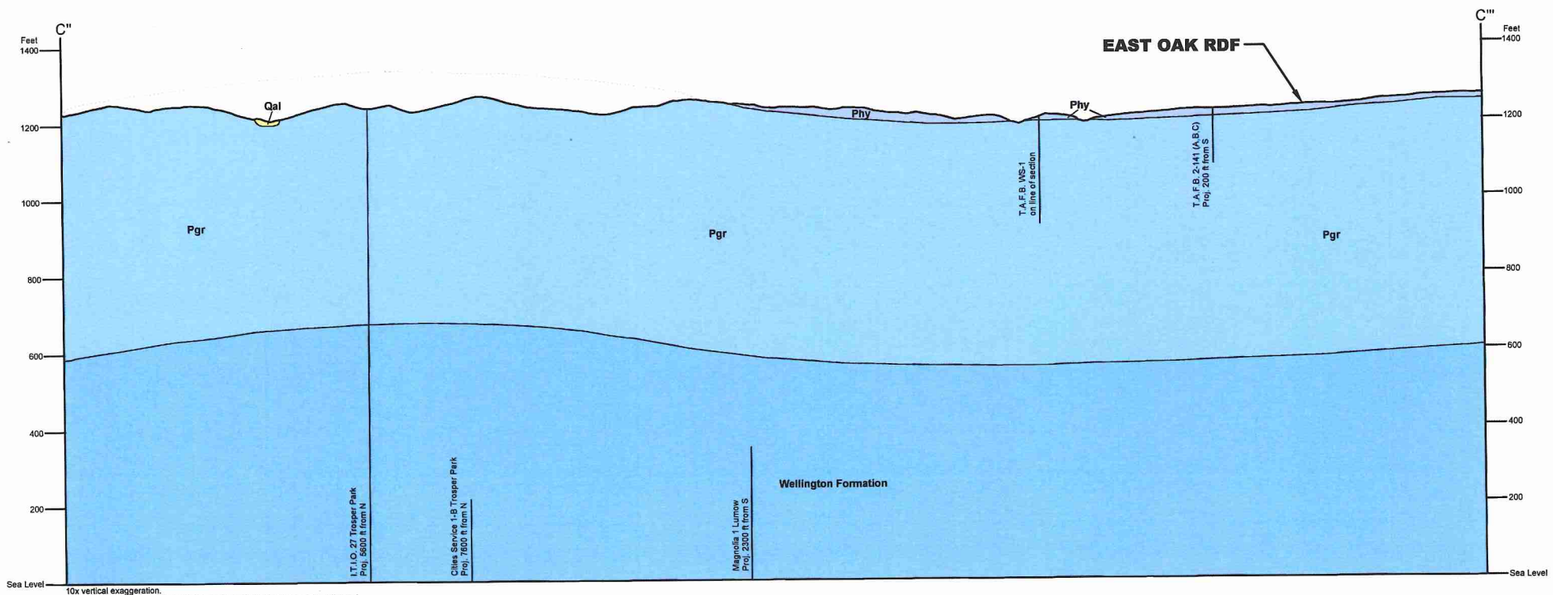

10x vertical exaggeration.
Formation contacts based on wireline-log interpretations by N.H. Suneson and surface mapping by the authors. Vertical lines show logs used in the interpretations.
Special thanks to C. Scott Bowen, Geologist - Project Manager - Environmental Restoration Division, for drillhole data at Tinker Air Force Base.

CORRELATION OF MAP UNITS

Qal	Qacy	HOLOCENE	QUATERNARY
	Qacm		
	Qaco		
	Qgcy	PLEISTOCENE	
	Qgco		

UNCONFORMITY

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Pwe		

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2. CONSISTENT WITH OAC 252.515–3–32, THIS APPLICATION REQUESTS A VARIANCE OAC 252:515–5–51(a). TO ENSURE THAT THE DEVELOPMENT OF THE EXPANSION AREA DOES NOT ADVERSELY IMPACT UNDERLYING ALLUVIAL DEPOSIT, THE PROPOSED LINER SYSTEM FOR THE EXPANSION AREA HAS BEEN DESIGNED TO PROVIDE A BARRIER LAYER THAT GREATLY EXCEEDS THE REQUIREMENTS FOR AND MSW LANDFILL. ADDITIONAL INFORMATION ON THIS VARIANCE REQUEST IS PROVIDED IN SECTION 1.15.

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☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086–356–11
CAD: FIG 7–GEOLOGY SECTION.DWG

DRAWN BY: SRF
DESIGN BY: RSF
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE – 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION REGIONAL GEOLOGICAL CROSS–SECTION

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 7

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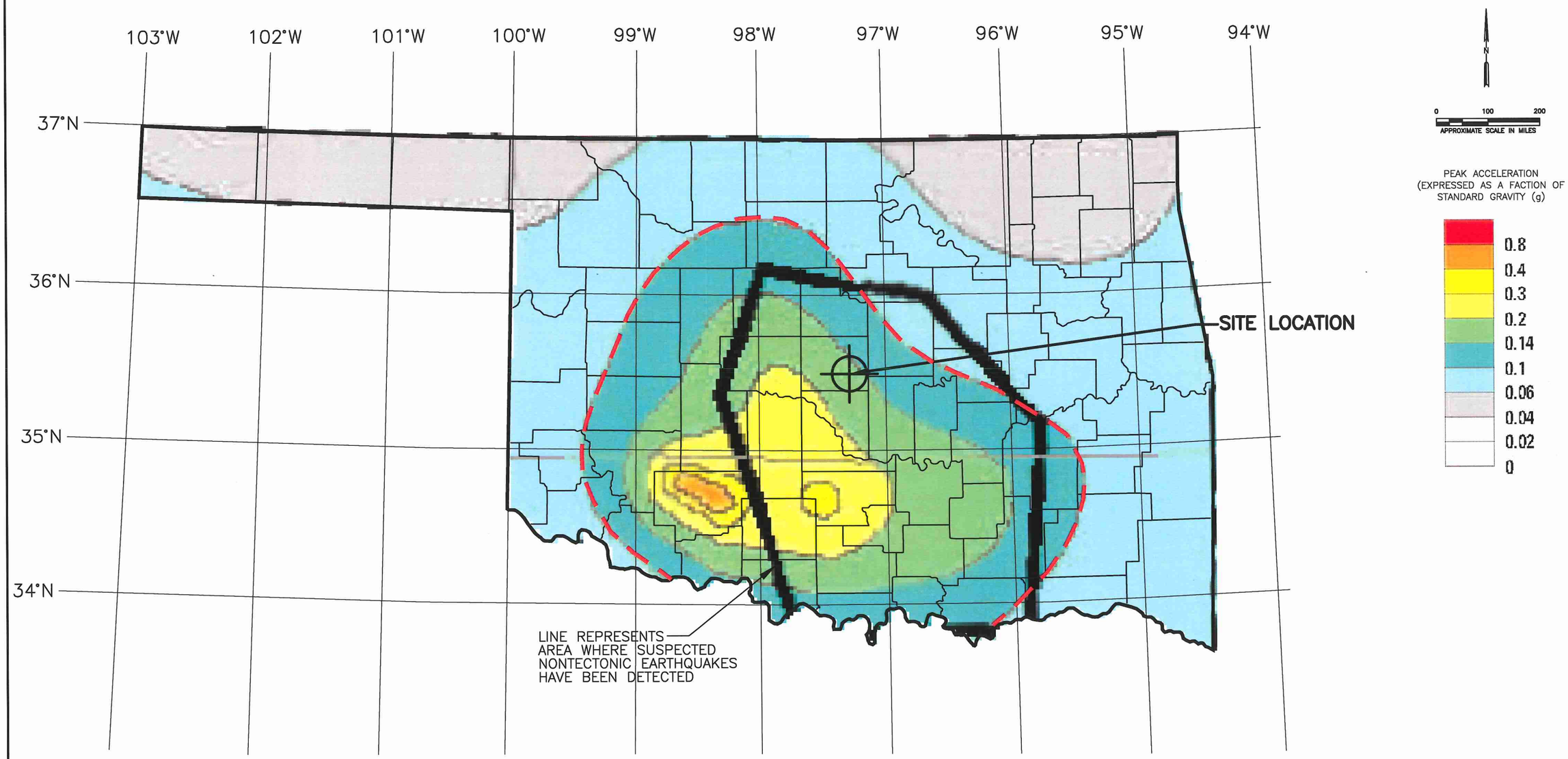
O:\0086\356\EXPANSION 2013\FIGURES\FIG 7 - REGIONAL GEOLOGY SECTION.dwg, uacholonu, 1:2



NOTES:

1. BASED ON USGS 2014 DATA, THE AREA WITHIN THE RED DASHED CONTOUR LINE (10% OF GRAVITATIONAL FORCE OR 0.1g) IS DEFINED BY THE ODEQ AS A SEISMIC IMPACT ZONE.
2. SEISMIC IMPACT ZONE MAP OBTAINED FROM U.S. GEOLOGICAL SURVEY OPEN–FILE REPORT 2014–1091, ENTITLED "2014 UPDATE OF THE UNITED STATES NATIONAL SEISMIC HAZARD MAPS, TWO PERCENT PROBABILITY OF EXCEDENCE OF 50 YEARS MAP OF PEAK GROUND ACCELERATION."
3. ACCORDING TO THE USGS, 2% PROBABILITY OF EXCEDENCE IN 50 YEARS IS STATISTICALLY EQUIVALENT TO A 10% PROBABILITY OF EXCEDENCE IN 250 YEARS.
4. REFER TO FIGURE 12 FOR WASTE DISPOSAL AREA, BUFFER ZONE, AND PERMIT BOUNDARY.

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DATE: 06/2015
FILE: 0086–356–11
CAD: FIG 8–SEISMIC MAP.DWG

DRAWN BY: SRF
DESIGN BY: SB
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE – 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
SEISMIC IMPACT ZONE MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 8

O:\0086\356\EXPANSION 2013\FIGURES\FIG 8 – SEISMO_ZONE.dwg, uacholonu, 1:1

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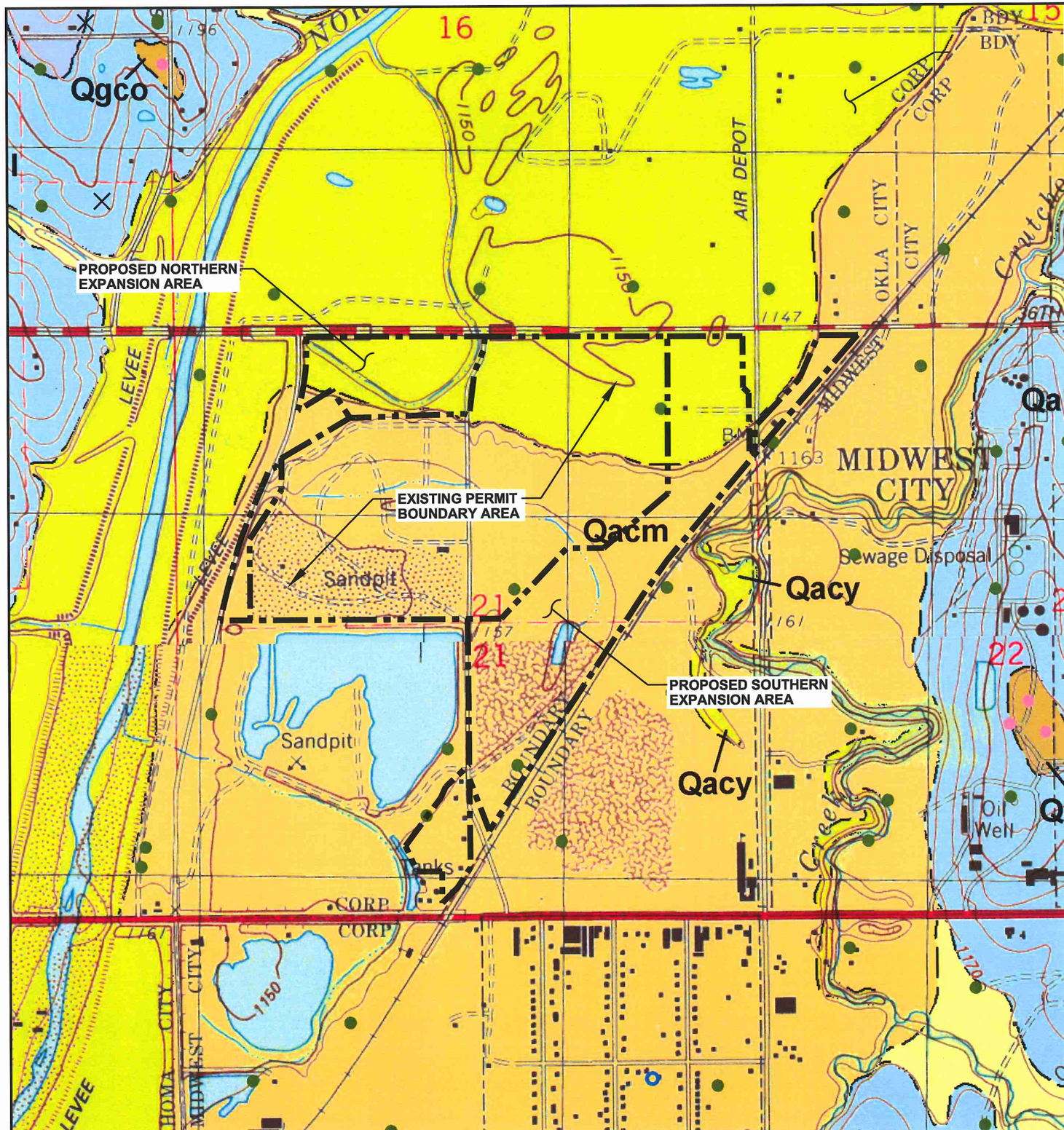

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N

0 500 1000
SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY

SYMBOLS

- Unit contact; dashed where approximate
- Mappable bed
- Outcrop, geologic observation
- Outcrop, bearing of paleocurrent direction
- Outcrop, location used for composite measured section
- Exotic (quartz, quartzite) pebbles and cobbles
- Petroleum well. Includes oil, gas, oil and gas, dry, service (water supply or injection), junked and abandoned, unknown. Modified from Natural Resources Information System database
- Municipal water well

CORRELATION OF MAP UNITS

QUATERNARY — HOLOCENE: Qal, Qacy, Qacm, Qaco; PLEISTOCENE: Qgcy, Qgco

UNCONFORMITY

PERMIAN — LEONARDIAN: Pgr; WOLFCAMPIAN: Pwe

DESCRIPTION OF UNITS

Qal ALLUVIUM (Holocene)–Clay, silt, sand, and gravel in channels and on flood plains of modern streams. Includes terrace deposits of similar composition located directly above and adjacent to modern channels and flood plains. Thickness: 0 to about 30 ft

Qacy ALLUVIUM OF NORTH CANADIAN RIVER (Holocene)–Clay, silt, sand, and gravel in channels and on modern flood plain of North Canadian River. Area probably subject to frequent flooding. Thickness: generally 0 to about 40 ft, rarely over 40 ft

Qacm ALLUVIUM OF NORTH CANADIAN RIVER (Holocene)–Clay, silt, sand, and gravel on Recent flood plain of North Canadian River about 5-10 ft above Qacy. Area rarely subject to flooding. Thickness: unknown, possibly as much as 50 ft

— SEE NOTE 3

Qaco ALLUVIUM OF NORTH CANADIAN RIVER (Holocene and/or Pleistocene(?))–Clay, silt, sand, and gravel in valley of the North Canadian River and about 10 ft above Qacm. Present only as small remnants. Thickness: unknown, at least 20 ft

Qgcy REMNANTS OF YOUNGER TERRACE DEPOSITS (Pleistocene)–Clay, silt, sand, and gravel adjacent to the flood plain of the North Canadian River. Sand commonly is medium- to coarse-grained and very light colored; gravel locally consists of concentrations of distally derived pebbles and cobbles, mostly subrounded quartz and quartzite. Base of unit about 15-20 ft above Qacm and ranges in elevation from about 1135 ft to 1160 ft above sea level. The base of the unit increases in elevation away from the river. The top of the unit is as much as 70 ft above Qacm (as high as 1200 ft above sea level). Present only south of the North Canadian River. Thickness: 0 to 30 ft

Qgco REMNANTS OF OLDER TERRACE DEPOSITS (Pleistocene)–Clay, silt, sand, and gravel adjacent to the flood plain of the North Canadian River. Sand commonly is medium- to coarse-grained and very light colored; gravel locally consists of concentrations of distally derived pebbles and cobbles, mostly subrounded quartz and quartzite. Base of unit is about 30-100 ft above the modern flood plain and ranges in elevation from 1140 ft to 1190 ft above sea level. Top of the unit is as much as 130 ft above the modern flood plain and is as high as 1260 ft above sea level. Unit includes small amount of sand and gravel washed down into small north-flowing streams. Present only on north side of the North Canadian River. Thickness: 0 to 40 ft

Pgr GARBER FORMATION (Permian)–Sandstone, mostly fine-grained to less commonly very fine to medium-fine-grained; appears to be very fine grained near base; moderate reddish brown (10R4/6), moderate reddish orange (10R6/6), moderate red (5R5/4), light brown (5YR5/8), and dark yellowish orange (10YR6/6); minor sandstone- and siltstone-pebble conglomerate and/or breccia, dolomite conglomerate and/or breccia, siltstone, and shale. Sandstone typically porous and friable. Commonly weathers to smooth, rounded outcrops; locally with platy to flaggy to rarely slabby appearance. Locally weathers to hard, dark-colored (grayish black [N2]) beds completely cemented with hematite, calcite, and/or silica. Dark-colored sandstone blocks locally form lag deposit over weathered outcrops. Large- and small-scale crossbeds, trough crossbeds common; many outcrops characterized by inclined beds and channelform deposits, although plane-parallel stratification also present. Shale and/or siltstone rip-up clasts uncommon; burrows extremely rare; one plant fossil observed. Sandstone locally color-banded (e.g. moderate reddish brown (10R4/6), grayish red purple (5RP4/2), and grayish yellow green (5GY7/2)) or with mottled appearance. Small calcareous iron-oxide spheres occur locally on weathered surfaces. Sandstone locally contains calcite-, dolomite-, and/or barite-cemented septarian nodules. Circular iron-reduction spots very rare. Sandstone, siltstone, and dolomite conglomerate and breccias appear to be of two types; one is clearly sedimentary, the other appears to be diagenetic and may represent incipient paleosol development on a sand. Conglomerates and breccias common near base of formation. A widespread moderate red (5R6/2) to pale red (5R6/2) 3-, to rarely 7-ft-thick conglomerate bed is also present near top of formation. The bed consists of coarse-granule to pebble-size siltstone, shale, and dolomite(?) clasts in a medium- to coarse-grained sandstone matrix. Siltstone and shale sandy, color-banded (e.g., moderate reddish brown (10R4/6) and yellowish gray (5Y7/2)), stratified to unstratified, and with uncommon iron-reduction spots as large as 2 in. in diameter. Typically soft, weather to "badlands"- type topography. Locally contain abundant septarian nodules similar to those found in sandstone. Siltstone and shale common near base and top of formation. In places, siltstone and shale contain evidence of paleosol development such as blocky weathering, fractures with fracture surfaces marked by small slickensides, through-going curved fractures, and calcareous concretions. South of the North Canadian River and north of NE 50th Street Garber sandstones typically are deeply weathered and large areas are covered with a sandy soil, some of which may include a thin veneer of wind-blown sand. Thickness: about 600 ft, based on cross section

Pwe WELLINGTON FORMATION (Permian)–Sandstone, mostly fine- to very fine grained, moderate orange pink (10R7/4) to moderate reddish brown (10R4/6), moderate reddish orange (10R6/6) to pale red (5R6/2); siltstone, typically color-banded consisting of, for example, pale reddish brown (10R5/4) and light greenish gray (5GY8/1); siltstone- and dolomite-breccia and conglomerate; and minor shale, moderate reddish brown (10R4/6) and light greenish gray (5GY8/1). Sandstone mostly porous and friable, locally with variable amounts of hematite and calcite cement. Sedimentary structures include large- and small-scale crossbeds, trough crossbeds, locally steeply inclined stratification and less common channelform features. In places, weathers to "slickrock" appearance. Sandstone locally color-banded and multicolored. Siltstone commonly contains abundant concretions and septarian nodules with conspicuous calcite, dolomite and possible barite crystals lining radiating fractures. Siltstone and dolomite breccias and conglomerates similar to those in overlying Garber Formation; some clearly are sedimentary in origin and may represent slightly reworked paleosols; others may represent autochthonous paleosols. Shale typically is color-banded.

Principal difference between Garber and Wellington Formations is generally coarser grain size of Garber, although lower part of Garber appears to contain finer-grained sandstones and more siltstone and shale than middle part. In the northeastern part of the Jones quadrangle, the top of the Wellington consists of a widespread shale at least 20 ft thick that is capped by a thick, well-developed paleosol horizon. Thickness: 105 ft, base not exposed

NOTES:

1. ADAPTED FROM THE GEOLOGIC MAP OF THE MUSTANG 7.5' QUADRANGLE OKLAHOMA, CANADIAN AND CLEVELAND COUNTIES, OKLAHOMA, STANLEY, THOMAS M., AND SUNESON, NEIL H., 2000, OKLAHOMA GEOLOGICAL SURVEY.
2. REFER TO FIGURE 12 FOR WASTE DISPOSAL AREA AND BUFFER ZONE.
3. CONSISTENT WITH OAC 252.515–3–32, THIS APPLICATION REQUESTS A VARIANCE OAC 252:515–5–51(a). TO ENSURE THAT THE DEVELOPMENT OF THE EXPANSION AREA DOES NOT ADVERSELY IMPACT UNDERLYING ALLUVIAL DEPOSIT, THE PROPOSED LINER SYSTEM FOR THE EXPANSION AREA HAS BEEN DESIGNED TO PROVIDE A BARRIER LAYER THAT GREATLY EXCEEDS THE REQUIREMENTS FOR AND MSW LANDFILL. ADDITIONAL INFORMATION ON THIS VARIANCE REQUEST IS PROVIDED IN SECTION 1.15.

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DATE: 06/2015
FILE: 0086–356–11
CAD: FIG 9–GEO MAP.DWG

DRAWN BY: SRF
DESIGN BY: SB
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE – 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION SURFACE GEOLOGIC MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 9

O:\0086\356\EXPANSION 2013\FIGURES\FIG 9 - SURFACE GEOLOGIC MAP.dwg, uacholonu, 1:2

0 1 2
SCALE IN MILES

LEGEND

EXISTING PERMIT BOUNDARY

PROPOSED PERMIT BOUNDARY

Alluvium and Terrace Deposits and Their Recharge Areas (Quaternary in age). Unconsolidated deposits of sand, silt, clay, and gravel that occur along or adjacent to modern and ancient streams. Thickness generally ranges from 10 to 50 ft (locally as much as 100 ft). Wells generally yield 10 to 500 gpm of water (locally several thousand gpm), and most water is of good quality (less than 1,000 mg/L dissolved solids). Recharge areas are essentially the same as distribution of the alluvium and terrace deposits.

Bedrock Aquifers and Their Recharge Areas (Cambrian through Tertiary in age). Rock units and sediments that generally are favorable or moderately favorable for development of groundwater resources. Thickness of aquifers generally ranges from 100 ft to several thousand ft. Depths to fresh water range from a few feet to more than 1,000 ft, with most wells 100-400 ft deep. Wells drilled into these aquifers generally yield 25–300 gpm, although wells in some aquifers yield up to 600–2,500 gpm. Water in most aquifers is of good to fair quality (300–1,500 mg/L dissolved solids). Pattern on map also includes known and potential recharge areas for bedrock aquifers.

NOTES:

1. THIS FIGURE SHOWS THE SITE LOCATION ON THE "MAP OF AQUIFERS AND RECHARGE AREAS IN OKLAHOMA," COMPILED BY KENNETH S. JOHNSON, GEOLOGICAL SURVEY, 1991. THE 1991 MAP BRINGS TOGETHER DATA PREVIOUSLY PRESENTED ON TWO MAPS: ONE ON BEDROCK AQUIFERS AND THE OTHER ON ALLUVIUM AND TERRACE DEPOSITS COMPILED BY K.S. JOHNSON, 1983 (MAPS SHOWING PRINCIPAL GROUNDWATER RESOURCES AND RECHARGE AREAS IN OKLAHOMA; OKLAHOMA STATE DEPARTMENT OF HEALTH AND THE OKLAHOMA GEOLOGICAL SURVEY, 2 SHEETS). TYPICALLY, RECHARGE TO ALLUVIAL AND TERRACE DEPOSIT AQUIFERS IS FROM PERCOLATION OF SURFACE WATER FOLLOWING RAINFALL EVENTS.
2. REFER TO APPENDIX E, SECTION 3.6 FOR AREA GROUNDWATER QUALITY INFORMATION.
3. REFER TO FIGURE 11 FOR PRIVATE AND PUBLIC SUPPLY WELL LOCATIONS.
4. REFER TO FIGURE 12 FOR WASTE DISPOSAL AREA AND BUFFER ZONE.
5. CONSISTENT WITH OAC 252.515–3–32, THIS APPLICATION REQUESTS A VARIANCE OAC 252:515–5–51(a). TO ENSURE THAT THE DEVELOPMENT OF THE EXPANSION AREA DOES NOT ADVERSELY IMPACT UNDERLYING ALLUVIAL DEPOSIT, THE PROPOSED LINER SYSTEM FOR THE EXPANSION AREA HAS BEEN DESIGNED TO PROVIDE A BARRIER LAYER THAT GREATLY EXCEEDS THE REQUIREMENTS FOR AND MSW LANDFILL. ADDITIONAL INFORMATION ON THIS VARIANCE REQUEST IS PROVIDED IN SECTION 1.15.

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DATE: 06/2015
FILE: 0086–356–11
CAD: FIG 10–GW RESOURCE.DWG

DRAWN BY: SRF
DESIGN BY: SB
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE – 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
GROUNDWATER RESOURCE AND RECHARGE AREA MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 10

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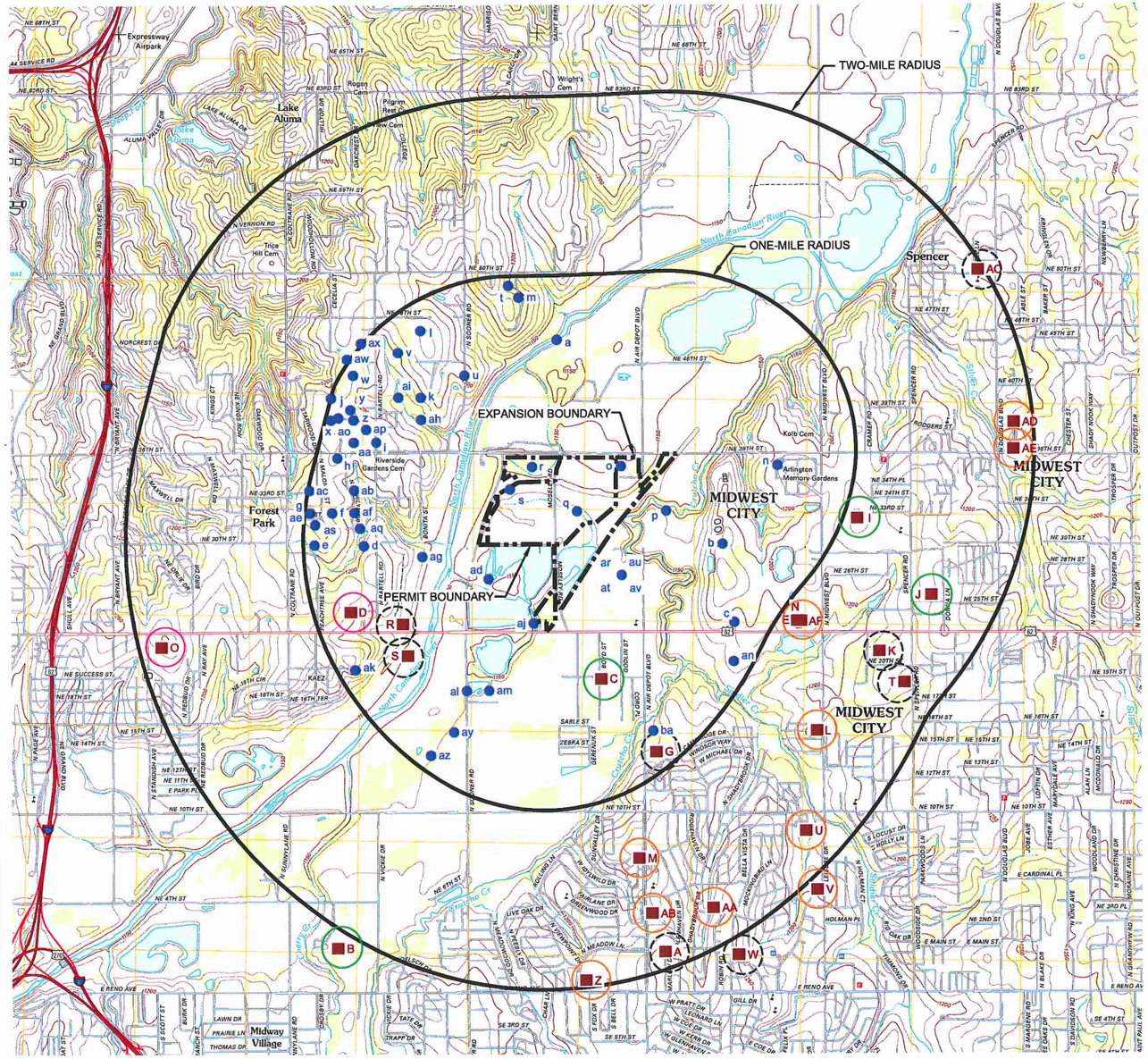
O:\0086\356\EXPANSION 2013\FIGURES\FIG 10 - GROUNDWATER RESOURCE MAP.dwg, uacholonu, 1:2



PUBLIC WATER SUPPLY WELLS				
MAP ID	WELL ID #	NAME	TOTAL DEPTH	GROUNDWATER ELEVATION
* A	OK1020806	WELL 16	N/A	N/A
B	OK1020805	WELL 27	N/A**	N/A**
C	OK2005529	WELL 1	250	N/A**
D	OK6005547	WELL 1	N/A**	N/A**
E	OK6005537	WELL 1	N/A**	N/A**
* G	OK1020806	WELL 54	640	1065
I	OK2005509	WELL 3	335	N/A**
J	OK2005509	WELL 7	550	N/A**
* K	OK1020806	WELL 55	640	1105
L	OK1020806	WELL 51	700	1075
M	OK1020806	WELL 18	752	1095
N	OK4005521	WELL 1	N/A**	N/A**
O	OK2005524	WELL 2	330	N/A**
* R	OK8005562	WELL 1	738	N/A**
* S	OK6005544	WELL 1	738	N/A**
* T	OK4005521	WELL 2D&D	738	N/A**
U	OK1020806	WELL 24	738	N/A**
V	OK1020806	WELL 20	738	N/A**
* W	OK2005508	WELL 32	738	N/A**
Z	OK1020806	WELL 22	738	N/A**
AA	OK1020806	WELL 19	738	N/A**
AB	OK1020806	WELL 17	738	N/A**
AC	OK2005509	WELL 1	N/A**	N/A**
AD	OK5005582	WELL 2	N/A**	N/A**
AE	OK5005582	WELL 1	N/A**	N/A**
AF	OK6005506	WELL 1	N/A**	N/A**

* PWS WELL WITHOUT WELLHEAD PROTECTION (SEE NOTE 4)

** INFORMATION NOT AVAILABLE ON THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY WEB PAGE.

PRIVATE WATER SUPPLY WELLS			
MAP ID	WELL ID #	TOTAL DEPTH	GROUNDWATER ELEVATION
a	102835	120	1085
b	59185	N/A*	N/A*
c	36522	140	1160
d	101399	200	1080
e	105217	160	1155
f	95017	180	1090
g	86555	220	1122
h	92423	140	1167
i	83231	220	1085
j	92946	240	1120
k	103997	220	1095
l	101546	200	N/A*
m	102288	180	1134
n	25961	830	1075
o	6807[8]	200	N/A*
p	6812	160	1025
q	55865[8]	190	1050
r	6808[8]	200	N/A*
s	6809[8]	200	1065
t	44793	150	1105
u	6788	180	1115
v	79145	240	1099
w	6792	200	1095
x	78024	220	1168
y	105792	200	1122
z	60460	200	1125
aa	33396	220	1060
ab	22720	155	1110
ac	6806	140	1142
ad	62051	160	1098
ae	6804	160	1127
af	25234	140	1112
ag	6805	250	1053
ah	22718	125	N/A*
ai	26762	200	N/A*
aj	6810	220	1060
ak	75648	140	N/A*
al	6823	140	1100
am	6822	160	1070
an	6820	140	N/A*
ao	128954	200	N/A*
ap	127884	180	N/A*
aq	130626	240	N/A*
ar	163297	40	N/A*
as	159049	215	N/A*
at	163298	34	N/A*
au	163295	40	N/A*
av	163296	40	N/A*
aw	130067	200	N/A*
ax	36516	200	N/A*
ay	6824	100	N/A*
az	6825	140	N/A*
ba	6819	40	N/A*

* INFORMATION NOT AVAILABLE ON THE OKLAHOMA WATER RESOURCES BOARD WEB PAGE.

NOTES:

1. ADAPTED FROM USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAP (SPENCER, MIDWEST CITY, JONES, AND CHOCTAW, OKLAHOMA, 2012).
2. THE MAP AREA SHOWN IS WITHIN TOWNSHIP 12 NORTH, RANGE 2 WEST.
3. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE SURVEYING, INC.
4. WATER WELL AND SURFACE WATER DIVERSION RECORDS OBTAINED FROM THE OKLAHOMA DEPARTMENT OF WATER RESOURCES (OWRB) AND OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) ON-LINE GIS DATABASES (MAY 2015).
5. THE OWRB ON-LINE GIS DATABASE INDICATED THERE ARE NO SURFACE WATER INTAKES LOCATED WITHIN 1.0 MILE OF THE FACILITY.
6. PUBLIC SUPPLY WELLS WITH DASHED WELLHEAD PROTECTION AREAS INDICATE THAT RELEVANT DATA WAS NOT AVAILABLE ON THE DEQ WEB PAGE. BASED ON TRAVEL TIME OF 2.39 FEET/YEAR IN THE GARBER WELLINGTON. A 10 YEAR GROUNDWATER TRAVEL TIME RADIUS OF 239 FEET IS SHOWN.
7. 2-YEAR AND 10-YEAR TIME OF TRAVEL BARRIERS REPRESENT LARGER AREAS OF INFLUENCE THAN THE 1-YEAR TIME OF TRAVEL BARRIERS STATED IN 252:515-5-32 (b)(2), AND ARE MORE PROTECTIVE OF THE ENVIRONMENT.
8. PRIVATE WATER SUPPLY WELLS 55865 (q), 6808 (r), 6807 (o), AND 6809 (s) HAVE BEEN PLOTTED BY THE OWRB ON PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC. (WMO). BASED ON SITE SPECIFIC INFORMATION, THESE FOUR WELLS ARE MISLOCATED IN THE OWRB WATER WELL DATABASE. THESE WELLS ARE NOT LOCATED ON PROPERTY OWNED BY WASTE MANAGEMENT.
9. REFER TO FIGURE 12 FOR WASTE DISPOSAL AREA, BUFFER ZONE, AND PERMIT BOUNDARY.

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- a — PRIVATE WATER WELL LOCATION WITHIN 1.0 MILE OF PROPOSED PERMIT BOUNDARY
- A — PUBLIC WATER SUPPLY WELL LOCATION WITHIN 2.0 MILES OF PROPOSED PERMIT BOUNDARY
- ZONE A WELLHEAD PROTECTION AREAS (1 YEAR GROUNDWATER TRAVEL TIME RADIUS) (SEE NOTE 7)
- ZONE B WELLHEAD PROTECTION AREAS (2 YEAR GROUNDWATER TRAVEL TIME RADIUS) (SEE NOTE 7)
- ZONE C WELLHEAD PROTECTION AREAS (10 YEAR GROUNDWATER TRAVEL TIME RADIUS) (SEE NOTE 7)
- WELLHEAD PROTECTION AREAS (10 YEAR GROUNDWATER TRAVEL TIME RADIUS) (SEE NOTE 6)

N

0 2000 4000
SCALE IN FEET

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

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DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 11-WATER WELLS.DWG

DRAWN BY: VRS
DESIGN BY: JEU
REVIEWED BY: JPY

Weaver Consultants Group
CA 3804 PE - 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
PUBLIC AND PRIVATE WELLS MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

FIGURE 11

0:\0086\356\EXPANSION 2013\FIGURES\FIG 11 - PUBLIC_PRIVATE WELLS.dwg, 5/21/2015 3:23:33 PM, rsellers, 1:2

N

0 300 600

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- MW-201R — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW-207R3 — PROPOSED GROUNDWATER MONITORING WELL
- IN-PLACE FINAL COVER

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. A WASTE-FREE BUFFER ZONE OF AT LEAST 100-FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY TO THE PROPOSED LIMITS OF WASTE INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. IN-PLACE FINAL COVER AREA REPRODUCED FROM LEMKE LAND SURVEYING, INC. VERIFICATION SURVEY DATED JULY 2013 (FINAL COVER AREA 1).

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DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 12-MW LOC.DWG

DRAWN BY: RDM
DESIGN BY: SB
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE - 06/30/2017

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED WELL LAYOUT
2	05/2016	REVISED WELL LAYOUT

TIER III PERMIT MODIFICATION EXISTING AND PROPOSED MONITORING WELL LOCATIONS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 12

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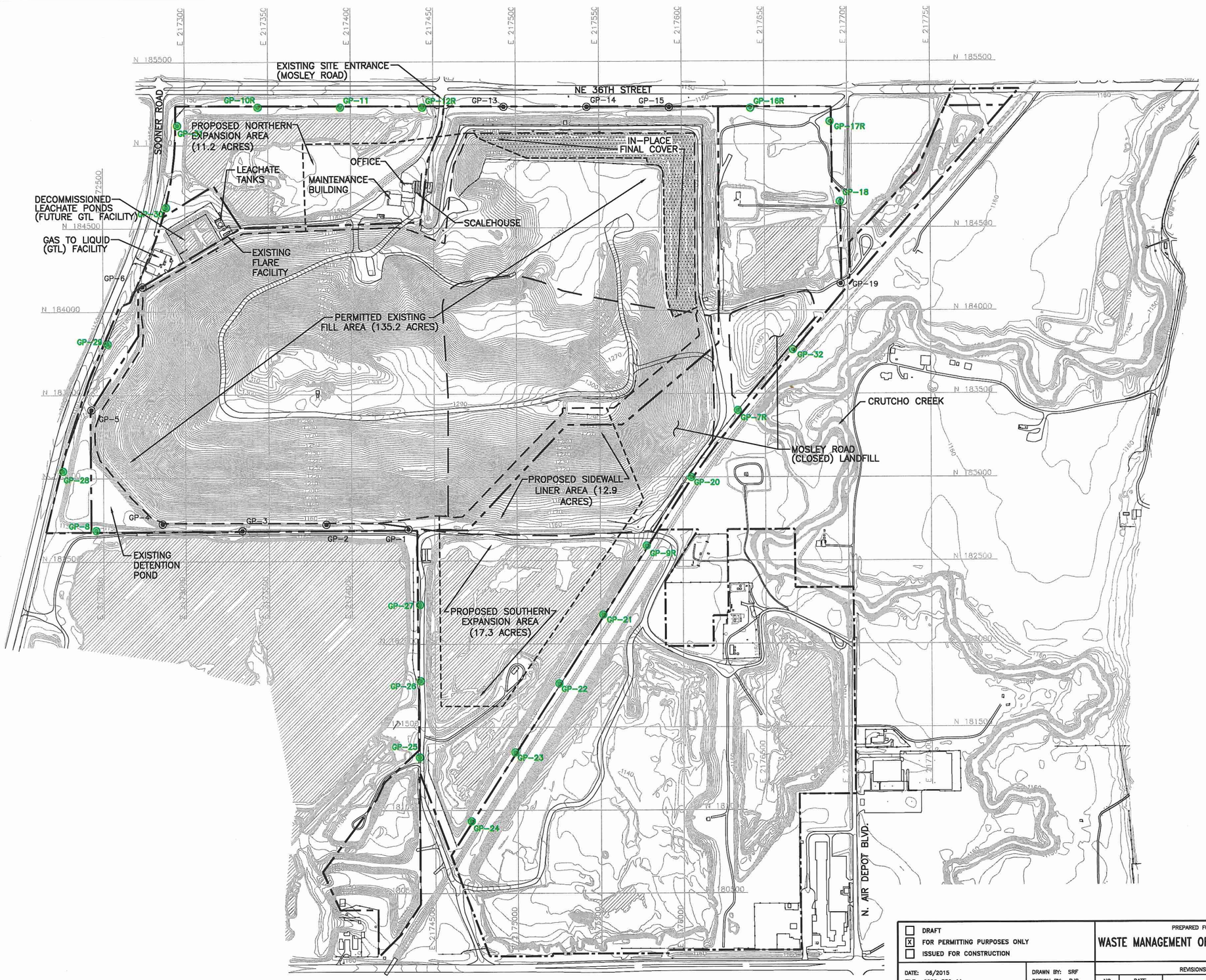
O:\0086\356\EXPANSION 2013\FIGURES\FIG 12 - EXIST AND PROPOSED MW.dwg, rmorris, 1:2



0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- GP-15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP-18 — PROPOSED LANDFILL GAS PROBE
- IN-PLACE FINAL COVER

REGISTERED PROFESSIONAL ENGINEER
MATT K. STUTZ
22011
OKLAHOMA
5/31/16

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. A WASTE-FREE BUFFER ZONE OF AT LEAST 100-FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY TO THE PROPOSED LIMITS OF WASTE INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. IN-PLACE FINAL COVER AREA REPRODUCED FROM LEMKE LAND SURVEYING, INC. VERIFICATION SURVEY DATED JULY 2013 (FINAL COVER AREA 1).

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DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 14-LFG LOCS.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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CA 3804 PE - 06/30/2017

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED PROBE LAYOUT
2	05/2016	REVISED PROBE LAYOUT

TIER III PERMIT MODIFICATION EXISTING AND PROPOSED LANDFILL GAS PROBE LOCATIONS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 13

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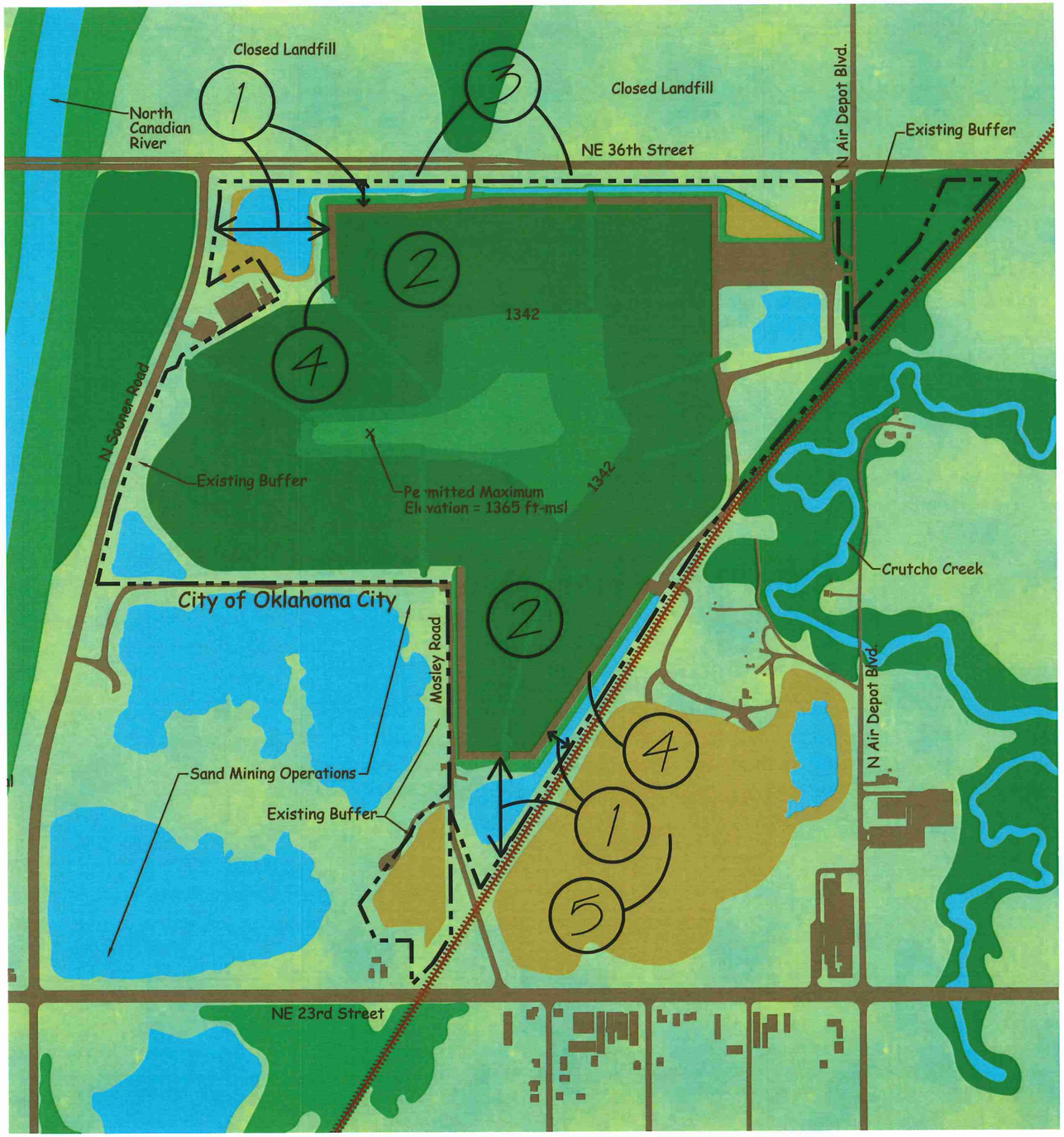
O:\0086\356\EXPANSION 2013\FIGURES\FIG 13 - EXIST AND PROPOSED LFG LOCS.dwg, rmorris, 1:2



N

Legend

- Landfill Boundary
- Landfill Perimeter Road
- Stormwater Detention Ponds

1. Buffer Zones Greater Than the Required Minimum of 100 Feet.
2. Establishment of Interim and Permanent Vegetation
3. Visual Screening Will be Controlled Through Established Landscaped and Existing Buffer Areas
4. Roads and Surfaces Used by Vehicles Will be Sprayed With Water When Conditions Require Dust to be Minimized
5. Noise Will be Controlled Through the Established Buffer Zones.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

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DATE: 06/2015
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CAD: FIG 14-ENHANCEMENT.DWG

DRAWN BY: SRF
DESIGN BY: SB
REVIEWED BY: JVQ

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WASTE MANAGEMENT OF OKLAHOMA, INC.

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NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
AESTHETIC ENHANCEMENT PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 14

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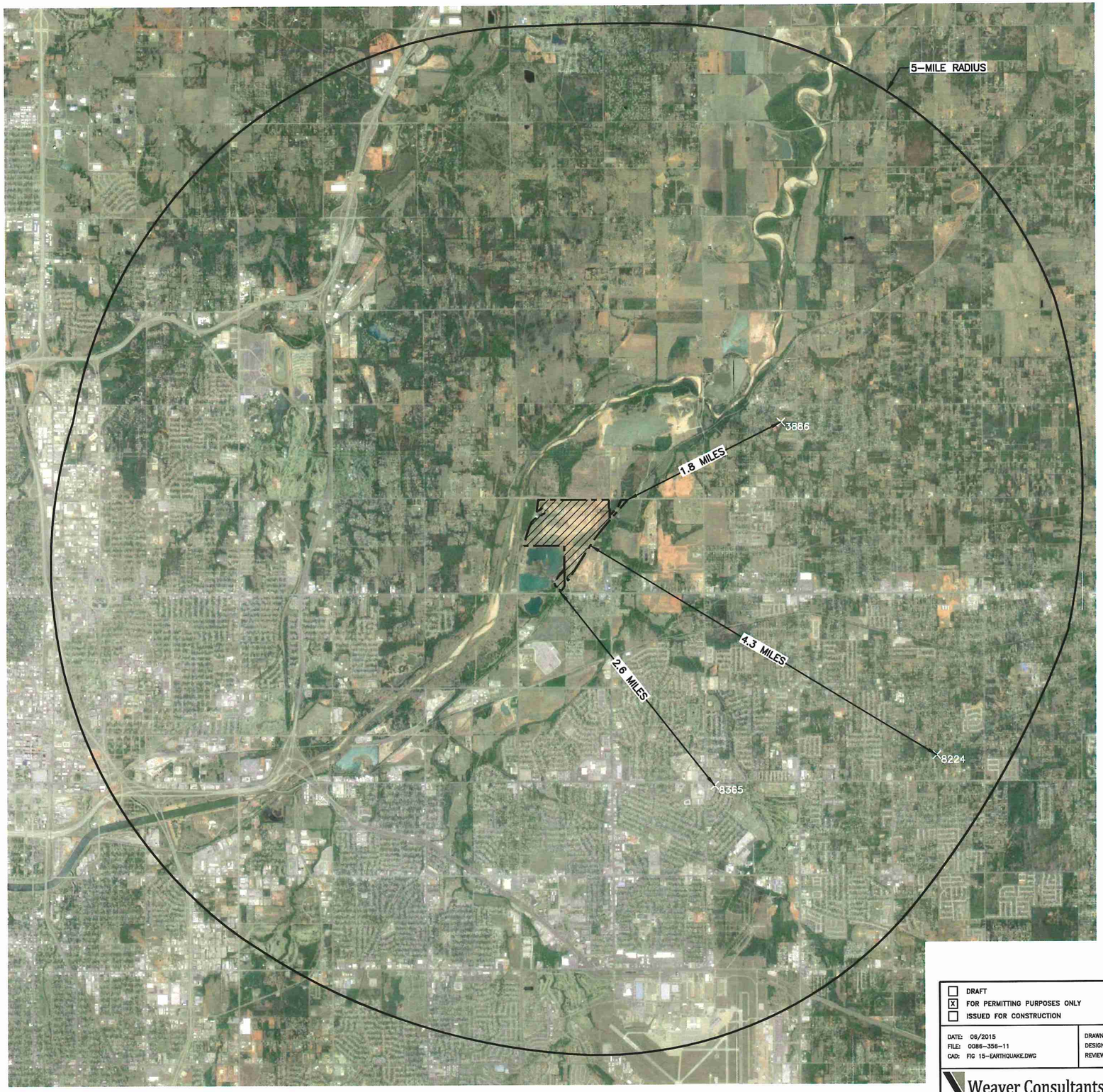
O:\0086\356\EXPANSION 2013\FIGURES\FIG 14 - AESTHETIC ENHANCEMENT PLAN.dwg, uacholonu, 1:2



N

0 3000 6000

SCALE IN FEET

LEGEND

PROPOSED PERMIT BOUNDARY

8224 LOCATION OF EARTHQUAKE WITH > 4 ON RICHTER SCALE OR V ON MODIFIED MERCALLI SCALE (SEE NOTE 2)

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

NOTES:

1. AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE MAPS DATED 2015.
2. LOCATIONS OBTAINED FROM OGS WEBSITE AS OF JANUARY 2015.

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DATE: 06/2015
FILE: 0086-356-11
CAD: FIG 15-EARTHQUAKE.DWG

DRAWN BY: SRF
DESIGN BY: MDM
REVIEWED BY: JVQ

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NO.	DATE	DESCRIPTION

EARTHQUAKE LOCATIONS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 15

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O:\0086\356\EXPANSION 2013\FIGURES\FIG 15-EARTHQUAKE LOCS.dwg, uacholonu, 1:2

DRAWINGS

In accordance with OAC 252-515-1-4(b) and 252-515-3-51(e), figures/drawings have been provided in an alternative scale. The alternative scales are clearly identified on each figure/drawing.

1 Cover Sheet and Site Vicinity Map

2 Location and Boundary Map

3 Existing Ground Contour Map

4 Existing Permitted Drainage Plan

5 Post-Development Drainage Plan

6 Site Map

7 Excavation Plan

8 Top of Liner Plan

9 Top of Protective Cover Plan

10 Closure Contour and Stormwater Management Map

11 Cross-Section Location Map – Open Phases

12 Cross-Section Location Map – Closed Phases

13 Cross-Section A

14 Cross-Section B

15 Cross-Section C

16 Cross-Section D

17 Cross-Section E

18 Cross-Section F

19 Liner and Leachate Collection System Details

20 Liner and Leachate Collection System Details

21 Liner and Leachate Collection System Details

22 Liner and Leachate Collection System Details

23 Liner and Leachate Collection System Details

24 Final Cover Details

DRAWINGS (Continued)

25 Final Cover Details

26 Final Cover Details

27 Drainage Details

28 Drainage Details

29 Drainage Details

30 Drainage Details

Full-size Permit Design Drawings are provided in a separate package.

WASTE MANAGEMENT OF OKLAHOMA, INC.
EAST OAK RECYCLING AND DISPOSAL FACILITY
OKLAHOMA COUNTY, OKLAHOMA
LANDFILL EXPANSION

INDEX TO DRAWINGS

DRAWING NO	DRAWING TITLE
1	COVER SHEET AND SITE VICINITY MAP
2	LOCATION AND BOUNDARY MAP
3	EXISTING GROUND CONTOUR MAP
4	EXISTING PERMITTED DRAINAGE PLAN
5	POST–DEVELOPMENT DRAINAGE PLAN
6	SITE MAP
7	EXCAVATION PLAN
8	TOP OF LINER PLAN
9	TOP OF PROTECTIVE COVER PLAN
10	CLOSURE CONTOUR AND STORMWATER MANAGEMENT MAP
11	CROSS–SECTION LOCATION MAP–OPEN PHASES
12	CROSS–SECTION LOCATION MAP–CLOSED PHASES
13	CROSS–SECTION A
14	CROSS–SECTION B
15	CROSS–SECTION C
16	CROSS–SECTION D
17	CROSS–SECTION E
18	CROSS–SECTION F
19	LINER AND LEACHATE COLLECTION SYSTEM DETAILS
20	LINER AND LEACHATE COLLECTION SYSTEM DETAILS
21	LINER AND LEACHATE COLLECTION SYSTEM DETAILS
22	LINER AND LEACHATE COLLECTION SYSTEM DETAILS
23	LINER AND LEACHATE COLLECTION SYSTEM DETAILS
24	FINAL COVER DETAILS
25	FINAL COVER DETAILS
26	FINAL COVER DETAILS
27	DRAINAGE DETAILS
28	DRAINAGE DETAILS
29	DRAINAGE DETAILS
30	DRAINAGE DETAILS

JUNE 2015
REVISED JANUARY 2016
REVISED MAY 2016

PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

PREPARED BY

Weaver Consultants Group

6420 SOUTHWEST BLVD., SUITE 206
FORT WORTH, TEXAS 76109
(817) 735–9770
(817) 735–9775 (FAX)
CA 3804 PE–06/30/2017

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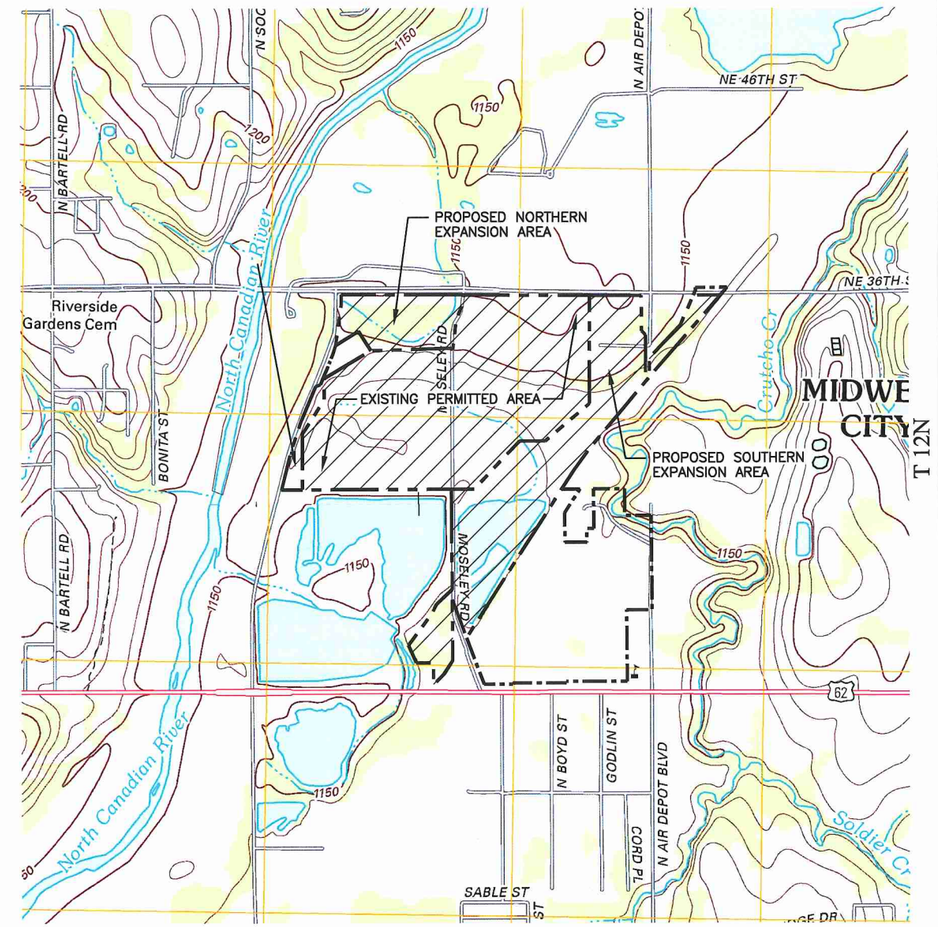

VICINITY MAP
SPENCER QUADRANGLE
MIDWEST CITY QUADRANGLE
T 12N, R 2W, SECTION 21
OKLAHOMA
7.5 MINUTE SERIES (TOPOGRAPHIC)

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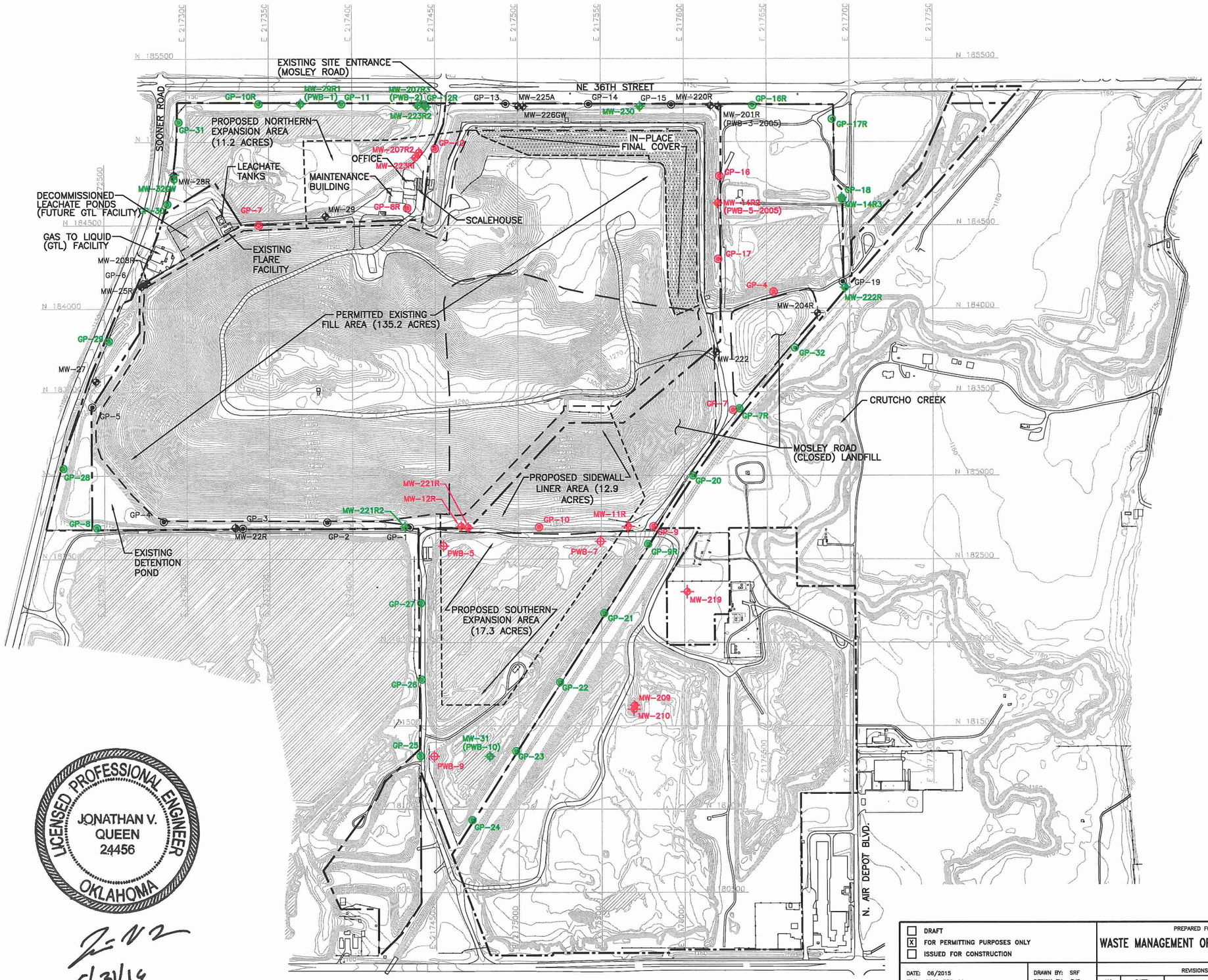
O:\0086\356\EXPANSION 2013\PERMIT DRAWINGS\1-COVER.dwg, rmorris, 1:2



0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- MW-27 — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW-29 — EXISTING GROUNDWATER MONITORING WELL (TO BE ABANDONED)
- MW-31 — PROPOSED GROUNDWATER MONITORING WELL
- GP-15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP-16 — EXISTING LANDFILL GAS PROBE (TO BE ADANDONED)
- GP-18 — PROPOSED LANDFILL GAS PROBE
- PWB-7 — EXISTING GROUNDWATER PIEZOMETER (TO BE ABANDONED)
- IN-PLACE FINAL COVER

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. A WASTE-FREE BUFFER ZONE OF AT LEAST 100-FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY TO THE PROPOSED LIMITS OF WASTE INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. REFER TO SECTION 2.5 FOR WETLAND INFORMATION.
6. IN-PLACE FINAL COVER AREA REPRODUCED FROM LEMKE LAND SURVEYING, INC. VERIFICATION SURVEY DATED JULY 2013 (FINAL COVER AREA 1).

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

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DESIGN BY: RJS
REVIEWED BY: JVQ

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REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED PROBE/WELL LAYOUT
2	05/2016	REVISED PROBE/WELL LAYOUT

TIER III PERMIT MODIFICATION LOCATION AND BOUNDARY MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 2

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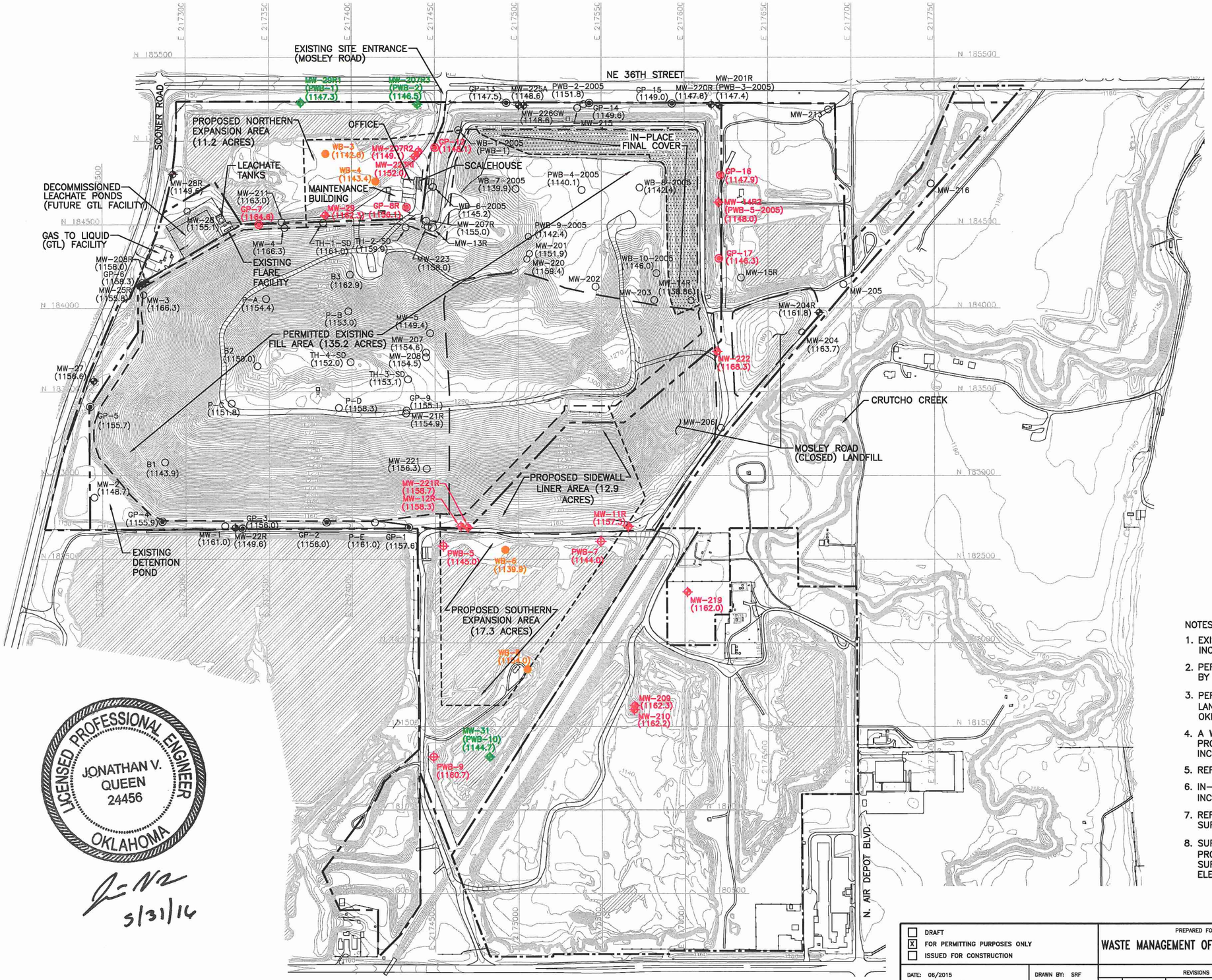

0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- MW-27 (1156.6) — EXISTING GROUNDWATER MONITORING WELL (SURFACE ELEVATION IN FT-MSL)
- GP-15 (1149.0) — EXISTING LANDFILL GAS PROBE (SURFACE ELEVATION IN FT-MSL)
- B1 (1143.9) — BOREHOLE/GROUNDWATER WELL/GAS PROBE PREVIOUSLY PLUGGED OR ABANDONED (SURFACE ELEVATION IN FT-MSL)
- MW-207R2 (1149.1) — EXISTING GROUNDWATER MONITORING WELL (TO BE ABANDONED) (APPROXIMATE SURFACE ELEVATION IN FT-MSL)
- GP-16 (1147.9) — EXISTING LANDFILL GAS PROBE (TO BE ABANDONED) (APPROXIMATE SURFACE ELEVATION IN FT-MSL)
- PWB-7 (1141) — 2014 SOIL BORING AND PIEZOMETER LOCATION (TO BE ABANDONED) (APPROXIMATE SURFACE ELEVATION IN FT-MSL)
- WB-6 (1139.9) — 2014 SOIL BORING LOCATION (ABANDONED) (APPROXIMATE SURFACE ELEVATION IN FT-MSL)
- MW-31 (PWB-10) (1144.7) — 2014 SOIL BORING, PIEZOMETER, AND PROPOSED GROUNDWATER WELL LOCATION (APPROXIMATE SURFACE ELEVATION IN FT-MSL)
- IN-PLACE FINAL COVER

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
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4. A WASTE-FREE BUFFER ZONE OF AT LEAST 100-FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY FOR THE LANDFILL EXPANSION AREA INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. REFER TO SECTION 2.5 FOR WETLAND INFORMATION.
6. IN-PLACE FINAL COVER AREA REPRODUCED FROM LEMKE LAND SURVEYING, INC. VERIFICATION SURVEY DATED JULY 2013 (FINAL COVER AREA 1).
7. REFER TO DRAWINGS 4 AND 5 FOR THE LOCATION AND QUANTITIES OF SURFACE DRAINAGE ENTERING AND EXITING THE FACILITY.
8. SURFACE ELEVATION FOR GROUNDWATER MONITORING WELLS/LANDFILL GAS PROBES/BORINGS BASED ON HISTORIC BORING LOGS AND/OR CURRENT SURVEY DATA. PRESENT SURFACE ELEVATIONS MAY VARY FROM HISTORICAL ELEVATIONS DUE TO CONSTRUCTION ACTIVITIES.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

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CAD: 3-EXISTING CONTOUR.DWG

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DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR
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REVISIONS

NO.	DATE	DESCRIPTION
2	05/2016	REVISED WELL LAYOUT

TIER III PERMIT MODIFICATION EXISTING GROUND CONTOUR MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 3

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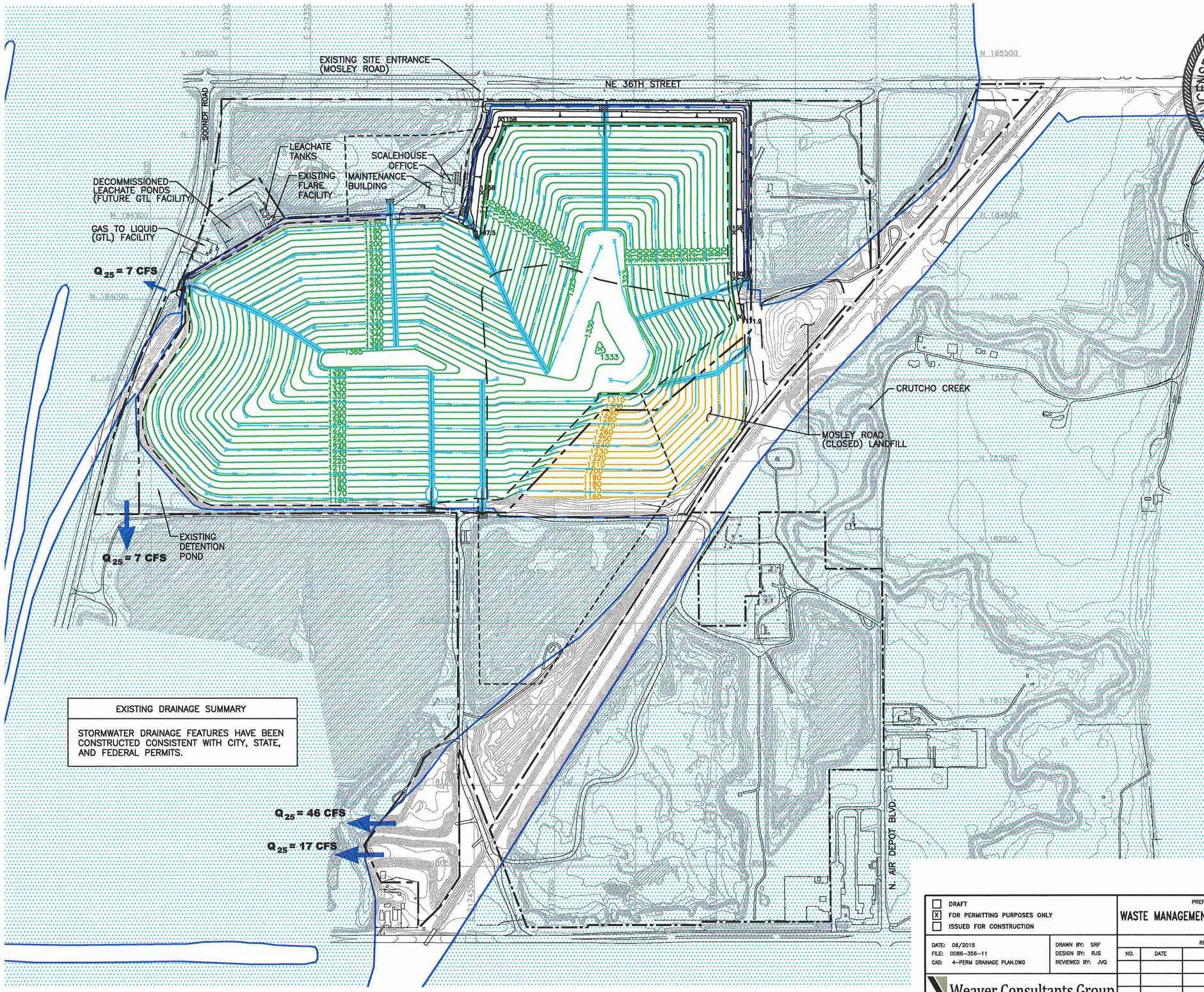
O:\0086\356\EXPANSION 2013\PERMIT DRAWINGS\3-EXISTING GROUND CONTOUR MAP.dwg, rmorris, 1:2



EXISTING DRAINAGE SUMMARY

STORMWATER DRAINAGE FEATURES HAVE BEEN CONSTRUCTED CONSISTENT WITH CITY, STATE, AND FEDERAL PERMITS.

LICENSED PROFESSIONAL ENGINEER
Charles R. Marsh
24599
OKLAHOMA
6.5.15

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA
6/5/15

0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- 1300 — PERMITTED FINAL COVER
- 1300 — PERMITTED FINAL COVER (MOSLEY ROAD LANDFILL)
- X — PERMITTED DRAINAGE SWALE
- PERMITTED LETDOWN STRUCTURE
- CENTERLINE OF CHANNEL
- IN-PLACE FINAL COVER
- 100-YEAR FLOODPLAIN (SEE NOTE 7)
- SHEET FLOW DISCHARGE LOCATION
- CHANNELIZED FLOW DISCHARGE LOCATION

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. REFER TO APPENDIX I FOR ADDITIONAL FLOODPLAIN INFORMATION.
5. REFER TO APPENDIX H FOR ADDITIONAL DRAINAGE INFORMATION.
6. THE PERMITTED FINAL COVER CONTOURS WERE REPRODUCED FROM THE TIER III PERMIT MODIFICATION LATERAL EXPANSION, PREPARED BY WEAVER BOOS CONSULTANTS, LLC-SOUTHWEST IN AUGUST 2007.
7. NORTH CANADIAN RIVER 100-YEAR FLOODPLAIN DELINEATED BASED ON THE APPROVED INCLUDED IN THE APPROVED 2008 CLOMR (CASE NO. 08-06-0163R) PREPARED BY WEAVER BOOS CONSULTANTS, LLC-SOUTHWEST IN JANUARY 2008.

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CAD: 4-PERM DRAINAGE PLAN.DWG

DRAWN BY: SRF
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REVIEWED BY: JVQ

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REVISIONS

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TIER III PERMIT MODIFICATION EXISTING PERMITTED DRAINAGE PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 4

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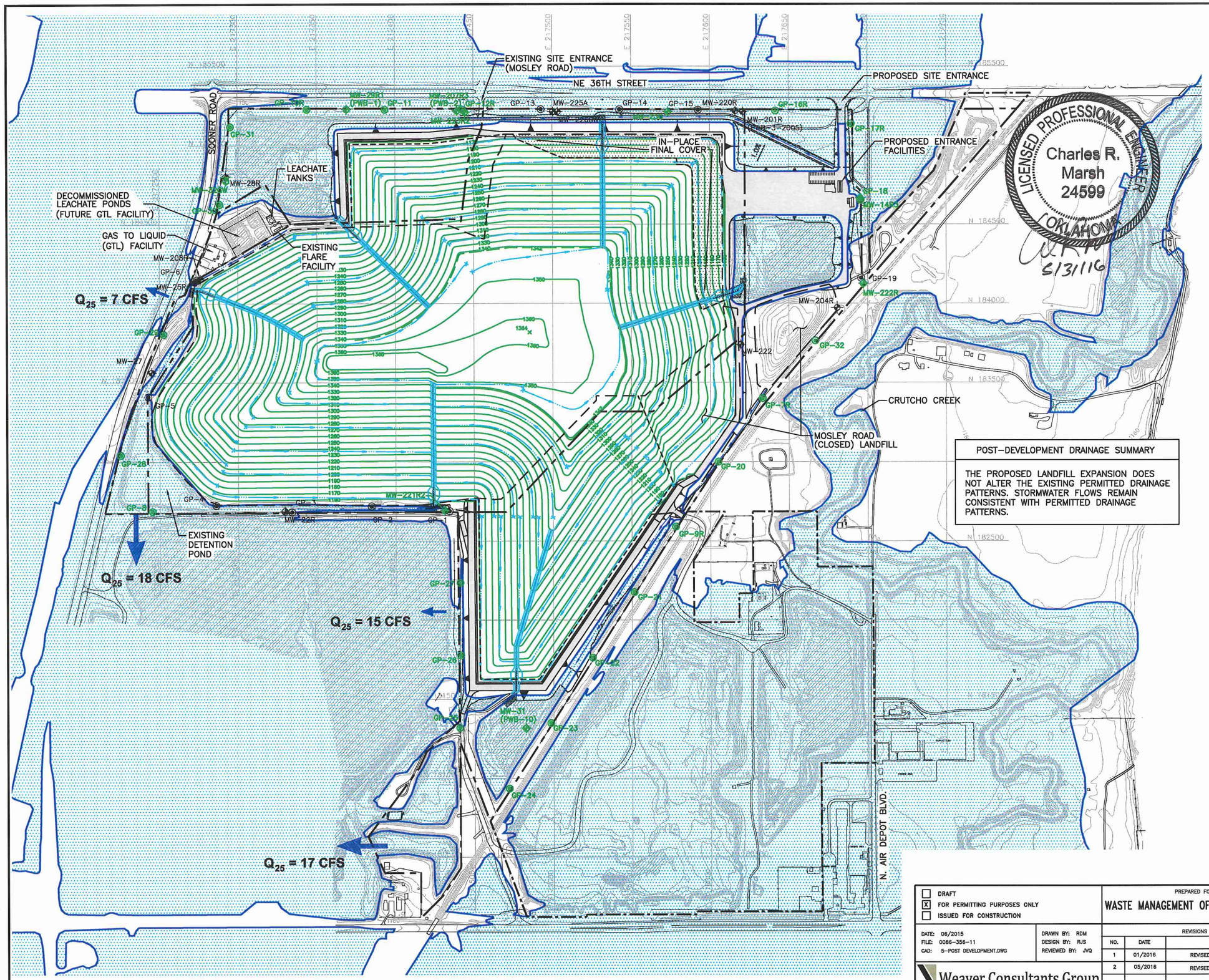

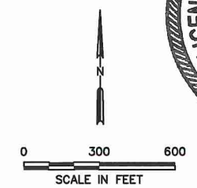

5/31/16

5/31/16

0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- 1280 — PROPOSED FINAL COVER CONTOUR
- PROPOSED DRAINAGE CHANNEL
- PROPOSED DRAINAGE SWALE
- PROPOSED DRAINAGE CHUTE
- IN-PLACE FINAL COVER
- MW-27 — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW-31 — PROPOSED GROUNDWATER MONITORING WELL
- GP-15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP-18 — PROPOSED LANDFILL GAS PROBE
- 100-YEAR FLOODPLAIN
- SHEET FLOW DISCHARGE LOCATION
- CHANNELIZED FLOW DISCHARGE LOCATION

POST-DEVELOPMENT DRAINAGE SUMMARY

THE PROPOSED LANDFILL EXPANSION DOES NOT ALTER THE EXISTING PERMITTED DRAINAGE PATTERNS. STORMWATER FLOWS REMAIN CONSISTENT WITH PERMITTED DRAINAGE PATTERNS.

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
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4. A WASTE-FREE BUFFER ZONE OF AT LEAST 100-FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY FOR THE LANDFILL EXPANSION AREA INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. IN-PLACE FINAL COVER LIMITS REPRODUCED FROM SOIL VERIFICATION SURVEY PREPARED BY LEMKE LAND SURVEYING, INC. DATED JUNE 2013.
6. 100-YEAR FLOODPLAIN REPRODUCED FROM THE POST-PROJECT CONDITION HYDRAULIC ANALYSIS INCLUDED IN THE SITE CLOMR.
7. REFER TO APPENDIX H FOR ADDITIONAL DRAINAGE INFORMATION.
8. REFER TO APPENDIX I FOR ADDITIONAL FLOODPLAIN INFORMATION.
9. REFER TO APPENDIX Z FOR ADDITIONAL WETLAND AREA INFORMATION.

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DATE: 06/2015
FILE: 0086-356-11
CAD: 5-POST DEVELOPMENT.DWG

DRAWN BY: RDM
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE-06/30/2017

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED PROBE/WELL LAYOUT
2	05/2016	REVISED PROBE/WELL LAYOUT

TIER III PERMIT MODIFICATION POST-DEVELOPMENT DRAINAGE PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 5

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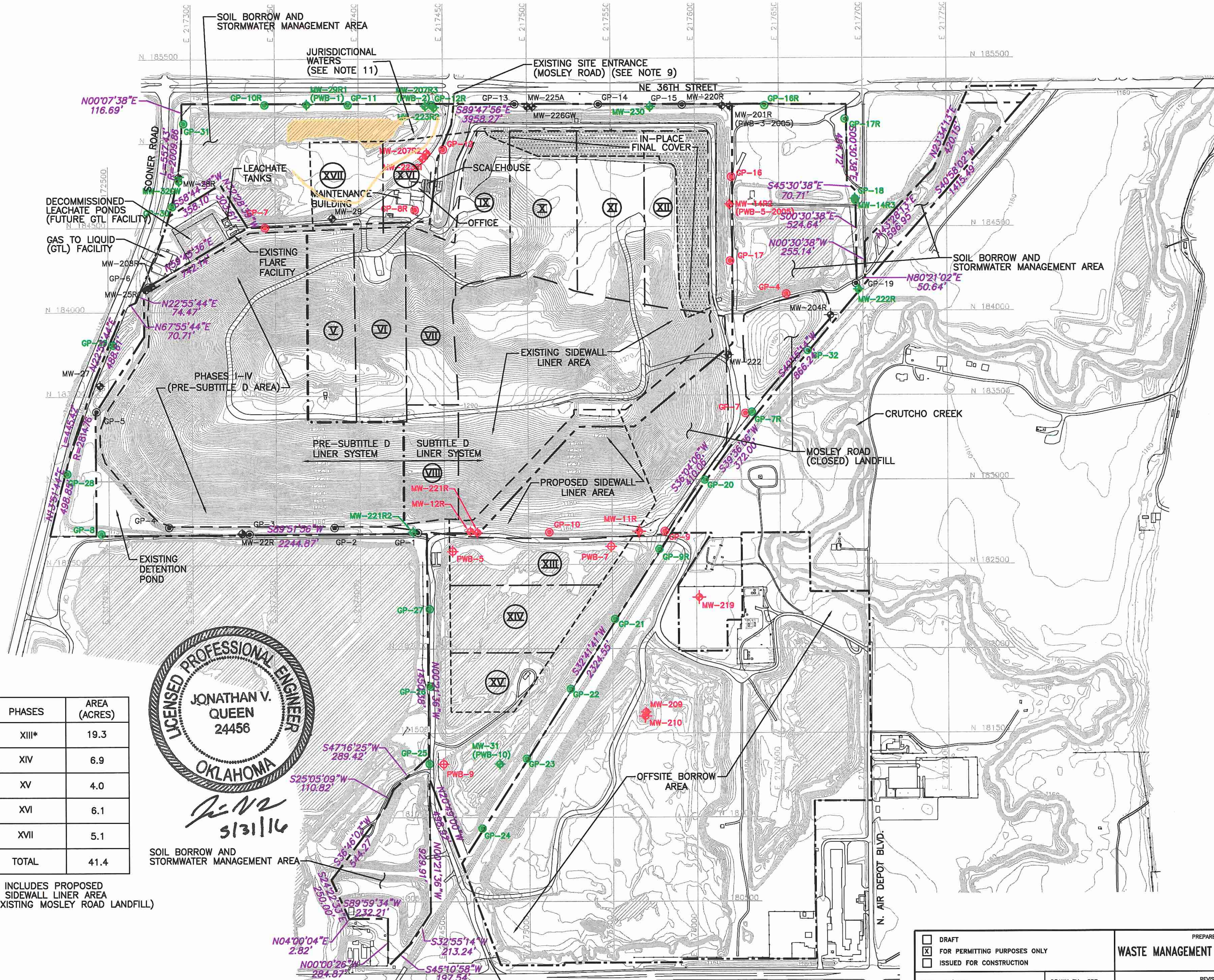

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- PHASE BOUNDARY
- (X) — PHASE DESIGNATION
- APPROXIMATE PRE-SUBTITLE D/ SUBTITLE D LINER LOCATION
- MW-27 — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW-29 — EXISTING GROUNDWATER MONITORING WELL (TO BE ABANDONED)
- MW-31 — PROPOSED GROUNDWATER MONITORING WELL
- GP-15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP-16 — EXISTING LANDFILL GAS PROBE (TO BE ADANDONED)
- GP-18 — PROPOSED LANDFILL GAS PROBE
- PWB-7 — EXISTING GROUNDWATER PIEZOMETER (TO BE ABANDONED)
- IN-PLACE FINAL COVER

0 300 600 SCALE IN FEET

PHASES	AREA (ACRES)
XIII*	19.3
XIV	6.9
XV	4.0
XVI	6.1
XVII	5.1
TOTAL	41.4

* INCLUDES PROPOSED SIDEWALL LINER AREA (OVER EXISTING MOSLEY ROAD LANDFILL)

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. A WASTE-FREE BUFFER ZONE OF AT LEAST 100-FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY FOR THE LANDFILL EXPANSION AREA INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. IN-PLACE FINAL COVER AREA REPRODUCED FROM LEMKE LAND SURVEYING, INC. VERIFICATION SURVEY DATED JULY 2013 (FINAL COVER AREA 1).
6. REFER TO APPENDIX H FOR ADDITIONAL DRAINAGE INFORMATION.
7. EASEMENT RELATED INFORMATION IS DISCUSSED IN SECTION 2.3 IN APPENDIX B-3.
8. AVAILABLE SURFACE AND TOP OF CASING ELEVATIONS ARE PROVIDED IN APPENDIX E AND APPENDIX G-3.
9. THE LANDFILL AREA IS CONTROLLED BY A PERIMETER FENCE, NATURAL BARRIERS, AND/OR GATES. PUBLIC ACCESS CONTROL IS DISCUSSED IN SECTION 8.2 PUBLIC ACCESS CONTROL.
10. UTILITY/TRANSMISSION LINES ARE DISCUSSED IN SECTION 2.13 UTILITY/TRANSMISSION LINES.
11. WMO HAS A PENDING SECTION 404 INDIVIDUAL PERMIT CURRENTLY UNDER REVIEW WITH THE USACE TO DEVELOP THE NORTHERN EXPANSION AREA. THE NORTHERN EXPANSION AREA WILL NOT BE DEVELOPED UNTIL THE SECTION 404 INDIVIDUAL PERMIT IS APPROVED BY THE USACE.

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: 6-SITE PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE-06/30/2017

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1,2	01/2016	ADDED BORROW AREAS, NOTES 9 & 10
3	01/2016	REVISED PROBE/WELL LAYOUT
4	05/2016	ADD USACE AREA & NOTE 11
5	05/2016	REVISED PROBE/WELL LAYOUT

TIER III PERMIT MODIFICATION SITE MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 6

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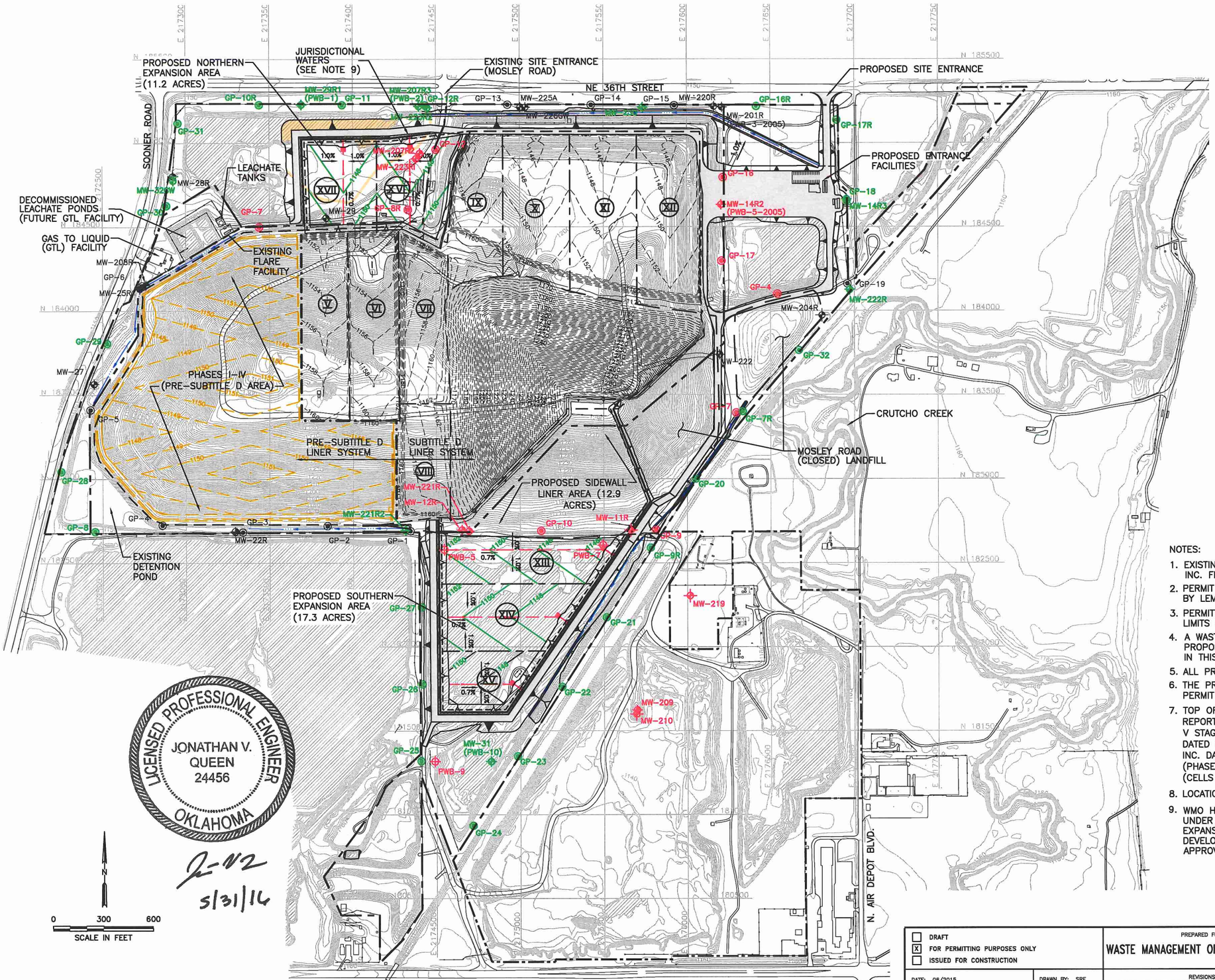

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PHASE BOUNDARY
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- 1150 — PROPOSED EXCAVATION CONTOUR
- 1150 — APPROXIMATE PRE-SUBTITLE D CONTOUR (SEE NOTE 6)
- 1240 — TOP OF CLAY AS-BUILT CONTOUR (SEE NOTE 7)
- LEACHATE COLLECTION PIPE
- LCS SUMP
- LEACHATE CLEANOUT RISER
- PROPOSED DRAINAGE CHANNEL
- APPROXIMATE PRE-SUBTITLE D/ SUBTITLE D LINER LOCATION
- X — PHASE DESIGNATION
- MW-27 — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW-29 — EXISTING GROUNDWATER MONITORING WELL (TO BE ABANDONED)
- MW-31 — PROPOSED GROUNDWATER MONITORING WELL
- GP-15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP-16 — EXISTING LANDFILL GAS PROBE (TO BE ADANDONED)
- GP-18 — PROPOSED LANDFILL GAS PROBE
- PWB-7 — EXISTING GROUNDWATER PIEZOMETER (TO BE ABANDONED)

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
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4. A WASTE-FREE BUFFER ZONE OF AT LEAST 100-FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY FOR THE LANDFILL EXPANSION AREA INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. ALL PROPOSED EXCAVATION SIDESLOPES ARE 3(HORIZONTAL):1(VERTICAL).
6. THE PRE-SUBTITLE D GRADES WERE REPRODUCED FROM THE LATERAL EXPANSION PERMIT APPLICATION REVISED FEBRUARY 2002 BY CARDINAL ENGINEERING INC.
7. TOP OF CLAY AS-BUILT CONTOURS WERE REPRODUCED FROM THE VERIFICATION REPORTS PREPARED BY: GERALD L. McGARVIN, L.S. DATED JUNE 1994 (PHASE V STAGE I), OCTOBER 1995 (PHASE V STAGE I), RONALD A. LARVARNAY RPLS DATED SEPTEMBER 1998 (PHASE V, STAGE II), AND LEMKE LAND SURVEYING, INC. DATED DECEMBER 2001 (PHASE IV STAGES II AND III), JANUARY 2004 (PHASE VIII), SEPTEMBER 2004 (PHASE VII), MAY 2009 (PHASE X), JULY 2011 (CELLS 11B AND 12B), NOVEMBER 2012 (CELLS 9B AND 10B).
8. LOCATION AND DEPTH OF BOREHOLES CAN BE FOUND IN APPENDIX E.
9. WMO HAS A PENDING SECTION 404 INDIVIDUAL PERMIT CURRENTLY UNDER REVIEW WITH THE USACE TO DEVELOP THE NORTHERN EXPANSION AREA. THE NORTHERN EXPANSION AREA WILL NOT BE DEVELOPED UNTIL THE SECTION 404 INDIVIDUAL PERMIT IS APPROVED BY THE USACE.

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DATE: 06/2015
FILE: 0086-356-11
CAD: 7-EXCAVATION PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE-06/30/2017

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED PROBE/WELL LAYOUT
2	05/2016	REVISED PROBE/WELL LAYOUT
3	05/2016	ADD USACE AREA AND NOTE 9

TIER III PERMIT MODIFICATION EXCAVATION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 7

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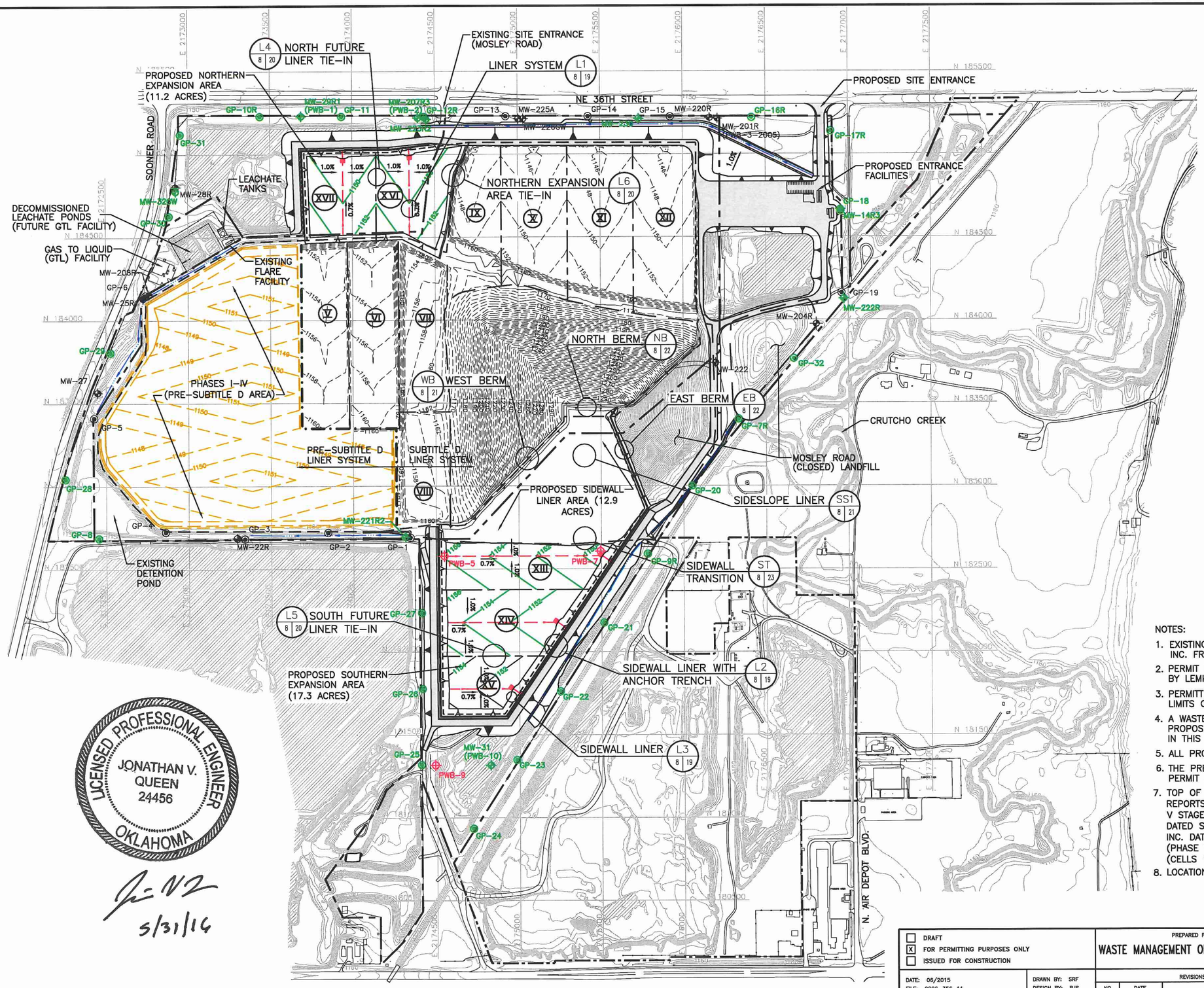
O:\0086\356\EXPANSION 2013\PERMIT DRAWINGS\7-EXCAVATION PLAN.dwg, rmorris, 1:2



0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PHASE BOUNDARY
- N 183000 — STATE PLANE GRID COORDINATE
- 1190 — EXISTING CONTOUR
- 1152 — PROPOSED TOP OF LINER CONTOUR
- 1150 — APPROXIMATE PRE-SUBTITLE D CONTOUR (SEE NOTE 6)
- 1240 — TOP OF CLAY AS-BUILT CONTOUR (SEE NOTE 7)
- LEACHATE COLLECTION PIPE
- LCS SUMP
- LEACHATE CLEANOUT RISER
- PROPOSED DRAINAGE CHANNEL
- APPROXIMATE PRE-SUBTITLE D/ SUBTITLE D LINER LOCATION
- X — PHASE DESIGNATION
- MW-27 — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW-31 — PROPOSED GROUNDWATER MONITORING WELL
- GP-15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP-18 — PROPOSED LANDFILL GAS PROBE

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
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8. LOCATION AND DEPTH OF BOREHOLES CAN BE FOUND IN APPENDIX E.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

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DATE: 06/2015
FILE: 0086-356-11
CAD: 8-TOP OF LINER PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE-06/30/2017

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED PROBE/WELL LAYOUT
2	05/2016	REVISED PROBE/WELL LAYOUT

TIER III PERMIT MODIFICATION TOP OF LINER PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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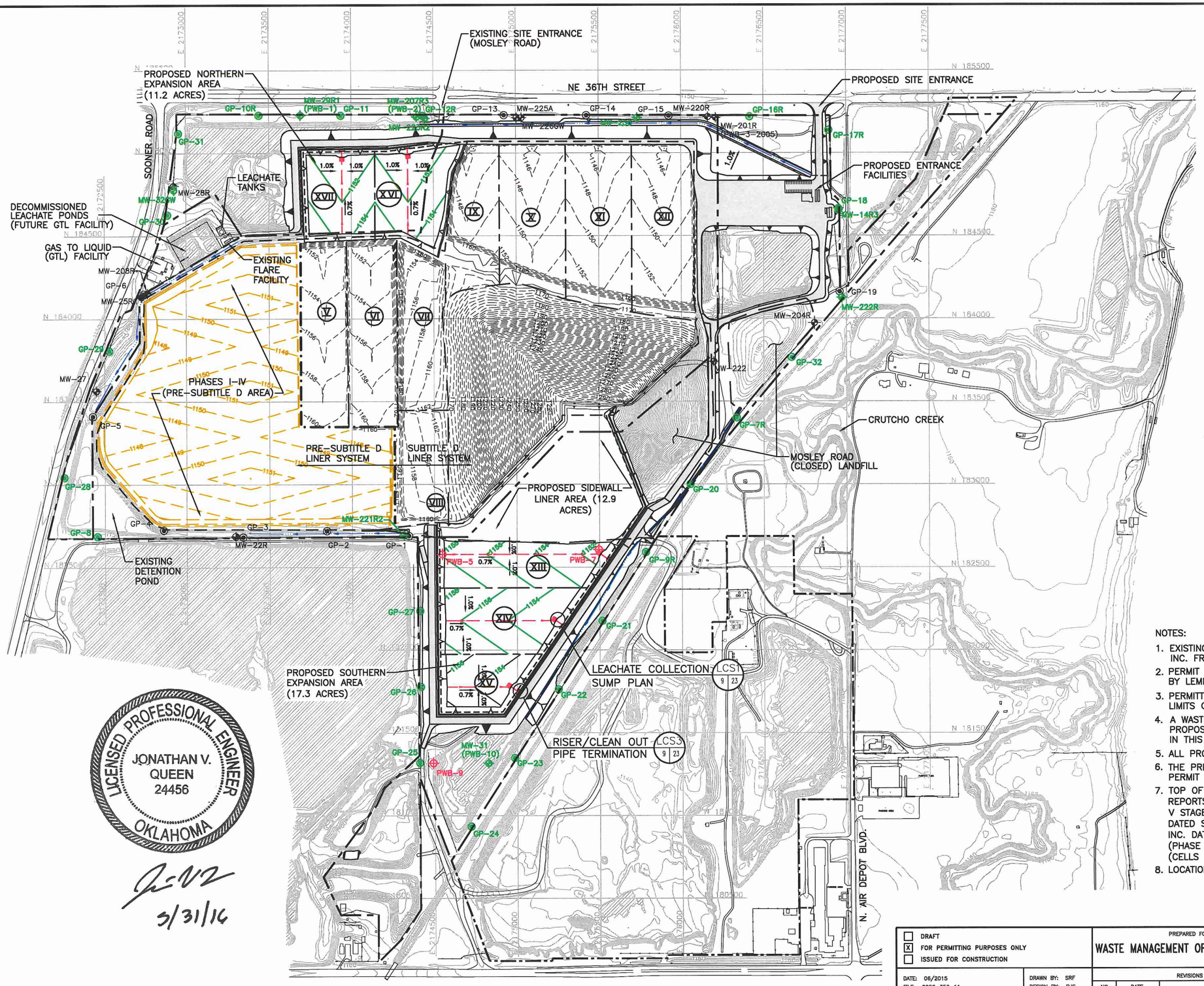

0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PHASE BOUNDARY
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- 1152 — PROPOSED TOP OF PROTECTIVE COVER CONTOUR
- 1150 — APPROXIMATE PRE–SUBTITLE D CONTOUR (SEE NOTE 6)
- 1240 — TOP OF CLAY AS–BUILT CONTOUR (SEE NOTE 7)
- LEACHATE COLLECTION PIPE
- LCS SUMP
- LEACHATE CLEANOUT RISER
- PROPOSED DRAINAGE CHANNEL
- APPROXIMATE PRE–SUBTITLE D/ SUBTITLE D LINER LOCATION
- (X) — PHASE DESIGNATION
- MW–27 — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW–31 — PROPOSED GROUNDWATER MONITORING WELL
- GP–15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP–18 — PROPOSED LANDFILL GAS PROBE

NOTES:

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8. LOCATION AND DEPTH OF BOREHOLES CAN BE FOUND IN APPENDIX E.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

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DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE–06/30/2017

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED CONTOUR ELEVATIONS
2	01/2016	REVISED PROBE/WELL LAYOUT
3	05/2016	REVISED PROBE/WELL LAYOUT

TIER III PERMIT MODIFICATION TOP OF PROTECTIVE COVER PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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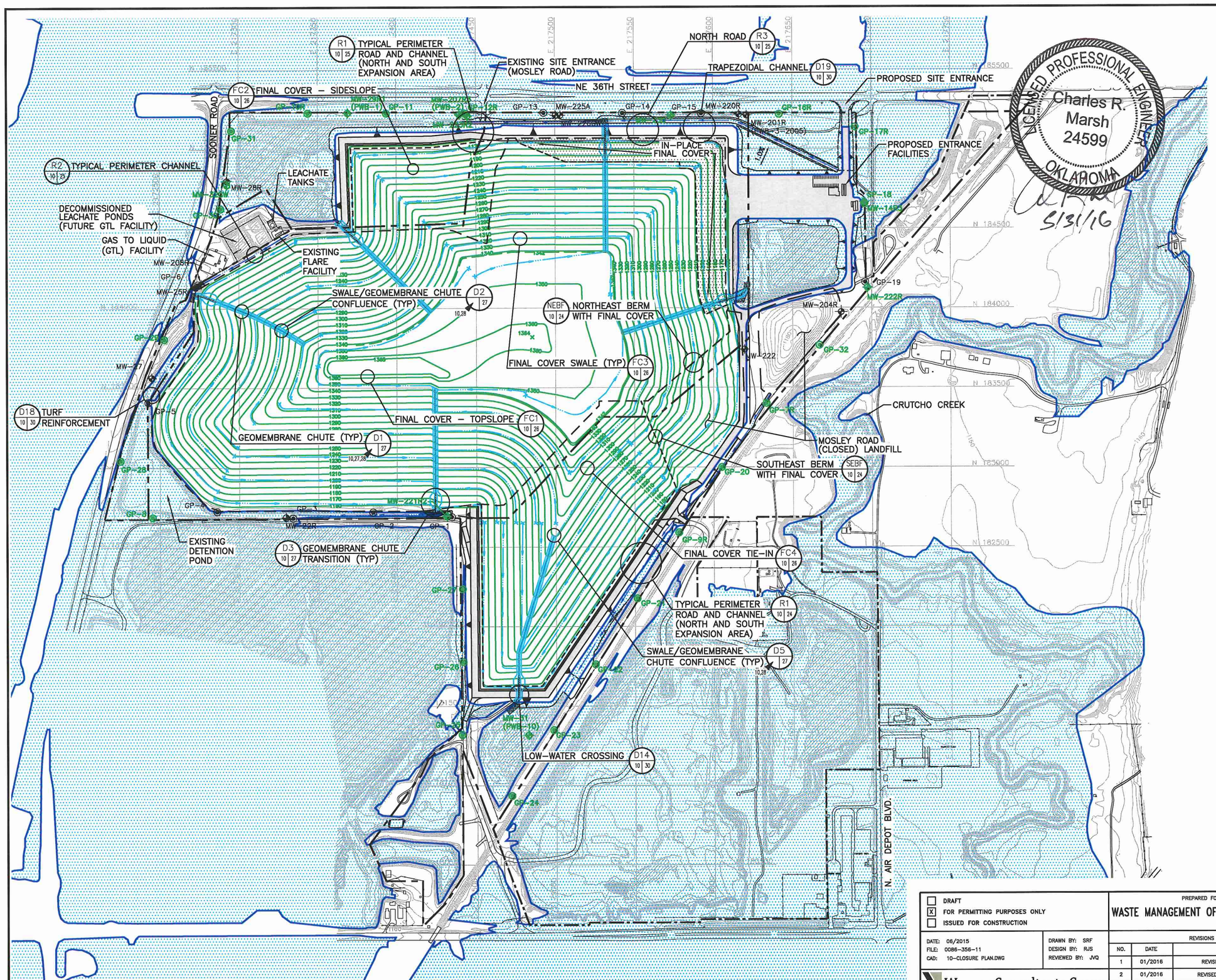

5/31/16

0 300 600
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- 1280 — PROPOSED FINAL COVER CONTOUR
- PROPOSED DRAINAGE CHANNEL
- PROPOSED DRAINAGE SWALE
- PROPOSED DRAINAGE CHUTE
- IN-PLACE FINAL COVER
- MW-27 — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW-31 — PROPOSED GROUNDWATER MONITORING WELL
- GP-15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP-18 — PROPOSED LANDFILL GAS PROBE
- 100-YEAR FLOODPLAIN

NOTES:

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4. LEACHATE REMOVAL LOCATIONS ARE SHOWN ON DRAWINGS 6–9. ADDITIONAL LEACHATE HANDLING INFORMATION IS INCLUDED IN APPENDIX L.
5. A AESTHETIC ENHANCEMENT PLAN IS SHOWN ON FIGURE 14.
6. 100–YEAR FLOODPLAIN REPRODUCED FROM THE POST–PROJECT CONDITION HYDRAULIC ANALYSIS INCLUDED IN THE SITE CLOMR.
7. IN–PLACE FINAL COVER LIMITS REPRODUCED FROM SOIL VERIFICATION SURVEY PREPARED BY LEMKE LAND SURVEYING, INC. DATED JUNE 2013.

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CAD: 10–CLOSURE PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE–06/30/2017

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED DETAIL CALLOUT
2	01/2016	REVISED PROBE/WELL LAYOUT
3	05/2016	REVISED PROBE/WELL LAYOUT

TIER III PERMIT MODIFICATION CLOSURE CONTOUR AND STORMWATER MANAGEMENT PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 10

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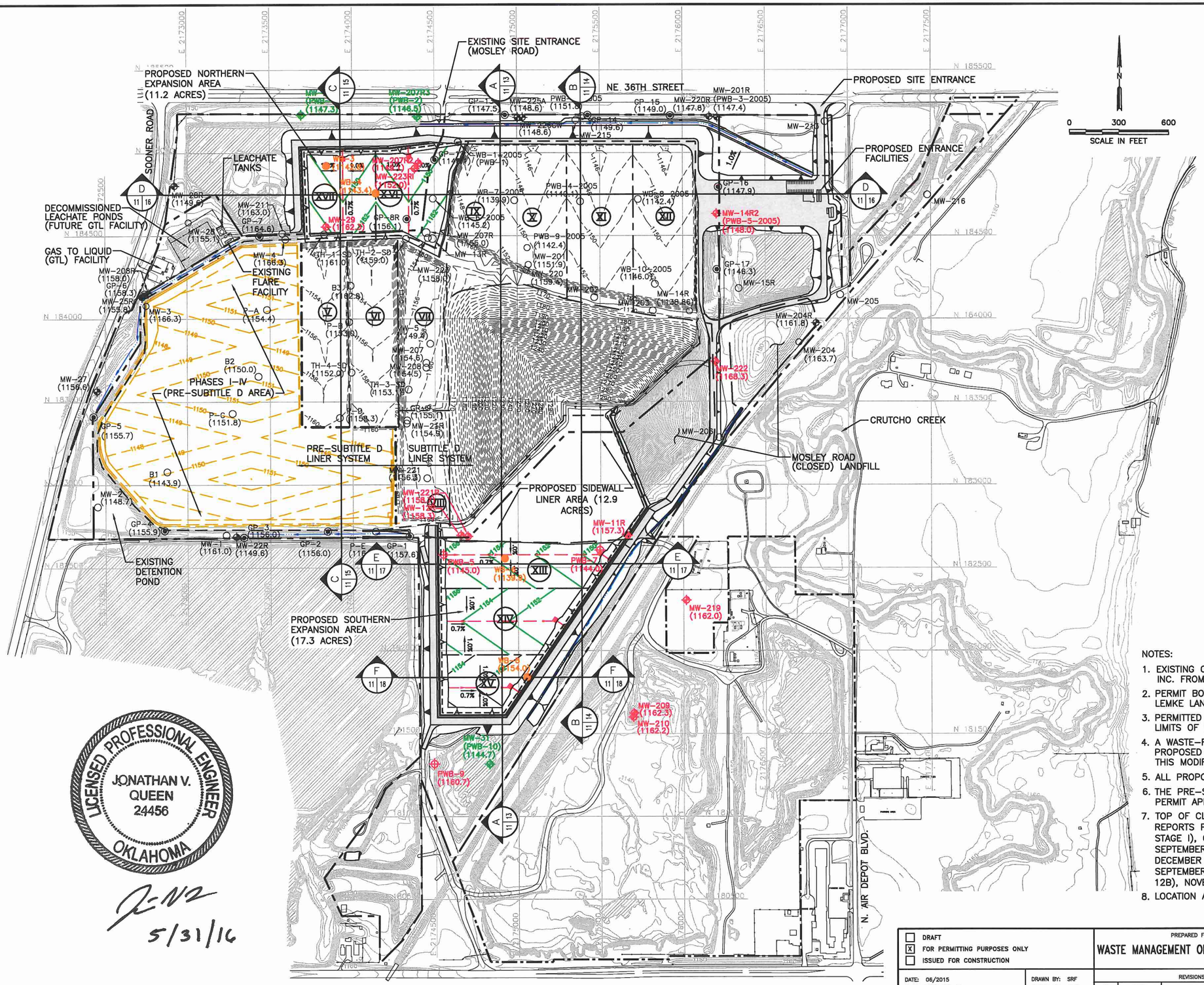

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PHASE BOUNDARY
- STATE PLANE GRID COORDINATE
- EXISTING CONTOUR
- PROPOSED TOP OF LINER CONTOUR
- APPROXIMATE PRE–SUBTITLE D CONTOUR (SEE NOTE 6)
- TOP OF CLAY AS–BUILT CONTOUR (SEE NOTE 7)
- LEACHATE COLLECTION PIPE
- LCS SUMP
- LEACHATE CLEANOUT RISER
- PROPOSED DRAINAGE CHANNEL
- APPROXIMATE PRE–SUBTITLE D/ SUBTITLE D LINER LOCATION
- PHASE DESIGNATION
- MW–27 (1156.6) — EXISTING GROUNDWATER MONITORING WELL (SURFACE ELEVATION IN FT–MSL)
- GP–15 (1149.0) — EXISTING LANDFILL GAS PROBE (SURFACE ELEVATION IN FT–MSL)
- B1 (1143.9) — BOREHOLE/GROUNDWATER WELL/GAS PROBE PREVIOUSLY PLUGGED OR ABANDONED (SURFACE ELEVATION IN FT–MSL)
- MW–207R2 (1149.1) — EXISTING GROUNDWATER MONITORING WELL (TO BE ABANDONED) (APPROXIMATE SURFACE ELEVATION IN FT–MSL)
- GP–16 (1147.9) — EXISTING LANDFILL GAS PROBE (TO BE ABANDONED) (APPROXIMATE SURFACE ELEVATION IN FT–MSL)
- PWB–7 (1141) — 2014 SOIL BORING AND PIEZOMETER LOCATION (TO BE ABANDONED) (APPROXIMATE SURFACE ELEVATION IN FT–MSL)
- WB–6 (1139.9) — 2014 SOIL BORING LOCATION (ABANDONED) (APPROXIMATE SURFACE ELEVATION IN FT–MSL)
- MW–31 (PWB–10) (1144.7) — 2014 SOIL BORING, PIEZOMETER, AND PROPOSED GROUNDWATER WELL LOCATION (APPROXIMATE SURFACE ELEVATION IN FT–MSL)

NOTES:

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8. LOCATION AND DEPTH OF BOREHOLES CAN BE FOUND IN APPENDIX E.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

5/31/16

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

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DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE–06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION
1	05/2016	REVISED WELL LAYOUT

TIER III PERMIT MODIFICATION CROSS–SECTION LOCATION MAP–OPEN PHASES

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 11

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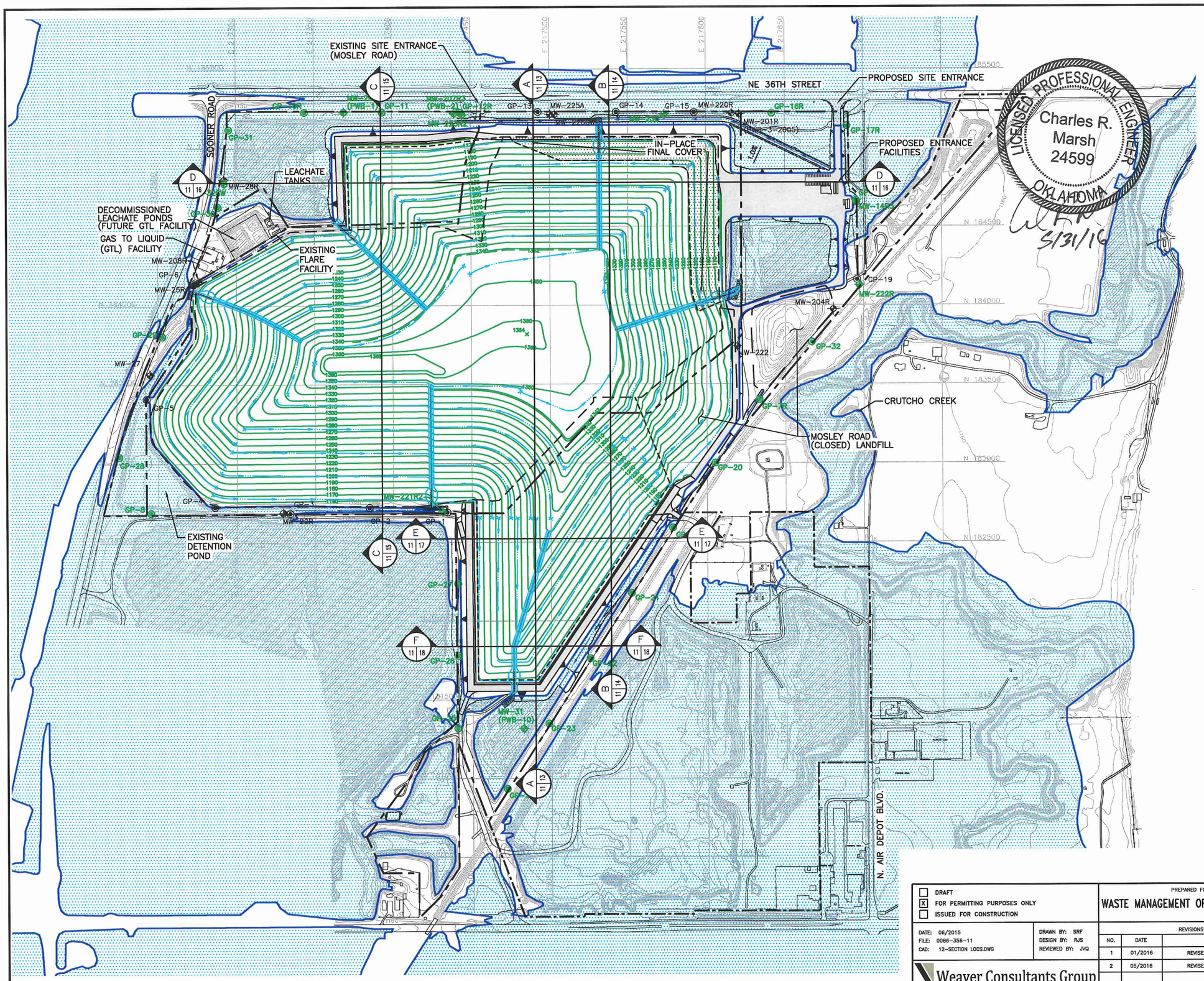
O:\0086\356\EXPANSION 2013\PERMIT DRAWINGS\11-EXCAVATION SECTION LOCATIONS.dwg, rmorris, 1:2



LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

LICENSED PROFESSIONAL ENGINEER
Charles R. Marsh
24599
OKLAHOMA

5/31/16

5/31/16

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- 1280 — PROPOSED FINAL COVER CONTOUR
- PROPOSED DRAINAGE CHANNEL
- PROPOSED DRAINAGE SWALE
- PROPOSED DRAINAGE CHUTE
- IN-PLACE FINAL COVER
- MW-27 — EXISTING GROUNDWATER MONITORING WELL (TO REMAIN)
- MW-31 — PROPOSED GROUNDWATER MONITORING WELL
- GP-15 — EXISTING LANDFILL GAS PROBE (TO REMAIN)
- GP-18 — PROPOSED LANDFILL GAS PROBE
- 100-YEAR FLOODPLAIN

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1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. LEACHATE REMOVAL LOCATIONS ARE SHOWN ON DRAWINGS 6-9. ADDITIONAL LEACHATE HANDLING INFORMATION IS INCLUDED IN APPENDIX L.
5. A AESTHETIC ENHANCEMENT PLAN IS SHOWN ON FIGURE 14.
6. 100-YEAR FLOODPLAIN REPRODUCED FROM THE POST-PROJECT CONDITION HYDRAULIC ANALYSIS INCLUDED IN THE SITE CLOMR.
7. IN-PLACE FINAL COVER LIMITS REPRODUCED FROM SOIL VERIFICATION SURVEY PREPARED BY LEMKE LAND SURVEYING, INC. DATED JUNE 2013.

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REVIEWED BY: JVQ

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REVISIONS

NO.	DATE	DESCRIPTION
1	01/2016	REVISED PROBE/WELL LAYOUT
2	05/2016	REVISED PROBE/WELL LAYOUT

TIER III PERMIT MODIFICATION CROSS-SECTION LOCATION MAP-OPEN PHASES

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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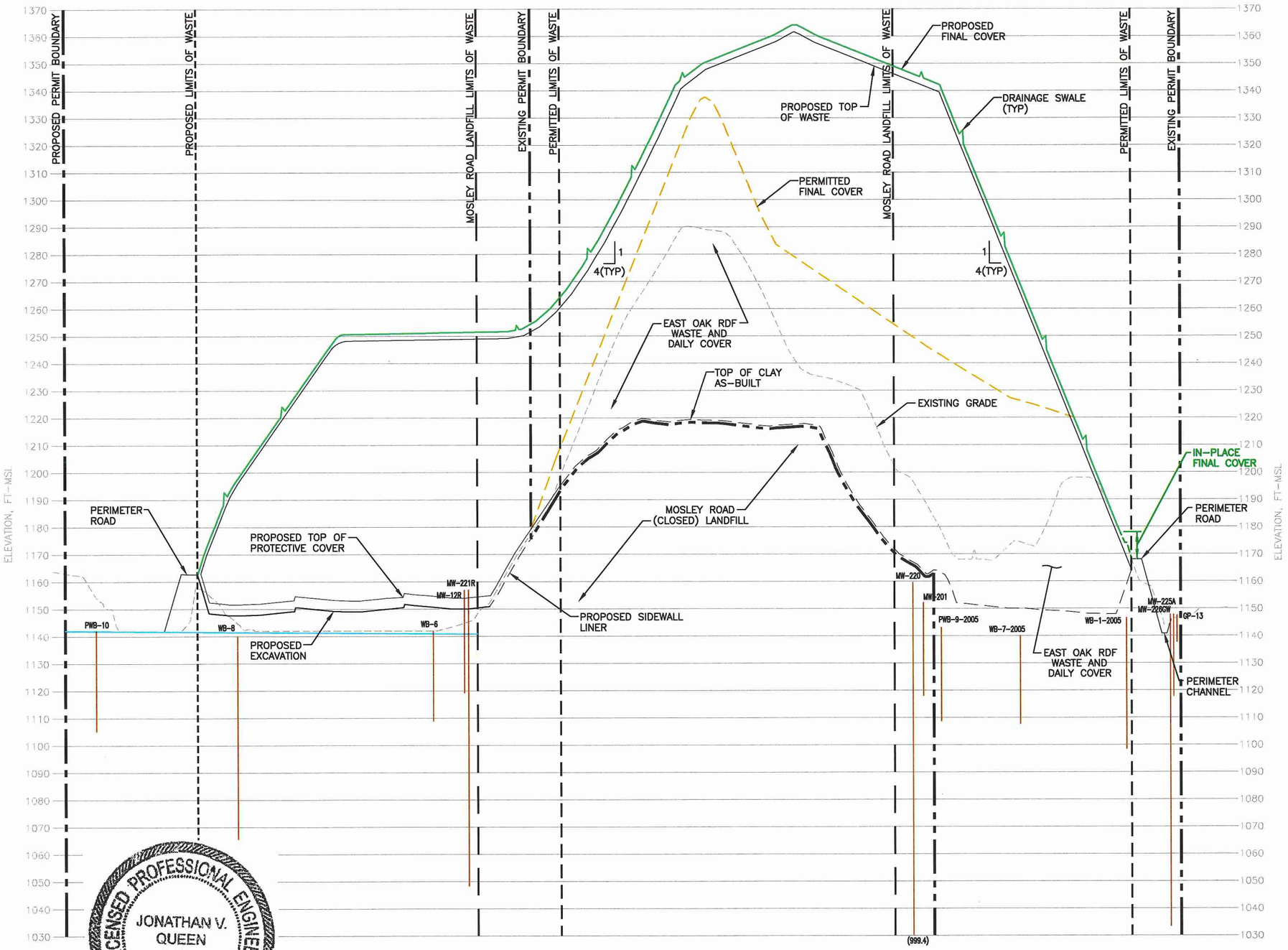
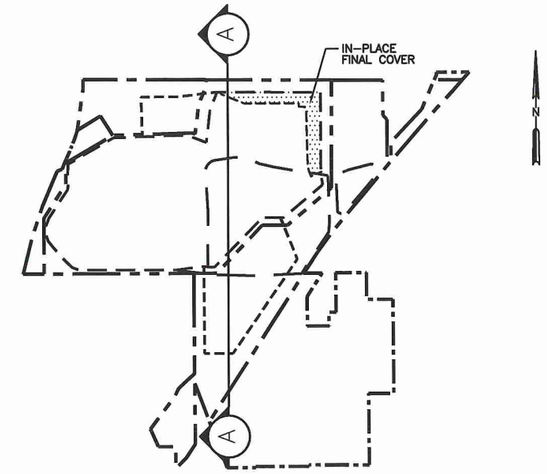
G:\0086\356\EXPANSION 2013\PERMIT DRAWINGS\12-FINAL COVER SECTION LOCATIONS.dwg, rmorris, 1:2



SECTION A
(EXAGGERATED VERTICAL SCALE)
A 13
11,12

0 200 400
HORIZONTAL SCALE IN FEET

0 20 40
VERTICAL SCALE IN FEET



KEY MAP
(NTS)

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PROPOSED TOP OF FINAL COVER
- IN-PLACE FINAL COVER
- PERMITTED FINAL COVER
- EXISTING GRADE
- TOP OF CLAY AS-BUILT CONTOUR
- HIGHEST MEASURED GROUNDWATER

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. REFER TO DRAWINGS 19 THROUGH 22 FOR LINER SYSTEM DETAILS.
3. REFER TO DRAWING 23 FOR LEACHATE COLLECTION SYSTEM DETAILS.
4. REFER TO DRAWINGS 24 AND 25 FOR PERIMETER ROAD/BERM AND CHANNEL DETAILS.
5. REFER TO DRAWING 26 FOR FINAL COVER DETAILS.
6. POST DEVELOPMENT AND TOP OF LINER GRADES ARE SHOWN ON DRAWINGS 11 AND 12.
7. ADDITIONAL BORING AND GROUNDWATER INFORMATION IS PROVIDED IN APPENDIX E.
8. A PORTION OF THE EXISTING PERMIT BOUNDARY IS LOCATED BELOW THE EXISTING SIDEWALL LINER.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

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TIER III PERMIT MODIFICATION
CROSS-SECTION A

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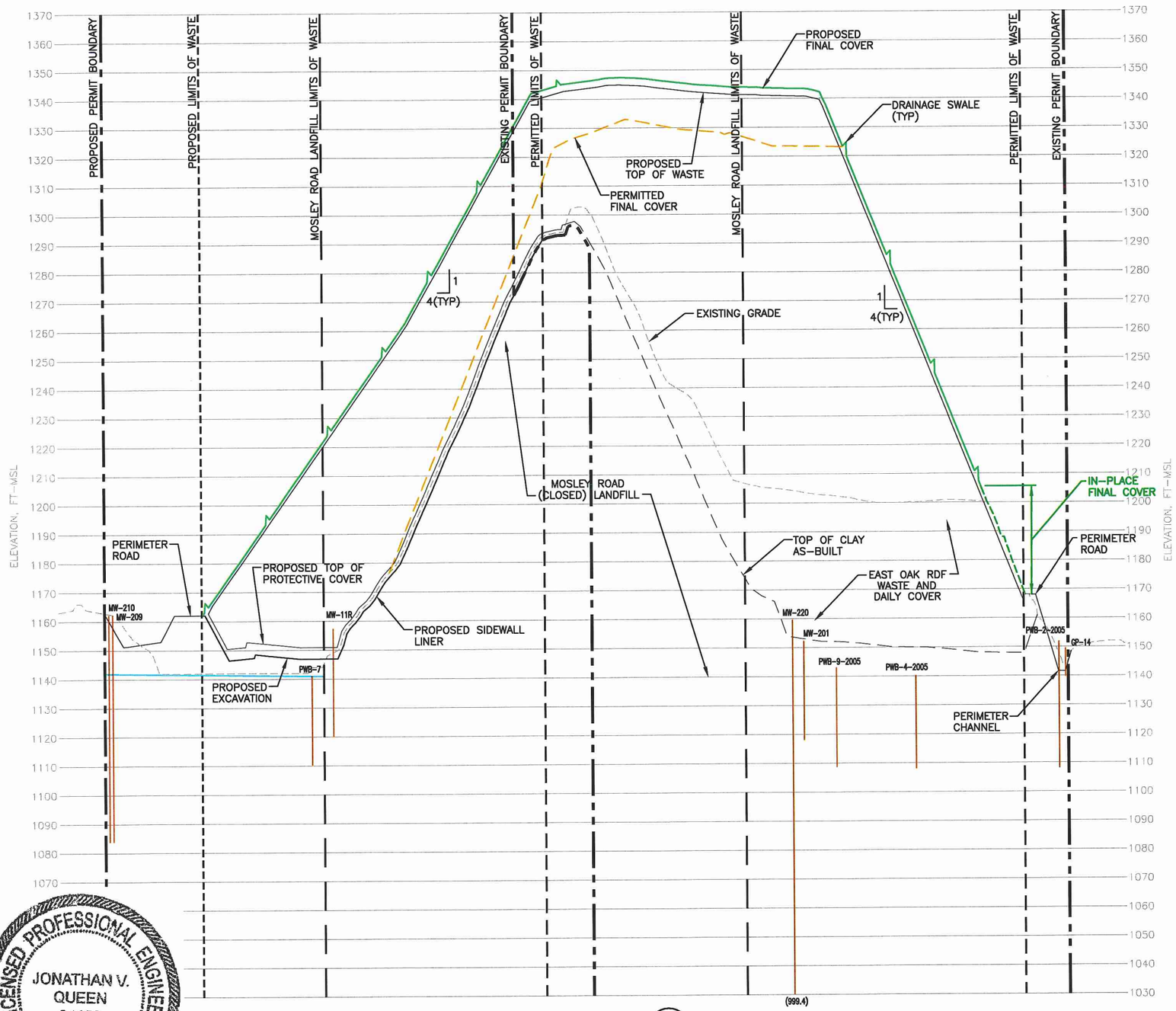
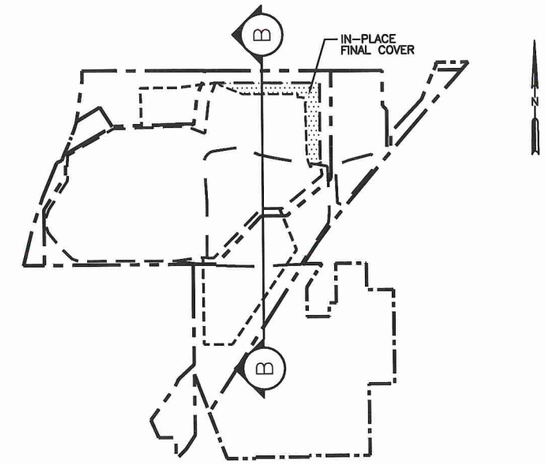


SECTION B
(EXAGGERATED VERTICAL SCALE)
B / 14 / 11,12

0 200 400
HORIZONTAL SCALE IN FEET

0 20 40
VERTICAL SCALE IN FEET



KEY MAP
(NTS)

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PROPOSED TOP OF FINAL COVER
- IN-PLACE FINAL COVER
- PERMITTED FINAL COVER
- EXISTING GRADE
- TOP OF CLAY AS-BUILT CONTOUR
- HIGHEST MEASURED GROUNDWATER

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. REFER TO DRAWINGS 19 THROUGH 22 FOR LINER SYSTEM DETAILS.
3. REFER TO DRAWING 23 FOR LEACHATE COLLECTION SYSTEM DETAILS.
4. REFER TO DRAWINGS 24 AND 25 FOR PERIMETER ROAD/BERM AND CHANNEL DETAILS.
5. REFER TO DRAWING 26 FOR FINAL COVER DETAILS.
6. POST DEVELOPMENT AND TOP OF LINER GRADES ARE SHOWN ON DRAWINGS 11 AND 12.
7. ADDITIONAL BORING AND GROUNDWATER INFORMATION IS PROVIDED IN APPENDIX E.
8. A PORTION OF THE EXISTING PERMIT BOUNDARY IS LOCATED BELOW THE EXISTING SIDEWALL LINER.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

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OKLAHOMA COUNTY, OKLAHOMA

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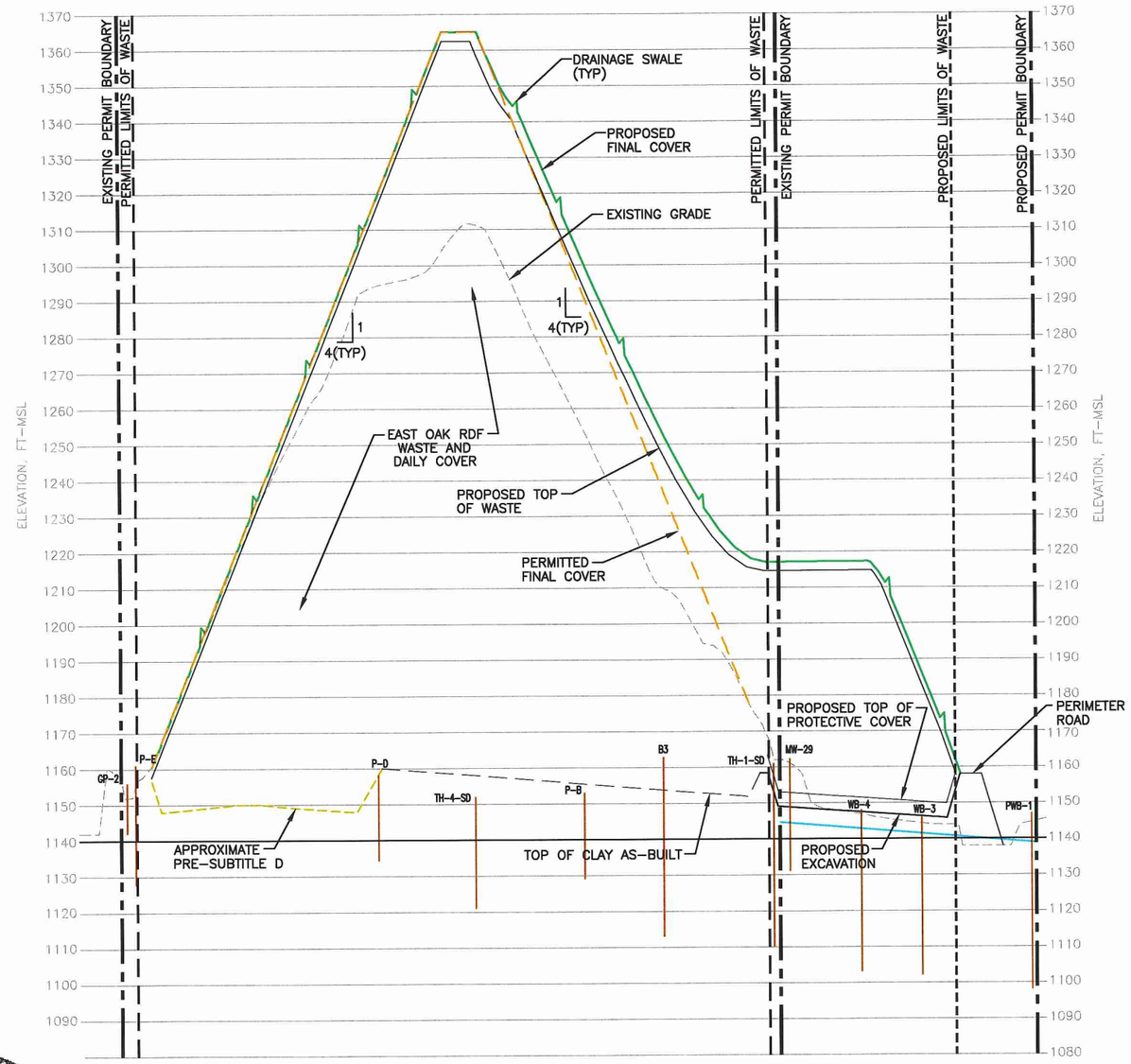
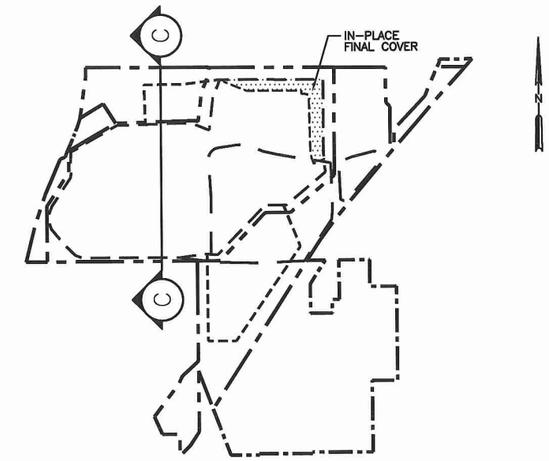


SECTION C
(EXAGGERATED VERTICAL SCALE)
C / 15
11,12

0 200 400
HORIZONTAL SCALE IN FEET

0 20 40
VERTICAL SCALE IN FEET



KEY MAP
(NTS)

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PROPOSED TOP OF FINAL COVER
- PERMITTED FINAL COVER
- EXISTING GRADE
- TOP OF CLAY AS-BUILT CONTOUR
- APPROXIMATE PRE-SUBTITLE D CONTOUR
- HIGHEST MEASURED GROUNDWATER

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. REFER TO DRAWINGS 19 THROUGH 22 FOR LINER SYSTEM DETAILS.
3. REFER TO DRAWING 23 FOR LEACHATE COLLECTION SYSTEM DETAILS.
4. REFER TO DRAWINGS 24 AND 25 FOR PERIMETER ROAD/BERM AND CHANNEL DETAILS.
5. REFER TO DRAWING 26 FOR FINAL COVER DETAILS.
6. POST DEVELOPMENT AND TOP OF LINER GRADES ARE SHOWN ON DRAWINGS 11 AND 12.
7. ADDITIONAL BORING AND GROUNDWATER INFORMATION IS PROVIDED IN APPENDIX E.
8. A PORTION OF THE EXISTING PERMIT BOUNDARY IS LOCATED BELOW THE EXISTING SIDEWALL LINER.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

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CROSS-SECTION C

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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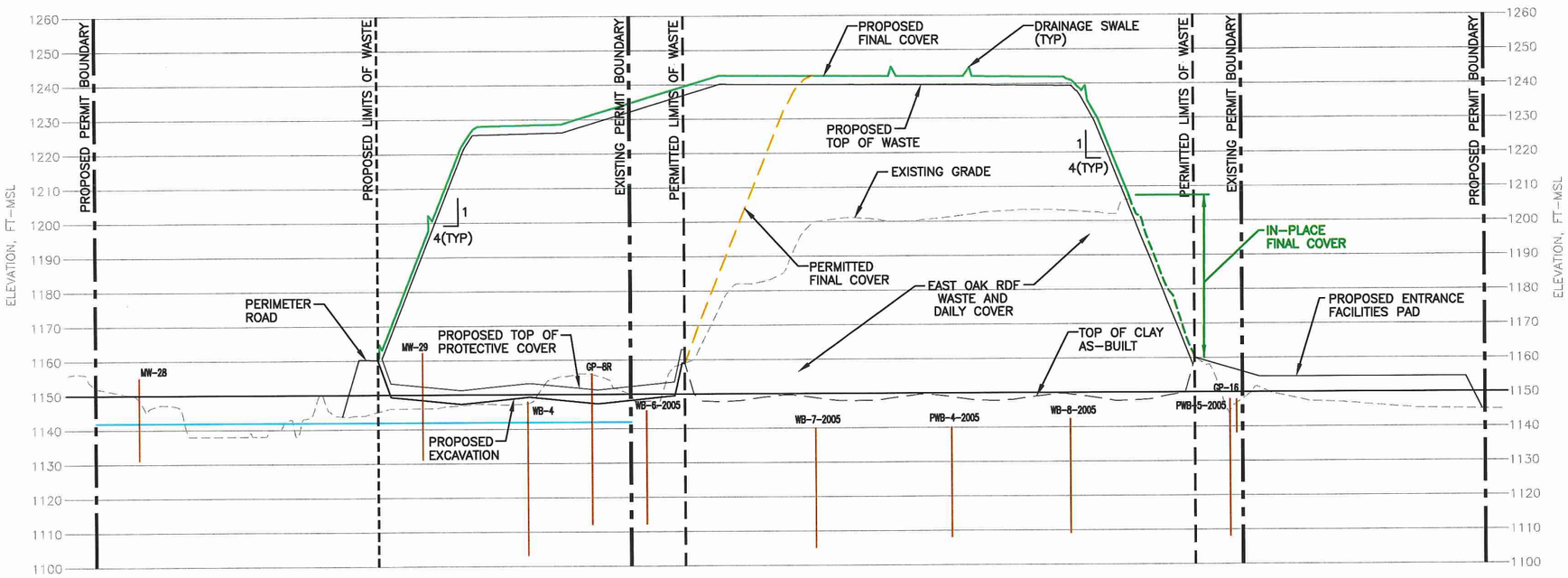
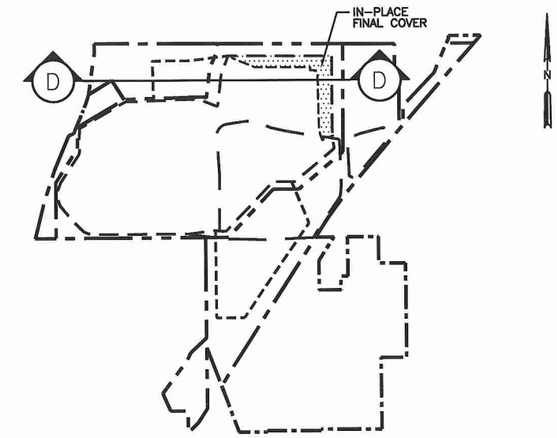


SECTION D
(EXAGGERATED VERTICAL SCALE)
D 16
11,12

0 200 400
HORIZONTAL SCALE IN FEET

0 20 40
VERTICAL SCALE IN FEET



KEY MAP
(NTS)

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PROPOSED TOP OF FINAL COVER
- IN-PLACE FINAL COVER
- PERMITTED FINAL COVER
- EXISTING GRADE
- TOP OF CLAY AS-BUILT CONTOUR
- HIGHEST MEASURED GROUNDWATER

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. REFER TO DRAWINGS 19 THROUGH 22 FOR LINER SYSTEM DETAILS.
3. REFER TO DRAWING 23 FOR LEACHATE COLLECTION SYSTEM DETAILS.
4. REFER TO DRAWINGS 24 AND 25 FOR PERIMETER ROAD/BERM AND CHANNEL DETAILS.
5. REFER TO DRAWING 26 FOR FINAL COVER DETAILS.
6. POST DEVELOPMENT AND TOP OF LINER GRADES ARE SHOWN ON DRAWINGS 11 AND 12.
7. ADDITIONAL BORING AND GROUNDWATER INFORMATION IS PROVIDED IN APPENDIX E.
8. A PORTION OF THE EXISTING PERMIT BOUNDARY IS LOCATED BELOW THE EXISTING SIDEWALL LINER.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

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OKLAHOMA COUNTY, OKLAHOMA

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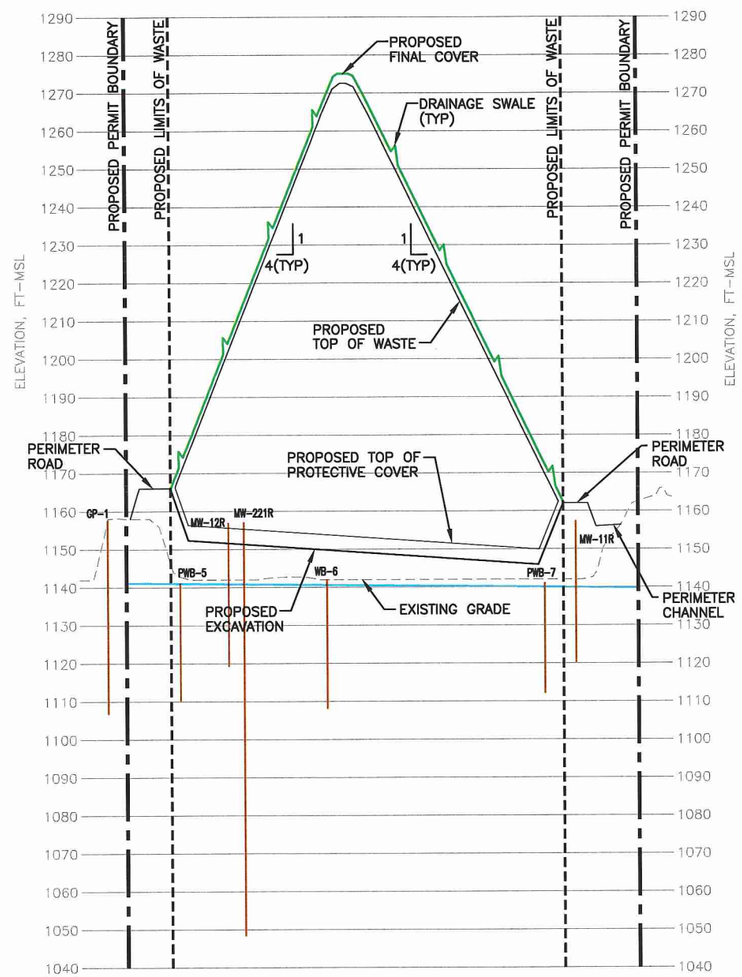
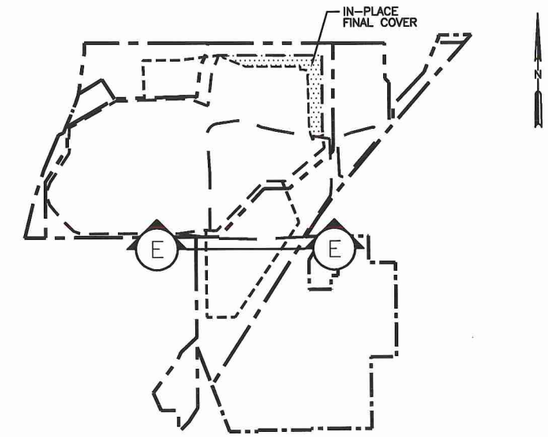


SECTION E
(EXAGGERATED VERTICAL SCALE)

E 17 11,12

0 200 400
HORIZONTAL SCALE IN FEET

0 20 40
VERTICAL SCALE IN FEET



KEY MAP
(NTS)

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PROPOSED TOP OF FINAL COVER
- EXISTING GRADE
- HIGHEST MEASURED GROUNDWATER

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. REFER TO DRAWINGS 19 THROUGH 22 FOR LINER SYSTEM DETAILS.
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4. REFER TO DRAWINGS 24 AND 25 FOR PERIMETER ROAD/BERM AND CHANNEL DETAILS.
5. REFER TO DRAWING 26 FOR FINAL COVER DETAILS.
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7. ADDITIONAL BORING AND GROUNDWATER INFORMATION IS PROVIDED IN APPENDIX E.
8. A PORTION OF THE EXISTING PERMIT BOUNDARY IS LOCATED BELOW THE EXISTING SIDEWALL LINER.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

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CROSS-SECTION E

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OKLAHOMA COUNTY, OKLAHOMA

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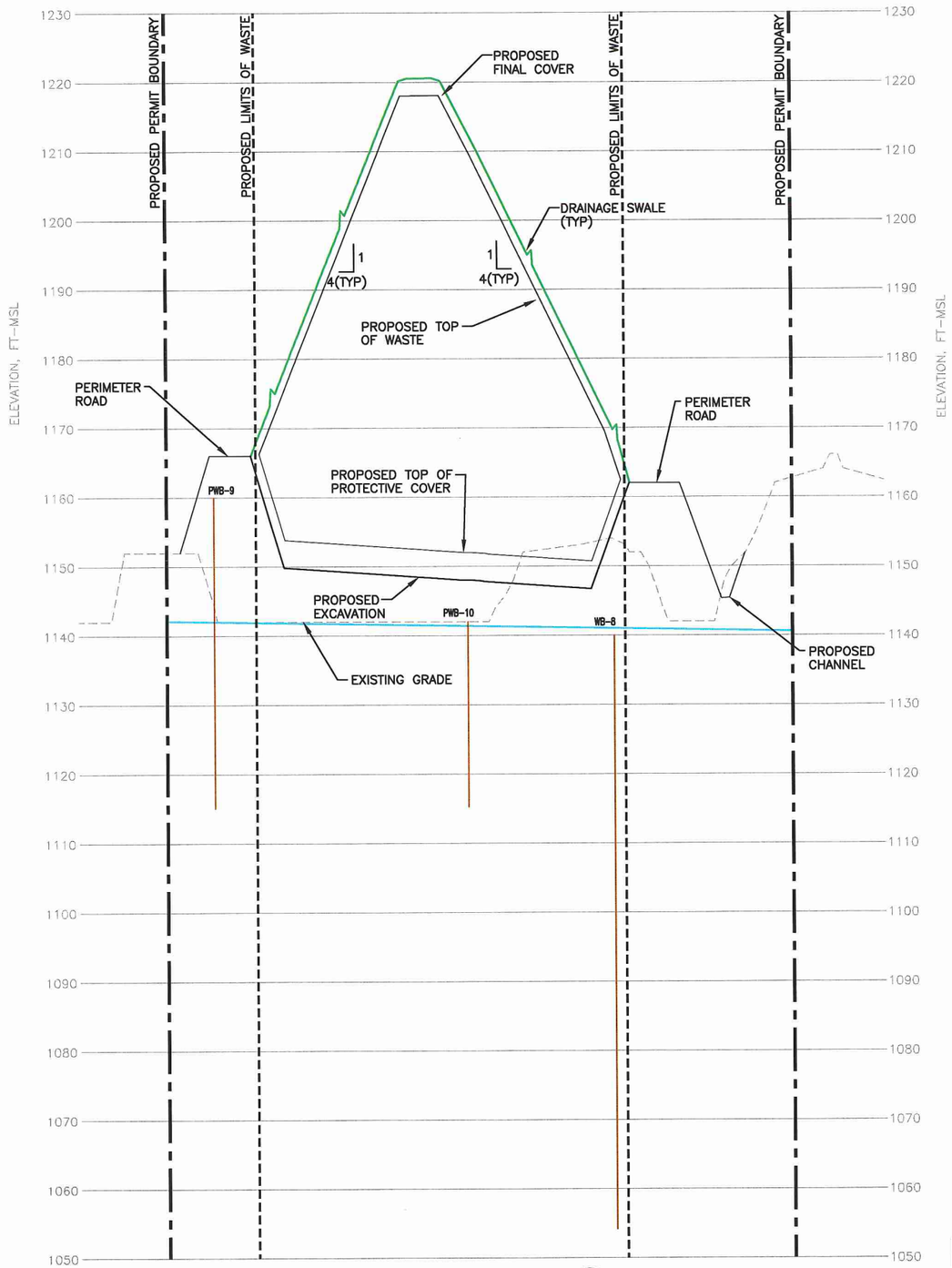
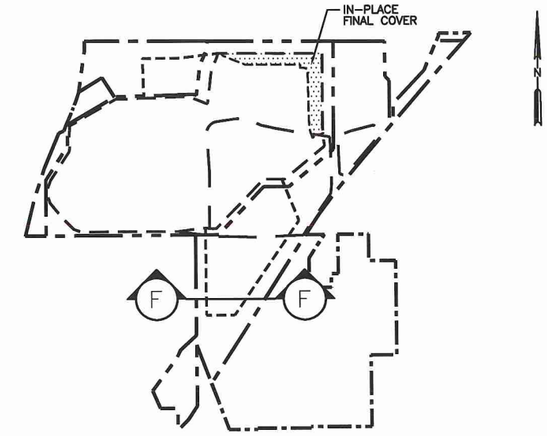


SECTION F
(EXAGGERATED VERTICAL SCALE)

F 18

0 100 200 11,12
HORIZONTAL SCALE IN FEET

0 10 20
VERTICAL SCALE IN FEET



KEY MAP
(NTS)

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PROPOSED TOP OF FINAL COVER
- EXISTING GRADE
- HIGHEST MEASURED GROUNDWATER

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. REFER TO DRAWINGS 19 THROUGH 22 FOR LINER SYSTEM DETAILS.
3. REFER TO DRAWING 23 FOR LEACHATE COLLECTION SYSTEM DETAILS.
4. REFER TO DRAWINGS 24 AND 25 FOR PERIMETER ROAD/BERM AND CHANNEL DETAILS.
5. REFER TO DRAWING 26 FOR FINAL COVER DETAILS.
6. POST DEVELOPMENT AND TOP OF LINER GRADES ARE SHOWN ON DRAWINGS 11 AND 12.
7. ADDITIONAL BORING AND GROUNDWATER INFORMATION IS PROVIDED IN APPENDIX E.
8. A PORTION OF THE EXISTING PERMIT BOUNDARY IS LOCATED BELOW THE EXISTING SIDEWALL LINER.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

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DESIGN BY: RJS
REVIEWED BY: JVQ

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CA 3804 PE-06/30/2015

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WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

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CROSS-SECTION F

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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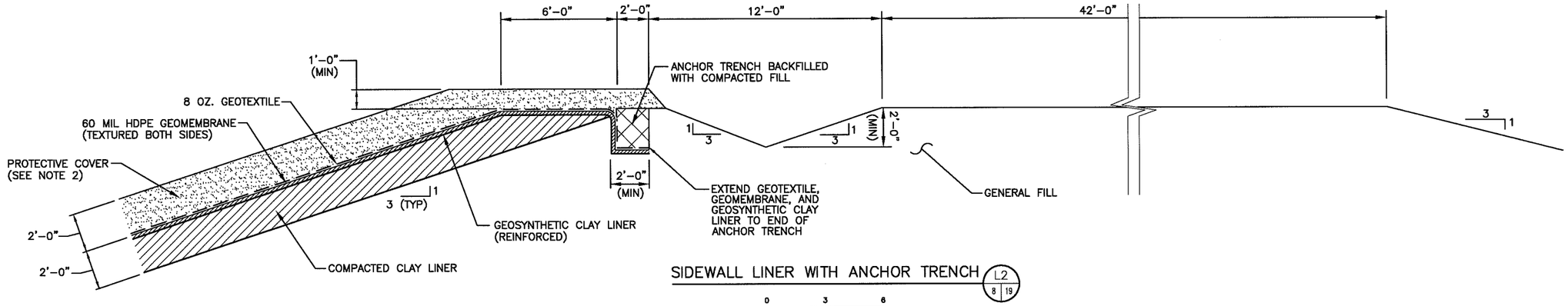
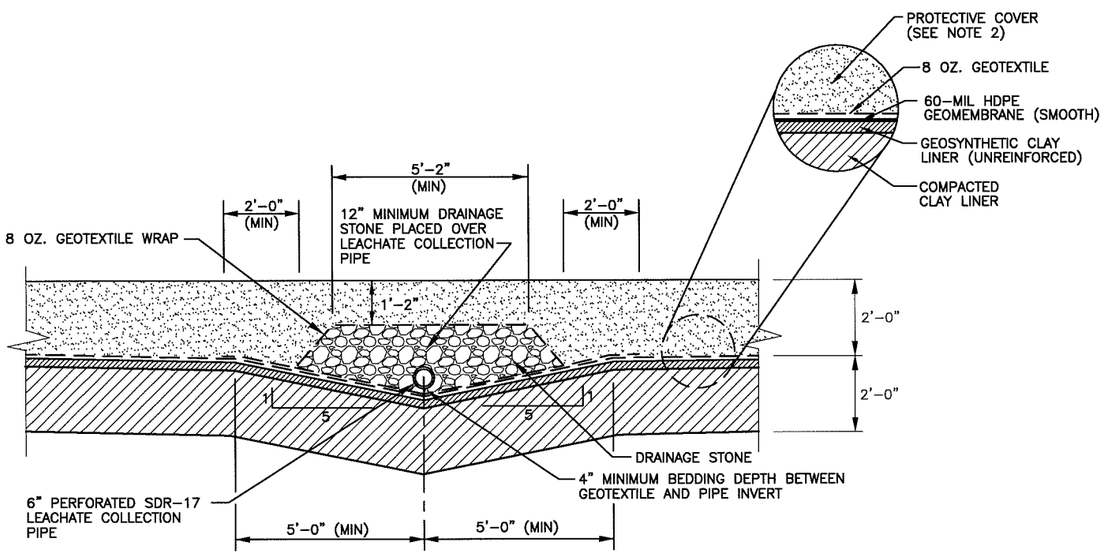


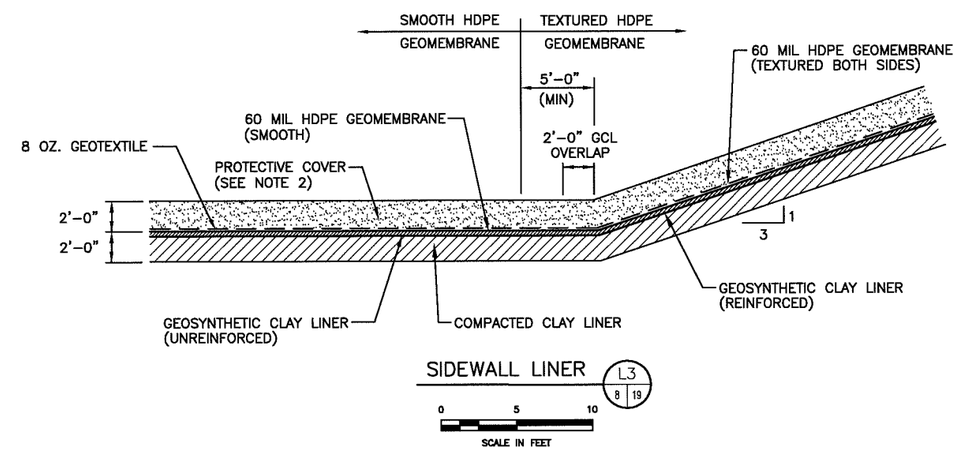
SIDEWALL LINER WITH ANCHOR TRENCH (L2 / 8 19)

0 3 6
SCALE IN FEET



LINER SYSTEM (L1 / 8 19)

0 2 4
SCALE IN FEET



SIDEWALL LINER (L3 / 8 19)

0 5 10
SCALE IN FEET

NOTE:

1. MATERIAL PROPERTIES AND QA/QC REQUIREMENTS FOR EACH OF THE LINER COMPONENTS ARE SPECIFIED IN APPENDIX K.
2. AN ALTERNATIVE PROTECTIVE COVER OPTION INCLUDES REPLACING THE TOP 1-FOOT OF MATERIAL WITH TIRE CHIPS FOR FLOOR GRADES ONLY. TIRE CHIPS ARE NOT ALLOWED ON 3:1 SIDESLOPES OR SIDEWALL LINER AREAS. SEE APPENDIX L FOR MORE INFORMATION.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

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REVISIONS

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TIER III PERMIT MODIFICATION
LINER AND LEACHATE COLLECTION SYSTEM DETAILS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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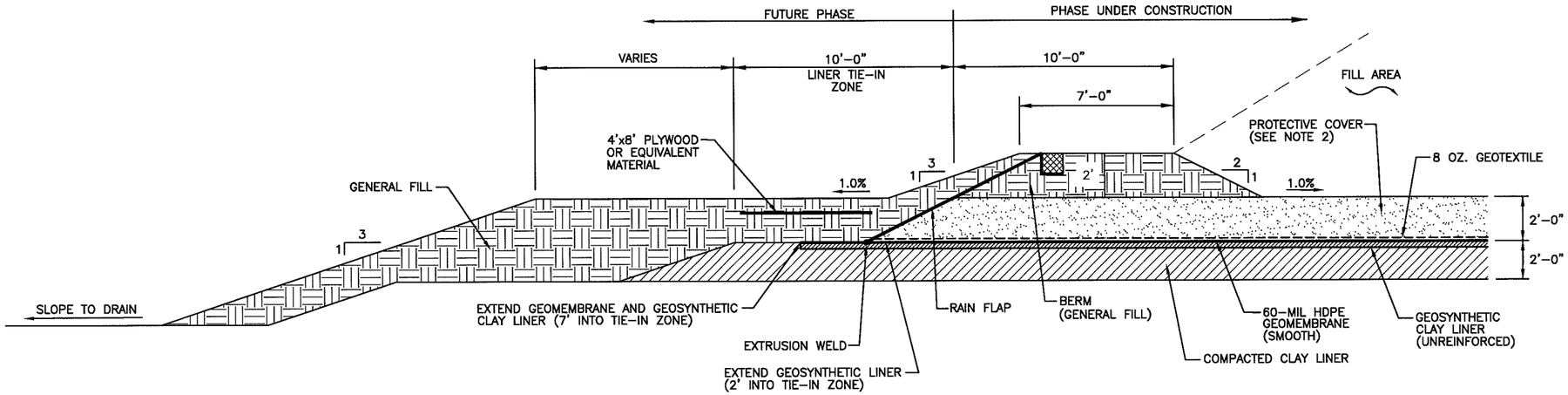

NORTH FUTURE LINER TIE-IN (L4 / 8 20)

0 3 6
SCALE IN FEET

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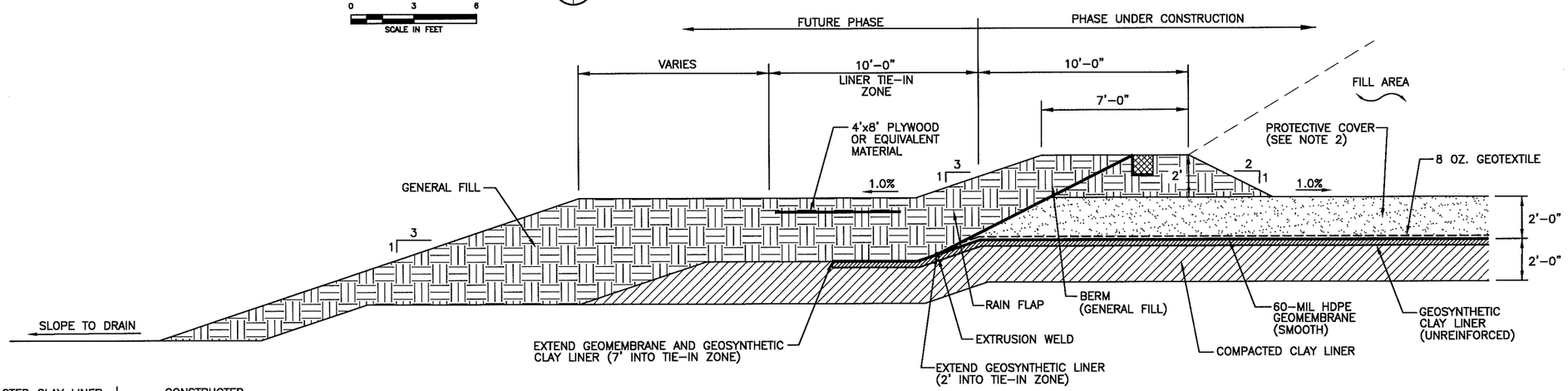
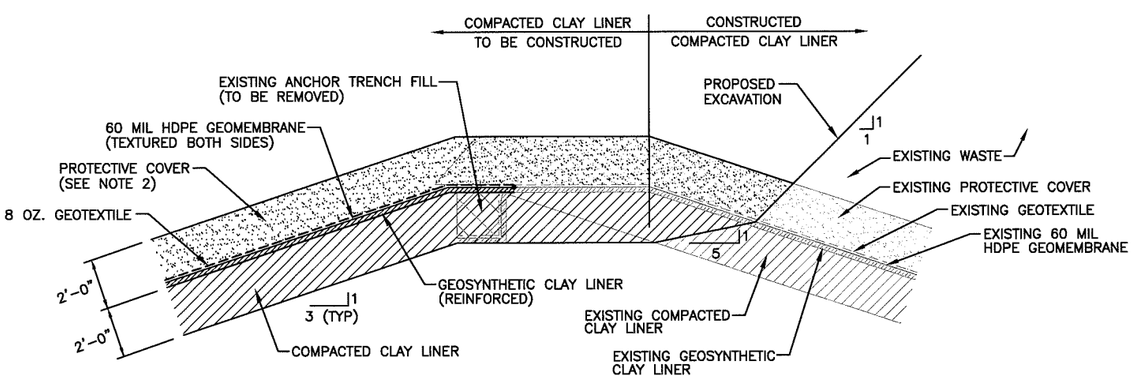
24456
OKLAHOMA

6/5/15



SOUTH FUTURE LINER TIE-IN (L5 / 8 20)

0 3 6
SCALE IN FEET



NORTHERN EXPANSION AREA TIE-IN (L6 / 8 20)

0 3 6
SCALE IN FEET

NOTE:

1. MATERIAL PROPERTIES AND QA/QC REQUIREMENTS FOR EACH OF THE LINER COMPONENTS ARE SPECIFIED IN APPENDIX K.
2. AN ALTERNATIVE PROTECTIVE COVER OPTION INCLUDES REPLACING THE TOP 1-FOOT OF MATERIAL WITH TIRE CHIPS FOR FLOOR GRADES ONLY. TIRE CHIPS ARE NOT ALLOWED ON 3:1 SIDESLOPES OR SIDEWALL LINER AREAS. SEE APPENDIX L FOR MORE INFORMATION.

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DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE-06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
LINER AND LEACHATE COLLECTION SYSTEM DETAILS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 20

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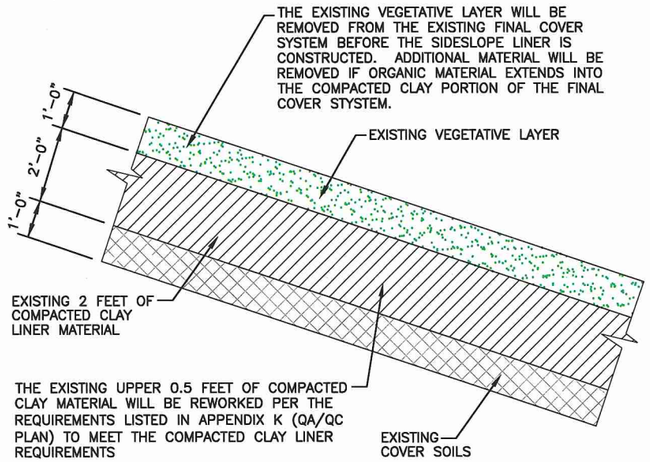
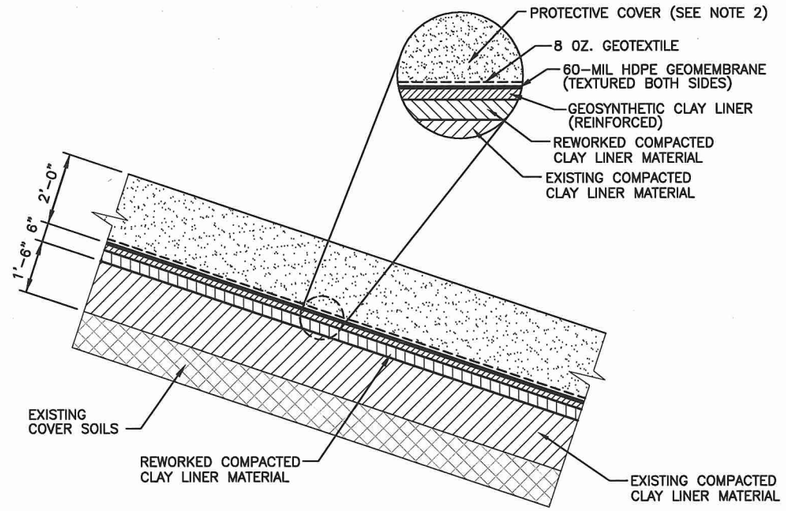


EXISTING MOSLEY ROAD
FINAL COVER SYSTEM



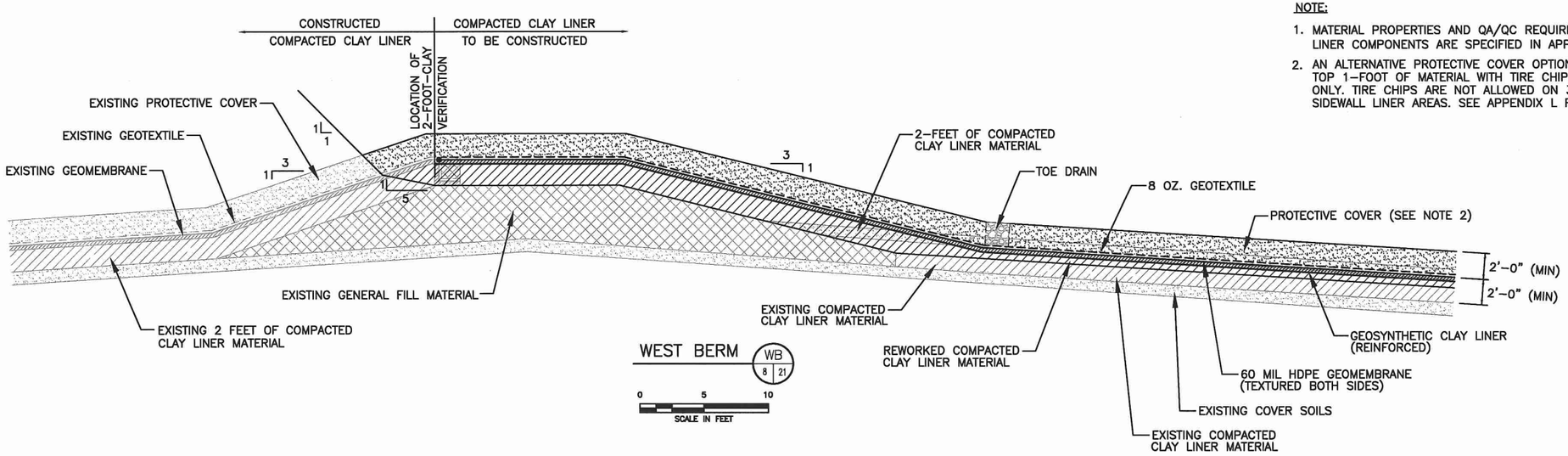
PROPOSED SIDESLOPE LINER

SIDESLOPE LINER SS1 8 21

0 2 4
SCALE IN FEET

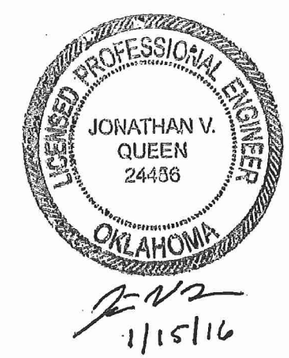
NOTE:

1. MATERIAL PROPERTIES AND QA/QC REQUIREMENTS FOR EACH OF THE LINER COMPONENTS ARE SPECIFIED IN APPENDIX K.
2. AN ALTERNATIVE PROTECTIVE COVER OPTION INCLUDES REPLACING THE TOP 1-FOOT OF MATERIAL WITH TIRE CHIPS FOR FLOOR GRADES ONLY. TIRE CHIPS ARE NOT ALLOWED ON 3:1 SIDESLOPES OR SIDEWALL LINER AREAS. SEE APPENDIX L FOR MORE INFORMATION.



WEST BERM WB 8 21

0 5 10
SCALE IN FEET



☐ DRAFT ☒ FOR PERMITTING PURPOSES ONLY ☐ ISSUED FOR CONSTRUCTION		PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC.	TIER III PERMIT MODIFICATION LINER AND LEACHATE COLLECTION SYSTEM DETAILS EAST OAK RDF OKLAHOMA COUNTY, OKLAHOMA
DATE: 08/2015 FILE: 0086-356-11 CAD: 21-LINER-DTLS.DWG	DRAWN BY: SRF DESIGN BY: RJS REVIEWED BY: JVQ	REVISIONS NO. 1 — DATE 01/2016 — DESCRIPTION UPDATED DETAIL SS1 QAQC REFERENCE.	
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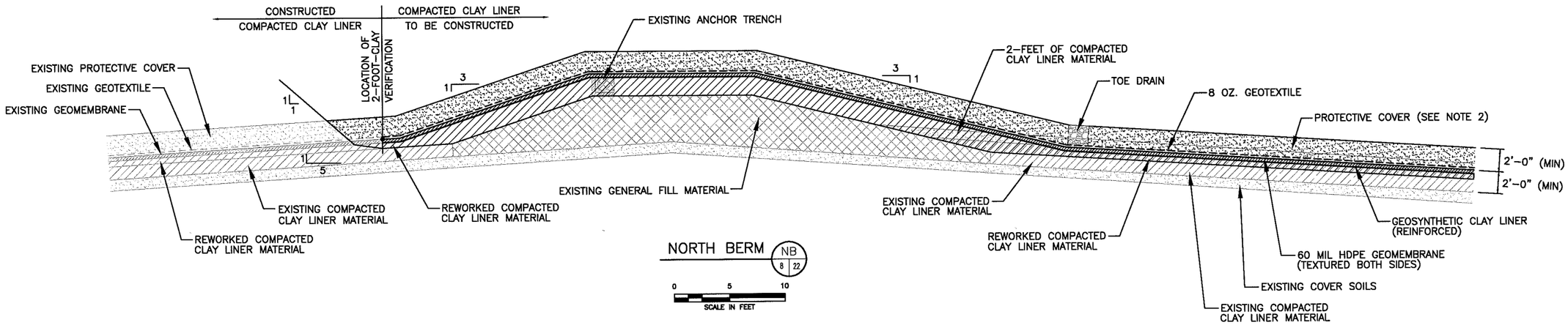
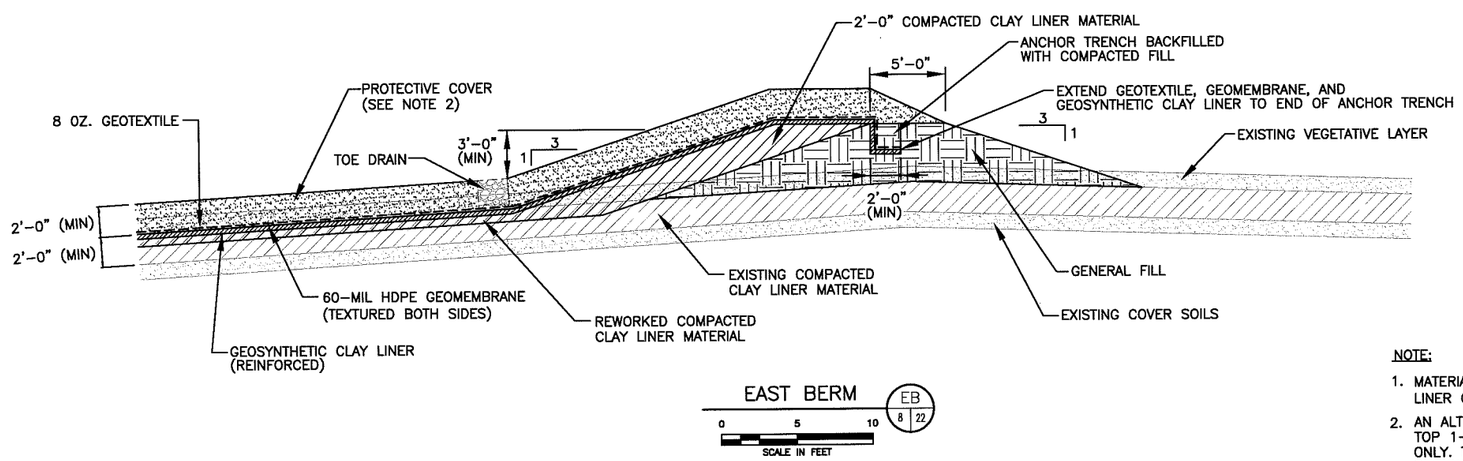


6/5/15



NOTE:

1. MATERIAL PROPERTIES AND QA/QC REQUIREMENTS FOR EACH OF THE LINER COMPONENTS ARE SPECIFIED IN APPENDIX K.
2. AN ALTERNATIVE PROTECTIVE COVER OPTION INCLUDES REPLACING THE TOP 1-FOOT OF MATERIAL WITH TIRE CHIPS FOR FLOOR GRADES ONLY. TIRE CHIPS ARE NOT ALLOWED ON 3:1 SIDESLOPES OR SIDEWALL LINER AREAS. SEE APPENDIX L FOR MORE INFORMATION.

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DATE: 06/2015
FILE: 0086-356-11
CAD: 22-LINER-DTLS.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION LINER AND LEACHATE COLLECTION SYSTEM DETAILS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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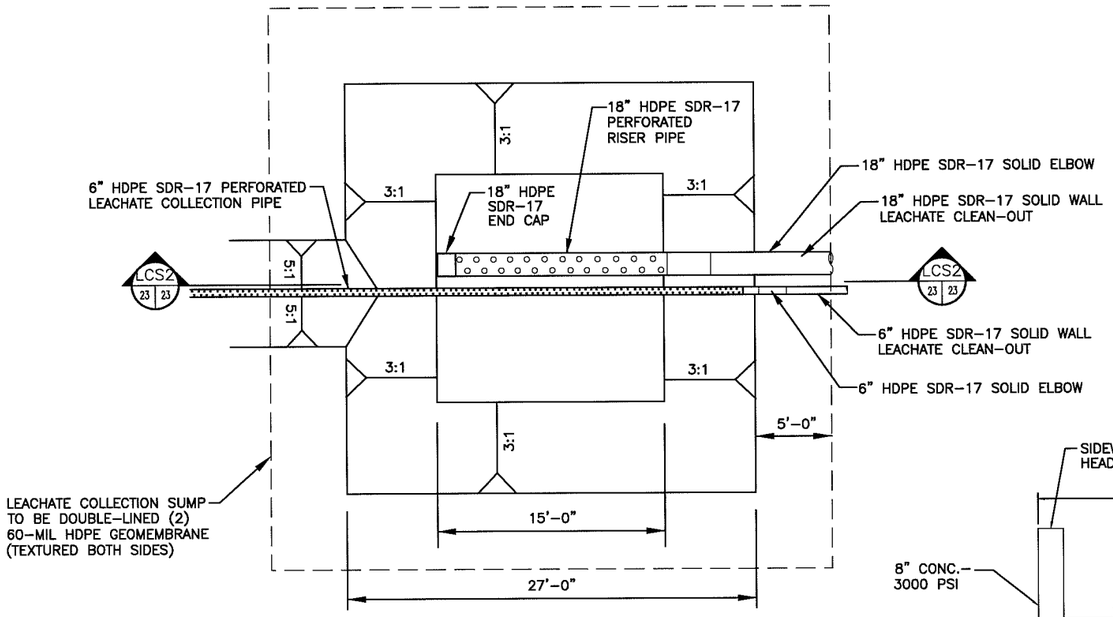
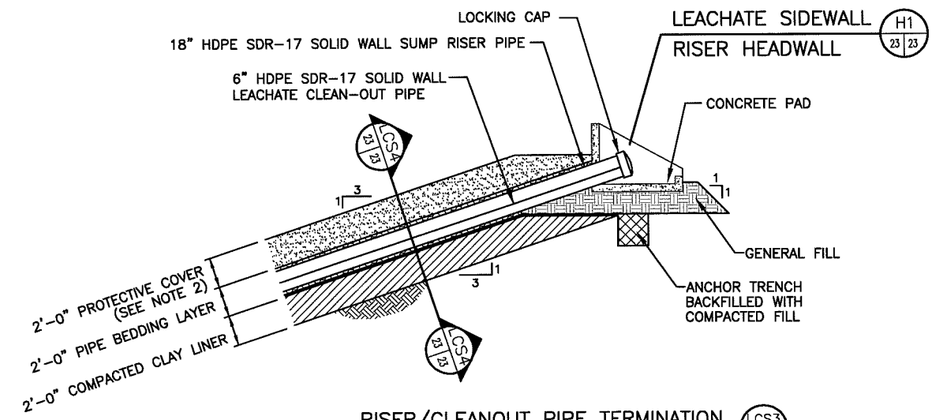


LEACHATE COLLECTION SUMP PLAN (LCS1 9 23)

0 5 10 SCALE IN FEET



RISER/CLEANOUT PIPE TERMINATION (LCS3 9 23)

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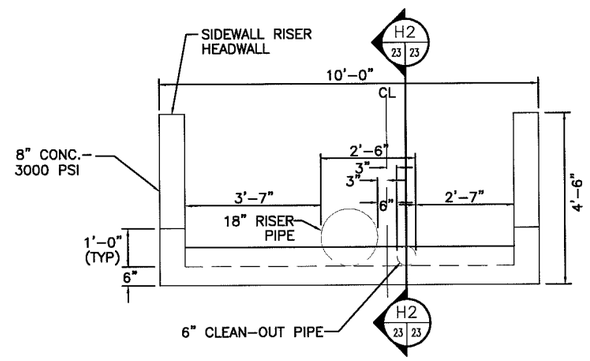
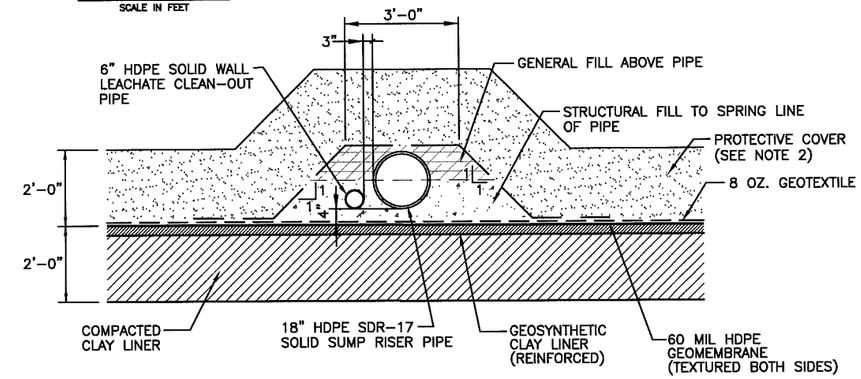


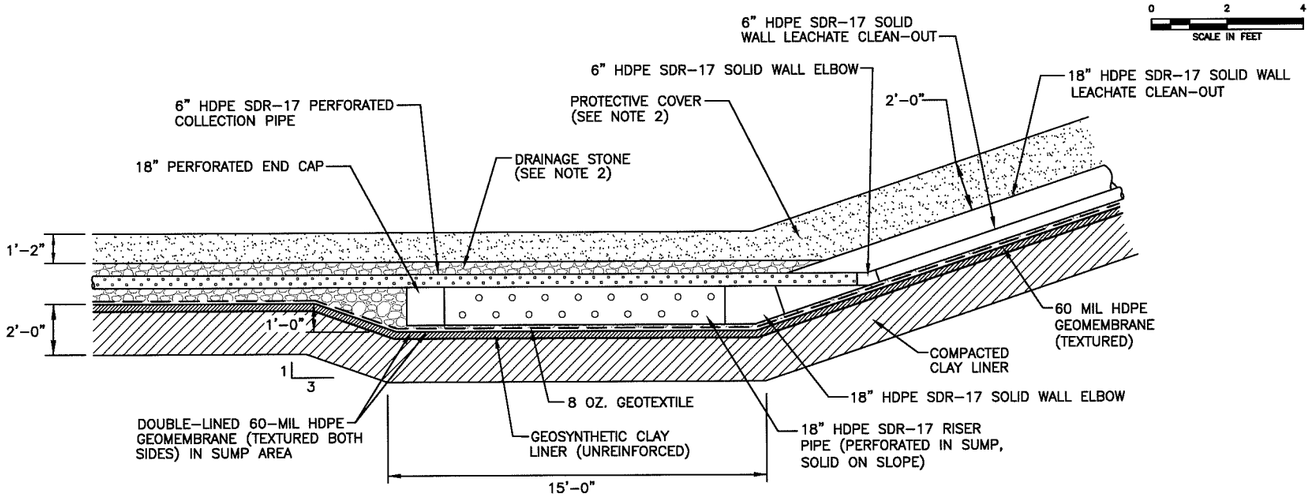
LEACHATE SIDEWALL RISER HEADWALL (H1 23 23)

0 2 4 SCALE IN FEET



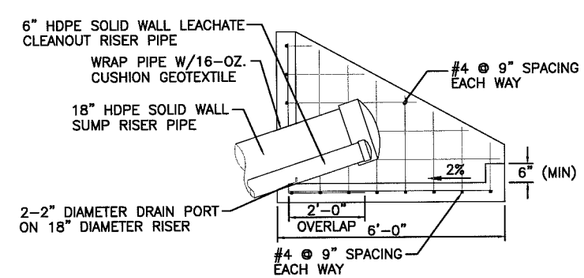
RISER/CLEANOUT PIPE SIDEWALL SECTION (LCS4 23 23)

0 2 4 SCALE IN FEET



TYPICAL LEACHATE SUMP SECTION (LCS2 23 23)

0 3 6 SCALE IN FEET



SIDEWALL RISER HEADWALL SECTION (H2 23 23)

0 2 4 SCALE IN FEET

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

NOTE:

1. MATERIAL PROPERTIES AND QA/QC REQUIREMENTS FOR EACH OF THE LINER COMPONENTS ARE SPECIFIED IN APPENDIX K.
2. AN ALTERNATIVE PROTECTIVE COVER OPTION INCLUDES REPLACING THE TOP 1-FOOT OF MATERIAL WITH TIRE CHIPS FOR FLOOR GRADES ONLY. TIRE CHIPS ARE NOT ALLOWED ON 3:1 SIDESLOPES OR SIDEWALL LINER AREAS. SEE APPENDIX L FOR MORE INFORMATION.

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DATE: 06/2015
FILE: 0086-356-11
CAD: 23-LINER-DTLS.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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CA 3804 PE-06/30/2015

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REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
LINER AND LEACHATE COLLECTION SYSTEM DETAILS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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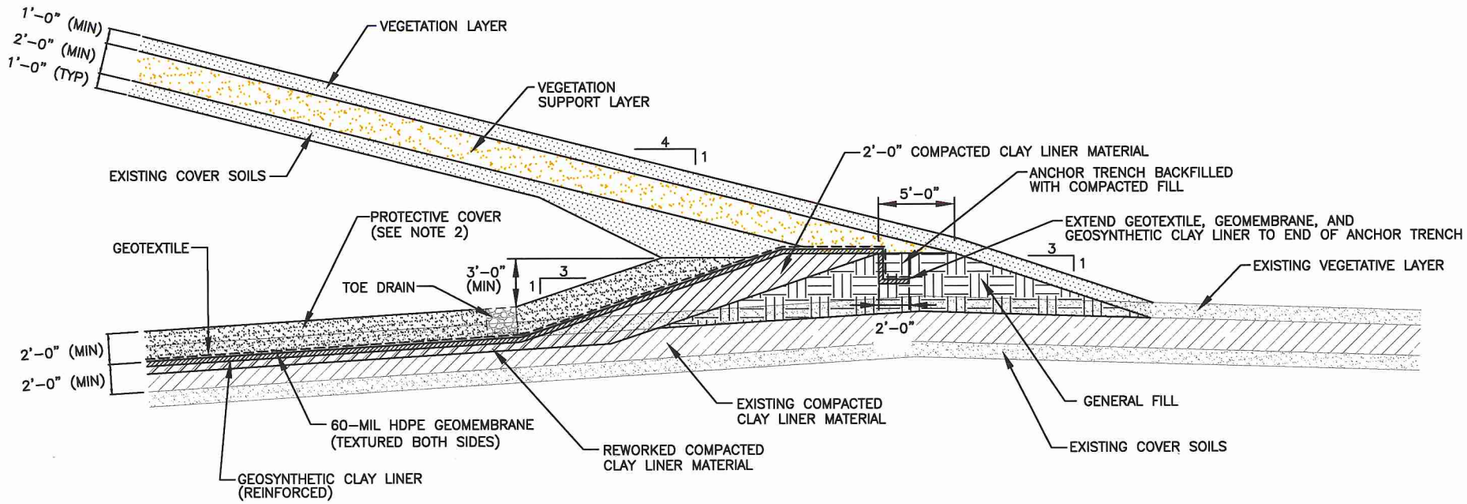
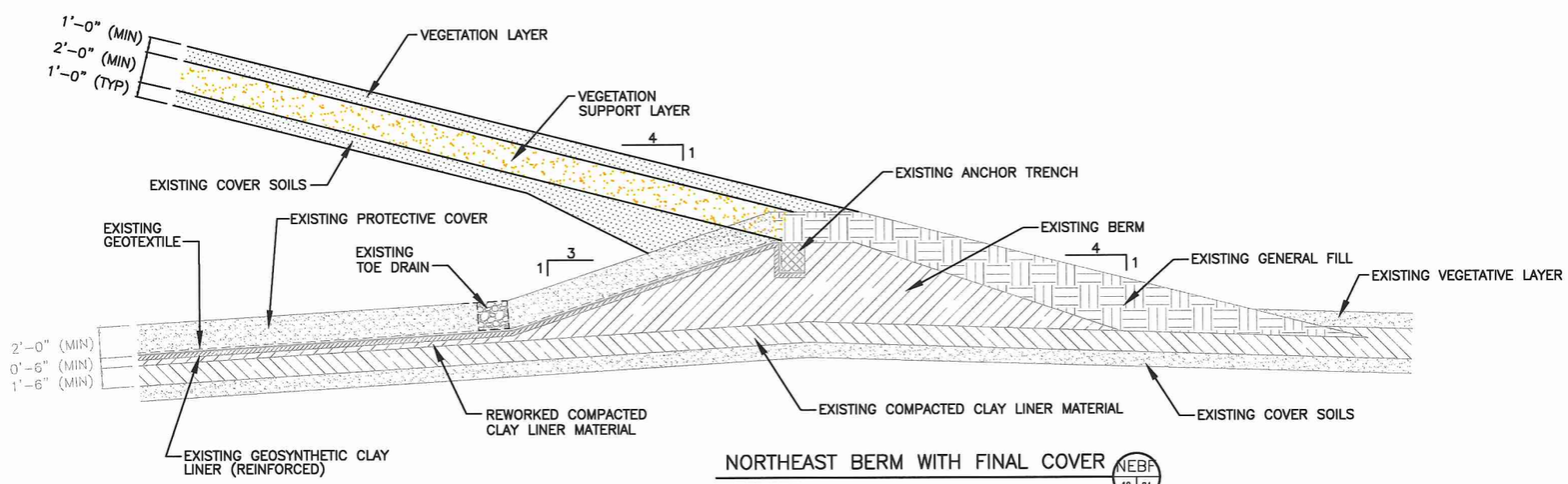


SOUTHEAST BERM WITH FINAL COVER SEBF 10 24

0 5 10
SCALE IN FEET

NOTE:

1. MATERIAL PROPERTIES AND QA/QC REQUIREMENTS FOR EACH OF THE LINER COMPONENTS ARE SPECIFIED IN APPENDIX K.
2. AN ALTERNATIVE PROTECTIVE COVER OPTION INCLUDES REPLACING THE TOP 1-FOOT OF MATERIAL WITH TIRE CHIPS FOR FLOOR GRADES ONLY. TIRE CHIPS ARE NOT ALLOWED ON 3:1 SIDESLOPES OR SIDEWALL LINER AREAS. SEE APPENDIX L FOR MORE INFORMATION.



NORTHEAST BERM WITH FINAL COVER NEBF 10 24

0 5 10
SCALE IN FEET

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

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DATE: 06/2015
FILE: 0086-356-11
CAD: 24-FC-DTLS.DWG

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DESIGN BY: RJS
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TIER III PERMIT MODIFICATION
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EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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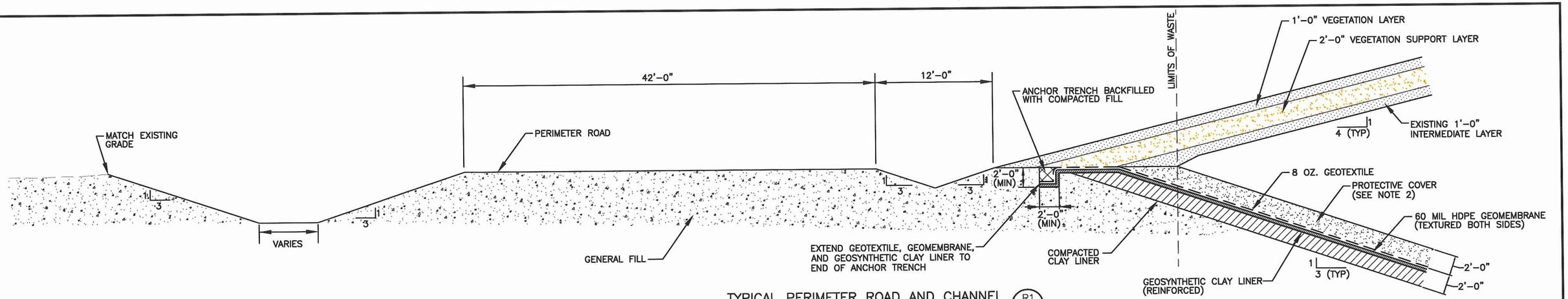
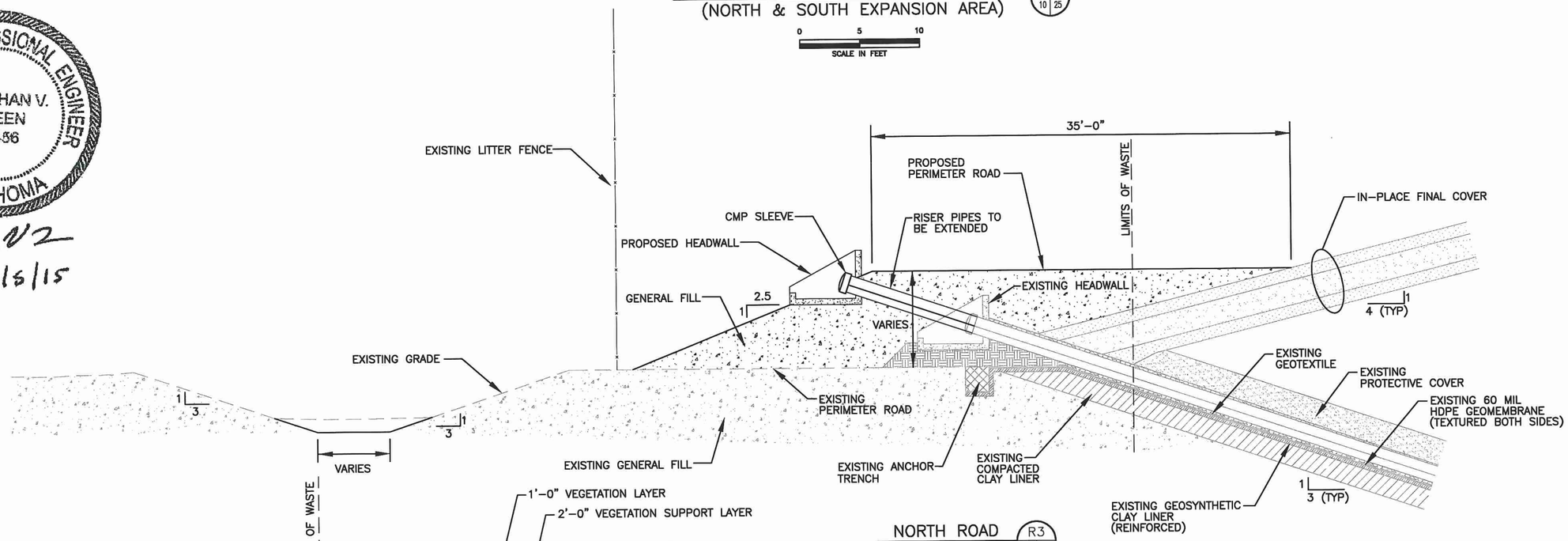


TYPICAL PERIMETER ROAD AND CHANNEL (R1 / 10 25)
(NORTH & SOUTH EXPANSION AREA)

0 5 10
SCALE IN FEET

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15



NORTH ROAD (R3 / 10 25)

0 5 10
SCALE IN FEET

NOTE:

1. MATERIAL PROPERTIES AND QA/QC REQUIREMENTS FOR EACH OF THE LINER COMPONENTS ARE SPECIFIED IN APPENDIX K.
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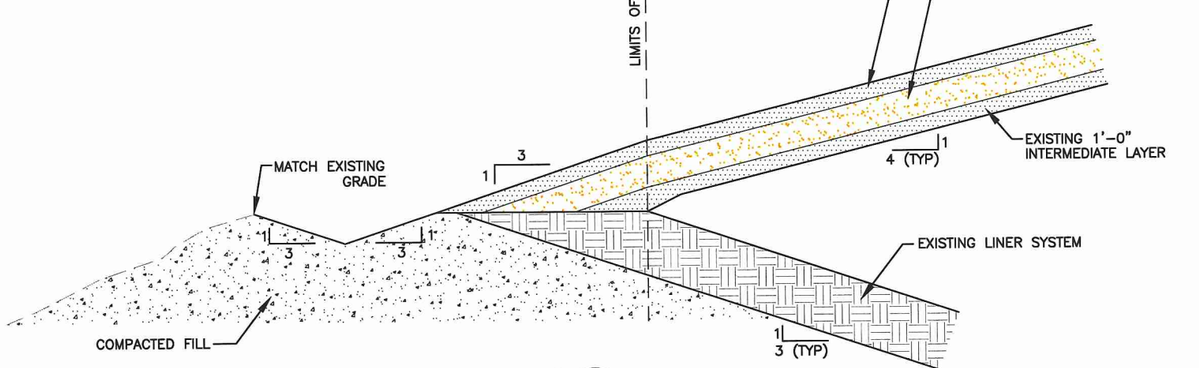

TYPICAL PERIMETER CHANNEL (R2 / 10 25)

0 5 10
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DATE: 08/2015
FILE: 0086-356-11
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DESIGN BY: RJS
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WASTE MANAGEMENT OF OKLAHOMA, INC.

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EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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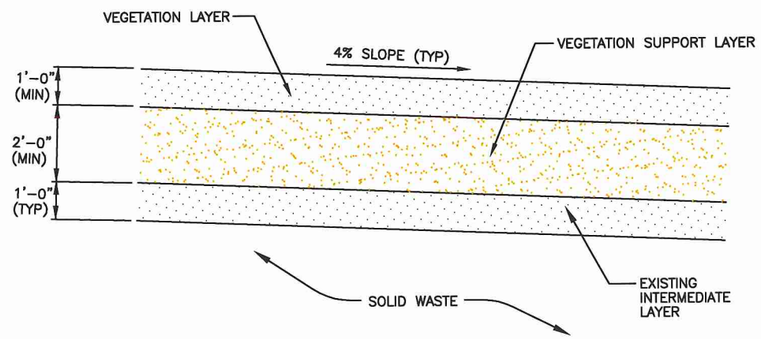
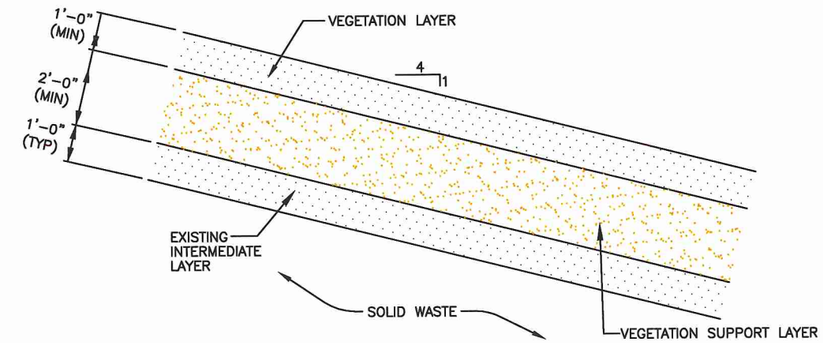


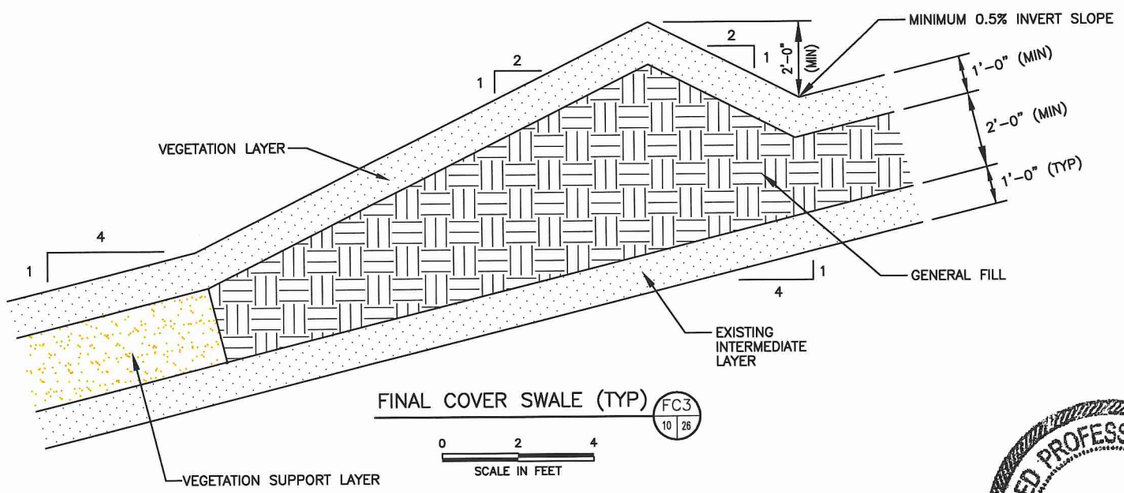
FINAL COVER–TOPSLOPE (FC1 / 10 | 26)

0 2 4
SCALE IN FEET



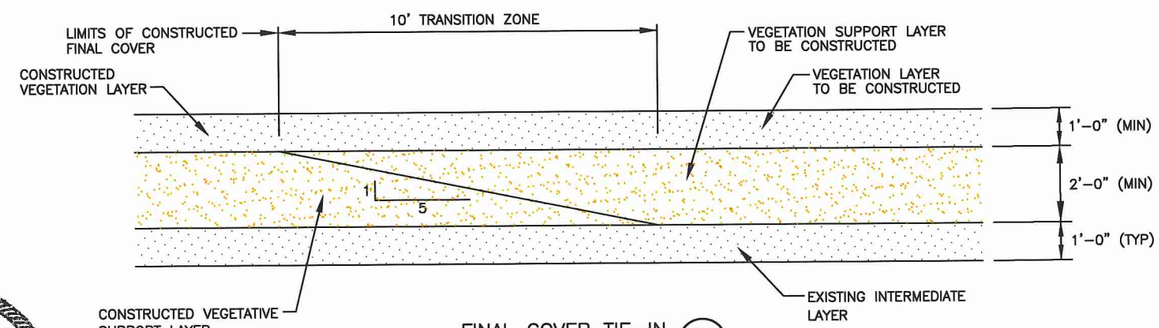
FINAL COVER–SIDESLOPE (FC2 / 10 | 26)

0 2 4
SCALE IN FEET



FINAL COVER SWALE (TYP) (FC3 / 10 | 26)

0 2 4
SCALE IN FEET



FINAL COVER TIE–IN (FC4 / 10 | 26)

0 2 4
SCALE IN FEET

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DATE: 06/2015
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CAD: 26-FC-DTLS.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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CA 3804 PE-06/30/2015

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REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION FINAL COVER DETAILS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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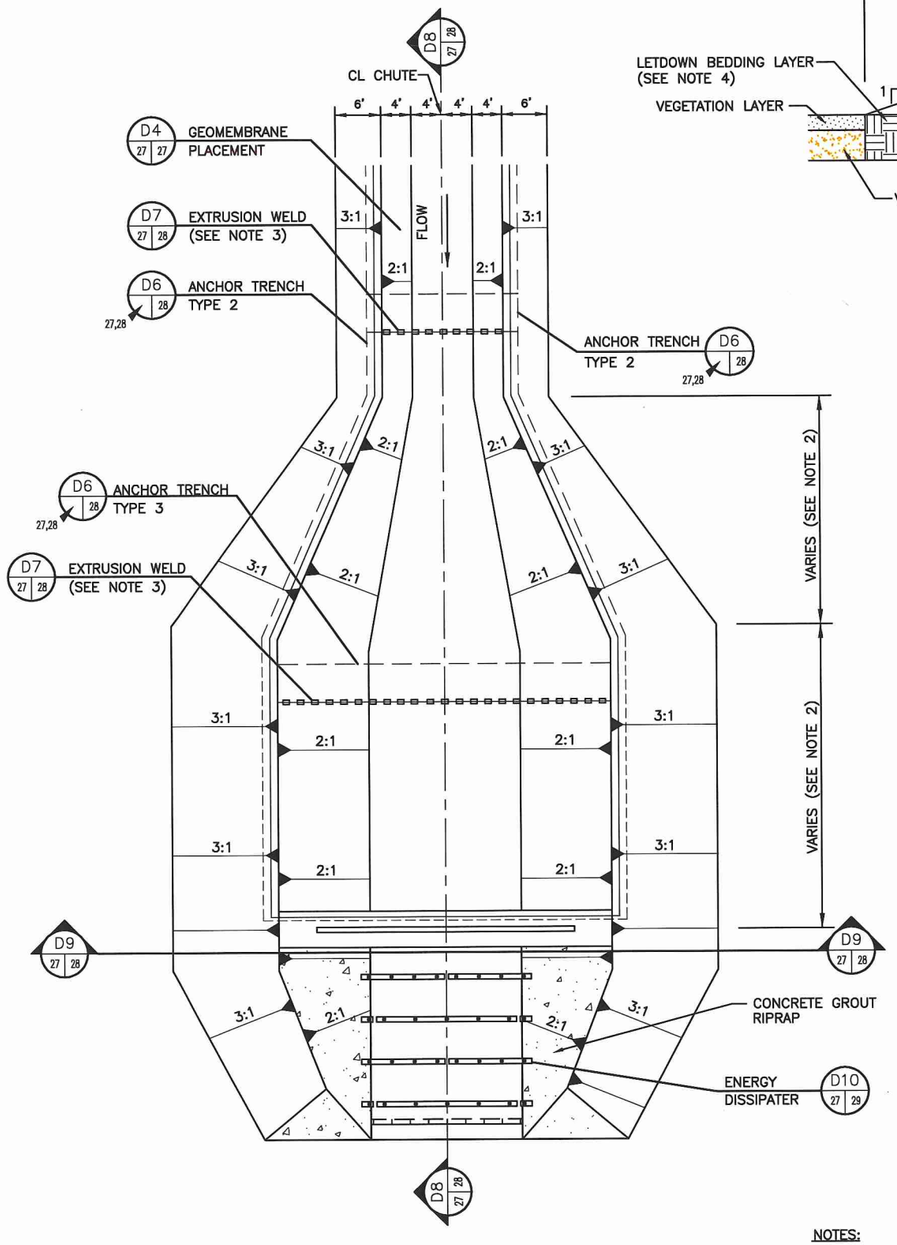
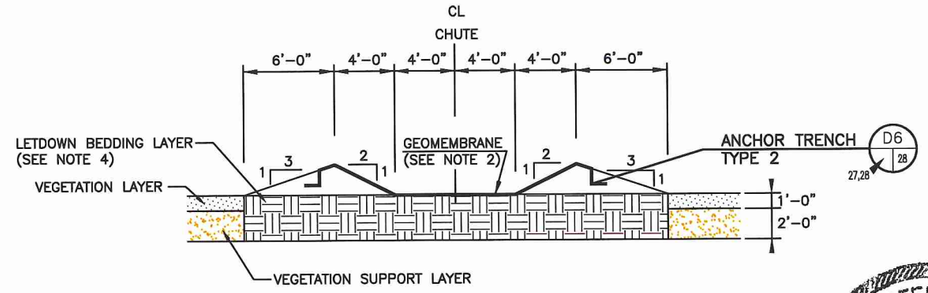


CHUTE TRANSITION D3 10 27

0 10 20

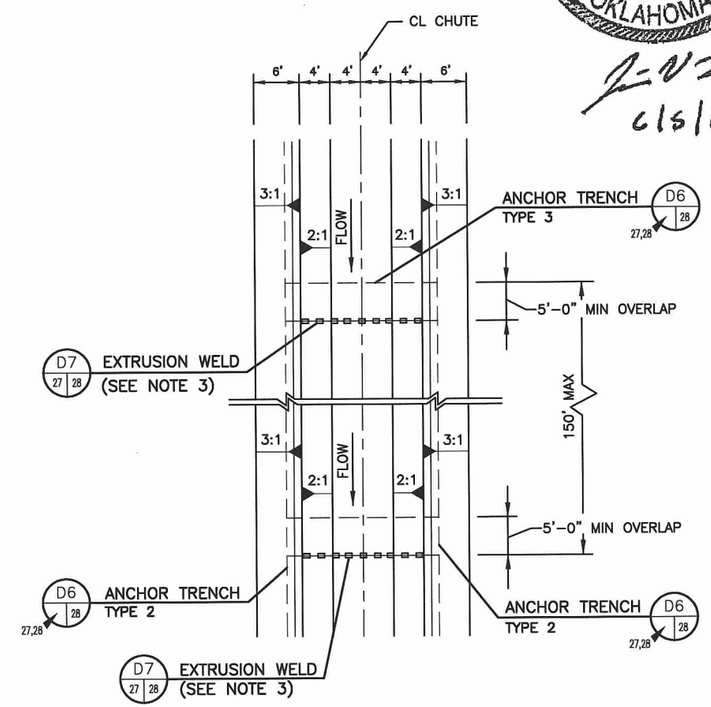
SCALE IN FEET



CHUTE D1 27 10,27,28

0 5 10

SCALE IN FEET



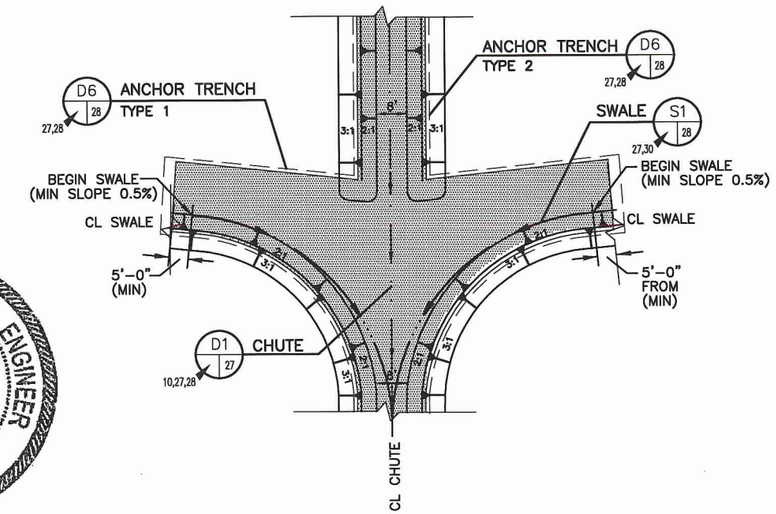
GEOMEMBRANE PLACEMENT D4 27 27

0 10 20

SCALE IN FEET

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

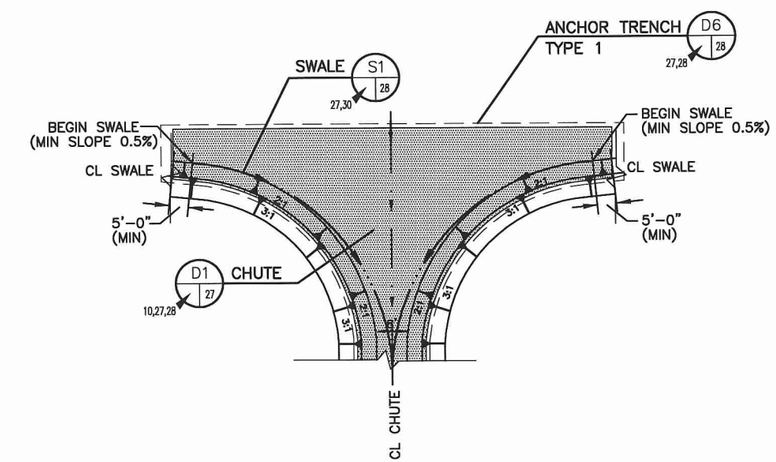
6/5/15



SWALE CHUTE CONFLUENCE D2 27 10,28

0 20 40

SCALE IN FEET



UPPER SWALE CHUTE CONFLUENCE D5 27 10,28

0 20 40

SCALE IN FEET

NOTES:

1. SEE APPENDIX H-3 FOR CHUTE DESIGN SUMMARY.
2. 60 MIL HDPE GEOMEMBRANE TEXTURED BOTH SIDES SHALL BE USED FOR GEOMEMBRANE LETDOWN LINING.
3. EXTRUSION WELD UPSTREAM PANEL OVER DOWNSTREAM PANEL USING 1'-0" LONG EXTRUSION WELD WITH A SPACING OF 1'-0" BETWEEN EACH WELD.
4. SOIL PLACED UNDER GEOMEMBRANE LETDOWN AND CONCRETE DISSIPATER SHALL NOT CONTAIN TOPSOIL THAT WILL BE USED FOR VEGETATION LAYER.

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DATE: 06/2015
FILE: 0086-356-11
CAD: 27-DRAINAGE DETAILS.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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CA 3804 PE-06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION DRAINAGE DETAILS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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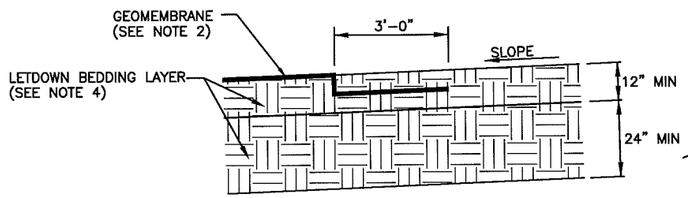

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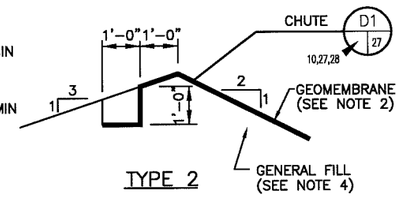
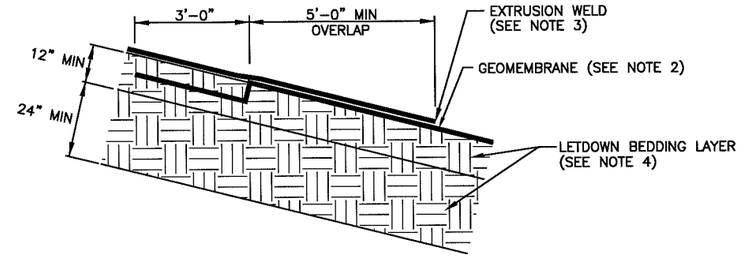


TYPE 2



TYPE 3

ANCHOR TRENCH D6 28 27,28

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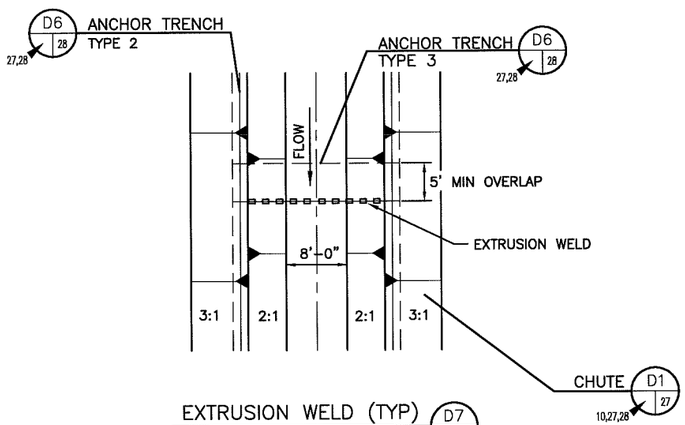
SCALE IN FEET



EXTRUSION WELD (TYP) D7 27 28

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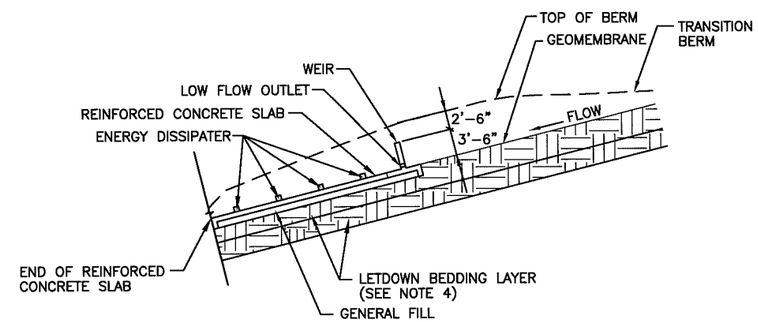
SCALE IN FEET



LONGITUDINAL SECTION D8 27 28

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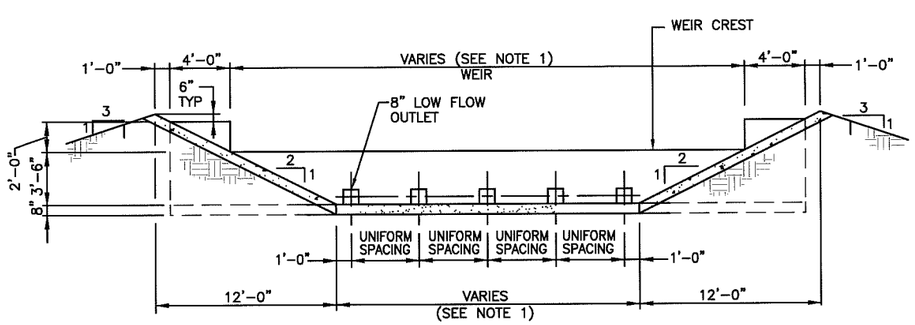
SCALE IN FEET



SECTION D9 27 28

0 5 10
SCALE IN FEET

NOTES:

1. SEE APPENDIX H-3 FOR CHUTE DESIGN SUMMARY.
2. 60 MIL HDPE GEOMEMBRANE TEXTURED BOTH SIDES SHALL BE USED FOR GEOMEMBRANE LETDOWN LINING.
3. EXTRUSION WELD UPSTREAM PANEL OVER DOWNSTREAM PANEL USING 1'-0" LONG EXTRUSION WELD WITH A SPACING OF 1'-0" BETWEEN EACH WELD.
4. SOIL PLACED UNDER GEOMEMBRANE LETDOWN AND CONCRETE DISSIPATER SHALL NOT CONTAIN TOPSOIL THAT WILL BE USED FOR VEGETATION LAYER.

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DATE: 06/2015
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CAD: 28-DRAINAGE DETAILS.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3604 PE-06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
DRAINAGE DETAILS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

DRAWING 28

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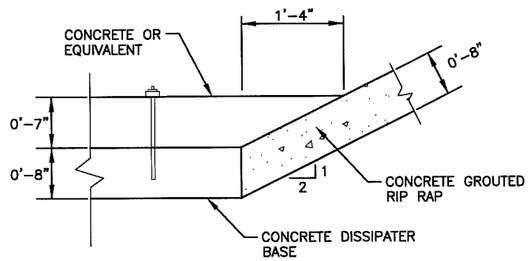
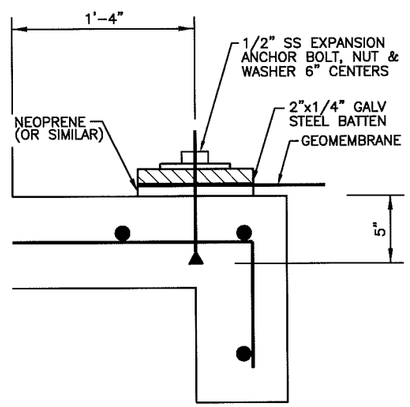


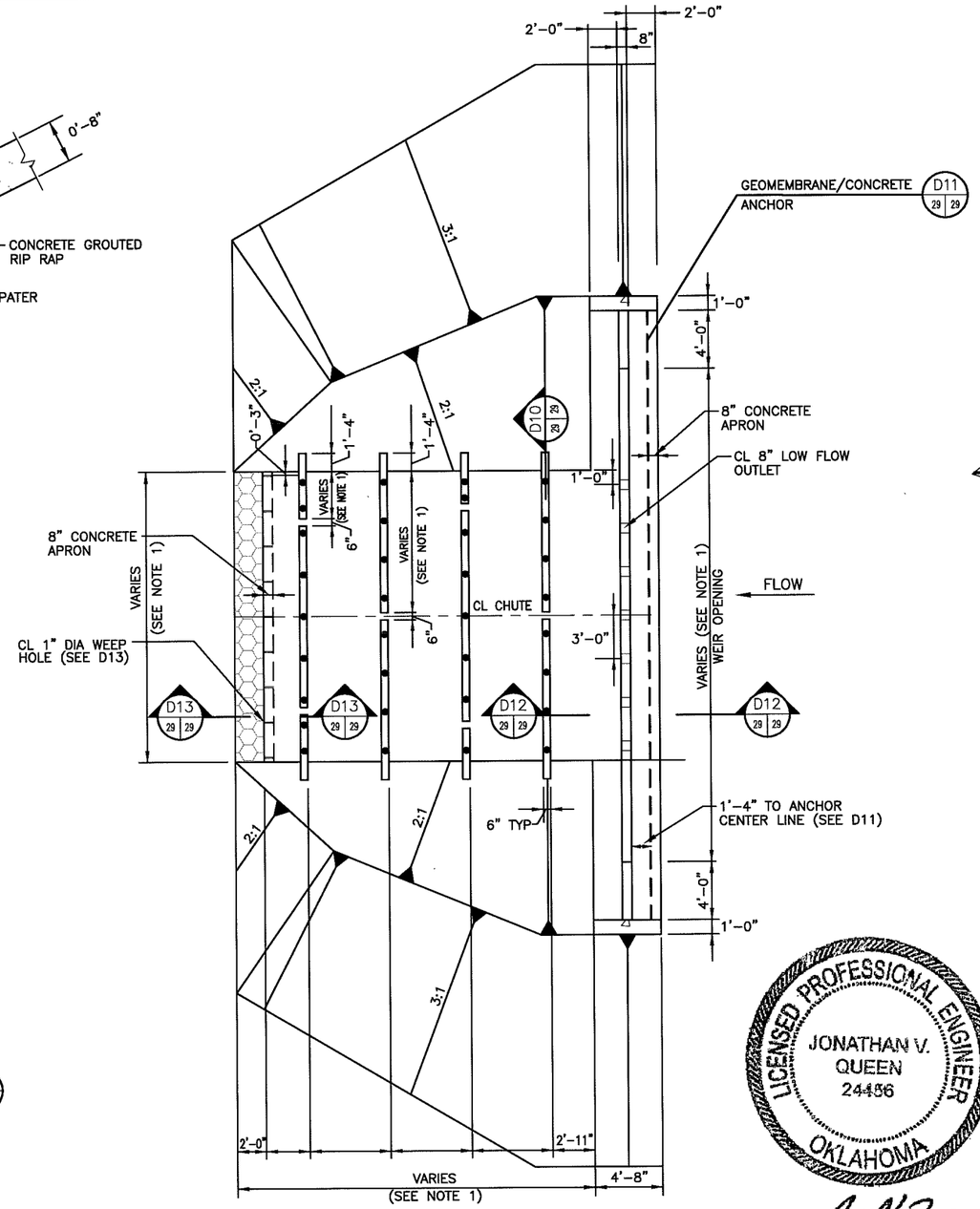
DISSIPATER BLOCK CROSS-SECTION (D10 / 29 29)

SCALE 0 1 2 IN FEET



GEOMEMBRANE/CONCRETE ANCHOR (D11 / 29 29)

NTS



TYPICAL ENERGY DISSIPATER DETAIL (D10 / 27 29)

(SEE NOTES)

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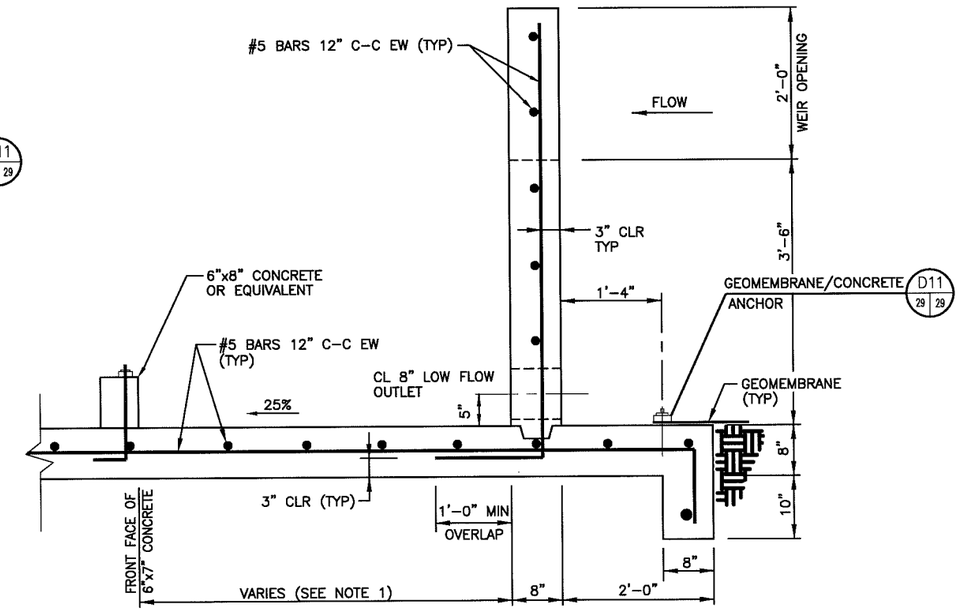
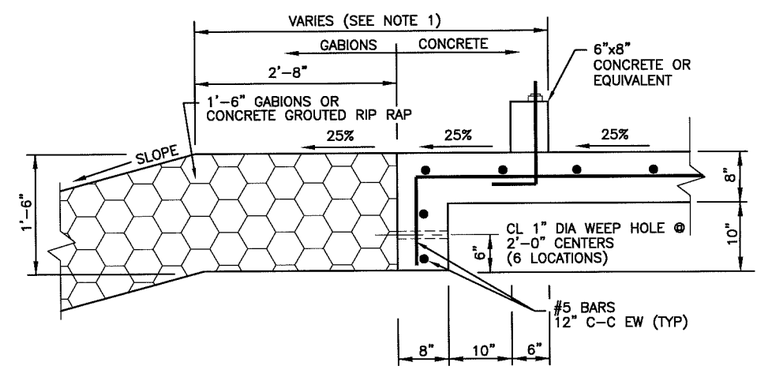


WEIR SECTION (D12 / 29 29)

SCALE 0 1 2 IN FEET



DISSIPATER SECTION (D13 / 29 29)

SCALE 0 1 2 IN FEET

NOTES:

1. SEE APPENDIX H-3 FOR CHUTE DESIGN SUMMARY.
2. CHUTE BOTTOM DOWNSTREAM OF WEIR SHALL BE LINED WITH 3,500 PSI REINFORCED CONCRETE AS SHOWN IN WEIR SECTION DETAIL.
3. SIDESLOPES DOWNSTREAM OF WEIR WILL BE LINED WITH CONCRETE GROUT RIP RAP OR AN ENGINEER APPROVED EQUIVALENT.
4. GEOMEMBRANE/CONCRETE ANCHORS (D11) WILL BE PLACED WITH 6" SPACING AT THE BOTTOM AND SIDESLOPES.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES ONLY
- [ ] ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: 29-DRAINAGE DETAILS.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

Weaver Consultants Group
CA 3804 PE-06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

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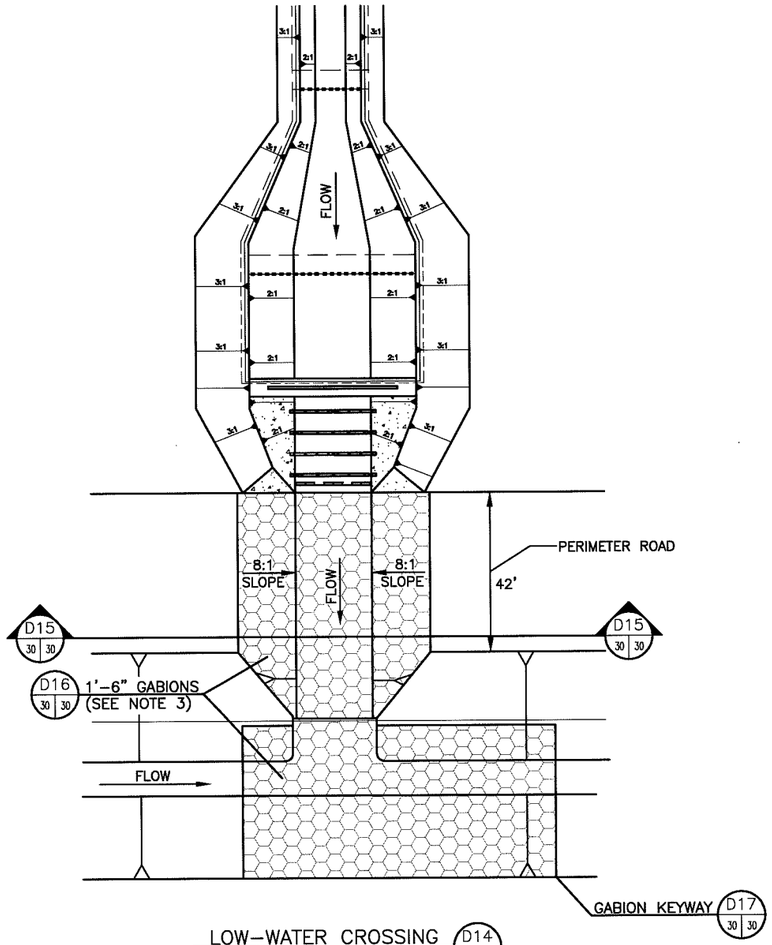
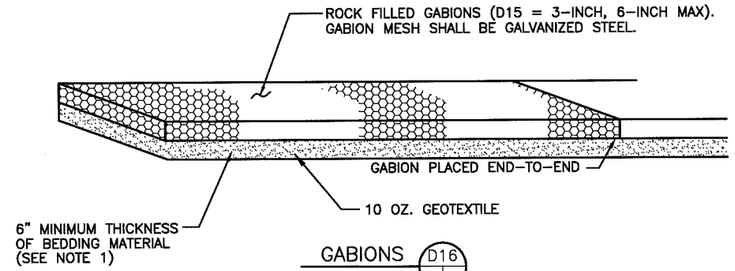


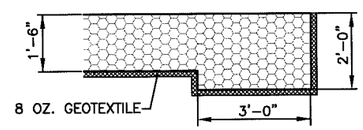
LOW-WATER CROSSING D14 10 30

0 20 40
SCALE IN FEET



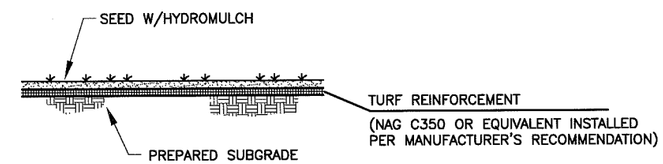
GABIONS D16 30 30

0 2 4
SCALE IN FEET

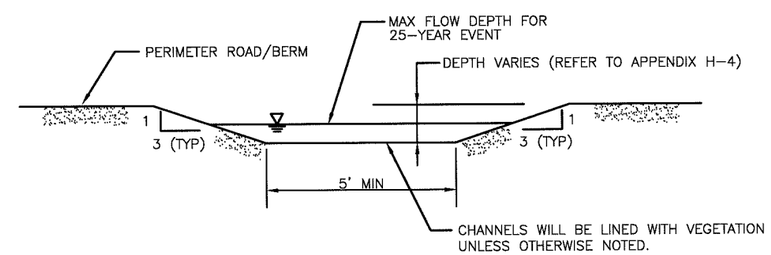


GABION KEYWAY (TYP) D17 30 30

0 2 4
SCALE IN FEET

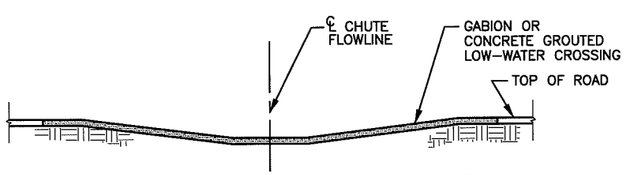


TURF REINFORCEMENT D18 10 30
NOT TO SCALE
(SEE NOTE 2)



TRAPEZOIDAL CHANNEL (TYP) D19 10 30

0 2 4
SCALE IN FEET



LOW-WATER CROSSING SECTION D15 30 30

0 10 20
SCALE IN FEET

NOTES:

1. BEDDING MATERIAL WILL CONSIST OF A SW OR SP MATERIAL AS DEFINED BY UNIFIED SOIL CLASSIFICATION SYSTEM (USCS).
2. TURF REINFORCEMENT MATTING WILL BE USED IN CHANNELS FOR VELOCITIES BETWEEN 5fps AND 10fps. SEE APPENDIX H-4 FOR CHANNEL CALCULATIONS.
3. GABIONS MAY BE REPLACED WITH CONCRETE GROUTED RIP RAP.
4. REFER TO FIGURES H-1-9 AND H-1-10 FOR THE PERIMETER CHANNEL PROFILES.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

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☒ FOR PERMITTING PURPOSES ONLY
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DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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EAST OAK RECYCLING AND DISPOSAL FACILITY
OKLAHOMA COUNTY, OKLAHOMA
ODEQ PERMIT NO. 3555036

APPENDIX A

WASTE MANAGEMENT, INC.
ANNUAL AND QUARTERLY REPORTS

Prepared for

Waste Management of Oklahoma, Inc.

June 2015

Prepared by

Weaver Consultants Group, LLC
CA 3804 PE 06/30/2015
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 0086-356-11-40-04

CONTENTS

APPENDIX A-1
2014 Waste Management, Inc. Annual Report

APPENDIX A-2
March 2015 Waste Management, Inc. Quarterly Report

APPENDIX A-1

2014 WASTE MANAGEMENT, INC. ANNUAL REPORT

WASTE MANAGEMENT

2014 ANNUAL REPORT

Proxy Statement

WASTE MANAGEMENT

WASTE MANAGEMENT

1001 Fannin Street, Suite 4000
Houston, Texas 77002

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
OF WASTE MANAGEMENT, INC.

Date and Time:

May 12, 2015 at 11:00 a.m., Central Time

Place:

The Maury Myers Conference Center
Waste Management, Inc.
1021 Main Street
Houston, Texas 77002

Purpose:

- To elect nine directors;
- To vote on a proposal to ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2015;
- To vote on a proposal to approve our executive compensation;
- To vote on a proposal to amend our Employee Stock Purchase Plan (the "ESPP") to increase the number of shares authorized for issuance under the ESPP;
- To vote on a stockholder proposal regarding disclosure of political contributions, if properly presented at the meeting;
- To vote on a stockholder proposal regarding a policy on acceleration of vesting of equity awards in the event of a change in control, if properly presented at the meeting; and
- To conduct other business that is properly raised at the meeting.

Only stockholders of record on March 16, 2015 may vote at the meeting.

Your vote is important. We urge you to promptly vote your shares by telephone, by the Internet or, if this Proxy Statement was mailed to you, by completing, signing, dating and returning your proxy card as soon as possible in the enclosed postage prepaid envelope.

Courtney A. Tippy

COURTNEY A. TIPPY
Corporate Secretary

March 26, 2015

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON MAY 12, 2015: This Notice of Annual Meeting and Proxy Statement and the Company's Annual Report on Form 10-K for the year ended December 31, 2014 are available at www.wm.com.

TABLE OF CONTENTS

	Page
GENERAL INFORMATION	1
BOARD OF DIRECTORS	4
Leadership Structure	4
Role in Risk Oversight	4
Independence of Board Members	5
Meetings and Board Committees	6
Audit Committee	6
Audit Committee Report	8
Management Development and Compensation Committee	9
Compensation Committee Report	10
Compensation Committee Interlocks and Insider Participation	10
Nominating and Governance Committee	10
Related Party Transactions	11
Special Committee	12
Board of Directors Governing Documents	12
Non-Employee Director Compensation	12
ELECTION OF DIRECTORS (Item 1 on the Proxy Card)	14
DIRECTOR AND OFFICER STOCK OWNERSHIP	18
SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS	20
SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE	20
EXECUTIVE OFFICERS	21
EXECUTIVE COMPENSATION	22
Compensation Discussion and Analysis	22
Executive Summary	22
Our Compensation Philosophy	24
Overview of Elements of Our 2014 Compensation Program	26
How Named Executive Officer Compensation Decisions are Made	28
Named Executives' 2014 Compensation Program and Results	33
Other Compensation Policies and Practices	38
Executive Compensation Tables	40
Summary Compensation Table	40
Grant of Plan-Based Awards in 2014	42
Outstanding Equity Awards at December 31, 2014	44
Option Exercises and Stock Vested	45
Nonqualified Deferred Compensation in 2014	46
Potential Payments Upon Termination or Change-in-Control	46
Equity Compensation Plan Table	54
RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM (Item 2 on the Proxy Card)	55
ADVISORY VOTE ON EXECUTIVE COMPENSATION (Item 3 on the Proxy Card)	56
PROPOSAL TO AMEND THE COMPANY'S EMPLOYEE STOCK PURCHASE PLAN (Item 4 on the Proxy Card)	58
STOCKHOLDER PROPOSAL (Item 5 on the Proxy Card)	61
STOCKHOLDER PROPOSAL (Item 6 on the Proxy Card)	64
OTHER MATTERS	66
Annex A	
Employee Stock Purchase Plan	A-1

PROXY STATEMENT
ANNUAL MEETING OF STOCKHOLDERS
WASTE MANAGEMENT, INC.

1001 Fannin Street, Suite 4000
Houston, Texas 77002

Our Board of Directors is soliciting your proxy for the 2015 Annual Meeting of Stockholders and at any postponement or adjournment of the meeting. We are furnishing proxy materials to our stockholders primarily via the Internet. On March 26, 2015, we sent an electronic notice of how to access our proxy materials, including our Annual Report, to stockholders that have previously signed up to receive their proxy materials via the Internet. On March 26, 2015, we began mailing a Notice of Internet Availability of Proxy Materials to those stockholders that previously have not signed up for electronic delivery. The Notice contains instructions on how stockholders can access our proxy materials on the website referred to in the Notice or request that a printed set of the proxy materials be sent to them. Internet distribution of our proxy materials is designed to expedite receipt by stockholders, lower the costs of the annual meeting, and conserve natural resources.

Record Date	March 16, 2015.
Quorum	A majority of shares outstanding on the record date must be present in person or by proxy.
Shares Outstanding	There were 457,589,819 shares of Common Stock outstanding and entitled to vote as of March 16, 2015.
Voting by Proxy	Internet, phone, or mail.
Voting at the Meeting	Stockholders can vote in person during the meeting. Stockholders of record will be on a list held by the inspector of elections. Beneficial holders must obtain a proxy from their brokerage firm, bank, or other stockholder of record and present it to the inspector of elections with their ballot. Voting in person by a stockholder will replace any previous votes submitted by proxy.
Changing Your Vote	Stockholders of record may revoke their proxy at any time before we vote it at the meeting by submitting a later-dated proxy via the Internet, by telephone, by mail, by delivering instructions to our Corporate Secretary before the annual meeting revoking the proxy or by voting in person at the annual meeting. If you hold shares through a bank or brokerage firm, you may revoke any prior voting instructions by contacting that firm.
Votes Required to Adopt Proposals	Each share of our Common Stock outstanding on the record date is entitled to one vote on each of the nine director nominees and one vote on each other matter. To be elected, a director must receive a majority of the votes cast with respect to that director at the meeting. This means that the number of shares voted "for" a director must exceed 50% of the votes cast with respect to that director. Each of the other proposals requires the favorable vote of a majority of the shares present, either by proxy or in person, and entitled to vote.
Effect of Abstentions and Broker Non-Votes	Abstentions will have no effect on the election of directors. For each of the other proposals, abstentions will have the same effect as a vote ***against*** these matters because they are considered present and entitled to vote.

If your shares are held by a broker, the broker will ask you how you want your shares to be voted. If you give the broker instructions, your shares must be voted as you direct. If you do not give instructions, one of two things can happen depending on the type of proposal. For the proposal to ratify selection of the Company's independent registered public accounting firm, the broker may vote your shares at its discretion. But for all other proposals in this Proxy Statement, including the election of directors, the advisory vote on executive compensation, the amendment to our ESPP, and each of the stockholder proposals, the broker cannot vote your shares at all. When that happens, it is called a "broker non-vote." Broker non-votes are counted in determining the presence of a quorum at the meeting, but they are not counted for purposes of calculating the shares present and entitled to vote on particular proposals at the meeting.

Voting Instructions

You may receive more than one proxy card depending on how you hold your shares. If you hold shares through a broker, your ability to vote by phone or over the Internet depends on your broker's voting process. You should complete and return each proxy or other voting instruction request provided to you.

If you complete and submit your proxy voting instructions, the persons named as proxies will follow your instructions. If you submit your proxy but do not give voting instructions, we will vote your shares as follows:

- *FOR* our director candidates;
- *FOR* the ratification of the independent registered public accounting firm;
- *FOR* approval of our executive compensation;
- *FOR* the proposal to amend our ESPP;
- *AGAINST* the stockholder proposal regarding disclosure of political contributions; and
- *AGAINST* the stockholder proposal regarding a policy on acceleration of vesting of equity awards in the event of a change in control.

If you give us your proxy, any other matters that may properly come before the meeting will be voted at the discretion of the proxy holders.

Attending in Person

Only stockholders, their proxy holders and our invited guests may attend the meeting. If you plan to attend, please bring identification and, if you hold shares in street name, bring your bank or broker statement showing your beneficial ownership of Waste Management stock in order to be admitted to the meeting. If you are planning to attend our annual meeting and require directions to the meeting, please contact our Corporate Secretary at 713-512-6200.

The only items that will be discussed at this year's annual meeting will be the items set out in the Notice. There will be no presentations.

Stockholder Proposals for the 2016 Annual Meeting

Eligible stockholders who want to have proposals considered for inclusion in the Proxy Statement for our 2016 Annual Meeting should notify our Corporate Secretary at Waste Management, Inc., 1001 Fannin Street, Suite 4000, Houston, Texas 77002. The written proposal must be received at our offices no later than November 27, 2015 and no earlier than October 28, 2015. A stockholder must have been the registered or beneficial owner of (a) at least 1% of our outstanding Common Stock or (b) shares of our Common Stock with a market value of $2,000 for at least one year before submitting the proposal. Also, the stockholder must continue to own the stock through the date of the 2016 Annual Meeting.

Expenses of Solicitation

We pay the cost of preparing, assembling and mailing this proxy-soliciting material. In addition to the use of the mail, proxies may be solicited personally, by Internet or telephone, or by Waste Management officers and employees without additional compensation. We pay all costs of solicitation, including certain expenses of brokers and nominees who mail proxy materials to their customers or principals. Also, Innisfree M&A Incorporated has been hired to help in the solicitation of proxies for the 2015 Annual Meeting for a fee of approximately $15,000 plus associated costs and expenses.

Annual Report

A copy of our Annual Report on Form 10-K for the year ended December 31, 2014, which includes our financial statements for fiscal year 2014, is included with this Proxy Statement. The Annual Report on Form 10-K is not incorporated by reference into this Proxy Statement or deemed to be a part of the materials for the solicitation of proxies.

Householding Information

We have adopted a procedure approved by the SEC called "householding." Under this procedure, stockholders of record who have the same address and last name and do not participate in electronic delivery of proxy materials will receive only one copy of the Proxy Statement and Annual Report unless we are notified that one or more of these individuals wishes to receive separate copies. This procedure helps reduce our printing costs and postage fees.

If you wish to receive a separate copy of this Proxy Statement and the Annual Report, please contact: Waste Management, Inc., Corporate Secretary, 1001 Fannin Street, Suite 4000, Houston, Texas 77002, telephone 713-512-6200.

If you do not wish to participate in householding in the future, and prefer to receive separate copies of the proxy materials, please contact: Broadridge Financial Solutions, Attention Householding Department, 51 Mercedes Way, Edgewood, NY 11717, telephone 1-800-542-1061. If you are currently receiving multiple copies of proxy materials and wish to receive only one copy for your household, please contact Broadridge.

BOARD OF DIRECTORS

Our Board of Directors currently has nine members. Each member of our Board is elected annually. Mr. Reum is the Non-Executive Chairman of the Board and presides over all meetings of the Board, including executive sessions that only non-employee directors attend.

Stockholders and interested parties wishing to communicate with the Board or the non-employee directors should address their communications to Mr. W. Robert Reum, Non-Executive Chairman of the Board, c/o Waste Management, Inc., P.O. Box 53569, Houston, Texas 77052-3569.

Leadership Structure

We separated the roles of Chairman of the Board and Chief Executive Officer at our Company in 2004. We believe that having a Non-Executive Chairman of the Board is in the best interests of the Company and stockholders. Over the past several years, the demands made on boards of directors have been increasing. This is in large part due to increased regulation under federal securities laws, national stock exchange rules and other federal and state regulatory changes. Market challenges and changing economic conditions have also increased the demands made on boards of directors. The Non-Executive Chairman's responsibilities include leading full Board meetings and executive sessions and managing the Board function. The Board named Mr. Reum Chairman of the Board effective January 1, 2012, due to his tenure with, and experience and understanding of, the Company, as well as his experience on public company boards of directors.

The separation of the positions allows Mr. Reum to focus on management of Board matters and allows our Chief Executive Officer to focus his attention on managing our business. Additionally, we believe the separation of those roles contributes to the independence of the Board in its oversight role of critiquing and assessing the Chief Executive Officer and management generally.

Role in Risk Oversight

Our executive officers have the primary responsibility for risk management within our Company. Our Board of Directors oversees risk management to ensure that the processes designed and implemented by our executives are adapted to and integrated with the Company's strategy and functioning as directed. The primary means by which the Board oversees our risk management structures and policies is through its regular communications with management and our enterprise risk management process. The Company believes that its leadership structure is conducive to comprehensive risk management practices and that the Board's involvement is appropriate to ensure effective oversight.

The Company has an enterprise risk management, or ERM, process that is coordinated by an ERM Committee consisting of our Chief Financial Officer, Chief Operating Officer, Chief Legal Officer and head of Internal Audit. The ERM process begins with identification of the Company's programs and processes related to risk management and the individuals responsible for them through use of a risk assessment survey completed by senior personnel. The survey requests information regarding perceived risks to the Company, with follow-up interviews with members of senior management to review any gaps between their and their direct reports' responses.

For 2015, we interviewed the Company's Senior Leadership team and additional members of senior management to capture their insight on the strategic risks that could affect our ability to execute against our strategy, as well as the more long-term risk landscape and the potential effect of such risks on the viability of the business. As a result of this process, we have grouped our risk focus across the following areas:

- Environmental and Regulatory Developments;
- Information Security and Technology;
- Safety; and
- Operational Risk Management.

The enterprise risk management program and process continue to evolve with enhancements made annually. Board members are polled to collect their thoughts on significant risks facing the Company and how the reporting format should be revised to improve management's communication of enterprise risks to the Board. We assign champions across the aforementioned areas that will work with the ERM Committee to establish a more comprehensive risk mitigation strategy. In addition, external stakeholders will continue to be interviewed to gather their views on risks that they perceive could have a significant impact on the Company or the industry. The ERM Committee will review the assessment of the risks in each area and the proposed mitigation strategy and determine what adjustments, additions, or changes are appropriate.

The Board of Directors and its committees meet in person approximately six times a year, including one meeting that is dedicated specifically to strategic planning, and regular updates are given to the Board of Directors on all Company risks. At each of these meetings, our President and Chief Executive Officer; Chief Financial Officer; and Chief Legal Officer are asked to report to the Board and, when appropriate, specific committees. Additionally, other members of management and employees are requested to attend meetings and present information, including those responsible for our Internal Audit, Environmental Audit, Business Ethics and Compliance, Human Resources, Government Affairs, Information Technology, Risk Management, Safety and Accounting functions.

One of the purposes of these presentations is to provide direct communication between members of the Board and members of management; the presentations provide members of the Board with the information necessary to understand the risk profile of the Company, including information regarding the specific risk environment, exposures affecting the Company's operations and the Company's plans to address such risks. In addition to information regarding general updates to the Company's operational and financial condition, management reports to the Board on a number of specific issues meant to inform the Board about the Company's outlook and forecasts, and any impediments to meeting those or its pre-defined strategies generally. These direct communications between management and the Board of Directors allow the Board to assess management's evaluation and management of the risks of the Company.

Management is encouraged to communicate with the Board of Directors with respect to extraordinary risk issues or developments that may require more immediate attention between regularly scheduled Board meetings. Mr. Reum, as Non-Executive Chairman, facilitates communications with the Board of Directors as a whole and is integral in initiating the discussions among the independent Board members necessary to ensure management is adequately evaluating and managing the Company's risks. These intra-Board communications are essential in its oversight function. Additionally, all members of the Board are invited to attend all committee meetings, regardless of whether the individual sits on the specific committee, and committee chairs report to the full Board. These practices ensure that all issues affecting the Company are considered in relation to each other; and by doing so, risks that affect one aspect of our Company can be taken into consideration when considering other risks.

In addition, the Audit Committee is responsible for ensuring that an effective risk assessment process is in place, and quarterly reports are made to the Audit Committee on all financial and compliance risks in accordance with New York Stock Exchange requirements.

Independence of Board Members

The Board of Directors has determined that each of the following eight non-employee director candidates is independent in accordance with the New York Stock Exchange listing standards:

Bradbury H. Anderson
Frank M. Clark, Jr.
Andrés R. Gluski
Patrick W. Gross
Victoria M. Holt
John C. Pope
W. Robert Reum
Thomas H. Weidemeyer

Mr. Steiner is an employee of the Company and, as such, is not considered an "independent" director.

To assist the Board in determining independence, the Board of Directors adopted categorical standards of director independence, which meet or exceed the requirements of the New York Stock Exchange. These standards specify certain relationships that are prohibited in order for the non-employee director to be deemed independent. In addition to these categorical standards, our Board makes a subjective determination of independence considering relevant facts and circumstances. The Board reviewed all commercial and non-profit affiliations of each non-employee director and the dollar amount of all transactions between the Company and each entity with which a non-employee director is affiliated to determine independence. These transactions included the Company, through its subsidiaries, providing waste management services in the ordinary course of business and the Company's subsidiaries purchasing goods and services in the ordinary course of business. The categorical standards our Board uses in determining independence are included in our Corporate Governance Guidelines, which can be found on our website. The Board has determined that each non-employee director candidate meets these categorical standards and that there are no other relationships that would affect independence.

Meetings and Board Committees

Last year the Board held seven meetings and each committee of the Board met independently as set forth below. Each director attended at least 75% of the meetings of the Board and the committees on which he or she served. In addition, all directors attended the 2014 Annual Meeting of Stockholders, with the exception of Mr. Gross who had an unavoidable schedule conflict. Although we do not have a formal policy regarding director attendance at annual meetings, it has been longstanding practice that all directors attend unless there are unavoidable schedule conflicts or unforeseen circumstances.

The Board appoints committees to help carry out its duties. In particular, Board committees work on key issues in greater detail than would be possible at full Board meetings. Each committee reviews the results of its meetings with the full Board, and all members of the Board are invited to attend all committee meetings. The Board has three separate standing committees: the Audit Committee; the Management Development and Compensation Committee (the "MD&C Committee"); and the Nominating and Governance Committee. Additionally, the Board has the power to appoint additional committees, as it deems necessary. In 2006, the Board appointed a Special Committee, as described below.

The Audit Committee

Mr. Gross has been the Chairman of our Audit Committee since May 2010. The other members of our Audit Committee are Ms. Holt and Messrs. Clark, Reum, Weidemeyer and Gluski. (Mr. Gluski was appointed on February 23, 2015, after the filing of our Annual Report on Form 10-K.) Each member of our Audit Committee satisfies the additional New York Stock Exchange independence standards for audit committees set forth in Section 10A of the Securities Exchange Act of 1934, as amended. Our Audit Committee held nine meetings in 2014.

Our Board of Directors has determined that Mr. Gross and each of Ms. Holt and Messrs. Clark, Gluski and Reum are Audit Committee financial experts as defined by the SEC based on a thorough review of their education and financial and public company experience.

Mr. Gross was a founder of American Management Systems where he was principal executive officer for over 30 years. Since 2001, he has served as Chairman of The Lovell Group, a private investment and advisory firm. Mr. Gross holds an MBA from the Stanford University Graduate School of Business, a master's degree in engineering science from the University of Michigan and a bachelor's degree in engineering science from Rensselaer Polytechnic Institute.

Ms. Holt has served as President and Chief Executive Officer of Proto Labs, Inc. since February 2014 and was President and Chief Executive of Spartech Corporation from September 2010 to March 2013. Prior to joining Spartech, she served as Senior Vice President of PPG Industries for over five years. Ms. Holt holds an MBA from Pace University and a bachelor's degree in chemistry from Duke University.

Mr. Clark served as Chairman and Chief Executive Officer of ComEd from November 2005 to February 2012 and President of ComEd from 2001 to 2005. Mr. Clark holds an LLB from DePaul University College of Law and a BBA from DePaul University.

Mr. Gluski has served as President and Chief Executive Officer of The AES Corporation since 2011 and was Executive Vice President and Chief Operating Officer of The AES Corporation from 2007 to 2011. Mr. Gluski is a graduate of Wake Forest University and holds an MA and PhD in Economics from the University of Virginia.

Mr. Reum has served as Chairman, President and Chief Executive Officer of Amsted Industries Incorporated since March 2001. He also served as Chairman, President and CEO of a public diversified metal products company for many years. Mr. Reum holds an MBA from Harvard University, a JD from The University of Michigan Law School and a bachelor's degree from Yale University.

The Audit Committee's duties are set forth in a written charter that was approved by the Board of Directors. A copy of the charter can be found on our website. The Audit Committee generally is responsible for overseeing all matters relating to our financial statements and reporting, internal audit function and independent auditors. As part of its function, the Audit Committee reports the results of all of its reviews to the full Board. In fulfilling its duties, the Audit Committee, has the following responsibilities:

Administrative Responsibilities

- Report to the Board, at least annually, all public company audit committee memberships by members of the Audit Committee;
- Perform an annual review of its performance relative to its charter and report the results of its evaluation to the full Board; and
- Adopt an orientation program for new Audit Committee members.

Independent Auditor

- Engage an independent auditor, determine the auditor's compensation and replace the auditor if necessary;
- Review the independence of the independent auditor and establish our policies for hiring current or former employees of the independent auditor;
- Evaluate the lead partner of our independent audit team and review a report, at least annually, describing the independent auditor's internal control procedures; and
- Pre-approve all services, including non-audit engagements, provided by the independent auditor.

Internal Audit

- Review the plans, staffing, reports and activities of the internal auditors; and
- Review and establish procedures for receiving, retaining and handling complaints, including anonymous complaints by our employees, regarding accounting, internal controls and auditing matters.

Financial Statements

- Review financial statements and Forms 10-K and 10-Q with management and the independent auditor;
- Review all earnings press releases and discuss with management the type of earnings guidance that we provide to analysts and rating agencies;
- Discuss with the independent auditor any material changes to our accounting principles and matters required to be communicated by Public Company Accounting Oversight Board (United States) Audit Standard AU Section 380 *Communication with Audit Committees*;

- Review our financial reporting, accounting and auditing practices with management, the independent auditor and our internal auditors;
- Review management's and the independent auditor's assessment of the adequacy and effectiveness of internal controls over financial reporting; and
- Review executive officer certifications related to our reports and filings.

Audit Committee Report

The role of the Audit Committee is, among other things, to oversee the Company's financial reporting process on behalf of the Board of Directors, to recommend to the Board whether the Company's financial statements should be included in the Company's Annual Report on Form 10-K and to select the independent auditor for ratification by stockholders. Company management is responsible for the Company's financial statements as well as for its financial reporting process, accounting principles and internal controls. The Company's independent auditors are responsible for performing an audit of the Company's financial statements and expressing an opinion as to the conformity of such financial statements with accounting principles generally accepted in the United States.

The Audit Committee has reviewed and discussed the Company's audited financial statements as of and for the year ended December 31, 2014 with management and the independent registered public accounting firm, and has taken the following steps in making its recommendation that the Company's financial statements be included in its annual report:

- First, the Audit Committee discussed with Ernst & Young, the Company's independent registered public accounting firm for fiscal year 2014, those matters required to be discussed by Public Company Accounting Oversight Board (United States) Audit Standard AU Section 380 *Communication with Audit Committees*, including information regarding the scope and results of the audit. These communications and discussions are intended to assist the Audit Committee in overseeing the financial reporting and disclosure process.
- Second, the Audit Committee discussed with Ernst & Young its independence and received from Ernst & Young a letter concerning independence as required under applicable independence standards for auditors of public companies. This discussion and disclosure helped the Audit Committee in evaluating such independence. The Audit Committee also considered whether the provision of other non-audit services to the Company is compatible with the auditor's independence.
- Third, the Audit Committee met periodically with members of management, the internal auditors and Ernst & Young to review and discuss internal controls over financial reporting. Further, the Audit Committee reviewed and discussed management's report on internal control over financial reporting as of December 31, 2014, as well as Ernst & Young's report regarding the effectiveness of internal control over financial reporting.
- Finally, the Audit Committee reviewed and discussed, with the Company's management and Ernst & Young, the Company's audited consolidated balance sheet as of December 31, 2014, and consolidated statements of operations, comprehensive income, cash flows and equity for the fiscal year ended December 31, 2014, including the quality, not just the acceptability, of the accounting principles, the reasonableness of significant judgments and the clarity of the disclosure.

The Committee has also discussed with the Company's internal auditors and independent registered public accounting firm the overall scope and plans of their respective audits. The Committee meets periodically with both the internal auditors and independent registered public accounting firm, with and without management present, to discuss the results of their examinations and their evaluations of the Company's internal controls over financial reporting.

The members of the Audit Committee are not engaged in the accounting or auditing profession and, consequently, are not experts in matters involving auditing or accounting. In the performance of their oversight

function, the members of the Audit Committee necessarily relied upon the information, opinions, reports and statements presented to them by Company management and by the independent registered public accounting firm.

Based on the reviews and discussions explained above (and without other independent verification), the Audit Committee recommended to the Board (and the Board approved) that the Company's financial statements be included in its annual report for its fiscal year ended December 31, 2014. The Committee has also approved the selection of Ernst & Young as the Company's independent registered public accounting firm for fiscal year 2015.

The Audit Committee of the Board of Directors

Patrick W. Gross, *Chairman*
Frank M. Clark, Jr.
Victoria M. Holt
W. Robert Reum
Thomas H. Weidemeyer

The Management Development and Compensation Committee

Mr. Clark has served as the Chairman of our MD&C Committee since May 2011. The other members of the Committee are Ms. Holt and Messrs. Anderson, Gluski, Pope and Reum. Each member of our MD&C Committee is independent in accordance with the rules and regulations of the New York Stock Exchange. The MD&C Committee met six times in 2014.

Our MD&C Committee is responsible for overseeing all of our executive and senior management compensation, as well as developing the Company's compensation philosophy generally. The MD&C Committee's written charter, which was approved by the Board of Directors, can be found on our website. In fulfilling its duties, the MD&C Committee has the following responsibilities:

- Review and establish policies governing the compensation and benefits of all of our executives;
- Approve the compensation of our senior management and set the bonus plan goals for those individuals;
- Conduct an annual evaluation of our Chief Executive Officer by all independent directors to set his compensation;
- Oversee the administration of all of our equity-based incentive plans;
- Review the results of the stockholder advisory vote on executive compensation and consider any implications of such voting results on the Company's compensation programs;
- Recommend to the full Board new Company compensation and benefit plans or changes to our existing plans;
- Evaluate and recommend to the Board the compensation paid to our non-employee directors;
- Review the independence of the MD&C Committee's compensation consultant annually; and
- Perform an annual review of its performance relative to its charter and report the results of its evaluation to the full Board.

In overseeing compensation matters, the MD&C Committee may delegate authority for day-to-day administration and interpretation of the Company's plans, including selection of participants, determination of award levels within plan parameters, and approval of award documents, to Company employees. However, the MD&C Committee may not delegate any authority under those plans for matters affecting the compensation and benefits of the executive officers. For additional information on the MD&C Committee, see the Compensation Discussion and Analysis beginning on page 22.

Compensation Committee Report

The MD&C Committee has reviewed and discussed the Compensation Discussion and Analysis, beginning on page 22, with management. Based on the review and discussions, the MD&C Committee recommended to the Board of Directors that the Compensation Discussion and Analysis be included in the Company's Proxy Statement.

The Management Development and Compensation Committee of the Board of Directors

Frank M. Clark, Jr., *Chairman*
Bradbury H. Anderson
Andrés R. Gluski
Victoria M. Holt
John C. Pope
W. Robert Reum

Compensation Committee Interlocks and Insider Participation

During 2014, Ms. Holt and Messrs. Anderson, Clark, Pope and Reum served on the MD&C Committee. No member of the MD&C Committee was an officer or employee of the Company during 2014; no member of the MD&C Committee is a former officer of the Company; and during 2014, none of our executive officers served as a member of a board of directors or compensation committee of any entity that has one or more executive officers who serve on our Board of Directors or MD&C Committee.

The Nominating and Governance Committee

Mr. Weidemeyer has served as the Chairman of our Nominating and Governance Committee since May 2011. The other members of the Committee include Messrs. Anderson, Gross, Pope and Reum. Each member of our Nominating and Governance Committee is independent in accordance with the rules and regulations of the New York Stock Exchange. In 2014, the Nominating and Governance Committee met five times.

The Nominating and Governance Committee has a written charter that has been approved by the Board of Directors and can be found on our website. It is the duty of the Nominating and Governance Committee to oversee matters regarding corporate governance. In fulfilling its duties, the Nominating and Governance Committee has the following responsibilities:

- Review and recommend the composition of our Board, including the nature and duties of each of our committees, in accordance with our Corporate Governance Guidelines;
- Evaluate the charters of each of the committees and recommend directors to serve as committee chairs;
- Review individual director's performance in consultation with the Chairman of the Board and review the overall effectiveness of the Board;
- Recommend retirement policies for the Board, the terms for directors and the proper ratio of employee directors to outside directors;
- Perform an annual review of its performance relative to its charter and report the results of its evaluation to the full Board;
- Review stockholder proposals received for inclusion in the Company's proxy statement and recommend action to be taken with regard to the proposals to the Board; and
- Identify and recommend to the Board candidates to fill director vacancies.

Potential director candidates are identified through various methods; the Nominating and Governance Committee welcomes suggestions from directors, members of management, and stockholders. From time to time,

the Nominating and Governance Committee uses outside consultants to assist it with identifying potential director candidates. In 2014, the Nominating and Governance Committee retained an outside consultant who identified Mr. Andrés R. Gluski as a potential director candidate. Our Board of Directors elected Mr. Gluski as a member of the Board effective January 1, 2015, and he is a nominee for re-election at the annual meeting. Mr. Gluski was appointed to the Audit Committee and the MD&C Committee at the February 23, 2015 Board of Directors' meeting.

For all potential candidates, the Nominating and Governance Committee considers all factors it deems relevant, such as a candidate's personal and professional integrity and sound judgment, business and professional skills and experience, independence, possible conflicts of interest, diversity, and the potential for effectiveness, in conjunction with the other directors, to serve the long-term interests of the stockholders. While there is no formal policy with regard to consideration of diversity in identifying director nominees, the Committee considers diversity in business experience, professional expertise, gender and ethnic background, along with various other factors when evaluating director nominees. The Committee uses a matrix of functional and industry experiences to develop criteria to select candidates. Before being nominated by the Nominating and Governance Committee, director candidates are interviewed by the Chief Executive Officer and a minimum of two members of the Nominating and Governance Committee, including the Non-Executive Chairman of the Board. Additional interviews may include other members of the Board, representatives from senior levels of management and an outside consultant.

The Nominating and Governance Committee will consider all potential nominees on their merits without regard to the source of recommendation. The Nominating and Governance Committee believes that the nominating process will and should continue to involve significant subjective judgments. To suggest a nominee, you should submit your candidate's name, together with biographical information and his or her written consent to nomination to the Chairman of the Nominating and Governance Committee, Waste Management, Inc., 1001 Fannin Street, Suite 4000, Houston, Texas 77002, between October 28, 2015 and November 27, 2015.

Related Party Transactions

The Board of Directors has adopted a written Related Party Transactions Policy for the review and approval or ratification of related party transactions. Our policy generally defines related party transactions as current or proposed transactions in excess of $120,000 in which (i) the Company is a participant and (ii) any director, executive officer or immediate family member of any director or executive officer has a direct or indirect material interest. In addition, the policy sets forth certain transactions that will not be considered related party transactions, including (i) executive officer compensation and benefit arrangements; (ii) director compensation arrangements; (iii) business travel and expenses, advances and reimbursements in the ordinary course of business; (iv) indemnification payments and advancement of expenses, and payments under directors' and officers' indemnification insurance policies; (v) any transaction between the Company and any entity in which a related party has a relationship solely as a director, a less than 5% equity holder, or an employee (other than an executive officer); and (vi) purchases of Company debt securities, provided that the related party has a passive ownership of no more than 2% of the principal amount of any outstanding series. The Nominating and Governance Committee is responsible for overseeing the policy.

All executive officers and directors are required to notify the Chief Legal Officer or the Corporate Secretary as soon as practicable of any proposed transaction that they or their family members are considering entering into that involves the Company. The Chief Legal Officer will determine whether potential transactions or relationships constitute related party transactions that must be referred to the Nominating and Governance Committee.

The Nominating and Governance Committee will review a detailed description of the transaction, including:

- the terms of the transaction;
- the business purpose of the transaction;
- the benefits to the Company and to the relevant related party; and
- whether the transaction would require a waiver of the Company's Code of Conduct.

In determining whether to approve a related party transaction, the Nominating and Governance Committee will consider, among other things, whether:

- the terms of the related party transaction are fair to the Company and such terms would be reasonable in an arms-length transaction;
- there are business reasons for the Company to enter into the related party transaction;
- the related party transaction would impair the independence of any non-employee director;
- the related party transaction would present an improper conflict of interest for any director or executive officer of the Company; and
- the related party transaction is material to the Company or the individual.

Any member of the Nominating and Governance Committee who has an interest in a transaction presented for consideration will abstain from voting on the related party transaction.

The Nominating and Governance Committee's consideration of related party transactions and its determination of whether to approve such a transaction are reflected in the minutes of the Nominating and Governance Committee's meetings. The Company is not aware of any transactions that are required to be disclosed.

Special Committee

The Board of Directors appointed a Special Committee in November 2006 to make determinations regarding the Company's obligation to provide indemnification when and as may be necessary. The Special Committee consists of Mr. Gross and Mr. Weidemeyer. The Special Committee held no meetings in 2014.

Board of Directors Governing Documents

Stockholders may obtain copies of our Corporate Governance Guidelines, the charters of the Audit Committee, the MD&C Committee, and the Nominating and Governance Committee, and our Code of Conduct free of charge by contacting the Corporate Secretary, c/o Waste Management, Inc., 1001 Fannin Street, Suite 4000, Houston, Texas 77002 or by accessing the "Corporate Governance" section of the "Investor Relations" page on our website at *www.wm.com.*

Non-Employee Director Compensation

Our non-employee director compensation program consists of equity awards and cash consideration, which is recommended annually by the MD&C Committee with the assistance of an independent third-party consultant, and set by action of the Board of Directors. The Board's goal in designing directors' compensation is to provide a competitive package that will enable the Company to attract and retain highly skilled individuals with relevant experience. The compensation also is designed to reward the time and talent required to serve on the board of a company of our size and complexity. The Board seeks to provide sufficient flexibility in the form of compensation delivered to meet the needs of different individuals while ensuring that a substantial portion of directors' compensation is linked to the long-term success of the Company.

Equity Compensation

Non-employee directors receive an annual grant of shares of Common Stock under the Company's Stock Incentive Plan. The shares are fully vested at the time of grant; however, non-employee directors are subject to ownership guidelines discussed below. The grant of shares is generally made in two equal installments, and the number of shares issued is based on the market value of our Common Stock on the dates of grant, which historically have been January 15 and July 15 of each year. In February 2014, based on an analysis provided by an independent third-party consultant, the MD&C Committee recommended, and the Board of Directors approved, an increase in the value of the annual stock award granted to non-employee directors from $130,000 to $140,000, effective with the award granted in July 2014. Accordingly, each non-employee director received a grant of Common Stock valued at $65,000 on January 15, 2014 under the 2009 Stock Incentive Plan and a grant

of Common Stock valued at $70,000 on July 15, 2014 under the 2014 Stock Incentive Plan. Mr. Reum received an additional grant of Common Stock valued at $100,000 for his service as Non-Executive Chairman of the Board in 2014, which was also made in two equal installments on January 15 and July 15.

Cash Compensation

All non-employee directors receive an annual cash retainer for Board service and additional cash retainers for serving as a committee chair. Directors do not receive meeting fees in addition to the retainers. The cash retainers are generally payable in two equal installments in January and July of each year. In February 2014, based on an analysis provided by an independent third-party consultant, the MD&C Committee recommended, and the Board of Directors approved, an increase in the annual cash retainer from $105,000 to $110,000, effective with the payments made in July 2014. The payments of the retainers are not subject to refund. The table below sets forth the cash retainers for 2014:

Annual Retainer	$107,500
Annual Chair Retainers	$100,000 for Non-Executive Chairman
	$25,000 for Audit Committee Chair
	$20,000 for MD&C Committee Chair
	$15,000 for Nominating and Governance Committee Chair
Other Annual Retainers	$10,000 for Special Committee (Paid only in years when convened; the Special Committee was not convened in 2014.)

Stock Ownership Guidelines for Non-Employee Directors

Our non-employee directors are subject to ownership guidelines that establish a minimum ownership level and require that all net shares received in connection with a stock award, after selling shares to pay all applicable taxes, be held during their tenure as a director and for one year following termination of Board service. The MD&C Committee updated the guidelines in May 2014 to account for the Company's more recent sustained stock price. The updated guidelines require each director to hold Common Stock or share-based instruments valued at approximately five times the annual cash retainer for non-employee directors based on a $40 stock price. As a result, non-employee directors currently are required to hold 13,500 shares. All of our directors, with the exception of Ms. Holt and Mr. Gluski, have reached their ownership guideline. There is no deadline set for non-employee directors to reach their ownership guideline; however, the MD&C Committee performs regular reviews to confirm all non-employee directors are in compliance or are showing sustained progress toward achievement of their ownership guideline. Additionally, our insider trading policy provides that directors are not permitted to hedge their ownership of Company securities, including trading in options, warrants, puts and calls or similar derivative instruments on any security of the Company or selling any security of the Company "short."

Director Compensation Table

The table below shows the aggregate cash paid, and stock awards issued, to the non-employee directors in 2014 in accordance with the descriptions set forth above:

Name	Fees Earned or Paid in Cash ($)	Stock Awards ($)(1)	Total ($)
Bradbury H. Anderson	107,500	135,000	242,500
Frank M. Clark, Jr.	127,500	135,000	262,500
Patrick W. Gross	132,500	135,000	267,500
Victoria M. Holt	107,500	135,000	242,500
John C. Pope	107,500	135,000	242,500
W. Robert Reum	207,500	235,000	442,500
Thomas H. Weidemeyer	122,500	135,000	257,500

(1) Amounts in this column represent the grant date fair value of stock awards granted in 2014, in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718. The grant date fair value of the awards is equal to the number of shares issued multiplied by the average of the high and low market price of our Common Stock on each date of grant; there are no assumptions used in the valuation of shares.

ELECTION OF DIRECTORS

(ITEM 1 ON THE PROXY CARD)

The first proposal on the agenda is the election of nine directors to serve until the 2016 Annual Meeting of Stockholders or until their respective successors have been duly elected and qualified. The Board has nominated the nine director candidates named below, and recommends that you vote **FOR** their election. If any nominee is unable or unwilling to serve as a director, which we do not anticipate, the Board, by resolution, may reduce the number of directors that constitute the Board or may choose a substitute. To be elected, a director must receive a majority of the votes cast with respect to that director at the meeting. Our By-laws provide that if the number of shares voted "for" any director nominee does not exceed 50% of the votes cast with respect to that director, he will tender his resignation to the Board of Directors. The Nominating and Governance Committee will then make a recommendation to the Board on whether to accept or reject the resignation, or whether other action should be taken.

The table below shows all of our director nominees; their ages, terms of office on our Board; experience within the past five years; and their qualifications we considered when inviting them to join our Board as well as nominating them for re-election. We believe that, as a general matter, our directors' past five years of experience gives an indication of the wealth of knowledge and experience these individuals have and that we considered; however, we have also indicated the specific skills and areas of expertise we believe makes each of these individuals a valuable member of our Board.

Director Nominees

Director	Qualifications
Bradbury H. Anderson, 65 **Director since 2011**	
Vice Chairman and Chief Executive Officer — Best Buy Co., Inc. (multinational retailer of technology and entertainment products and services) from 2002 to 2009; President and Chief Operating Officer of Best Buy from 1991 to 2002. Director of General Mills, Inc. since 2007. Director of Best Buy Co., Inc. since June 2013. Director of Carlson Companies, a private company, since July 2009. Director of LightHaus Logic, Inc., a private corporation, since April 2012.	Mr. Anderson served in the positions of chief executive officer and chief operating officer of a large public retail company for several years, during a customer segmentation transformation, which provided him with extensive knowledge of management and operations of large public companies, including experience implementing customer focused strategies. He also has over 18 years of experience as a member of a public company board of directors.
Frank M. Clark, Jr., 69 **Director since 2002**	
Chairman and Chief Executive Officer — ComEd (energy services company and subsidiary of Exelon Corporation) from November 2005 to February 2012; President — ComEd from 2001 to November 2005. Executive Vice President and Chief of Staff — Exelon Corporation (public utility holding company) from 2004 to 2005; Senior Vice President — Exelon Corporation from 2001 to 2004. Director of BMO Financial Corp., a private corporation, since 2005. Director of Aetna, Inc. since 2006.	Mr. Clark served in executive positions at a large public utility company for over a decade, providing him with extensive experience and knowledge of large company management, operations and business critical functions. He also brings over 12 years of experience as a member of a public company board of directors.

Director	Qualifications
Andrés R. Gluski, 57 **Director since January 2015**	
President and Chief Executive Officer — The AES Corporation (global power company) since 2011; Chief Operating Officer — The AES Corporation from 2007 to 2011. Director of The AES Corporation since 2011. Director of Cliffs Natural Resources from 2011 to 2014.	Mr. Gluski has served in executive positions at a large public company for many years. He has a diverse international and finance background. His experience in managing growth opportunities while focusing on operational innovation and efficiency aligns well with the Company's strategic vision. He also has experience serving on the board of directors for public companies.
Patrick W. Gross, 70 **Director since 2006**	
Chairman — The Lovell Group (private investment and advisory firm) since October 2001. Director of Capital One Financial Corporation since 1995. Director of Liquidity Services, Inc. since 2001. Director of Career Education Corporation since 2005. Director of Rosetta Stone, Inc. since 2009. Director of Taleo Corporation from 2006 to 2012.	Mr. Gross was a founder of American Management Systems, Inc., a global business and information technology firm, where he was principal executive officer for over 30 years. As a result, he has extensive experience in applying information technology and advanced data analytics in global companies. His background, education and board service also provide him with expertise in finance and accounting. He also brings over 30 years of experience serving on the board of directors for public companies.
Victoria M. Holt, 57 **Director since 2013**	
President and Chief Executive Officer — Proto Labs, Inc. (online and technology-enabled quick-turn manufacturer) since February 2014. President and Chief Executive Officer — Spartech Corporation (a leading producer of plastic sheet, compounds and packaging products) from September 2010 to March 2013. Senior Vice President, Glass and Fiber Glass, PPG Industries, Inc. (a leading coatings and specialty products company) from May 2005 to September 2010. Director of Watlow Electric Manufacturing Company, a private corporation, since December 2012. Director of Spartech Corporation from 2005 to 2013.	Ms. Holt has served in executive positions at public companies for many years, providing her with extensive knowledge about operations, management, logistical requirements and measuring financial performance of large public companies. Her background and education provide her with expertise in applying environmental solutions critical to our Company's strategy. She also has many years of experience serving on a public company board of directors.

Director	Qualifications
John C. Pope, 65 **Non-Executive Chairman of the Board from 2004 through 2011;** **Director since 1997**	
Chairman of the Board — PFI Group (private investment firm) since July 1994. Chairman of the Board — R.R. Donnelley & Sons Company since 2014; Director of R.R. Donnelley & Sons Company, or predecessor companies, since 1996. Director of Kraft Foods Group, Inc., or predecessor companies, since 2001. Director of Con-way, Inc., or predecessor companies, since 2003. Director of Dollar Thrifty Automotive Group, Inc. from 1997 to 2012. Director of Navistar International Corporation from 2012 to 2013.	Prior to his current service on the boards of multiple major corporations, Mr. Pope served in executive operational and financial positions at large airline companies for almost 20 years, providing him with extensive experience and knowledge of management of large public companies with large-scale logistical challenges, high fixed-cost structure and significant capital requirements. His background, education and board service also provide him with expertise in finance and accounting. Mr. Pope has served on the board of directors for many public companies for over 30 years.
W. Robert Reum, 72 **Non-Executive Chairman of the Board since January 2012;** **Director since 2003**	
Chairman, President and CEO — Amsted Industries Incorporated (diversified manufacturer for the railroad, vehicular and construction industries) since March 2001.	Mr. Reum has served as the chief executive of a private diversified manufacturing company for 14 years. He also served as Chairman, President and Chief Executive Officer of The Interlake Corporation, a public diversified metal products company, from 1991 to 1999. As a result, he has extensive management experience within a wide range of business functions. Mr. Reum also brings over 20 years of experience serving on the board of directors for public companies.
David P. Steiner, 54 **Chief Executive Officer and Director since 2004;** **President since June 2010**	
Executive Vice President and Chief Financial Officer from April 2003 to March 2004. Director of TE Connectivity Ltd. (formerly Tyco Electronics Corporation) since 2007. Director of FedEx Corporation since 2009.	Mr. Steiner is our President and Chief Executive Officer and, in that capacity, brings extensive knowledge of the details of our Company and its employees, as well as the front-line experiences of running our Company, to his service as a member of our Board. Mr. Steiner also brings his experience serving on the board of directors of other major public companies.

Director	Qualifications
Thomas H. Weidemeyer, 67 **Director since 2005**	
Chief Operating Officer — United Parcel Service, Inc. (package delivery and supply chain services company) from 2001 to 2003; Senior Vice President — United Parcel Service, Inc. from 1994 to 2003. President, UPS Airlines (UPS owned airline) from 1994 to 2003. Director of NRG Energy, Inc. since 2003. Director of The Goodyear Tire & Rubber Company since 2004. Director of Amsted Industries Incorporated since 2007.	Mr. Weidemeyer served in executive positions at a large public company for several years. His roles encompassed significant operational management responsibility, providing him knowledge and experience in an array of functional areas critical to large public companies, including supply chain and logistics management. Mr. Weidemeyer also has over 13 years of experience serving on the board of directors for public companies.

THE BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE FOR THE ELECTION OF EACH OF THE NINE NOMINEE DIRECTORS.

DIRECTOR AND OFFICER STOCK OWNERSHIP

Our Board of Directors has adopted stock ownership guidelines for our non-employee directors based on the recommendation of the MD&C Committee, as described in Non-Employee Director Compensation on page 13 of this Proxy Statement. Our executive officers, including Mr. Steiner, are also subject to stock ownership guidelines, as described in the Compensation Discussion and Analysis on page 38 of this Proxy Statement.

The Stock Ownership Table below shows the number of shares of Common Stock each director nominee and each executive officer named in the Summary Compensation Table on page 40 beneficially owned as of March 16, 2015, our record date for the annual meeting, as well as the number owned by all directors and executive officers as a group. The table also includes information about stock options currently exercisable or that will become exercisable within 60 days of our record date and phantom stock granted under various compensation and benefit plans. These individuals, both individually and in the aggregate, own less than 1% of our outstanding shares as of the record date.

Security Ownership of Management

Name	Shares of Common Stock Owned(1)	Shares of Common Stock Covered by Exercisable Options(2)	Phantom Stock(3)
Bradbury H. Anderson(4)	14,813	0	0
Frank M. Clark, Jr.	26,464	0	0
Andrés R. Gluski	1,347	0	0
Patrick W. Gross	19,596	0	0
Victoria M. Holt	7,449	0	0
John C. Pope(5)	48,122	0	0
W. Robert Reum	30,686	0	0
Thomas H. Weidemeyer	21,763	0	0
David P. Steiner(6)	783,438	1,344,832	72,634
James E. Trevathan, Jr.	200,555	395,984	0
James C. Fish, Jr.	41,944	93,384	0
Jeff M. Harris	81,309	69,925	0
John J. Morris, Jr.	16,644	28,211	0
Mark A. Weidman(7)	57,912	0	0
David A. Aardsma(8)	50,031	0	3,014
All directors and executive officers as a group (20 persons)(9)	1,529,012	2,030,528	82,402

(1) The table reports beneficial ownership in accordance with Rule 13d-3 under the Securities Exchange Act of 1934, as amended. The amounts reported above include 11,811 stock equivalents attributed to Mr. Steiner, 3,542 stock equivalents attributed to Mr. Fish, and 234 stock equivalents attributable to Mr. Weidman, based on their holdings in the Company's Retirement Savings Plan stock fund.

(2) The number of options includes options currently exercisable and options that will become exercisable within 60 days of our record date.

(3) Executive officers may choose a Waste Management stock fund as an investment option under the Company's 409A Deferral Savings Plan described in the Nonqualified Deferred Compensation table on page 46. Interests in the fund are considered phantom stock because they are equal in value to shares of our Common Stock. Phantom stock receives dividend equivalents, in the form of additional phantom stock, at the same time that holders of shares of Common Stock receive dividends. The value of the phantom stock is paid out, in cash, at a future date selected by the executive. Phantom stock is not considered as equity ownership for SEC disclosure purposes; we have provided supplemental disclosure of phantom stock in this table because it represents an investment risk based on the performance of our Common Stock.

(4) The number of shares owned by Mr. Anderson includes 100 shares held by his wife.

(5) The number of shares owned by Mr. Pope includes 435 shares held in trusts for the benefit of his children.

(6) The number of shares owned by Mr. Steiner includes 343,294 shares held by Steiner Family Holdings, LLC. Mr. Steiner is the sole manager of this company. All of the shares held by Steiner Family Holdings, LLC are pledged as security for a loan.

(7) Ownership as of December 19, 2014, the date of Mr. Weidman's departure from the Company.

(8) Ownership as of October 31, 2014, the date of Mr. Aardsma's departure from the Company.

(9) Included in the "All directors and executive officers as a group" are 15,588 stock equivalents attributable to the executive officers' collective holdings in the Company's Retirement Savings Plan stock fund.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS

The table below shows information for persons known to us to beneficially own more than 5% of our Common Stock based on their filings with the SEC through March 16, 2015.

Name and Address	Shares Beneficially Owned	
	Number	Percent(1)
Capital World Investors 333 South Hope Street Los Angeles, CA 90071	42,939,153(2)	9.4
William H. Gates III One Microsoft Way Redmond, WA 98052	29,894,679(3)	6.5
BlackRock, Inc. 40 East 52nd Street New York, NY 10022	27,013,916(4)	5.9

(1) Percentage is calculated using the number of shares of Common Stock outstanding as of March 16, 2015.

(2) This information is based on a Schedule 13G/A filed with the SEC on February 13, 2015. Capital World Investors reports that it is deemed to be the beneficial owner of 42,939,153 shares of Common Stock as a result of acting as investment adviser to various investment companies. Capital World Investors disclaims beneficial ownership of all shares.

(3) This information is based on a Schedule 13G/A filed with the SEC on February 13, 2015. Mr. Gates reports that he has sole voting and dispositive power over 11,261,007 shares of Common Stock held by Cascade Investment, L.L.C., as the sole member of such entity. Additionally, the Schedule 13G/A reports that Mr. Gates and Melinda French Gates share voting and dispositive power over 18,633,672 shares of Common Stock beneficially owned by Bill & Melinda Gates Foundation Trust.

(4) This information is based on a Schedule 13G/A filed with the SEC on January 30, 2015. BlackRock, Inc. reports that it has sole voting power over 23,228,069 shares of Common Stock and sole dispositive power over 27,013,916 shares of Common Stock beneficially owned.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

The federal securities laws require our executive officers and directors to file reports of their holdings and transactions in our Common Stock with the SEC and the New York Stock Exchange. Based on a review of the forms and written representations from our executive officers and directors, we believe that all applicable requirements were complied with in 2014.

EXECUTIVE OFFICERS

The following is a listing of our current executive officers, other than Mr. Steiner, whose personal information is included in the Director Nominees section of this Proxy Statement on page 16, their ages and business experience for the past five years.

Name	Age	Positions Held and Business Experience for Past Five Years
Puneet Bhasin	52	• Senior Vice President, Corporate Operations since November 2014. • Chief Information Officer and Senior Vice President, Technology, Logistics and Customer Service from August 2012 to November 2014. • Senior Vice President and Chief Information Officer from December 2009 to August 2012.
Barry H. Caldwell	54	• Senior Vice President — Corporate Affairs and Chief Legal Officer since November 2014. • Senior Vice President — Government Affairs and Corporate Communications from September 2002 to November 2014.
Don P. Carpenter	54	• Vice President and Chief Accounting Officer since August 2012. • Vice President — Tax from May 2002 to August 2012.
James C. Fish, Jr.	52	• Executive Vice President and Chief Financial Officer since August 2012. • Senior Vice President — Eastern Group from June 2011 to August 2012. • Area Vice President — Pennsylvania and West Virginia Area from January 2009 to June 2011.
Jeff M. Harris	60	• Senior Vice President — Operations since July 2012. • Senior Vice President — Midwest Group from April 2006 to July 2012. • Area Vice President — Michigan Market Area from April 2000 to April 2006.
John J. Morris, Jr.	45	• Senior Vice President — Operations since July 2012. • Chief Strategy Officer from March 2012 to July 2012. • Area Vice President — Greater Mid-Atlantic Area from July 2011 to March 2012. • Area Vice President — Waste Management of New Jersey from February 2007 to July 2011.
Devina A. Rankin	39	• Vice President and Treasurer since August 2012. • Assistant Treasurer from June 2010 to August 2012. • Senior Manager of Financial Reporting from July 2007 to June 2010.
Mark E. Schwartz	57	• Senior Vice President — Human Resources since May 2012. • Vice President and Assistant General Counsel — Labor and Employment from December 2000 to May 2012.
James E. Trevathan, Jr.	62	• Executive Vice President and Chief Operating Officer since July 2012. • Executive Vice President — Growth, Innovation and Field Support from June 2011 to July 2012. • Senior Vice President — Southern Group from July 2007 to June 2011.

EXECUTIVE COMPENSATION

COMPENSATION DISCUSSION AND ANALYSIS

Introduction

The Company's Compensation Discussion and Analysis provides information about the Company's executive compensation philosophy and the components of its compensation programs. This includes information about how compensation of the Company's named executive officers for the fiscal year ended December 31, 2014 fulfilled the compensation philosophy's goals and was aligned with the Company's 2014 financial goals and performance. The Compensation Discussion and Analysis helps readers better understand the information found in the Summary Compensation Table and other accompanying tables located in this Proxy Statement.

This Compensation Discussion and Analysis focuses on our executive pay program as it relates to the following executive officers, whom we refer to as the "named executive officers" or "named executives":

- Mr. David Steiner – Chief Executive Officer since 2004 and President since June 2010.
- Mr. James Trevathan – Executive Vice President and Chief Operating Officer since July 2012.
- Mr. James Fish – Executive Vice President and Chief Financial Officer since August 2012.
- Mr. Jeff Harris – Senior Vice President – Operations since July 2012.
- Mr. John Morris – Senior Vice President – Operations since July 2012.
- Mr. David Aardsma – previously Senior Vice President and Chief Sales and Marketing Officer; in connection with our consolidation and realignment of Corporate functions announced in August 2014, Mr. Aardsma accepted a voluntary separation arrangement.
- Mr. Mark Weidman – previously President of our subsidiary Wheelabrator Technologies Inc. ("Wheelebrator"); Mr. Weidman's employment with the Company terminated in December 2014 when we completed the sale of our Wheelabrator business, which provides waste-to-energy services and manages waste-to-energy facilities and independent power production plants.

Executive Summary

The objective of our executive compensation program is to attract, retain, reward and incentivize exceptional, talented employees who will lead the Company in the successful execution of its strategy. The Company seeks to accomplish this goal by designing a compensation program that is supportive of and aligns with the strategy of the Company and the creation of stockholder value, while discouraging excessive risk-taking. The following key structural elements and policies further the objective of our executive compensation program:

- a substantial portion of executive compensation is linked to Company performance, through annual cash incentive performance criteria and long-term equity-based incentive awards. As a result, our executive compensation program provides for a significant difference in total compensation in periods of above-target Company performance as compared to periods of below-target Company performance. In 2014, our performance-based annual cash incentive and long-term equity-based incentive awards comprised approximately 87% of total target compensation for our President and Chief Executive Officer and approximately 76% of total target compensation for our other currently-serving named executives;
- at target, approximately 56% of total compensation of our currently-serving named executives (and 69% in the case of our President and Chief Executive Officer) results from long-term equity awards, which aligns executives' interests with those of stockholders;
- our total direct compensation opportunities for named executive officers are targeted to fall in a range around the competitive median;

- performance-based awards include threshold, target and maximum payouts correlating to a range of performance goals and are based on a variety of indicators of performance, which limits risk-taking behavior;
- performance stock units with a three-year performance period, as well as stock options that vest over a three-year period, link executives' interests with long-term performance and reduce incentives to maximize performance in any one year;
- all of our named executive officers are subject to stock ownership requirements, which we believe demonstrates a commitment to, and confidence in, the Company's long-term prospects;
- the Company has clawback provisions in its equity award agreements and recent employment agreements, and has adopted a clawback policy applicable to annual incentive compensation, designed to recoup compensation when cause and/or misconduct are found;
- our executive officer severance policy implemented a limitation on the amount of benefits the Company may provide to its executive officers under severance agreements entered into after the date of such policy; and
- the Company has adopted a policy that prohibits it from entering into new agreements with executive officers that provide for certain death benefits or tax gross-up payments.

2014 Company Performance and Compensation Results

We recognize that the waste industry is changing, and we believe we are uniquely equipped to meet the challenges of our industry and our customers' waste management needs, both today and as we work together to envision and create a more sustainable future. As the waste industry leader, we have the expertise necessary to collect and handle our customers' waste efficiently and responsibly by delivering environmental performance — maximizing resource value, while minimizing environmental impact — so that both our economy and our environment can thrive. Drawing on our resources and experience, we also pursue projects and initiatives that benefit the waste industry, the customers and communities we serve and the environment.

We remain dedicated to providing long-term value to our stockholders by successfully executing our strategy: to know and service our customers better than anyone in our industry, to extract more value from the materials we manage, and to innovate and optimize our business. We plan to accomplish our strategic goals through competitive advantages derived from a "best cost" structure achieved through operational improvements and differentiation in our industry, driven by capitalizing on our extensive, well-placed network of assets. While we will continue to monitor emerging diversion technologies that may generate additional value, our current attention will be on improving existing diversion technologies such as recycling operations. We believe that execution of our strategy will drive continued financial performance and leadership in a dynamic industry.

We began 2014 with a focus on growing earnings and free cash flow, increasing yield and exercising discipline around capital spending and costs, and our officers' and employees' execution on these goals translated into strong overall operating results for our Company in 2014. Additionally, we increased the amount we returned to stockholders in 2014 compared to 2013 by increasing our dividend and share repurchases. Our fourth quarter results capitalized on the momentum we built throughout the year, delivering growth in income from operations and income from operations margin in our solid waste business that we expect to continue into 2015. During the fourth quarter, we also completed our previously announced divestiture of our Wheelabrator business for cash proceeds of $1.95 billion, net of cash divested, subject to certain post-closing adjustments, and we intend to use these proceeds in further support of our strategic growth plans to drive long-term stockholder value.

In line with the Company's financial results, the following is a summary of the 2014 compensation program results:

- the Company granted a two and a half percent merit increase to base salaries of executive officers in 2014, with additional increases as necessary in limited cases where prompted by competitive market data, internal pay equity considerations and individual performance;

- Company performance on annual cash incentive performance measures for named executive officers significantly exceeded the target level for two of the three performance measures, weighted at 75% of that total. As a result, each of the named executives received an annual cash incentive payment for fiscal year 2014 equal to 163.8% of target;
- the Company generated a return on invested capital, for purposes of performance goals associated with half of our performance share units ("PSUs") granted in 2012, that was slightly above target of 16.30% for the three-year performance period ended December 31, 2014, resulting in a 100.12% payout on these PSUs in shares of Common Stock; and
- with respect to the remaining half of the PSUs granted in 2012 with a performance period ended December 31, 2014 that were subject to total shareholder return relative to the S&P 500, the performance of the Company's Common Stock on this measure was above threshold, but slightly below target, resulting in a 93.03% payout on these PSUs in shares of Common Stock.

The 2014 results continue to reinforce our emphasis on performance-based compensation, as we believe the performance criteria underlying our incentive compensation successfully drove the results we were seeking. The MD&C Committee strives to establish performance goals that are challenging, but attainable, and the MD&C Committee remains dedicated to the principle that executive compensation should be substantially linked to Company performance. Accordingly, the compensation of the Company's executive officers set forth in the Summary Compensation Table of this Proxy Statement evidences our commitment to pay for performance.

Consideration of Stockholder Advisory Vote

The MD&C Committee established the 2014 compensation plan in early 2014, before the stockholder advisory vote on executive compensation in May 2014. However, the MD&C Committee noted the results of the advisory stockholder votes in May 2013, 2012 and 2011, with 97%, 96% and 97%, respectively, of shares present and entitled to vote at the annual meeting voting in favor of the Company's executive compensation, and has since noted the results of the May 2014 advisory stockholder vote, with 97% of shares present and entitled to vote at the annual meeting voting in favor of the Company's executive compensation. Accordingly, the results of the stockholder advisory vote have not caused the MD&C Committee to recommend any changes to our compensation practices.

2015 Compensation Program Preview

The MD&C Committee continually reviews our compensation program to ensure that it is clearly aligned with the business strategy and best supports the accomplishment of our goals. The MD&C Committee is pleased with the results that were delivered under the 2014 compensation program design, while recognizing the need to grow our Company while continuing our focus on pricing, capital allocation and cost control. As a result, the MD&C Committee has approved keeping the 2015 annual cash and long-term incentive compensation program design consistent with the 2014 compensation program design. This consistency reinforces the MD&C Committee's efforts to maintain a compensation program that is straightforward and easy to communicate and understand.

Our Compensation Philosophy for Named Executive Officers

The Company's compensation philosophy is designed to:

- Attract and retain exceptional employees through competitive compensation opportunities;
- Encourage and reward performance through substantial at-risk performance-based compensation, while discouraging excessive risk-taking behavior; and
- Align our decision makers' long-term interests with those of our stockholders through emphasis on equity ownership.

Additionally, our compensation philosophy is intended to encourage executives to embrace the Company's strategy and to lead the Company in setting aspirations that will continue to drive exemplary performance.

With respect to our named executive officers, the MD&C Committee believes that total direct compensation at target should be in a range around the competitive median according to the following:

- Base salaries should be paid within a range of plus or minus 10% around the competitive median, but attention must be given to individual circumstances, including strategic importance of the named executive's role, the executive's experience and individual performance;
- Target short-term and long-term incentive opportunities should generally be set at the competitive median; and
- Total direct compensation opportunities should generally be within a range of plus or minus 20% around the competitive median.

Overview of Elements of Our 2014 Compensation Program

Timing	Component	Purpose	Key Features
Current	Base Salary	To attract and retain executives with a competitive level of regular income	Adjustments to base salary primarily consider competitive market data and the executive's individual performance and responsibilities.
Short-Term Performance Incentive	Annual Cash Incentive	To encourage and reward contributions to our annual financial objectives through performance-based compensation subject to challenging, yet attainable, objective and transparent metrics	Cash incentives are targeted at a percentage of base salary and range from zero to 200% of target based on the following performance measures: • Income from Operations Margin – defined as Income from Operations as a percentage of Revenue – motivates executives to control costs and operate efficiently while focusing on yield – weighted 25%; • Income from Operations, excluding Depreciation and Amortization – designed to encourage balanced growth and profitability – weighted 25%; and • Cost – defined as Operating Expense, less depreciation, depletion and amortization, as a percentage of Net Revenue – designed to support cost control and innovation initiatives – weighted 50%. The MD&C Committee has discretion to increase or decrease an individual's payment by up to 25% based on individual performance, but such modifier has never been used to increase a payment to a named executive.
Long-Term Performance Incentives	Performance Share Units	To encourage and reward building long-term stockholder value through successful strategy execution; To retain executives; and To increase stockholder alignment through executives' stock ownership	Number of shares delivered range from zero to 200% of the initial target grant based on performance over a three-year performance period. Payout on half of each executive's PSUs granted in 2014 is dependent on cash flow generation, defined as cash provided by operating activities with certain exclusions, which continues our focus on capital discipline, while also aligning the Company with stockholders' free cash flow expectations. Payout on the remaining half of the PSUs granted in 2014 is dependent on total shareholder return (TSR) relative to other companies in the S&P 500 over the three-year performance period. PSUs earn dividend equivalents that are paid at the end of the performance period based on the number of shares actually awarded. Recipients can defer the receipt of shares, which are paid out in shares of Common Stock, without interest, at the end of the deferral period.
	Stock Options	To support the growth element of the Company's strategy and encourage and reward stock price appreciation over the long-term; To retain executives; and To increase stockholder alignment through executives' stock ownership	Stock options vest in 25% increments on the first two anniversaries of the date of grant and the remaining 50% vest on the third anniversary. Exercise price is the average of the high and low market price of our Common Stock on the date of grant. Stock options have a term of ten years.

Post-Employment and Change-in-Control Compensation. The compensation our named executives receive post-employment is based on provisions included in individual equity award agreements, retirement plan documents and employment agreements. Our equity award agreements generally provide that an executive

forfeits unvested awards if he or she voluntarily terminates employment. We enter into employment agreements with our named executive officers to provide a form of protection for the Company through restrictive covenant provisions. Employment agreements also aid in retention of senior leadership by providing the individual with comfort that he will be treated fairly in the event of a termination not for cause or under a change-in-control situation. The change-in-control provision included in each named executive officer's agreement requires a double trigger in order to receive any payment in the event of a change-in-control situation. First, a change-in-control must occur, and second, the individual must terminate employment for good reason or the Company must terminate employment without cause within six months prior to or two years following the change-in-control event. Our stock option awards are also subject to double trigger vesting in the event of a change-in-control situation. Performance share units will be paid out in cash on a prorated basis based on actual results achieved through the end of the fiscal quarter prior to a change-in-control. Thereafter, the executive would typically receive a replacement award of restricted stock units in the successor entity. Restricted Stock Units ("RSUs"), which are not routinely a component of our compensation program for named executive officers, vest upon a change-in-control, unless the successor entity converts the awards to equivalent grants in the successor. However, such converted RSU awards will vest in full if the executive is terminated without cause following the change-in-control. We believe providing change-in-control protection encourages our named executives to pursue and facilitate change-in-control transactions that are in the best interests of stockholders while not granting executives an undeserved windfall.

Deferral Plan. Each of our named executive officers is eligible to participate in our 409A Deferral Savings Plan. The plan was amended and restated effective January 1, 2014 to restrict deferral of base salary and cash incentives to annual amounts in excess of $255,000 (as such amount may be revised under Section 402(a)(17) of the Internal Revenue Code of 1985, as amended, the "Limit"). The plan currently provides that eligible employees may defer for payment at a future date (i) up to 25% of base salary and up to 100% of annual cash incentives payable after the aggregate of such compensation components reaches the Limit; (ii) receipt of any RSUs; and (iii) receipt of any PSUs. The Company match provided under the Deferral Plan is dollar for dollar on the employee's deferrals, up to 3% of the employee's aggregate base salary and cash incentives in excess of the Limit, and fifty cents on the dollar on the employee's deferrals, up to 6% of the employee's aggregate base salary and cash incentives in excess of the Limit. Additional deferral contributions will not be matched but will be tax-deferred. Amounts deferred under this plan are allocated into accounts that mirror selected investment funds in our 401(k) plan, although the amounts deferred are not actually invested in the funds. In prior years, participants could elect to receive distribution of deferred compensation (i) in a lump sum on a future date on or after termination of employment or retirement or (ii) in annual installments over up to ten years, to begin after any future date or age specified by the employee. Under the amended and restated plan, participating employees generally can elect to receive distributions commencing six months after the employee leaves the Company in the form of annual installments or a lump sum payment. We believe that providing a program that allows and encourages planning for retirement is a key factor in our ability to attract and retain talent. Additional details on the plan can be found in the Nonqualified Deferred Compensation table and the footnotes to the table on page 46.

Perquisites. The Company permits the President and Chief Executive Officer to use the Company's aircraft for business and personal travel whenever reasonably possible; provided, however, that personal use of the Company aircraft attributed to him that results in incremental cost to the Company shall not exceed 90 hours during any calendar year without approval from the Chairman of the MD&C Committee. Use of the Company's aircraft is permitted for other employees' personal use only with Chief Executive Officer approval in special circumstances, which seldom occurs. The value of our named executives' personal use of the Company's airplanes is treated as taxable income to the respective executive in accordance with IRS regulations using the Standard Industry Fare Level formula. This is a different amount than we disclose in the Summary Compensation Table, which is based on the SEC requirement to report the incremental cost to us of their use.

We also reimburse the cost of physical examinations for our senior executives, as we believe it is beneficial to the Company to facilitate its executives receiving preventive healthcare. Other than as described in this section, we have eliminated all perquisites for our named executive officers.

How Named Executive Officer Compensation Decisions are Made

The MD&C Committee meets several times each year to perform its responsibilities as delegated by the Board of Directors and as set forth in the MD&C Committee's charter. These responsibilities include evaluating and approving the Company's compensation philosophy, policies, plans and programs for our named executive officers.

In the performance of its duties, the MD&C Committee regularly reviews the total compensation, including the base salary, target annual cash incentive award opportunities, long-term incentive award opportunities and other benefits, including potential severance payments for each of our named executive officers. At a regularly scheduled meeting each year, the MD&C Committee reviews our named executives' total compensation and compares that compensation to the competitive market, as discussed below. In the first quarter of each year, the MD&C Committee meets to determine salary increases, if any, for the named executive officers; verifies the results of the Company's performance for annual cash incentive and performance share unit calculations; reviews the individual annual cash incentive targets for the current year as a percent of base salary for each of the named executive officers; and makes decisions on granting long-term equity awards.

Compensation Consultant. The MD&C Committee uses several resources in its analysis of the appropriate compensation for the named executive officers. The MD&C Committee selects and employs an independent consultant to provide advice relating to market and general compensation trends. The MD&C Committee also uses the services of its independent consultant for data gathering and analyses. The MD&C Committee has retained Frederic W. Cook & Co., Inc. as its independent consultant since 2002. The Company makes regular payments to Frederic W. Cook for its services around executive compensation, including meeting preparation and attendance, advice, and best practice information, as well as competitive data. Information about such payments is submitted to the chair of the MD&C Committee.

In addition to services related to executive compensation, Frederic W. Cook also provides the MD&C Committee information and advice with respect to compensation of the independent directors. Frederic W. Cook has no other business relationships with the Company and receives no other payments from the Company. The MD&C Committee adopted a charter provision requiring that it consider the independence of any compensation consultants it uses for executive compensation matters. The MD&C Committee has considered the independence of Frederic W. Cook in light of SEC rules and New York Stock Exchange listing standards. In connection with this process, the MD&C Committee has reviewed, among other items, a letter from Frederic W. Cook addressing the independence of Frederic W. Cook and the members of the consulting team serving the MD&C Committee, including the following factors: (i) other services provided to us by Frederic W. Cook, (ii) fees paid by us as a percentage of Frederic W. Cook's total revenue, (iii) policies or procedures of Frederic W. Cook that are designed to prevent conflicts of interest, (iv) any business or personal relationships between the senior advisor of the consulting team with a member of the MD&C Committee, (v) any Company stock owned by the senior advisor or any member of his immediate family, and (vi) any business or personal relationships between our executive officers and the senior advisor. The MD&C Committee discussed these considerations and concluded that the work performed by Frederic W. Cook and its senior advisor involved in the engagement did not raise any conflict of interest.

Role of CEO and Human Resources. Mr. Steiner contributes to compensation determinations by assessing the performance of the other named executive officers and providing these assessments with recommendations to the MD&C Committee. Personnel within the Company's Human Resources Department assist the MD&C Committee by working with the independent consultant to provide information requested by the MD&C Committee and assisting it in designing and administering the Company's incentive programs.

Peer Company Comparisons. The MD&C Committee uses compensation information of comparison groups of companies to gauge the competitive market, which is relevant for attracting and retaining key talent and for ensuring that the Company's compensation practices are aligned with prevalent practices. For purposes of establishing the 2014 executive compensation program, the MD&C Committee considered a competitive analysis

of total direct compensation levels and compensation mixes for our executive officers during the second half of 2013, using information from:

- Size-adjusted median compensation data from two general industry surveys in which management annually participates; the Aon Hewitt 2013 Total Compensation Measurement (TCM) survey and the Towers Watson 2013 Compensation Data Bank (CDB) survey. The AonHewitt TCM survey includes over 450 companies ranging in size from $100 million to over $100 billion in annual revenue. The Towers Watson CDB survey includes over 440 organizations ranging in size from $100 million to over $100 billion in annual revenue. Data selected from these surveys is scoped based on Company revenue; and
- Median compensation data from a comparison group of 19 publicly traded U.S. companies, described below.

The comparison group of companies is initially recommended by the independent consultant prior to the actual data gathering process, with input from management and the MD&C Committee. The composition of the group is evaluated and a final comparison group of companies is approved by the MD&C Committee each year. The selection process for the comparison group begins with all companies in the Standard & Poor's North American database that are publicly traded U.S. companies in 15 different Global Industry Classifications. These industry classifications are meant to provide a collection of companies in industries that share similar characteristics with Waste Management. The companies are then limited to those with at least $5 billion in annual revenue to ensure appropriate comparisons, and further narrowed by choosing those with asset intensive domestic operations, as well as those focusing on transportation and logistics. Companies with these characteristics are chosen because the MD&C Committee believes that it is appropriate to compare our executives' compensation with executives that have similar responsibilities and challenges at other companies. Prior to establishing compensation for 2014, the MD&C Committee received a statistical analysis of the growth profile, profitability profile, size and shareholder return of all companies in the comparison group to verify that the Company is appropriately positioned versus the comparison group. The comparison group used for consideration of 2014 compensation follows, including the Company's composite percentile ranking among the companies in the comparison group based on statistical measures. For purposes of this table, "size" is based on numerous factors as of December 31, 2012; "profitability" and "growth" are based on numerous factors measured over a one-year period and three-year period ended December 31, 2012; and "TSR" is based on the companies' average TSR percentile ranking for a one-year period and three year-period as of December 31, 2012. This table is provided to reflect how the MD&C Committee confirmed that the Company was appropriately positioned within its peer group for purposes of establishing 2014 compensation during 2013; as a result, the information that follows does not reflect the Company's performance for 2013 or 2014.

Company Name	Composite Percentile Rank			
	Size	Profitability	Growth	TSR
American Electric Power	60%	36%	25%	61%
Avis Budget	14%	23%	69%	94%
Baker Hughes	65%	44%	60%	6%
C.H. Robinson WW	13%	72%	60%	22%
CSX	61%	73%	52%	36%
Entergy	40%	40%	10%	6%
Fedex	76%	54%	78%	42%
Grainger (WW)	21%	73%	56%	78%
Halliburton	80%	80%	60%	36%
Hertz Global	28%	6%	72%	78%
Nextera Energy	67%	54%	22%	78%
Norfolk Southern	56%	68%	48%	25%
Republic Services	32%	26%	24%	42%
Ryder System	9%	23%	62%	42%
Southern	76%	60%	37%	58%
Southwest Airlines	38%	16%	94%	44%
Sysco	52%	64%	33%	56%
Union Pacific	87%	83%	69%	92%
UPS	76%	55%	32%	56%
Waste Management	**46%**	**44%**	**18%**	**34%**

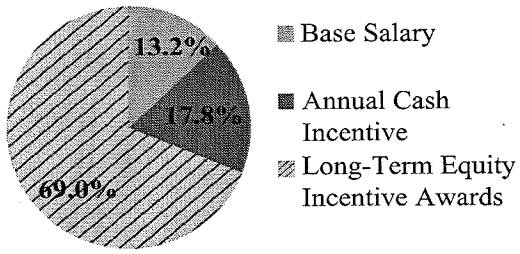
For purposes of each of the currently-serving named executives, the general industry data and the comparison group data are blended when composing the competitive analysis, when possible, such that the combined general industry data and the comparison group are each weighted 50%. Competitive compensation analysis for the other executive officers consists only of an average of size-adjusted median general industry survey data. The competitive analysis showed that 2014 total direct compensation opportunities were near the median for our President and Chief Executive Officer and did not exceed the median for our other named executive officers. For competitive comparisons, the MD&C Committee has determined that total direct compensation packages for our named executive officers within a range of plus or minus 20% of the median total compensation of the competitive analysis is appropriate. In making these determinations, total direct compensation consists of base salary, target annual cash incentive, and the annualized grant date fair value of long-term equity incentive awards.

Allocation of Compensation Elements and Tally Sheets. The MD&C Committee considers the forms in which total compensation will be paid to executive officers and seeks to achieve an appropriate balance between base salary, annual cash incentive compensation and long-term incentive compensation. The MD&C Committee determines the size of each element based primarily on comparison group data and individual and Company performance. The percentage of compensation that is contingent on achievement of performance criteria typically increases in correlation to an executive officer's responsibilities within the Company, with performance-based incentive compensation making up a greater percentage of total compensation for our most senior executive officers. Additionally, as an executive becomes more senior, a greater percentage of the executive's compensation shifts away from short-term to long-term incentive awards.

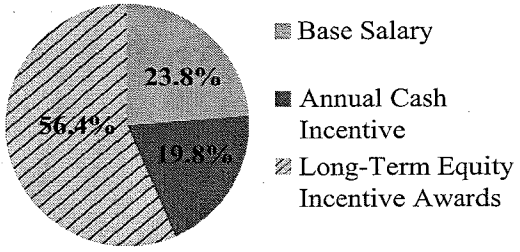
The MD&C Committee uses tally sheets to review the compensation of our named executive officers, which show the cumulative impact of all elements of compensation. These tally sheets include detailed information and dollar amounts for each component of compensation, the value of all equity held by each named executive, and the value of welfare and retirement benefits and severance payments. Tally sheets provide the MD&C Committee with the relevant information necessary to determine whether the balance between long-term and short-term compensation, as well as fixed and variable compensation, is consistent with the overall compensation philosophy of the Company. This information is also useful in the MD&C Committee's analysis of whether total direct compensation provides a compensation package that is appropriate and competitive. Tally sheets are provided annually to the full Board of Directors.

The following charts display the allocation of total 2014 compensation among base salary, annual cash incentive at target and long-term incentives at target for (a) our President and Chief Executive Officer and (b) our other currently-serving named executives, on average. These charts reflect the MD&C Committee's 2014 desired total mix of target compensation for named executives, which includes 56% of total compensation derived from long-term equity awards, while long-term equity awards comprise 69% of Mr. Steiner's total compensation. These charts also reflect that approximately 87% of Mr. Steiner's target total compensation opportunities awarded in 2014 were performance-based, while approximately 76% of the target total compensation for the other currently-serving named executives was performance-based. We consider stock options granted under our long-term incentive plan to be performance-based because their value will increase as the market value of our Common Stock increases.

President and Chief Executive Officer



Other Named Executives (currently serving, on average)



Internal Pay Equity. The MD&C Committee considers the differentials between compensation of the named executive officers. The MD&C Committee also reviews compensation comparisons between the President and Chief Executive Officer and the other executive officers, while recognizing the additional responsibilities of the President and Chief Executive Officer and that such differentials will increase in periods of above-target performance and decrease in times of below-target performance. Based on these considerations, the MD&C Committee confirms that the compensation paid to the President and Chief Executive Officer is reasonable compared to that of the other executive officers.

Policy on Calculation Adjustments. In 2014, the MD&C Committee adopted a policy on calculation adjustments that affect payouts under annual and long-term incentive awards. Consistent with past practice, the MD&C Committee reserves the right to adjust the results on performance measures used to determine annual and long-term incentive plan payouts in order to eliminate the distorting effect of certain items. Such adjustments are intended to align award payments with the underlying performance of the business; avoid volatile, artificial inflation or deflation of awards due to unusual items in either the award year or the previous comparator year; and eliminate counterproductive incentives to pursue short-term gains and protect current incentive opportunities. To ensure the integrity of the adjustments, the MD&C Committee has adopted guidelines that are generally consistent with the Company's guidelines for reporting adjusted non-GAAP earnings to the investment community, while retaining discretion to evaluate all adjustments, both income and expense, as circumstances warrant. Additionally, the MD&C Committee has determined that potential adjustments arising from a single transaction or event generally should be disregarded unless, taken together, they change the calculated award payout by at least five percent.

Tax and Accounting Matters. Section 162(m) of the Internal Revenue Code of 1985, as amended ("Code Section 162(m)"), denies a compensation deduction for federal income tax purposes for certain compensation in excess of $1 million per person paid in any year to our President and Chief Executive Officer and our other three highest paid executives. "Performance-based" compensation meeting specified standards is deductible without regard to the $1 million cap. We design our compensation plans to be tax efficient for the Company where possible. However, our MD&C Committee reserves the right to structure the compensation of our executive officers without regard for whether the compensation is fully deductible if, in the MD&C Committee's judgment, it is in the best interests of the Company and stockholders to do so.

The annual cash incentive plan is intended to comply with the performance-based compensation exemption under Code Section 162(m) by allowing the MD&C Committee to set performance criteria for payments, which

may not exceed the predetermined amount of 0.5% of the Company's pre-tax income from operations per participant. Our performance share unit awards are also intended to meet the qualified performance-based compensation exception under Code Section 162(m). The annual cash incentive plan has historically been used to grant executives' annual cash incentive award; however, our President and Chief Executive Officer's annual cash incentive award granted in 2014 was made pursuant to the 2009 Stock Incentive Plan.

Section 409A of the Internal Revenue Code of 1986, as amended ("Code Section 409A"), generally provides that any deferred compensation arrangement which does not meet specific requirements will result in immediate taxation of any amounts deferred to the extent not subject to a substantial risk of forfeiture. In general, to avoid a Code Section 409A violation, amounts deferred may only be paid out on separation from service, disability, death, a specified time or fixed schedule, a change-in-control or an unforeseen emergency. Furthermore, the election to defer generally must be made in the calendar year prior to performance of services. We intend to structure all of our compensation arrangements, including our Deferral Plan, in a manner that complies with or is exempt from Code Section 409A.

We account for stock-based payments, including stock options and PSUs, in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, Stock Compensation. The MD&C Committee takes into consideration the accounting treatment under ASC Topic 718 when determining the form and amount of annual long-term equity incentive awards. However, because our long-term equity incentive awards are based on a target dollar value established prior to grant (described in further detail under "Named Executives' 2014 Compensation Program and Results — Long-Term Equity Incentives"), this "value" will differ from the grant date fair value of awards calculated pursuant to ASC Topic 718.

Risk Assessment. The MD&C Committee uses the structural elements set forth in the Executive Summary earlier to establish compensation that will provide sufficient incentives for named executive officers to drive results while avoiding unnecessary or excessive risk taking that could harm the long-term value of the Company. During 2014, the MD&C Committee reviewed the Company's compensation policies and practices and the assessment and analysis of related risk conducted by the independent compensation consultant. Based on this review and analysis, the MD&C Committee and the independent compensation consultant concluded that our compensation policies and practices do not create risks that are reasonably likely to have a material adverse effect on the Company.

Consideration of Stockholder Advisory Vote on Executive Compensation. The MD&C Committee reviews the results of the stockholder advisory vote on executive compensation and considers any implications of such voting results on the Company's compensation programs. In light of the very high percentage of shares present and entitled to vote at the annual meeting voting in favor of the Company's executive compensation the past four years, the results of the stockholder advisory votes have not caused the MD&C Committee to recommend any changes to our compensation practices.

Departure of Mr. Weidman. At the end of 2013, the Company recognized certain strategic divestiture opportunities with respect to its waste-to-energy assets and investments, and the Company concluded that retention of Mr. Weidman, President of Wheelabrator since 2006, would be integral to the successful execution of such divestitures. Accordingly, the Company entered into amendments to Mr. Weidman's employment agreement to motivate Mr. Weidman to facilitate attractive divestitures and for retention purposes.

In connection with such amendments, Mr. Weidman received a cash payment of $1 million in 2014 for his performance in connection with a successful sale of our investment in Shanghai Environment Group, a joint venture that operated and managed waste-to-energy and other waste services in the Chinese market.

Also in connection with such amendments and the Company's desire to divest substantially all of the stock or assets of Wheelabrator and its subsidiaries, Mr. Weidman received a retention bonus of $500,000 in 2014 for continuing his employment for a required period. On December 19, 2014, the Company announced that it had completed the previously announced sale of Wheelabrator for approximately $1.95 billion. Mr. Weidman's employment with the Company terminated on December 19, 2014 when Wheelabrator Technologies Inc. ceased to be a subsidiary of the Company. Upon Mr. Weidman's departure from the Company, he received a payout of his annual cash incentive award, based on estimated actual full year performance achieved, and pro-rated to

reflect his date of departure. Mr. Weidman's outstanding PSUs granted prior to 2014 will be paid out pro-rata, based on actual performance achieved at the end of the applicable performance period. Stock options that had not vested before his departure were forfeited, and PSUs awarded in 2014 were also forfeited. Mr. Weidman's vested stock options remained exercisable for 90 days after his departure.

Departure of Mr. Aardsma. In August 2014, we announced a consolidation and realignment of several Corporate functions to better support achievement of the Company's strategic goals, including cost reduction. In connection with that effort, Mr. Aardsma, former Senior Vice President and Chief Sales and Marketing Officer, accepted a voluntary separation arrangement. Pursuant to his existing employment agreement and equity award agreements, Mr. Aardsma was entitled to continued vesting and exercisability of outstanding stock options for three years following his departure, and his outstanding PSUs will be paid out pro-rata, based on actual performance achieved at the end of the applicable performance period. Additionally, in connection with his execution of a release and undertaking certain post-employment covenants, Mr. Aardsma is entitled to the following payments and benefits: (i) one-half of his annual cash incentive award that would otherwise be paid out, pro-rated to reflect his date of departure; (ii) a severance payment totaling $1,610,203 (comprised of two times his base salary and target annual cash incentive), with half of such amount paid in a lump sum in 2014 and the remaining half to be paid out over a two year period; (iii) 24 months of continued group health and/or dental insurance coverage; and (iv) a cash payment of $25,000 in lieu of continued disability and life insurance coverage.

Named Executives' 2014 Compensation Program and Results

Base Salary

In the Spring of 2014, the Company granted a two and a half percent increase to base salaries, in line with the Company-wide budget. Certain additional base salary increases were granted to Messrs. Trevathan, Fish and Morris upon consideration of competitive market data, to address internal pay equity and to better reflect the executive's responsibilities and contributions. The table below shows 2013 base salary, percent increase and 2014 base salary for each of our named executive officers.

Named Executive Officer	2013 Base Salary	Percent Increase	2014 Base Salary
Mr. Steiner	$1,161,325	3.0%	$1,196,165
Mr. Trevathan	$ 600,000	5.0%	$ 630,000
Mr. Fish	$ 515,000	10.0%	$ 566,500
Mr. Harris	$ 552,366	2.5%	$ 566,175
Mr. Morris	$ 475,000	10.0%	$ 522,500
Mr. Aardsma	$ 448,837	2.5%	$ 460,058
Mr. Weidman	$ 357,680	2.5%	$ 366,622

Annual Cash Incentive

- *Annual cash incentives were dependent on the following performance measures: Income from Operations as a percentage of Revenue, or Income from Operations Margin (25%); Income from Operations, excluding Depreciation and Amortization (25%); and Operating Expense, less depreciation, depletion and amortization, as a percentage of Net Revenue, or Cost Measure (50%).*
- *Each of the currently-serving named executives received an annual cash incentive payment in March 2015 for fiscal year 2014 equal to 163.8% of target.*

The MD&C Committee develops financial performance measures for annual cash incentive awards to drive improvements in business operations, supporting and funding the long-term strategy of the Company. The MD&C Committee found that the Income from Operations Margin performance measure continues to keep the Company focused on cost control, operational improvements and yield. The MD&C Committee reintroduced the Income from Operations, excluding Depreciation and Amortization, performance measure in the 2014 annual

cash incentive award design to encourage balanced focus on growth and profitability, replacing the 2013 cash flow measure, which became a long-term incentive performance measure in 2014, discussed further below. Finally, the MD&C Committee refined the Cost Measure for 2014 to focus on operating cost control, after successfully driving reductions in SG&A spending that were the target of the 2013 cost measure. When setting threshold, target and maximum performance measure levels each year, the MD&C Committee looks to the Company's historical results of operations and analyses and forecasts for the coming year. Specifically, the MD&C Committee considers expected revenue based on analyses of pricing and volume trends, as affected by operational and general economic factors and expected costs. The MD&C Committee believes these financial performance measures support and align with the strategy of the Company and are appropriate indicators of our progress toward the Company's goals.

The table below details the Company-wide performance measures set by the MD&C Committee for the named executive officers in 2014.

	Threshold Performance (60% Payment)	Target Performance (100% Payment)	Maximum Performance (200% Payment)
Income from Operations Margin	15.1%	15.7%	16.3%
Income from Operations excluding Depreciation & Amortization	$3.41 billion	$3.639 billion	$3.821 billion
Cost Measure	63.5%	62.1% - 62.5%	61.5%

The following table sets forth the Company's performance achieved on each of the annual cash incentive performance measures and the payout earned on account of such performance.

Income from Operations Margin (weighted 25%)		Income from Operations, excluding Depreciation & Amortization (weighted 25%)		Cost Measure (weighted 50%)		Total Payout Earned (as a percentage of Target)
Actual	Payout Earned	Actual	Payout Earned	Actual	Payout Earned	
16.1%	170.9%	$3.549 billion	84.2%	61.0%	200.0%	163.8%

As discussed above, the MD&C Committee has discretion to make adjustments to the performance calculations for unusual or otherwise non-operational matters in line with its policy on calculation adjustments; however, no adjustments were made to the calculation of 2014 annual cash incentive performance measures.

Target annual cash incentives are a specified percentage of the executives' base salary. The following table shows each named executive's target percentage of base salary for 2014 and annual cash incentive for 2014 paid in March 2015.

Named Executive Officer	Target Percentage of Base Salary	Annual Cash Incentive For 2014[1]
Mr. Steiner	135	$2,626,505
Mr. Trevathan[2]	90	$ 918,083
Mr. Fish[2]	90	$ 816,830
Mr. Harris	75	$ 691,457
Mr. Morris	75	$ 627,822
Mr. Aardsma[3]	75	$ 233,979
Mr. Weidman[4]	60	$ 375,045

1) Base salary increases for 2014 were not implemented until Spring of 2014; accordingly, the calculation of annual cash incentive payouts, as a percentage of base salary, was prorated to take account of the named executive's actual base salary received during 2014.

2) For 2014, the target percentage of base salary was increased from 85% to 90% for Messrs. Trevathan and Fish. These changes were made to better position the executives around the competitive median and to reflect their contributions.

3) Mr. Aardsma's annual cash incentive payment was fixed pursuant to the terms of his Separation and Release Agreement. See "How Named Executive Officer Compensation Decisions are Made — Departure of Mr. Aardsma" above for additional information.

4) Mr. Weidman's annual cash incentive payment was calculated and paid out in connection with the divestiture of our Wheelabrator business. See "How Named Executive Officer Compensation Decisions are Made — Departure of Mr. Weidman" above for additional information.

Long-Term Equity Incentives — Our equity awards are designed to hold individuals accountable for long-term decisions by rewarding the success of those decisions. The MD&C Committee continuously evaluates the components of its programs. In determining which forms of equity compensation are appropriate, the MD&C Committee considers whether the awards granted are achieving their purpose; the competitive market; and accounting, tax or other regulatory issues, among others. In determining the appropriate awards for the named executives' 2014 annual long-term incentive grant, the MD&C Committee decided to grant both PSUs comprising 80% of each named executive's award and stock options comprising 20% of each named executive's award. Payout on 50% of each named executives' PSUs granted in 2014 is dependent on cash flow generation. Payout on the remaining 50% of PSUs granted in 2014 is dependent on total shareholder return relative to the S&P 500. Meanwhile, stock options encourage focus on increasing the market value of our stock. Before determining the actual number of PSUs and stock options that were granted to each of the named executives in 2014, the MD&C Committee established a target dollar amount for each named executive's annual total long-term equity incentive award. The values chosen were based primarily on the comparison information for the competitive market and an analysis of the named executives' responsibility for meeting the Company's strategic objectives. Target dollar amounts for equity incentive awards will vary from grant date fair values calculated for accounting purposes.

Named Executive Officer	Dollar Values of Annual Long-Term Equity Incentives Set by the Committee (at Target)
Mr. Steiner	$6,250,000
Mr. Trevathan	$1,500,000
Mr. Fish	$1,500,000
Mr. Harris	$1,200,000
Mr. Morris	$1,200,000
Mr. Aardsma	$ 600,000
Mr. Weidman	$ 421,060

Performance Share Units

- *Named executives were granted new PSUs with a three-year performance period ending December 31, 2016.*
- *Payout on 50% of each named executives' PSUs granted in 2014 is dependent on cash flow generation, and payout on the remaining 50% of PSUs granted in 2014 is dependent on total shareholder return relative to the S&P 500.*
- *Named executives received a 100.12% payout in shares of Common Stock with respect to the 50% of the PSUs granted in 2012 with a performance period ended December 31, 2014 that were subject to a return on invested capital performance measure.*
- *Named executives received a 93.03% payout in shares of Common Stock with respect to the 50% of the PSUs granted in 2012 with a performance period ended December 31, 2014 that were subject to total shareholder return relative to the S&P 500.*
- *With respect to named executives that departed the Company, their payouts on PSUs were pro-rated to their date of departure.*

PSUs Granted in 2014. Performance share units are granted to our named executive officers annually to align compensation with the achievement of our long-term financial goals and to build stock ownership. Performance share units provide an immediate retention value to the Company because there is unvested potential value at the date of grant. The number of PSUs granted to our named executive officers corresponds to an equal number of shares of Common Stock. At the end of the three-year performance period for each grant, the Company will deliver a number of shares ranging from 0% to 200% of the initial number of PSUs granted, depending on the Company's three-year performance against pre-established targets.

The MD&C Committee determined the number of PSUs that were granted to each of the named executives in 2014 by taking the targeted dollar amounts established for total long-term equity incentives (set forth in the table above) and multiplying by 80%. Those values were then divided by the average of the high and low price of our Common Stock over the 30 trading days preceding the MD&C Committee meeting at which the grants were approved to determine the target number of PSUs granted. The number of PSUs granted in 2014 are shown in the table below.

Named Executive Officer	Number of Performance Share Units
Mr. Steiner	116,280
Mr. Trevathan	27,908
Mr. Fish	27,908
Mr. Harris	22,326
Mr. Morris	22,326
Mr. Aardsma	11,164
Mr. Weidman	7,834

Half of each named executive's PSUs included in the table set forth above are subject to a cash flow performance measure; whereas, the Company has previously used a return on invested capital ("ROIC") performance measure for PSUs. Like ROIC, the cash flow measure requires focus on capital discipline, but also strengthens alignment with stockholders' free cash flow expectations. For purposes of these PSUs, we generally define cash flow as cash provided by operating activities, with the following exclusions: capital expenditures for purposes of internal growth; costs associated with labor disruptions; and strategic acquisition, restructuring, and transformation and reorganization costs. The MD&C Committee retains the right to make additional adjustments to the calculation of cash flow, as discussed previously with regard to its policy on calculation adjustments.

The table below shows the required achievement of the cash flow performance measure and the corresponding potential payouts under our PSUs granted in 2014.

	Threshold		Target		Maximum	
	Performance	Payout	Performance	Payout	Performance	Payout
Cash Flow	$3.300 billion	60%	$3.611 billion	100%	$3.922 billion	200%

The remaining half of each named executive's PSUs are subject to total shareholder return relative to the S&P 500. This measure directly correlates executive compensation with creation of shareholder value. Total shareholder return is calculated as follows: (Common Stock price at end of performance period – Common Stock price at beginning of performance period + dividends during performance period) / Common Stock price at beginning of performance period. The table below shows the required achievement of the total shareholder return performance measure and the corresponding potential payouts under our PSUs granted in 2014.

Total Shareholder Return Relative to the S&P 500	
Performance	Payout
75th percentile (Maximum)	200%
50th percentile (Target)	100%
25th percentile (Threshold)	50%

If actual performance falls between performance levels for either of the PSU performance measures, then the number of PSUs earned will be interpolated between the two performance levels, rounded to the nearest 0.1%.

The different performance measure levels are determined based on an analysis of historical performance and current projections and trends. The MD&C Committee uses this analysis and modeling of different scenarios related to items that affect the Company's performance such as yield, volumes and capital to set the performance measures. As with the consideration of targets for the annual cash incentives, when the MD&C Committee established the cash flow targets, the MD&C Committee carefully considered several material factors affecting the Company for 2014 and beyond, including general economic and market conditions and economic indicators for future periods, to ensure that the cash flow targets align with the Company's long-range strategic plan.

Payout on PSUs for the Performance Period Ended December 31, 2014. Half of the PSUs granted in 2012 with the performance period ended December 31, 2014 were subject to an ROIC performance measure, and the remaining half of the PSUs granted in 2012 were subject to total shareholder return relative to the S&P 500. For the performance period ended December 31, 2014, the Company delivered ROIC of 16.302%, which was slightly above target performance of 16.3%; the performance level achieved was 100% of target and yielded a 100.12% payout in shares of Common Stock that were issued in February 2015. For purposes of this performance measure, we generally defined ROIC as net operating profit after taxes divided by capital. With respect to the PSUs with a performance period ended December 31, 2014 that were subject to total shareholder return relative to the S&P 500, the performance of the Company's Common Stock on this measure translated into a percentile rank relative to the S&P 500 of 46.52%, resulting in a 93.03% payout in shares of Common Stock that were issued in February 2015.

As discussed above, the MD&C Committee has discretion to make adjustments to the performance calculations for unusual or otherwise non-operational matters. In February 2015, the MD&C Committee ratified and approved adjustments to the calculation of ROIC results for 2012 and 2013 that had been approved in prior years, as follows: net operating profit after taxes used in the calculation of results was adjusted to exclude the effects of: (i) adjustment of legal reserves; (ii) changes in ten-year Treasury rates, which are used to discount remediation reserves; (iii) withdrawal from underfunded multiemployer pension plans and labor disruption costs; and (iv) charges related to acquisition and integration, and earnings on account of, the acquired Greenstar and RCI businesses. Capital used in the calculation of results was adjusted to exclude the impact of the purchase price for each of Greenstar and RCI, less associated goodwill. Additionally, stockholders' equity used in the calculation of capital excludes the impact of prior year tax audit settlements. In line with the MD&C Committee's policy on calculation adjustments, no adjustments were made to the calculation of ROIC results for 2014.

Stock Options — The MD&C Committee believes use of stock options is appropriate to support the growth element of the Company's strategy. The grant of options made to the named executive officers in the first quarter of 2014 in connection with the annual grant of long-term equity awards was based on the targeted dollar amounts established for total long-term equity incentives (set forth in the table above) and multiplied by 20%. The actual number of stock options granted was determined by assigning a value to the options using an option pricing model, and dividing the dollar value of target compensation by the value of an option. The resulting number of stock options are shown in the table below.

Named Executive Officer	Number of Options
Mr. Steiner	280,899
Mr. Trevathan	67,416
Mr. Fish	67,416
Mr. Harris	53,933
Mr. Morris	53,933
Mr. Aardsma	26,966
Mr. Weidman	18,924

The stock options will vest in 25% increments on the first two anniversaries of the date of grant and the remaining 50% will vest on the third anniversary. The exercise price of the options is the average of the high and low market price of our Common Stock on the date of grant, and the options have a term of 10 years. See the Grant of Plan-Based Awards in 2014 table below for specific exercise prices. We account for our employee stock

options under the fair value method of accounting using a Black-Scholes methodology to measure stock option expense at the date of grant. The fair value of the stock options at the date of grant is amortized to expense over the vesting period less expected forfeitures, except for stock options granted to retirement-eligible employees, for which expense is accelerated over the period that the recipient becomes retirement eligible.

Other Compensation Policies and Practices

Stock Ownership Guidelines and Holding Requirements — All of our named executive officers are subject to stock ownership guidelines. We instituted stock ownership guidelines because we believe that ownership of Company stock demonstrates a commitment to, and confidence in, the Company's long-term prospects and further aligns employees' interests with those of our stockholders. We believe that the requirement that these individuals maintain a portion of their individual wealth in the form of Company stock deters actions that would not benefit stockholders generally. Although there is no deadline set for executives to reach their ownership requirements, the MD&C Committee monitors ownership levels to confirm that executives are making sustained progress toward achievement of their ownership guidelines.

Additionally, our stock ownership policy contains holding requirements. Executives with a title of Senior Vice President or higher must hold 100% of all net shares acquired through the Company's long-term incentive plans for at least one year, and those individuals must continue to hold 100% of all such net shares until the individual's ownership guideline requirement is achieved. Vice Presidents that are designated insiders must hold 50% of all net shares acquired through the Company's long-term incentive plans for at least one year, and those individuals must continue to hold 50% of all such net shares until the individual's ownership guideline requirement is achieved. Once achieved, the requisite stock ownership level must continue to be retained throughout the executive's employment with the Company. Our MD&C Committee believes these holding periods discourage these individuals from taking actions in an effort to gain from short-term or otherwise fleeting increases in the market value of our stock.

The MD&C Committee regularly reviews its ownership guidelines to ensure that the appropriate share ownership requirements are in place. Guidelines are expressed as a fixed number of shares and were last updated in May 2014 to account for the Company's recent sustained Common Stock market value. The ownership requirement of our Chief Executive Officer and President is approximately six times base salary, using his 2014 base salary and a $40 per share stock price. Using the closing price of the Company's Common Stock on March 16, 2015, the ownership requirement of our Chief Executive Officer and President is approximately eight times his 2014 base salary. Shares owned outright, deferred stock units, stock equivalents based on holdings in the Company's 401(k) Plan and phantom stock held in the Deferral Plan count toward meeting the targeted ownership requirements. Restricted stock, RSUs and PSUs, if any, do not count toward meeting the requirement until they are vested or earned.

The following table outlines the ownership requirements and attainment of those requirements for the currently-serving named executive officers.

Named Executive Officer	Ownership Requirement (number of shares)	Attainment as of March 16, 2015
Mr. Steiner[1]	179,500	286%
Mr. Trevathan	47,500	422%
Mr. Fish	42,500	99%
Mr. Harris	23,000	354%
Mr. Morris	23,000	72%

1) The table above does not include 343,294 shares held in the name of Steiner Family Holdings, LLC that are pledged as security for a loan. Since such pledge was made, the Company has adopted a policy prohibiting future pledges of Company securities by executive officers without board-level approval and requiring that such pledged shares are not required to meet the executive's ownership requirement under the ownership guidelines.

As discussed under "Director and Officer Stock Ownership," the MD&C Committee also establishes ownership guidelines for the independent directors and performs regular reviews to ensure all independent directors are in compliance or are showing sustained progress toward achievement of their ownership guideline.

Policy Limiting Severance Benefits — The MD&C Committee has approved an Executive Officer Severance Policy that generally provides that the Company may not enter into new severance arrangements with its executive officers, as defined in the federal securities laws, that provide for benefits, less the value of vested equity awards and benefits provided to employees generally, in an amount that exceeds 2.99 times the executive officer's then current base salary and target annual cash incentive, unless such future severance arrangement receives stockholder approval.

Policy Limiting Death Benefits and Gross-up Payments — The Company has adopted a "Policy Limiting Certain Compensation Practices," which generally provides that the Company will not enter into new compensation arrangements that would obligate the Company to pay a death benefit or gross-up payment to an executive officer unless such arrangement receives stockholder approval. The policy is subject to certain exceptions, including benefits generally available to management-level employees and any payment in reasonable settlement of a legal claim. Additionally, "Death Benefits" under the policy does not include deferred compensation, retirement benefits or accelerated vesting or continuation of equity-based awards pursuant to generally-applicable equity award plan provisions.

Insider Trading — The Company maintains an insider trading policy that prohibits executive officers from engaging in most transactions involving the Company's Common Stock during periods, determined by the Company, that those executives are most likely to be aware of material, non-public information. Executive officers must clear all of their transactions in our Common Stock with the Company's General Counsel's office to protect against transactions in our securities during a time when executives have material, non-public information. Additionally, it is our policy that executive officers are not permitted to hedge their ownership of Company securities, including trading in options, warrants, puts and calls or similar derivative instruments on any security of the Company or selling any security of the Company "short." Further, as noted above, the Company has adopted a policy prohibiting future pledges of Company securities by executive officers without board-level approval and requiring that such pledged shares are not required to meet the executive's ownership requirement under the ownership guidelines.

EXECUTIVE COMPENSATION

EXECUTIVE COMPENSATION TABLES

We are required to present compensation information in the tabular format prescribed by the SEC. This format, including the tables' column headings, may be different from the way we describe or consider elements and components of compensation internally. The Compensation Discussion and Analysis contains a discussion that should be read in conjunction with these tables to gain a complete understanding of our executive compensation philosophy, programs and decisions.

Summary Compensation Table

Year	Salary ($)	Bonus ($)	Stock Awards ($)(1)	Option Awards ($)(2)	Non-Equity Incentive Plan Compensation ($)(3)	All Other Compensation ($)(4)	Total ($)
David P. Steiner **President and Chief Executive Officer**							
2014	1,186,785	—	5,328,822	1,233,147	2,626,505	395,597	10,770,856
2013	1,149,616	—	5,692,630	1,201,794	2,387,194	295,348	10,726,582
2012	1,127,500	—	5,266,497	1,039,685	—	228,456	7,662,138
James E. Trevathan, Jr. **Executive Vice President and Chief Operating Officer**							
2014	621,923	—	1,278,954	295,956	918,083	60,961	3,175,877
2013	588,334	—	1,185,964	250,372	769,756	12,632	2,807,058
2012	566,298	—	936,797	184,941	—	12,550	1,700,586
James C. Fish, Jr. **Executive Vice President and Chief Financial Officer**							
2014	552,635	—	1,278,954	295,956	816,830	36,319	2,980,694
2013	509,808	—	1,107,205	233,750	666,540	93,318	2,610,621
2012	439,616	—	907,269	308,250	54,418	99,656	1,809,209
Jeff M. Harris **Senior Vice President — Operations**							
2014	562,458	—	1,023,145	236,766	691,457	32,419	2,546,245
2013	546,798	—	1,012,324	213,720	630,795	36,175	2,439,812
2012	536,278	—	949,014	148,675	184,913	45,135	1,864,015
John J. Morris, Jr. **Senior Vice President — Operations**							
2014	509,711	—	1,023,145	236,766	627,822	47,315	2,444,759
2013	449,038	—	822,601	173,659	519,843	26,121	1,991,262
Mark A. Weidman(5) **Former President, Wheelabrator Technologies Inc.**							
2014	364,214	500,000	359,013	83,076	1,375,045	25,893	2,707,241
David A. Aardsma(6) **Former Senior Vice President and Chief Sales and Marketing Officer**							
2014	416,233	—	511,618	118,381	233,979	930,942	2,211,153

(1) Amounts in this column represent the grant date fair value of stock awards, which includes performance share units granted to all named executives in 2012, 2013 and 2014 and restricted stock units granted to Messrs. Fish and Harris in 2012. Restricted stock units comprised the following stock award values in 2012: $154,177 to Mr. Fish and $195,922 to Mr. Harris. The grant date fair values are calculated in

accordance with the Financial Accounting Standards Board Accounting Standards Codification ("ASC") Topic 718, as further described in Note 16 in the Notes to the Consolidated Financial Statements in our 2014 Annual Report on Form 10-K.

For purposes of calculating the grant date fair value of performance share awards, we have assumed that the Company will achieve target performance levels. The table below shows the aggregate grant date fair value of performance share units if we had assumed that the Company will achieve the highest level of performance criteria and maximum payouts will be earned.

	Year	Aggregate Grant Date Fair Value of Award Assuming Highest Level of Performance Achieved ($)
Mr. Steiner	2014	10,657,644
	2013	11,385,260
	2012	10,532,994
Mr. Trevathan	2014	2,557,908
	2013	2,371,928
	2012	1,873,594
Mr. Fish	2014	2,557,908
	2013	2,214,410
	2012	1,506,184
Mr. Harris	2014	2,046,290
	2013	2,024,648
	2012	1,506,184
Mr. Morris	2014	2,046,290
	2013	1,645,202
Mr. Weidman	2014	718,026
Mr. Aardsma	2014	1,023,236

(2) Amounts in this column represent the grant date fair value of stock options granted in 2012, 2013 and 2014, in accordance with ASC Topic 718. The grant date fair value of the options was estimated using the Black-Scholes option pricing model. The assumptions made in determining the grant date fair values of options are disclosed in Note 16 in the Notes to the Consolidated Financial Statements in our 2014 Annual Report on Form 10-K.

(3) Amounts in this column represent cash incentive awards earned and paid based on the achievement of performance criteria. See "Compensation Discussion and Analysis — Named Executive's 2014 Compensation Program and Results — Annual Cash Incentive" and "Compensation Discussion and Analysis — How Named Executive Officer Compensation Decisions are Made — Departure of Mr. Weidman" for additional information.

(4) The amounts included in "All Other Compensation" for 2014 are shown below (in dollars):

	Personal Use of Company Aircraft [a]	401(k) Matching Contributions	Deferral Plan Matching Contributions	Life Insurance Premiums	Severance [b]
Mr. Steiner	232,022	11,700	149,489	2,386	—
Mr. Trevathan	26,273	11,700	21,756	1,232	—
Mr. Fish	4,033	11,700	19,520	1,066	—
Mr. Harris	—	11,700	19,575	1,144	—
Mr. Morris	—	11,700	34,630	985	—
Mr. Weidman	—	11,700	13,463	730	—
Mr. Aardsma	—	11,700	26,440	770	892,032

(a) Please see "Compensation Discussion and Analysis — Overview of Elements of Our 2014 Compensation Program — Perquisites" for additional information regarding personal use of Company aircraft. We calculated these amounts based on the incremental cost to us, which includes fuel, crew travel expenses, on-board catering, landing fees, trip related hangar/parking costs and other variable costs. We own or operate our aircraft primarily for business use; therefore, we do not include the fixed costs associated with the ownership or operation such as pilots' salaries, purchase costs and non-trip related maintenance.

(b) See "Compensation Discussion and Analysis — How Named Executive Officer Compensation Decisions are Made — Departure of Mr. Aardsma" for additional information.

(5) At the time of Mr. Weidman's departure from the Company in December 2014, the performance share units and stock options granted to him in March 2014 and included in the table under "Stock Awards" and "Options Awards," respectively, were cancelled. Information concerning the Bonus and Non-equity Incentive Plan Compensation paid to Mr. Weidman in 2014 can be found under "Compensation Discussion and Analysis — How Named Executive Officer Compensation Decisions are Made — Departure of Mr. Weidman."

(6) At the time of Mr. Aardsma's departure from the Company in October 2014, the performance share units that were granted to him in March 2014 and included in the table under "Stock Awards" were prorated, and any payout on such performance share units will be made at end of the performance period based on actual performance achieved. The stock options granted to Mr. Aardsma in March 2014 and included in the table under "Option Awards" will continue to vest and be exercisable for three years from the date of his termination.

Grant of Plan-Based Awards in 2014

	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards[1]			Estimated Future Payouts Under Equity Incentive Plan Awards[2]			All other Option Awards: Number of Securities Underlying Options	Exercise or Base Price of Option Awards	Closing Market Price on Date of Grant	Grant Date Fair Value of Stock and Option Awards
Grant Date	Threshold ($)	Target ($)	Maximum ($)	Threshold (#)	Target (#)	Maximum (#)	(#)[3][4]	($/sh)[5]	($)	($)[6]
David P. Steiner										
	962,090	1,603,483	3,206,966							
03/07/14				69,768	116,280	232,560				5,328,822
03/07/14							280,899	41.37	41.38	1,233,147
James E. Trevathan, Jr.										
	336,294	560,490	1,120,980							
03/07/14				16,745	27,908	55,816				1,278,954
03/07/14							67,416	41.37	41.38	295,956
James C. Fish, Jr.										
	299,205	498,675	997,350							
03/07/14				16,745	27,908	55,816				1,278,954
03/07/14							67,416	41.37	41.38	295,956
Jeff M. Harris										
	253,281	422,135	844,270							
03/07/14				13,396	22,326	44,652				1,023,145
03/07/14							53,933	41.37	41.38	236,766
John J. Morris, Jr.										
	229,972	383,286	766,572							
03/07/14				13,396	22,326	44,652				1,023,145
03/07/14							53,933	41.37	41.38	236,766
Mark A. Weidman										
		1,000,000								
	131,208	218,679	437,358							
03/07/14				4,700	7,834	15,668				359,013
03/07/14							18,924	41.37	41.38	83,076
David A. Aardsma										
	205,809	343,015	686,030							
03/07/14				6,698	11,164	22,328				511,618
03/07/14							26,966	41.37	41.38	118,381

(1) Actual payouts of cash incentive awards for 2014 performance are shown in the Summary Compensation Table under "Non-Equity Incentive Plan Compensation." The named executives' annual cash incentives are a percentage of base salary approved by the MD&C Committee. The threshold levels represent the bonus amounts that would have been payable if the minimum performance requirements were met for each performance measure. In the case of Mr. Weidman, the table also includes a $1 million cash incentive paid in connection with the accomplishment of certain divestiture terms. Please see "Compensation Discussion and Analysis — Named Executive's 2014 Compensation Program and Results — Annual Cash Incentive" and "Compensation Discussion and Analysis — How Named Executive Officer Compensation Decisions are Made — Departure of Mr. Weidman" for additional information about these awards, including performance criteria.

(2) Represents the number of shares of Common Stock potentially issuable based on the achievement of performance criteria under performance share unit awards granted under our 2009 Stock Incentive Plan. Please see "Compensation Discussion and Analysis — Named Executive's 2014 Compensation Program and Results — Long-Term Equity Incentives — Performance Share Units" for additional information about these awards, including performance criteria. The performance period for these awards ends December 31, 2016. Performance share units earn dividend equivalents, which are paid out based on the number of shares actually earned, if any, at the end of the performance period.

(3) Although we consider all of our equity awards to be a form of incentive compensation because their value will increase as the market value of our Common Stock increases, only awards with performance criteria are considered "equity incentive plan awards" for SEC disclosure purposes. As a result, option awards are not included as "Equity Incentive Plan Awards" in the table above or the Outstanding Equity Awards at December 31, 2014 table.

(4) Represents the number of shares of Common Stock potentially issuable upon the exercise of options granted under our 2009 Stock Incentive Plan. Please see "Compensation Discussion and Analysis — Named Executive's 2014 Compensation Program and Results — Long-Term Equity Incentives — Stock Options" for additional information about these awards. The stock options will vest in 25% increments on the first two anniversaries of the date of grant and the remaining 50% will vest on the third anniversary.

(5) The exercise price represents the average of the high and low market price on the date of the grant, in accordance with our 2009 Stock Incentive Plan.

(6) These amounts represent grant date fair value of the awards as calculated under ASC Topic 718, as further described in Note 16 in the Notes to the Consolidated Financial Statements in our 2014 Annual Report on Form 10-K.

Outstanding Equity Awards at December 31, 2014

Name	Option Awards				Stock Awards[1]			
	Number of Securities Underlying Unexercised Options Exercisable (#)[2]	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)[7]	Market Value of Shares or Units of Stock that Have Not Vested ($)	*Equity Incentive Plan Awards:* Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)[8]	*Equity Incentive Plan Awards:* Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested ($)
David. P. Steiner								
	—	280,899(3)	41.37	03/07/2024	—	—	247,613	12,707,499
	70,693	212,082(4)	36.885	03/08/2023	—	—	—	—
	109,440	109,441(5)	34.935	03/09/2022	—	—	—	—
	583,333	—	37.185	03/09/2021	—	—	—	—
	331,008	—	33.49	03/09/2020	—	—	—	—
James E. Trevathan, Jr.								
	—	67,416(3)	41.37	03/07/2024	—	—	55,269	2,836,405
	14,727	44,184(4)	36.885	03/08/2023	—	—	—	—
	19,466	19,469(5)	34.935	03/09/2022	—	—	—	—
	150,000	—	37.585	07/05/2021	—	—	—	—
	109,084	—	37.185	03/09/2021	—	—	—	—
	51,657	—	33.49	03/09/2020	—	—	—	—
James C. Fish, Jr.								
	—	67,416(3)	41.37	03/07/2024	4,412	226,424	53,452	2,743,157
	13,750	41,250(4)	36.885	03/08/2023	—	—	—	—
	17,730	17,731(6)	34.945	08/07/2022	—	—	—	—
	15,650	15,650(5)	34.935	03/09/2022	—	—	—	—
	46,632	—	37.585	07/05/2021	—	—	—	—
	23,230	—	37.185	03/09/2021	—	—	—	—
	14,632	—	33.49	03/09/2020	—	—	—	—
Jeff M. Harris								
	—	53,933(3)	41.37	03/07/2024	6,061	311,051	45,681	2,344,349
	12,571	37,716(4)	36.885	03/08/2023		—	—	—
	15,650	15,650(5)	34.935	03/09/2022	—	—	—	—
John J. Morris, Jr.								
	—	53,933(3)	41.37	03/07/2024	12,121	622,050	41,304	2,119,721
	10,215	30,646(4)	36.885	03/08/2023	—	—	—	—
	4,512	4,513(5)	34.935	03/09/2022	—	—	—	—
	23,230	—	37.185	03/09/2021	—	—	—	—
	13,302	—	33.49	03/09/2020	—	—	—	—
Mark A. Weidman	—	—	—	—	—	—	6,044	310,178
David A. Aardsma	—	26,966(3)	41.37	10/31/2017	—	—	11,120	570,678
	—	21,209(4)	36.885	10/31/2017	—	—	—	—
	—	10,831(5)	34.935	10/31/2017	—	—	—	—

(1) Values are based on the closing price of the Company's Common Stock on December 31, 2014 of $51.32.

(2) Represents vested stock options granted on March 9, 2010, March 9, 2011, March 9, 2012, and March 8, 2013 pursuant to our 2009 Stock Incentive Plan.

(3) Represents stock options granted on March 7, 2014 that vest 25% on the first and second anniversary of the date of grant and 50% on the third anniversary of the date of grant pursuant to our 2009 Stock Incentive Plan.

(4) Represents stock options granted on March 8, 2013 that vested 25% on the first anniversary of the date of grant. An additional 25% will vest on the second anniversary of the date of grant and 50% will vest on the third anniversary of the date of grant.

(5) Represents stock options granted on March 9, 2012 that vested 25% on the first and second anniversary of the date of grant. The remaining 50% will vest on the third anniversary of the date of grant.

(6) Represents stock options granted August 7, 2012 that vested 25% on the first and second anniversary of the date of grant. The remaining 50% will vest on the third anniversary of the date of grant.

(7) Represents restricted stock units granted in 2012 in connection with certain promotions and increased responsibilities. The restricted stock units vest in full on the third anniversary of the date of grant.

(8) Includes performance share units with three-year performance periods ending December 31, 2015 and December 31, 2016. We have assumed target performance criteria and target payout will be achieved for performance share units. Payouts on performance share units are made after the Company's financial results of operations for the entire performance period are reported and the MD&C Committee determines achievement of performance results and corresponding vesting, typically in mid to late February of the succeeding year. The performance share units for the performance period ended on December 31, 2014 are not included in the table as they are considered earned as of December 31, 2014 for proxy disclosure purposes; instead, such performance share units are included in the Option Exercises and Stock Vested table below. The following number of performance share units have a performance period ending December 31, 2015: Mr. Steiner – 131,333; Mr. Trevathan – 27,361; Mr. Fish – 25,544; Mr. Harris – 23,355; Mr. Morris – 18,978, Mr. Weidman – 6,044; and Mr. Aardsma – 8,024. The following number of performance share units have a performance period ending on December 31, 2016: Mr. Steiner – 116,280; Mr. Trevathan – 27,908; Mr. Fish – 27,908; Mr. Harris 22,326, Mr. Morris – 22,326; Mr. Weidman – 0; and Mr. Aardsma – 3,096.

Option Exercises and Stock Vested

	Option Awards		Stock Awards[1]	
Name	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise ($)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting ($)
David P. Steiner	—	—	133,836	7,159,557
James E. Trevathan, Jr	—	—	23,807	1,273,555
James C. Fish, Jr.	—	—	19,138	1,023,787
Jeff M. Harris	160,741	1,724,750	19,138	1,023,787
John J. Morris, Jr.	—	—	5,518	295,185
Mark A. Weidman	65,537[2]	596,297	9,192	491,726
David A. Aardsma	177,426	2,155,781	12,507	669,062

(1) Includes performance share units granted in 2012 with a performance period ended December 31, 2014. The determination of achievement of performance results and corresponding vesting of such performance share units was performed by the MD&C Committee in February 2015. Following such determination, shares of the Company's Common Stock earned under this award were issued on February 17, 2015, based on the average of the high and low market price of the Company's Common Stock on that date.

(2) We withheld shares in payment of the exercise price and statutory tax withholding from Mr. Weidman's exercise of non-qualified stock options. Mr. Weidman received an aggregate of 7,524 net shares in such transactions.

(3) Mr. Steiner deferred receipt of 133,836 performance share units, earned for the performance period ended December 31, 2014, valued at $7,159,557, until he leaves the company.

Nonqualified Deferred Compensation in 2014

Name	Executive Contributions in Last Fiscal Year ($)[1]	Registrant Contributions in Last Fiscal Year ($)[2]	Aggregate Earnings in Last Fiscal Year ($)[3]	Aggregate Withdrawals/ Distributions ($)[4]	Aggregate Balance at Last Fiscal Year End ($)[1]
David P. Steiner	328,589	149,489	521,208	—	5,574,609
James E. Trevathan, Jr	29,008	21,756	40,803	—	3,023,923
James C. Fish, Jr.	34,703	19,520	21,407	—	342,285
Jeff M. Harris	86,998	19,575	8,891	965,681	355,137
John J. Morris, Jr.	91,994	34,630	34,512	—	535,925
Mark A. Weidman	109,410	13,463	86,352	—	1,827,959
David A. Aardsma	47,466	26,440	83,699	—	988,765

(1) Contributions are under the Company's Deferral Plan as described in "Compensation Discussion and Analysis — Overview of Elements of Our 2014 Compensation Program — Deferral Plan." In this Proxy Statement as well as in previous years, we include executive contributions to the Deferral Plan in the Base Salary column of the Summary Compensation Table. Aggregate Balance at Last Fiscal Year End includes the following aggregate amounts that were included in the named executives' compensation in the Summary Compensation Table in 2012-2014: Mr. Steiner — $1,128,259; Mr. Trevathan — $50,764; Mr. Fish — $123,229; Mr. Harris — $361,205; Mr. Morris — $220,157; Mr. Weidman — $293,576; and Mr. Aardsma — $180,539.

(2) Company contributions to the executives' Deferral Plan accounts are included in All Other Compensation, but not Base Salary, in the Summary Compensation Table.

(3) Earnings on these accounts are not included in any other amounts in the tables included in this Proxy Statement, as the amounts of the named executives' earnings represent the general market gains (or losses) on investments, rather than amounts or rates set by the Company for the benefit of the named executives.

(4) In prior years participants could elect to receive distribution of deferred compensation (i) in a lump sum on a future date on or after termination of employment or retirement or (ii) in annual installments over up to ten years, to begin after any future date or age specified by the employee. The plan was amended and restated effective January 1, 2014, and participating employees can now generally elect to receive distributions commencing six months after the employee leaves the Company in the form of annual installments or a lump sum payment. Special circumstances may allow for a modified or accelerated distribution, such as the employee's death, an unforeseen emergency, or upon termination of the plan. In the event of death, distribution will be made to the designated beneficiary in a single lump sum in the following calendar year. In the event of an unforeseen emergency, the plan administrator may allow an early payment in the amount necessary to satisfy the emergency. All participants are immediately 100% vested in all of their contributions, Company matching contributions, and gains and/or losses related to their investment choices.

Potential Payments Upon Termination or Change-in-Control

The payments our named executives receive upon termination or change-in-control are based on provisions included in employment agreements and individual equity award agreements. We enter into employment agreements with our named executive officers to provide a form of protection for the Company through restrictive covenant provisions; each of the agreements contains post-termination restrictive covenants, including a covenant not to compete, non-solicitation covenants, and a non-disparagement covenant, each of which lasts for two years after termination. Employment agreements also aid in retention of senior leadership by providing the individual with comfort that he will be treated fairly in the event of a termination not for cause or under a change-in-control situation. The change-in-control provision included in each named executive officer's agreement requires a double trigger in order to receive any payment in the event of a change-in-control situation. First, a change-in-control must occur, and second, the individual must terminate his employment for good reason or the Company must terminate his employment without cause within six months prior to or two years following the change-in-control event. We believe providing change-in-control protection encourages our named executives to pursue and facilitate change-in-control transactions that are in the best interests of stockholders while not granting executives an undeserved windfall.

Employment agreements entered into with named executive officers after February 2004 (which includes all named executives except Mr. Steiner) contain (a) a requirement that the individual execute a general release prior

to receiving post-termination benefits and (b) a clawback feature that allows for the suspension and refund of termination benefits for subsequently discovered cause. The clawback feature in the agreements generally allows the Company to cancel any remaining payments due and obligates the named executive to refund to the Company severance payments already made if, within one year of termination of employment of the named executive by the Company for any reason other than for cause, the Company determines that the named executive could have been terminated for cause.

Our current form of award agreements for equity awards also contain provisions regarding termination and change-in-control. Our stock option awards are also subject to double trigger vesting in the event of a change-in-control situation. The award agreements for restricted stock units granted to Messrs. Fish, Harris and Morris provide that restricted stock units vest upon a change-in-control, unless the successor entity converts the awards to equivalent grants in the successor. Provided, however, such converted restricted stock unit awards will vest in full if the executive is involuntarily terminated without cause following the change-in-control. Award agreements applicable to performance share units provide that awards will be paid out in cash on a prorated basis based on actual results achieved through the end of the fiscal quarter prior to a change-in-control. Thereafter, the executive would be compensated for the lost opportunity from the date of the change-in-control to the end of the original performance period by receiving a replacement award of restricted stock units in the successor entity, provided that the successor entity is publicly traded. If the successor is not publicly traded, the executive will be entitled to a replacement award of cash. However, if the employee is thereafter involuntarily terminated other than for cause within the change-in-control window referenced, he would vest in full in the replacement award.

Our current equity award agreements also include a requirement that, in order to be eligible to vest in any portion of the award, the employee must enter into an agreement containing restrictive covenants applicable to the employee's behavior following termination. Additionally, our performance share unit and stock option award agreements include compensation clawback provisions that provide, if the MD&C Committee determines that an employee either engaged in or benefited from misconduct, then the employee will refund any amounts received under the equity award agreements. Misconduct generally includes any act or failure to act that caused or was intended to cause a violation of the Company's policies, generally accepted accounting principles or applicable laws and that materially increased the value of the equity award. Further, our MD&C Committee has adopted a clawback policy applicable to our annual cash incentive awards that is designed to recoup annual cash incentive payments when the recipient's personal misconduct results in a restatement or otherwise affects the payout calculations for the awards. Clawback terms applicable to our incentive awards allow recovery within the earlier to occur of one year after discovery of misconduct and the second anniversary of the employee's termination of employment.

The terms "Cause," "Good Reason," and "Change-in-Control" as used in the table below are defined in the executives' employment agreements and/or the applicable equity award agreement and have the meanings generally described below. You should refer to the individual agreements for the actual definitions.

"Cause" generally means the named executive has:

- deliberately refused to perform his duties;
- breached his duty of loyalty to the Company;
- been convicted of a felony;
- intentionally and materially harmed the Company; or
- breached the covenants contained in his agreement.

"Good Reason" generally means that, without the named executive's consent:

- his duties or responsibilities have been substantially changed;
- he has been removed from his position;
- the Company has breached his employment agreement;

- any successor to the Company has not assumed the obligations under his employment agreement; or
- he has been reassigned to a location more than 50 miles away.

"Change-in-Control" generally means that:

- at least 25% of the Company's Common Stock has been acquired by one person or persons acting as a group;
- the majority of the Board of Directors consists of individuals other than those serving as of the date of the named executive's employment agreement or those that were not elected by at least two-thirds of those directors;
- there has been a merger of the Company in which at least 50% of the combined post-merger voting power of the surviving entity does not consist of the Company's pre-merger voting power, or a merger to effect a recapitalization that resulted in a person or persons acting as a group acquired 25% or more of the Company's voting securities; or
- the Company is liquidating or selling all or substantially all of its assets.

The following tables represent potential payouts to our named executives upon termination of employment in the circumstances indicated pursuant to the terms of their employment agreements and outstanding incentive awards. In the event a named executive is terminated for cause, he is entitled to any accrued but unpaid salary only. Please see the Non-Qualified Deferred Compensation table above for aggregate balances payable to the named executives under our Deferral Plan pursuant to the executive's distribution election.

The payouts set forth below assume the triggering event indicated occurred on December 31, 2014, at which time the closing price of our Common Stock was $51.32 per share. These payouts are determined for SEC disclosure purposes and are not necessarily indicative of the actual amounts the named executive would receive. Please note the following when reviewing the payouts set forth below:

- The compensation component set forth below for accelerated vesting of stock options is comprised of the unvested stock options granted in 2012, 2013, and 2014, which vest 25% on the first and second anniversary of the date of grant and 50% on the third anniversary of the date of grant.
- For purposes of calculating the payout of performance share unit awards outstanding at December 31, 2014, we have assumed that target performance was achieved; any actual performance share unit payouts will be based on actual performance of the Company during the performance period.
- For purposes of calculating the payout upon the "double trigger" of change-in-control and subsequent involuntary termination not for cause, the value of the performance share unit replacement award is equal to the number of performance share units that would be forfeited based on the prorated acceleration of the performance share units, multiplied by the closing price of our Common Stock on December 31, 2014.
- The payout for continuation of benefits is an estimate of the cost the Company would incur to continue those benefits.
- Waste Management's practice is to provide all benefits eligible employees with life insurance that pays one times annual base salary upon death. The insurance benefit is a payment by an insurance company, not the Company, and is payable under the terms of the insurance policy.

Potential Consideration upon Termination of Employment:

David P. Steiner

Triggering Event	Compensation Component	Payout ($)
Death or Disability	***Severance Benefits***	
	• Accelerated vesting of stock options	7,649,540
	• Payment of performance share units (contingent on actual performance at end of performance period)	12,707,499
	• Two times base salary as of date of termination (payable in bi-weekly installments over a two-year period)[1]	2,392,330
	• Life insurance benefit paid by insurance company (in the case of death)	1,162,000
	Total	**23,911,369**
Termination Without Cause by the Company or For Good Reason by the Employee	***Severance Benefits***	
	• Two times base salary plus target annual cash bonus (one-half payable in lump sum; one-half payable in bi-weekly installments over a two-year period)	5,621,978
	• Continued coverage under health and welfare benefit plans for two years	24,600
	• Prorated payment of performance share units (contingent on actual performance at end of performance period)	6,480,690
	Total	**12,127,268**
Termination Without Cause by the Company or For Good Reason by the Employee Six Months Prior to or Two Years Following a Change-in-Control (Double Trigger)	***Severance Benefits***	
	• Three times base salary plus target annual cash bonus, paid in lump sum[1]	8,432,963
	• Continued coverage under health and welfare benefit plans for three years	36,900
	• Accelerated vesting of stock options	7,649,540
	• Prorated accelerated payment of performance share units	6,480,690
	• Accelerated payment of performance share units replacement grant	6,226,809
	• Prorated maximum annual cash bonus	3,229,646
	• Gross-up payment for any excise taxes[1]	8,498,295
	Total	**40,554,843**

James E. Trevathan, Jr.

Triggering Event	Compensation Component	Payout ($)
Death or Disability	***Severance Benefits***	
	• Accelerated vesting of stock options	1,627,585
	• Payment of performance share units (contingent on actual performance at end of performance period)	2,836,405
	• Two times base salary as of the date of termination (payable in bi-weekly installments over a two- year period)[1]	1,260,000
	• Life insurance benefit paid by insurance company (in the case of death)	600,000
	Total	**6,323,990**
Termination Without Cause by the Company or For Good Reason by the Employee	***Severance Benefits***	
	• Two times base salary plus target annual cash bonus (one-half payable in lump sum; one-half payable in bi-weekly installments over a two-year period)	2,394,000
	• Continued coverage under benefit plans for two years	
	• Health and welfare benefit plans	24,600
	• 401(k) contributions	23,400
	• Prorated payment of performance share units (contingent on actual performance at end of performance period)	1,413,096
	Total	**3,855,096**
Termination Without Cause by the Company or For Good Reason by the Employee Six Months Prior to or Two Years Following a Change-in-Control (Double Trigger)	***Severance Benefits***	
	• Two times base salary plus target annual cash bonus, paid in lump sum	2,394,000
	• Continued coverage under benefit plans for two years	
	• Health and welfare benefit plans	24,600
	• 401(k) contributions	23,400
	• Accelerated vesting of stock options	1,627,585
	• Prorated accelerated payment of performance share units	1,413,096
	• Accelerated payment of performance share units replacement grant	1,423,309
	• Prorated maximum annual cash bonus	1,134,000
	• Gross-up payment for any excise taxes[1]	2,215,485
	Total	**10,255,475**

James C. Fish, Jr.

Triggering Event	Compensation Component	Payout ($)
Death or Disability	***Severance Benefits***	
	• Accelerated vesting of stock options	1,813,003
	• Payment of performance share units (contingent on actual performance at end of performance period)	2,743,157
	• Accelerated vesting of restricted stock units	226,424
	• Life insurance benefit paid by insurance company (in the case of death)	515,000
	Total	**5,297,584**
Termination Without Cause by the Company or For Good Reason by the Employee	***Severance Benefits***	
	• Two times base salary plus target annual cash bonus (one-half payable in lump sum; one-half payable in bi-weekly installments over a two-year period)	2,152,700
	• Continued coverage under health and welfare benefit plans for two years	24,600
	• Prorated payment of performance share units (contingent on actual performance at end of performance period)	1,350,896
	• Prorated vesting of restricted stock units	181,365
	Total	**3,709,561**
Termination Without Cause by the Company or For Good Reason by the Employee Six Months Prior to or Two Years Following a Change-in-Control (Double Trigger)	***Severance Benefits***	
	• Two times base salary plus target annual cash bonus (one-half payable in lump sum; one-half payable in bi-weekly installments over a two-year period)	2,152,700
	• Continued coverage under health and welfare benefit plans for two years	24,600
	• Accelerated vesting of stock options	1,813,003
	• Prorated accelerated payment of performance share units	1,350,896
	• Accelerated payment of performance share units replacement grant	1,392,261
	• Accelerated vesting of restricted stock units	226,424
	• Prorated maximum annual cash bonus	1,019,700
	Total	**7,979,584**

Jeff M. Harris

Triggering Event	Compensation Component	Payout ($)
Death or Disability	***Severance Benefits***	
	• Accelerated vesting of stock options	1,337,489
	• Payment of performance share units (contingent on actual performance at end of performance period)	2,344,349
	• Accelerated payment of restricted stock units	311,051
	• Life insurance benefit paid by insurance company (in the case of death)	515,000
	Total	**4,507,889**
Termination Without Cause by the Company or For Good Reason by the Employee	***Severance Benefits***	
	• Two times base salary plus target annual cash bonus (one-half payable in lump sum; one-half payable in bi-weekly installments over a two-year period)	1,981,613
	• Continued coverage under health and welfare benefit plans for two years	24,600
	• Prorated payment of performance share units (contingent on actual performance at end of performance period)	1,180,617
	• Prorated vesting of restricted stock units	223,293
	Total	**3,410,123**
Termination Without Cause by the Company or For Good Reason by the Employee Six Months Prior to or Two Years Following a Change-in-Control (Double Trigger)	***Severance Benefits***	
	• Three times base salary plus target annual cash bonus, paid in lump sum[1]	2,972,419
	• Continued coverage under health and welfare benefit plans for three years	36,900
	• Accelerated vesting of stock options	1,337,489
	• Prorated accelerated payment of performance share units	1,180,617
	• Accelerated payment of performance share units replacement grant	1,163,732
	• Accelerated vesting of restricted stock units	311,051
	• Prorated maximum annual cash bonus	849,263
	Total	**7,851,471**

John J. Morris, Jr.

Triggering Event	Compensation Component	Payout ($)
Death or Disability	***Severance Benefits***	
	• Accelerated vesting of stock options	1,052,954
	• Payment of performance share units (contingent on actual performance at end of performance period)	2,119,721
	• Accelerated vesting of restricted stock units	622,050
	• Life insurance benefit paid by insurance company (in the case of death)	475,000
	Total	**4,269,725**
Termination Without Cause by the Company or For Good Reason by the Employee	***Severance Benefits***	
	• Two times base salary plus target annual cash bonus (one-half payable in lump sum; one-half payable in bi-weekly installments over a two-year period)	1,828,750
	• Continued coverage under health and welfare benefit plans for two years	24,600
	• Prorated payment of performance share units (contingent on actual performance at end of performance period)	1,030,865
	• Prorated vesting of restricted stock units	446,535
	Total	**3,330,750**
Termination Without Cause by the Company or For Good Reason by the Employee Six Months Prior to or Two Years Following a Change-in-Control (Double Trigger)	***Severance Benefits***	
	• Two times base salary plus target annual cash bonus (one half payable in lump sum; one half payable in bi-weekly installments over a two year period)	1,828,750
	• Continued coverage under health and wealth benefit plans for two years	24,600
	• Accelerated vesting of stock options	1,052,954
	• Prorated accelerated payment of performance share units	1,030,865
	• Accelerated payment of performance share units replacement grant	1,088,856
	• Accelerated vesting of restricted stock units	622,050
	• Prorated maximum annual cash bonus	783,750
	Total	**6,431,825**

(1) In the past, such provisions have been included in certain named executives' employment agreements. However, the Company's compensation policy now provides that it will not enter into any future compensation arrangements that obligate the Company to provide increased payments in the event of death or to make tax gross up payments, subject to certain exceptions. Additionally, our Executive Officer Severance Policy generally provides that the Company may not enter into new severance arrangements with its executive officers that provide for benefits, less the value of vested equity awards and benefits provided to employees generally, in an amount that exceeds 2.99 times the executive officer's then current base salary and target bonus. For additional details, see "Compensation Discussion and Analysis — Other Compensation Policies and Practices."

Payments upon Departure of Messrs. Weidman and Aardsma

During 2014, Messrs. Weidman and Aardsma departed from the Company. Please see "Compensation Discussion and Analysis – How Named Executive Officer Compensation Decisions are Made – Departure of Mr. Weidman" and "– Departure of Mr. Mr. Aardsma" for additional information regarding their respective departures.

Upon Mr. Weidman's departure from the Company on December 19, 2014, he received, or will receive, the following payments and benefits:

- Payment of annual cash incentive award based on estimated actual performance achieved and pro-rated to departure date $375,045
- Prorated vesting of performance share units granted in 2012 and 2013 at target (any payout contingent on actual performance at end of applicable performance period)[1] $798,950

Upon Mr. Aardsma's departure from the Company on October 31, 2014, he received, or is continuing to receive, the following payments and benefits:

- Cash severance payable in lump sum ..... $ 805,102
- Cash severance payable over two years ..... $ 805,102
- Value of group health and dental coverage for two years payable over two years (or until similar coverage is obtained from a subsequent employer) ..... $ 24,600
- Payment in lieu of certain other benefits, payable in lump sum ..... $ 25,000
- Prorated vesting of performance share units granted in 2012, 2013 and 2014 at target (any payout contingent on actual performance at end of applicable performance period)[1] $1,235,683

(1) Based on awards outstanding and the closing price of the Company's Common Stock of $51.32 per share on December 31, 2014.

Equity Compensation Plan Table

The following table provides information as of December 31, 2014 about the number of shares to be issued upon vesting or exercise of equity awards and the number of shares remaining available for issuance under our equity compensation plans.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options and Rights	Weighted-Average Exercise Price of Outstanding Options and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans
Equity compensation plans approved by security holders[a]	11,327,065[b]	$37.22[c]	26,762,948[d]

(a) Includes our 2009 Stock Incentive Plan and 2014 Stock Incentive Plan. Only our 2014 Stock Incentive Plan is available for awards. Also includes our ESPP.

(b) Includes: options outstanding for 8,378,211 shares of Common Stock; 295,084 shares of Common Stock to be issued in connection with deferred compensation obligations; 620,484 shares underlying unvested restricted stock units and 2,033,286 shares of Common Stock that would be issued under outstanding performance share units if the target performance level is achieved. Assuming, instead, that the maximum performance level was achieved on such performance share units, the number of shares of Common Stock subject to outstanding awards would increase by 2,033,286 shares.

The total number of shares subject to outstanding awards in the table above includes 751,495 shares on account of performance share units with the performance period ended December 31, 2014. The determination of achievement of performance results on such performance share units was performed by the MD&C Committee in February 2015. As a result, 384,146 shares of Common Stock included in the table above were issued in February 2015, net of units deferred, and 213,669 shares included in the table above as subject to outstanding awards are now available for future issuance.

Excludes purchase rights that accrue under the ESPP. Purchase rights under the ESPP are considered equity compensation for accounting purposes; however, the number of shares to be purchased is indeterminable until the time shares are actually issued, as automatic employee contributions may be terminated before the end of an offering period and, due to the look-back pricing feature, the purchase price and corresponding number of shares to be purchased is unknown.

(c) Excludes performance share units and restricted stock units because those awards do not have exercise prices associated with them. Also excludes purchase rights under the ESPP for the reasons described in (b) above.

(d) The shares remaining available include 953,442 shares under our ESPP and 25,809,506 shares under our 2014 Stock Incentive Plan, based on payout of performance share units at maximum. Assuming payout of performance share units at target, the number of shares remaining available for issuance under our 2014 Stock Incentive Plan would be 27,842,792.

RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

(ITEM 2 ON THE PROXY CARD)

Our Board of Directors, upon the recommendation of the Audit Committee, has ratified the selection of Ernst & Young LLP to serve as our independent registered public accounting firm for fiscal year 2015, subject to ratification by our stockholders.

Representatives of Ernst & Young LLP will be at the annual meeting. They will be able to make a statement if they want, and will be available to answer any appropriate questions stockholders may have.

Although ratification of the selection of Ernst & Young is not required by our By-laws or otherwise, we are submitting the selection to stockholders for ratification because we value our stockholders' views on our independent registered public accounting firm and as a matter of good governance. If our stockholders do not ratify our selection, it will be considered a direction to our Board and Audit Committee to consider selecting another firm. Even if the selection is ratified, the Audit Committee may, in its discretion, select a different independent registered public accounting firm, subject to ratification by the Board, at any time during the year if it determines that such a change is in the best interests of the Company and our stockholders.

THE BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE FOR THE RATIFICATION OF ERNST & YOUNG LLP AS THE COMPANY'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR FISCAL YEAR 2015.

Independent Registered Public Accounting Firm Fee Information

Fees for professional services provided by our independent registered public accounting firm in each of the last two fiscal years, in each of the following categories, were as follows:

	2014	2013
	(In millions)	
Audit Fees	$5.3	$5.7
Audit-Related Fees	2.0	0.7
Tax Fees	—	—
All Other Fees	—	—
Total	$7.3	$6.4

Audit fees includes fees for the annual audit, reviews of the Company's Quarterly Reports on Form 10-Q, work performed to support the Company's debt issuances, accounting consultations, and separate subsidiary audits required by statute or regulation, both domestically and internationally. Audit-related fees principally include separate subsidiary audits not required by statute or regulation and financial due diligence services relating to certain potential acquisitions.

The Audit Committee has adopted procedures for the approval of Ernst & Young's services and related fees. At the beginning of each year, all audit and audit-related services, tax fees and other fees for the upcoming audit are provided to the Audit Committee for approval. The services are grouped into significant categories and provided to the Audit Committee in the format shown above. All projects that have the potential to exceed $100,000 are separately identified and reported to the Committee for approval. The Audit Committee Chairman has the authority to approve additional services, not previously approved, between Committee meetings. Any additional services approved by the Audit Committee Chairman between Committee meetings are ratified by the full Audit Committee at the next regularly scheduled meeting. The Audit Committee is updated on the status of all services and related fees at every regular meeting. In 2014 and 2013, the Audit Committee pre-approved all audit and audit-related services performed by Ernst & Young.

As set forth in the Audit Committee Report on page 8, the Audit Committee has considered whether the provision of these audit-related services is compatible with maintaining auditor independence and has determined that it is.

Vote Required for Approval

Approval of this proposal requires the affirmative vote of a majority of the shares present at the meeting, in person or represented by proxy, and entitled to vote.

ADVISORY VOTE ON EXECUTIVE COMPENSATION

(ITEM 3 ON THE PROXY CARD)

Pursuant to Section 14A of the Securities Exchange Act of 1934, as amended, stockholders are entitled to an advisory (non-binding) vote on compensation programs for our named executive officers (sometimes referred to as "say on pay"). The Board of Directors has determined that it will include say on pay votes in the Company's proxy materials annually until the next stockholder vote on the frequency of the say on pay vote.

We encourage stockholders to review the Compensation Discussion and Analysis on pages 22 to 39 of this Proxy Statement. The Company has designed its executive compensation program to be supportive of, and align with, the strategy of the Company and the creation of stockholder value, while discouraging excessive risk-taking. The following key structural elements and policies, discussed in more detail in the Compensation Discussion and Analysis, further the objective of our executive compensation program and evidence our dedication to competitive and reasonable compensation practices that are in the best interests of stockholders:

- a substantial portion of executive compensation is linked to Company performance, through annual cash incentive performance criteria and long-term equity-based incentive awards. As a result, our executive compensation program provides for a significant difference in total compensation in periods of above-target Company performance as compared to periods of below-target Company performance. In 2014, our performance-based annual cash incentive and long-term equity-based incentive awards comprised approximately 87% of total target compensation for our President and Chief Executive Officer and approximately 76% of total target compensation for our other currently-serving named executives;
- at target, approximately 56% of total compensation of our currently-serving named executives (and 69% in the case of our President and Chief Executive Officer) results from long-term equity awards, which aligns executives' interests with those of stockholders;
- our total direct compensation opportunities for named executive officers are targeted to fall in a range around the competitive median;
- performance-based awards include threshold, target and maximum payouts correlating to a range of performance goals and are based on a variety of indicators of performance, which limits risk-taking behavior;
- performance stock units with a three-year performance period, as well as stock options that vest over a three-year period, link executives' interests with long-term performance and reduce incentives to maximize performance in any one year;
- all of our named executive officers are subject to stock ownership requirements, which we believe demonstrates a commitment to, and confidence in, the Company's long-term prospects;
- the Company has clawback provisions in its equity award agreements and recent employment agreements, and has adopted a clawback policy applicable to annual incentive compensation, designed to recoup compensation when cause and/or misconduct are found;
- our executive officer severance policy implemented a limitation on the amount of benefits the Company may provide to its executive officers under severance agreements entered into after the date of such policy; and
- the Company has adopted a policy that prohibits it from entering into new agreements with executive officers that provide for certain death benefits or tax gross-up payments.

The Board strongly endorses the Company's executive compensation program and recommends that the stockholders vote in favor of the following resolution:

RESOLVED, that the stockholders approve the compensation of the Company's named executive officers as described in this Proxy Statement under "Executive Compensation," including the Compensation Discussion and Analysis and the tabular and narrative disclosure contained in this Proxy Statement.

Vote Required for Approval

Approval of this proposal requires the affirmative vote of a majority of the shares present at the meeting, in person or represented by proxy, and entitled to vote. Because the vote is advisory, it will not be binding upon the Board or the MD&C Committee and neither the Board nor the MD&C Committee will be required to take any action as a result of the outcome of the vote on this proposal. The MD&C Committee will carefully consider the outcome of the vote in connection with future executive compensation arrangements.

THE BOARD RECOMMENDS THAT YOU VOTE FOR THE APPROVAL OF THE COMPANY'S EXECUTIVE COMPENSATION.

PROPOSAL TO AMEND THE COMPANY'S EMPLOYEE STOCK PURCHASE PLAN

(ITEM 4 ON THE PROXY CARD)

Description of the Proposed Amendment

Our ESPP was approved by stockholders at our 1997 Annual Meeting. An aggregate of one million shares of Common Stock was originally authorized for issuance under the ESPP and stockholders have approved an additional 11.75 million shares for issuance since then. As of March 16, 2015, approximately 31,000 employees were eligible to participate in the ESPP and approximately 1 million shares remained available for issuance. The total number of shares issued under the ESPP in each of 2014, 2013 and 2012 was approximately 774,000, 928,000 and 1 million, respectively. Therefore, the Board of Directors has concluded it is in the best interest to amend the ESPP to authorize an additional three million shares of Common Stock for issuance under the ESPP, subject to stockholder approval.

Key considerations applicable to the ESPP and the proposed amendment include the following. Please read "Operation of ESPP" below for further detail.

- The price of shares of Common Stock purchased under the ESPP is 85% of the lower of the fair market value on the first day and the last day of the offering period.
- Each offering period is six months.
- The additional three million shares proposed to be authorized for issuance pursuant to the amendment comprise less than 1% of the Company's outstanding shares of Common Stock.

Description of the ESPP

The following description of the ESPP is qualified in its entirety by, and should be read in conjunction with, the text of the ESPP, a copy of which, as proposed to be amended, is attached hereto as Appendix A.

Purpose

The purpose of the ESPP is to provide an incentive for present and future employees of the Company's participating subsidiaries to acquire or increase their proprietary interest in the Company through the purchase of shares of Common Stock at a discount.

Administration

The ESPP is administered by the Administrative Committee of the Waste Management Employee Benefit Plans, a committee appointed by the Board of Directors. The Administrative Committee has the authority to interpret all provisions of the ESPP.

Eligibility

Any employee who customarily works for one of the Company's participating subsidiaries at least 20 hours per week and more than five months in a calendar year is eligible to participate in the ESPP after having been employed for at least 30 days prior to an enrollment date.

Operation of the ESPP

On the last day of each six-month period between January 1 and June 30 and July 1 and December 31 (each, an "Offering Period"), each employee who is enrolled in the ESPP will automatically purchase a number of

shares of Common Stock determined by dividing such employee's payroll deductions accumulated in the ESPP during such Offering Period by the Offering Price. The Offering Price of each of the shares purchased in a given Offering Period shall be the lower of (a) 85% of the fair market value of a share of Common Stock on the first day of the Offering Period and (b) 85% of the fair market value of a share of Common Stock on the last day of the Offering Period. If an employee withdraws from participation during an Offering Period, the monies contributed to the Plan are refunded immediately without interest.

Eligible employees may elect to participate in the ESPP by completing an enrollment agreement that authorizes payroll deductions from the employee's pay in an amount from 1% to 10% (in whole percentages) of the employee's gross base pay. No employee may (a) make payroll deductions during any calendar year in excess of $21,250; (b) purchase shares under the ESPP if such purchase would result in the employee owning five percent or more of the total combined voting power or value of the Company's outstanding capital stock; or (c) purchase shares under the ESPP with a fair market value in excess of $25,000 per calendar year.

All payroll deductions for the ESPP are placed in our general corporate account. No interest accrues on the payroll deductions. Employees may purchase Common Stock under the ESPP only through payroll deductions, and an employee participating in the ESPP may not make any additional payments into the account.

Termination of Employment and Withdrawal

If an employee withdraws from participation in the ESPP or terminates employment for any reason, including retirement or death, during an Offering Period, the payroll deductions credited to the employee's account will be refunded promptly without interest.

Amendment and Termination of ESPP

The Board of Directors may amend the ESPP at any time; provided, however, the ESPP may not be amended in any way (a) that will cause rights issued thereunder to fail to meet the requirements for employee stock purchase plans as defined in Section 423 of the Internal Revenue Code of 1986, as amended (the "Code") or (b) that requires stockholder approval, unless such stockholder approval is obtained.

The ESPP will terminate on the earlier of (a) the date that participating employees become entitled to purchase an aggregate number of shares greater than the number of shares remaining available for purchase under the ESPP and (b) the date on which the ESPP is terminated by the Board of Directors.

Federal Income Tax Consequences

The following discussion is intended to be a general summary only of the federal income tax aspects of purchase rights granted under the ESPP and not of state or local taxes that may be applicable. Tax consequences may vary depending on the particular circumstances, and administrative and judicial interpretations of the application of the federal income tax laws are subject to change. Participants in the ESPP who are residents of or are employed in a country other than the United States may be subject to taxation in accordance with the tax laws of that particular country in addition to or in lieu of U.S. federal income taxes.

The ESPP is intended to be an "employee stock purchase plan" as defined in Section 423 of the Code. A participant recognizes no taxable income either as a result of commencing participation in the ESPP or purchasing Common Stock under the terms of the ESPP. If a participant disposes of shares purchased under the ESPP within either two years from the first day of the applicable Offering Period or within one year from the purchase date, known as disqualifying dispositions, the participant will realize ordinary income in the year of such disposition equal to the amount by which the fair market value of the shares on the purchase date exceeds the purchase price. The amount of the ordinary income will be added to the participant's basis in the shares, and any additional gain or resulting loss recognized on the disposition of the shares will be a capital gain or loss,

which will be long-term if the participant's holding period is more than 12 months. If the participant disposes of shares purchased under the ESPP at least two years after the first day of the applicable Offering Period and at least one year after the purchase date, the participant will realize ordinary income in the year of disposition equal to the lesser of (a) the excess of the fair market value of the shares on the date of disposition over the purchase price or (b) 15% of the fair market value of the shares on the first day of the applicable Offering Period. The amount of any ordinary income will be added to the participant's basis in the shares, and any additional gain recognized upon the disposition after such basis adjustment will be a long-term capital gain. If the fair market value of the shares on the date of disposition is less than the purchase price, there will be no ordinary income and any loss recognized will be a long-term capital loss. If the participant still owns the shares at the time of death, the lesser of (a) the excess of the fair market value of the shares on the date of death over the purchase price or (b) 5% of the fair market value of the shares on the first day of the Offering Period in which the shares were purchased will constitute ordinary income in the year of death. Any ordinary income recognized by a participant upon the disqualifying disposition of the shares generally should be deductible by the Company for federal income tax purposes, except to the extent such deduction is limited by applicable provisions of the Code or the regulations thereunder.

New Plan Benefits

The value of the Common Stock purchased through the ESPP will vary based on the fair market value of our Common Stock on the first and last days of the Offering Period. Accordingly, the number of shares that may be purchased by the named executive officers, the executive officers as a group and all employees, including all current officers who are not executive officers, as a group in the future is not currently determinable. However, the table below shows, as to each of the indicated individuals and groups, the number of shares of Common Stock purchased by such individuals during the 2014 Offering Periods under the ESPP. The weighted average purchase price per share of Common Stock purchased during the 2014 Offering Periods under the ESPP was $37.8158. Non-employee directors of the Company are not eligible to participate in the ESPP.

Name/Group	Number of Shares
David P. Steiner	566
James E. Trevathan, Jr	0
James C. Fish, Jr	0
Jeff M. Harris	0
John J. Morris, Jr	0
Mark A. Weidman	482
David A. Aardsma	423
All current executive officers as a group	2,045
All employees, including all current officers who are not executive officers, as a group	771,190

Vote Required for Approval

Approval of this proposal requires the affirmative vote of a majority of the shares present at the meeting, in person or represented by proxy, and entitled to vote.

THE BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE FOR THE APPROVAL OF THE AMENDMENT TO THE EMPLOYEE STOCK PURCHASE PLAN.

STOCKHOLDER PROPOSAL

(ITEM 5 ON THE PROXY CARD)

Waste Management is not responsible for the content of this stockholder proposal or supporting statement.

The following proposal was submitted by the New York State Common Retirement Fund, 59 Maiden Lane — 30th Floor, New York, NY 10038, which owns 1,295,283 shares of Waste Management Common Stock. The proposal has been included verbatim as we received it.

Stockholder Proposal

Resolved, that the shareholders of **Waste Management, Inc.,** ("Company") hereby request that the Company provide a report, updated semiannually, disclosing the Company's:

1. Policies and procedures for making, with corporate funds or assets, contributions and expenditures (direct or indirect) to (a) participate or intervene in any political campaign on behalf of (or in opposition to) any candidate for public office, or (b) influence the general public, or any segment thereof, with respect to an election or referendum.
2. Monetary and non-monetary contributions and expenditures (direct and indirect) used in the manner described in section 1 above, including:

    a. The identity of the recipient as well as the amount paid to each; and

    b. The title(s) of the person(s) in the Company responsible for decision-making.

The report shall be presented to the board of directors or relevant board committee and posted on the Company's website.

Stockholder Supporting Statement

As long-term shareholders of Waste Management, we support transparency and accountability in corporate spending on political activities. These include any activities considered intervention in any political campaign under the Internal Revenue Code, such as direct and indirect contributions to political candidates, parties, or organizations; independent expenditures; or electioneering communications on behalf of federal, state or local candidates.

Disclosure is in the best interest of the company and its shareholders and critical for compliance with federal ethics laws. Moreover, the Supreme Court's *Citizens United* decision recognized the importance of political spending disclosure for shareholders when it said, "[D]isclosure permits citizens and shareholders to react to the speech of corporate entities in a proper way. This transparency enables the electorate to make informed decisions and give proper weight to different speakers and messages." Gaps in transparency and accountability may expose the company to reputational and business risks that could threaten long-term shareholder value.

Waste Management contributed at least $7,622,951 in corporate funds since the 2003 election cycle. (CQ: http://moneyline.cq.com and National Institute on Money in State Politics: http://www.followthemoney.org)

However, relying on publicly available data does not provide a complete picture of the Company's political spending. For example, the Company's payments to trade associations used for political activities are undisclosed and unknown. In some cases, even management does not know how trade associations use their company's money politically. The proposal asks the Company to disclose all of its political spending, including payments to trade associations and other tax exempt organizations used for political purposes. This would bring our Company in line with a growing number of leading companies, including Qualcomm, Exelon, Merck and Microsoft that support political disclosure and accountability and present this information on their websites.

The Company's Board and its shareholders need comprehensive disclosure to be able to fully evaluate the political use of corporate assets. We urge your support for this critical governance reform.

Waste Management Response to Stockholder Proposal Regarding Disclosure of Political Contributions

The Board recommends that stockholders vote AGAINST this proposal.

The Company is fully committed to complying with all applicable laws concerning political contributions, including laws requiring public disclosure of political contributions and lobbying expenses. Accordingly, the Board believes this proposal is unnecessary because a comprehensive system of reporting and accountability for political contributions already exists, and the Company publicly discloses its participation in the political process in support of its business interests.

Current law limits the amounts of political contributions that are permissible, restricts the organizations or entities that can receive corporate funding, and establishes a clear accountability system enforced by regulatory agencies in the United States. Political contributions or donations made by the Company are required to be disclosed under federal, state and local campaign finance law. The Company fully complies with these disclosure and reporting requirements. As a result, information on the Company's political contributions is available to stockholders and interested parties through public sources.

In addition, the Company already discloses its policies and procedures for participation in public policy processes (including political contributions criteria, management and Board oversight mechanisms and disclosure and stances on key policy issues). This information was historically included in the Company's sustainability reports, and in 2013, was updated and aggregated into the Company's standalone policy entitled "Participation in the Political Process." Stockholders and interested parties can easily access this policy under the Investor Relations – Corporate Governance tab at www.wm.com. The Company also makes all its employees aware annually of its policies and procedures pertaining to political contributions in the Company's *Code of Conduct,* disseminated to all employees. It too is available to the public under the Investor Relations – Corporate Governance tab at www.wm.com.

Waste Management believes it is important to participate in the political process because it is of intrinsic benefit to our business and employees. We do not expect the candidates to whom we contribute funds to agree with our positions on all issues at all times. We do however seek to support candidates who recognize the importance of the environmental services we provide, while also recognizing that a fair, free market system provides the best environment for continued improvement of cost-effective services.

As set forth in more detail in the Company's Participation in the Political Process Policy, contributions of funds from the Company's Political Action Committee ("PAC") to federal, state and local candidates and all other Company contributions are approved, in advance, by the Government Affairs Department, with detailed reporting of contributions made to the Board by the Senior Vice President, Corporate Affairs & Chief Legal Officer. The PAC files monthly reports of receipts and disbursements to the Federal Election Commission ("FEC"), as well as pre-election and post-election FEC reports. Those publicly available reports identify the names of candidates supported and amounts contributed by the PAC. In addition, all political contributions to federal candidates over $200 are publicly disclosed by the FEC. Under the Lobbying Disclosure Act of 1995, the Company submits to Congress semi-annual reports of amounts spent on lobbying and the subjects lobbied, which are also publicly available. Those reports have been submitted quarterly since April 2008 under the Honest Leadership and Open Government Act of 2007, and semi-annual reports include a list of all federal election candidates to whom the PAC contributed during the previous six months.

The Company is a member of various trade or business associations to advance and protect its business interests. The Company's Participation in the Political Process Policy provides additional information regarding criteria for, and oversight of, the Company's participation in these associations, as well as a link to an updated 2014 listing of our memberships in national, state and local business associations and stakeholder groups. Illustratively, the business interests that the Company seeks to advance through its memberships have included, and the associations have aided the Company's advocacy for, renewable energy treatment for landfill gas-to-energy and waste-to-energy, incentives for natural gas vehicles and infrastructure, environmental justice, and the continued interstate transport of waste. Employees participate in association policy discussions as needed to advance the Company's sustainability goals regarding increasing recycling, supporting renewable energy,

seeking fleet efficiency and emissions reduction, and supporting conservation of habitat. The political activity of such associations is not necessarily representative of a position of the Company.

The Board believes disclosure of the Company's current policies and practices with regard to political contributions, together with applicable federal, state and local reporting requirements, provide appropriate transparency of our political participation. Undertaking the obligations as set forth in the proposal would result in additional time and expense to the Company with little, if any, corresponding benefit for stockholders. Accordingly, the Board recommends that you vote against this proposal.

Vote Required for Approval

If this proposal is properly presented at the meeting, approval requires the affirmative vote of a majority of the shares present at the meeting, in person or represented by proxy, and entitled to vote.

THE BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE AGAINST THE ADOPTION OF THIS PROPOSAL.

STOCKHOLDER PROPOSAL

(ITEM 6 ON THE PROXY CARD)

Waste Management is not responsible for the content of this stockholder proposal or supporting statement.

The following proposal was submitted by the International Brotherhood of Teamsters General Fund, 25 Louisiana Avenue, NW, Washington, DC 20001, which owns 143 shares of Waste Management Common Stock. The proposal has been included verbatim as we received it.

Stockholder Proposal

RESOLVED: The shareholders ask the board of directors to adopt a policy that in the event of a change in control (as defined under any applicable employment agreement, equity incentive plan or other plan), there shall be no acceleration of vesting of any equity award granted to any named executive officer, provided, however, that the board's Compensation Committee may provide in an applicable grant or purchase agreement that any unvested award will vest on a partial, pro rata basis up to the time of the named executive officer's termination, with such qualifications for an award as the Committee may determine.

For purposes of this Policy, "equity award" means an award granted under an equity incentive plan as defined in Item 402 of the SEC's Regulation S-K, which addresses elements of executive compensation to be disclosed to shareholders. This resolution shall be implemented so as not affect any contractual rights in existence on the date this proposal is adopted, and it shall apply only to equity awards made under equity incentive plans or plan amendments the shareholders approve after the date of the 2015 annual meeting.

SUPPORTING STATEMENT:

Waste Management ("Company") allows executives to receive an accelerated award of unearned equity under certain conditions after a change of control of the Company. We do not question that some form of severance payments may be appropriate in that situation. We are concerned, however, that current practices at the Company may permit windfall awards that have nothing to do with a senior executive's performance.

Accordingly to last year's proxy statement, a termination and change in control as of Dec. 31, 2013, could have accelerated the vesting of $31 million worth of long-term equity and grants to the Company's five senior executives, with the CEO entitled to $18.2 million. In the event of a change in control and termination, Waste Management's performance share units vest pro-rata, but the provision is meaningless because the Company compensates the executives through a replacement grant for any lost earnings due to proration.

We are unpersuaded by the argument that executives somehow "deserve" to receive unvested awards. To accelerate the vesting of unearned equity on the theory that an executive was denied the opportunity to earn those shares seems inconsistent with a "pay for performance" philosophy worthy of the name.

We do believe, however, that an affected executive should be eligible to receive an accelerated vesting of equity awards on a *pro rata* basis as of his or her termination date, with the details of any *pro rata* award to be determined by the Compensation Committee.

Other major corporations, including Apple, Chevron, Dell, Exxon Mobil, IBM, Intel, Microsoft, and Occidental Petroleum, have limitations on accelerated vesting of unearned equity, such as providing pro rata awards or simply forfeiting unearned awards. Research from James Reda & Associates found that over one third of the largest 200 companies now pro rate, forfeit, or only partially vest performance shares upon a change of control.

We urge you to vote FOR this proposal.

Waste Management Response to Stockholder Proposal on Policy Regarding Accelerated Vesting of Equity Awards to Named Executive Officers upon a Change in Control

The Board recommends that stockholders vote AGAINST this proposal.

The Board does not believe that adoption of a rigid policy restricting the acceleration of vesting of named executive officers' equity awards is in the best interests of the Company or our stockholders. Such a policy could put the Company at a competitive disadvantage in attracting and retaining key executives, it would disrupt the alignment of interests between our management and our stockholders by discouraging pursuit of any transaction that could result in a change in control, and it would unduly restrict our MD&C Committee from designing and administering appropriate compensation arrangements.

Competitive disadvantage in attracting and retaining executives

The proponent's supporting statement asserts that over a third of the largest 200 companies now pro rate, forfeit, or only partially vest performance shares upon a change of control. Waste Management is among those companies, as the proponent notes that we only vest performance share units on a *pro rata* basis upon a change in control, and only based on actual performance to date.

However, a very substantial majority of the companies with which we compete for executive talent are not restricted in their ability to attract and retain key executives through the use of change in control equity vesting triggers, and in fact, routinely provide for accelerated vesting of equity-based awards upon a change in control. As a result, the proposed policy could significantly jeopardize the objective of our compensation program to attract, retain, reward and incentivize exceptional, talented employees who will lead the Company in the successful execution of its strategy.

Additionally, the proposed policy would permit *pro rata* vesting of equity-based awards following both a change in control and termination of a named executive officer. Yet, vesting of equity-based awards, even on a *pro rata* basis, would not be permitted with respect to named executives that continue employment at the post-change-in-control successor entity. As noted above, our current award agreements for performance share units provide for accelerated vesting on a *pro rata* basis, based on actual performance achieved, upon a change in control event, as it is likely not to be feasible to carry forward the performance metrics of the outstanding awards to the successor entity. Under the proposed policy, terminating named executives could have more certainty regarding the value of their outstanding performance share units than named executives that remain, who would have to forfeit their awards or rely on the successor entity to grant replacement awards. Such a result is clearly contrary to the retention objective of our compensation program and fails to appreciate the practical realities of change in control scenarios where the successor is a materially different entity.

The proposed policy may also make it particularly difficult for us to retain key executives during the pendency of a potential change in control, which could be disruptive to the transaction. Allowing executives to retain the value of their awards encourages our executives to remain with us through consummation of a merger or similar change in control transaction, reinforcing the retention value of those awards. Accelerated vesting provisions therefore help provide stability and ensure continuity of executive management during the critical stages of a potential change in control transaction.

Disruption of alignment between management and our stockholders

The Board believes that executives should not be discouraged from pursuing and facilitating change in control transactions when they are in the best interests of stockholders. Putting executives' compensation at risk in the event of a change in control could create a conflict of interest if the Board believed a potential change in control transaction was in the best interests of our stockholders. One of the essential purposes of providing executives with equity-based awards is to align their interests with those of our stockholders. As described in our Compensation Discussion & Analysis, a significant percentage of each named executive officer's compensation opportunity is in the form of equity-based awards, and at any time, our named executives' unvested equity awards represent a significant portion of their total compensation. The proposal would eliminate our ability to provide reasonable assurance to named executives that they can realize the expected value of their equity-based

awards and would penalize named executives that consummate a change in control transaction, particularly those that remain with the Company afterwards, with the loss of their incentive compensation.

Undue restriction on the MD&C Committee's structuring of executive compensation

Our Board believes that stockholders' interests are best served by recognizing that the MD&C Committee, comprised of six independent, non-management directors, is in the best position to set the terms of executive compensation arrangements. Our stockholders have evidenced their overwhelming support of the MD&C Committee's actions, with 97%, 97%, 96% and 97% of shares present and entitled to vote casting votes in favor of our Company's executive compensation at the last four annual meetings of stockholders, respectively. The Board believes that the Company's treatment of equity-based awards upon a change in control, as summarized in our Compensation Discussion & Analysis, is already prudent and appropriately balances the interests of all parties, while not granting executives an undeserved windfall.

The MD&C Committee should continue to retain the flexibility to design and administer competitive compensation programs that reflect market conditions. Permitting the MD&C Committee to accelerate vesting of equity awards can incentivize management to maximize stockholder value, further aligning the interests of management with our stockholders. Conversely, adopting the rigid policy advanced by the proponent would frustrate the purpose of the MD&C Committee and interfere with the objective of our compensation program. The Board recommends that you vote against this proposal.

Vote Required for Approval

If this proposal is properly presented at the meeting, approval requires the affirmative vote of a majority of the shares present at the meeting, in person or represented by proxy, and entitled to vote.

THE BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE AGAINST THE ADOPTION OF THIS PROPOSAL.

OTHER MATTERS

We do not intend to bring any other matters before the annual meeting, nor do we have any present knowledge that any other matters will be presented by others for action at the meeting. If any other matters are properly presented, your proxy card authorizes the people named as proxy holders to vote using their judgment.

APPENDIX A

WASTE MANAGEMENT, INC.

EMPLOYEE STOCK PURCHASE PLAN

(As Amended and Restated Effective May 12, 2015)

The Waste Management, Inc. Employee Stock Purchase Plan (the "Plan") has been established for the benefit of its eligible employees. The terms of the Plan are set forth below.

1. Definitions.

As used in the Plan the following terms shall have the meanings set forth below:

(a) ***"Board"*** means the Board of Directors of the Company.

(b) ***"Code"*** means the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder.

(c) ***"Committee"*** means the Administrative Committee of the Waste Management Employee Benefit Plans appointed by the Board to administer the Plan as described in Section 4 below.

(d) ***"Common Stock"*** means the common stock, $0.01 par value, of the Company.

(e) ***"Company"*** means Waste Management, Inc., a Delaware corporation, or any successor corporation by merger, reorganization, consolidation or otherwise.

(f) ***"Continuous Employment"*** means the absence of any interruption or termination of service as an Eligible Employee with the Company and/or its Participating Subsidiaries. For purposes of the preceding sentence, an authorized leave of absence shall not be considered an interruption or termination of service, provided that such leave is for a period of not more than 90 days or reemployment upon the expiration of such leave is guaranteed by contract or statute.

(g) ***"Eligible Compensation"*** means, with respect to each Participant for each pay period, the regular base earnings, commissions, overtime and, for employees on an Involuntary Military Leave of Absence, pay differential, paid to the Participant by the Company and/or one or more Participating Subsidiaries during the Offering Period before reductions are made to Code Section 125 and Section 401(k) plans maintained by the Company and/or its Participating Subsidiaries. However, any incentive compensation or other bonus amounts shall be excluded for purposes of determining Eligible Compensation.

(h) ***"Eligible Employee"*** means an employee of the Company or one of its Participating Subsidiaries who is customarily employed for at least 20 hours per week and more than five months in a calendar year, or are absent from active employment while on an Involuntary Military Leave of Absence. For purposes of the preceding sentence, employees who are members of a collective bargaining unit shall be excluded as eligible employees under the Plan, unless their applicable collective bargaining agreement provides for participation in the Plan.

(i) ***"Enrollment Date"*** means the first business day of each Offering Period.

(j) ***"Exercise Date"*** means the last business day of each Offering Period.

(k) ***"Exercise Price"*** means the price per share of Common Stock offered in a given Offering Period, which shall be the lower of: (i) 85% of the Fair Market Value of a share of the Common Stock on the Enrollment Date of such Offering Period, or (ii) 85% of the Fair Market Value of a share of the Common Stock on the Exercise Date of such Offering Period.

(l) ***"Fair Market Value"*** means, with respect to a share of Common Stock as of any Enrollment Date or Exercise Date, the closing price of such Common Stock on the New York Stock Exchange on such date,

as reported in *The Wall Street Journal*. In the event that such a closing price is not available for an Enrollment Date or an Exercise Date, the Fair Market Value of a share of Common Stock on such date shall be the closing price of a share of the Common Stock on the New York Stock Exchange on the last business day prior to such date or such other amount as may be determined by the Committee by any fair and reasonable means.

(m) ***"Involuntary Military Leave of Absence"*** means an employee's leave from employment pursuant to the Company's Paid Leave of Absence Policy to perform military service obligations in the United States Air Force, Army, Navy, Marines, Coast Guard, Public Health Service Corps or National Guard, and the employee is either drafted or a member of the Reserves called to active duty.

(n) ***"Offering Period"*** means each six-month period that begins and ends on the business days that coincide with January 1 through June 30, or July 1 through December 31, or such other period or periods as the Committee may establish. However, if the first and/or last day of an Offering Period begins or ends (as applicable) on a Saturday, Sunday or holiday, then (i) the first day of the Offering Period will begin on the immediately following business day, and/or (ii) the last day of an Offering Period will end on the immediately preceding business day.

(o) ***"Participant"*** means an Eligible Employee who has elected to participate in the Plan by filing an enrollment agreement with the Company as provided below in Section 6.

(p) ***"Participating Subsidiary"*** means any Subsidiary not excluded from participation in the Plan by the Committee, in its sole discretion.

(q) ***"Subsidiary"*** means any domestic or foreign corporation of which the Company owns, directly or indirectly, 50% or more of the total combined voting power of all classes of stock or other equity interests and that otherwise qualifies as a "subsidiary corporation" within the meaning of Section 424(f) of the Code or any successor thereto.

2. Purpose of the Plan.

The purpose of the Plan is to provide an incentive for present and future employees of the Company and its Participating Subsidiaries to acquire a proprietary interest (or increase an existing proprietary interest) in the Company through the purchase of Common Stock. The Company intends that the Plan qualify as an "employee stock purchase plan" under Section 423 of the Code, and that the Plan shall be administered, interpreted and construed in a manner consistent with the requirements of Section 423 of the Code.

3. Shares Reserved for the Plan.

The Company shall reserve for issuance and purchase by Participants under the Plan an aggregate of 15,750,000 shares of Common Stock, subject to adjustment as provided below in Section 13. Shares of Common Stock subject to the Plan may be newly issued shares or treasury shares. If and to the extent that any option to purchase shares of Common Stock shall not be exercised for any reason, or if such right to purchase shares shall terminate as provided herein, the shares that have not been so purchased hereunder shall again become available for the purposes of the Plan, unless the Plan shall have been terminated.

4. Administration of the Plan.

(a) A Committee appointed by the Board shall administer the Plan. The Committee shall have the authority to interpret the Plan, to prescribe, amend and rescind rules and regulations relating to the Plan, to correct any defect or rectify any omission in the Plan, or to reconcile any inconsistency in this Plan and any

option to purchase shares granted hereunder, and to make all other determinations necessary or advisable for the administration of the Plan. The Committee's actions and determinations with respect to the foregoing shall be final, conclusive and binding on all persons. The act or determination of a majority of the members of the Committee shall be deemed to be the act or determination of the entire Committee.

(b) The Committee may, in its discretion, request advice or assistance, or employ such other persons as it deems necessary or appropriate for the proper administration of the Plan, including, but not limited to employing a brokerage firm, bank or other financial institution to assist in the purchase of shares, delivery of reports or other administrative aspects of the Plan.

5. Eligibility to Participate in the Plan.

Subject to limitations imposed by Section 423(b) of the Code, each Eligible Employee who is employed by the Company or a Participating Subsidiary for 30 days prior to an Enrollment Date shall be eligible to participate in the Plan for the Offering Period beginning on that Enrollment Date.

6. Election to Participate in the Plan.

(a) Each Eligible Employee may elect to participate in the Plan by completing an enrollment agreement in the form provided by the Company and filing such enrollment agreement with the Company prior to the applicable Enrollment Date, unless the Committee establishes another deadline for filing the enrollment agreement with respect to a given Offering Period.

(b) Unless a Participant withdraws from participation in the Plan as provided in Section 10 or authorizes a different payroll deduction by filing a new enrollment agreement prior to the Enrollment Date of a succeeding Offering Period, a Participant who is participating in an Offering Period as of the Exercise Date of such Offering Period shall be deemed to have (i) elected to participate in the immediately succeeding Offering Period and (ii) authorized the same payroll deduction percentage for such immediately succeeding Offering Period as was in effect for such Participant immediately prior to such succeeding Offering Period.

7. Payroll Deductions.

(a) All Participant contributions to the Plan shall be made only by payroll deductions. Each time a Participant files the enrollment agreement with respect to an Offering Period, the Participant shall authorize payroll deductions to be made during the Offering Period in an amount from 1% to 10% (in whole percentages) of the Eligible Compensation that the Participant receives on each payroll date during such Offering Period. Payroll deductions for a Participant shall commence on the first payroll date following the Enrollment Date and shall end on the last payroll date in the Offering Period to which such authorization is applicable, unless sooner terminated by the Participant as provided below in Section 10.

(b) All payroll deductions made for a Participant shall be deposited in the Company's general corporate account and shall be credited to the Participant's account under the Plan. No interest shall accrue on or be credited with respect to the payroll deductions of a Participant under the Plan. A Participant may not make any additional contributions into such account. All payroll deductions received or held by the Company under the Plan may be used by the Company for any corporate purpose, and the Company shall not be obligated to segregate such payroll deductions.

(c) Except as provided in Section 10, a Participant may not change his contribution election during an Offering Period.

(d) Notwithstanding the foregoing provisions of this Section 7, no Participant may make payroll deductions during any calendar year in excess of $21,250, or such other limit as may be established by the Committee, in its discretion.

8. Grant of Options.

(a) On the Enrollment Date of each Offering Period, subject to the limitations set forth in Sections 3 and 8(b) hereof, each Eligible Employee shall be granted an option to purchase on the Exercise Date for such Offering Period a number of whole and fractional shares of the Company's Common Stock determined by dividing such Eligible Employee's payroll deductions accumulated during the Offering Period by the Exercise Price established for such Offering Period.

(b) Notwithstanding any provision of the Plan to the contrary, no Eligible Employee shall be granted an option under the Plan (i) if, immediately after the grant, such Eligible Employee (or any other person whose stock would be attributed to such Employee pursuant to Section 424(d) of the Code) would own stock and/ or hold outstanding options to purchase stock possessing 5% or more of the total combined voting power or value of all classes of stock of the Company or of any Subsidiary of the Company, or (ii) which permits such Eligible Employee's rights to purchase stock under all employee stock purchase plans of the Company and its Subsidiaries to accrue at a rate which exceeds $25,000 of fair market value of such stock (determined at the time such option is granted) for each calendar year in which such option is outstanding at any time.

9. Automatic Purchase.

Unless a Participant withdraws from the Plan as provided below in Section 10, the Participant's option for the purchase of shares will be exercised automatically on each Exercise Date for which an enrollment agreement has been filed, and the maximum number of whole and fractional shares subject to the option will be purchased for the Participant at the Exercise Price established for that Offering Period, as provided above in Section 8.

10. Withdrawal; Termination of Employment.

(a) A Participant may withdraw all of the payroll deductions credited to the Participant's account for a given Offering Period by providing written notice to the Company no later than 45 days prior to the last day of such Offering Period. A Participant shall not be permitted to make a partial withdrawal of the payroll deductions credited to his account. All of the Participant's payroll deductions credited to the Participant's account will be paid to him promptly after receipt of the Participant's notice of withdrawal, the Participant's participation in the Plan will be automatically terminated, and no further payroll deductions for the purchase of shares hereunder will be made. Payroll deductions will not resume on behalf of a Participant who has withdrawn from the Plan, unless written notice is delivered to the Company within the enrollment period preceding the commencement of a new Offering Period directing the Company to resume payroll deductions.

(b) Upon termination of the Participant's Continuous Employment prior to the Exercise Date of the Offering Period for any reason, including retirement or death, the payroll deductions credited to the Participant's account will be returned to the Participant or, in the case of death, to the Participant's estate, and the Participant's options to purchase shares under the Plan will be automatically terminated.

(c) In the event a Participant ceases to be an Eligible Employee during an Offering Period, the Participant will be deemed to have elected to withdraw all payroll deductions credited to his account from the Plan. In such circumstance, the payroll deductions credited to the Participant's account will be returned to the Participant, and the Participant's options to purchase shares under the Plan will be terminated.

11. Transferability.

Options to purchase Common Stock granted under the Plan are not transferable, in any manner, by a Participant and are exercisable only by the Participant.

12. Reports.

Individual accounts will be maintained for each Participant in the Plan. Following each Exercise Date, statements of account will be given to Participants who have purchased shares under Section 9. Such statements will set forth the amounts of payroll deductions, the per share purchase price, the number of shares purchased and the remaining cash balance, if any.

13. Adjustments Upon Changes in Capitalization.

(a) If the outstanding shares of Common Stock are increased or decreased, or are changed into or are exchanged for a different number or kind of shares, as a result of one or more reorganizations, restructurings, recapitalizations, reclassifications, stock splits, reverse stock splits, stock dividends or the like, upon authorization of the Committee, appropriate adjustments shall be made in the number and/or kind of shares, and the per share purchase price thereof, which may be issued in the aggregate and to any Participant upon exercise of options granted under the Plan.

(b) In the event of the proposed dissolution or liquidation of the Company, each Offering Period will terminate immediately prior to the consummation of such proposed action, unless otherwise provided by the Committee. In the event of a proposed sale of all or substantially all of the assets of the Company, or the merger of the Company with or into another corporation, each option under the Plan shall be assumed or an equivalent option shall be substituted by such successor corporation or a parent or subsidiary of such successor corporation, unless the Committee determines, in the exercise of its sole discretion and in lieu of such assumption or substitution, that the Participant shall have the right to exercise the option as to all of the optioned stock, including shares as to which the option would not otherwise be exercisable. If the Committee makes an option fully exercisable in lieu of assumption or substitution in the event of a merger or sale of assets, the Committee shall notify the Participant that the option shall be fully exercisable for a stated period, which shall not be less than 10 days from the date of such notice, and the option will terminate upon the expiration of such period.

(c) In all cases, the Committee shall have full discretion to exercise any of the powers and authority provided under this Section 13, and the Committee's actions hereunder shall be final and binding on all Participants. No fractional shares of stock shall be issued under the Plan pursuant to any adjustment authorized under the provisions of this Section 13.

14. Amendment of the Plan.

The Board may at any time, or from time to time, amend the Plan in any respect; provided, however, that the Plan may not be amended in any way that will cause rights issued under the Plan to fail to meet the requirements for employee stock purchase plans as defined in Section 423 of the Code or any successor thereto, including, without limitation, shareholder approval, if required.

15. Termination of the Plan.

The Plan and all rights of Eligible Employees hereunder shall terminate:

(a) on the Exercise Date that Participants become entitled to purchase a number of shares greater than the number of reserved shares remaining available for purchase under the Plan; or

(b) at any time, at the discretion of the Board.

In the event that the Plan terminates under circumstances described in Section 15(a) above, reserved shares remaining as of the termination date shall be sold to Participants on a pro rata basis.

16. Notices.

All notices or other communications by a Participant to the Company under or in connection with the Plan shall be deemed to have been duly given when received in the form specified by the Company at the location, or by the person, designated by the Company for the receipt thereof.

17. Shareholder Approval.

The Plan shall be subject to approval by the shareholders of the Company within twelve months after the date the Plan is adopted by the Board of Directors. If such shareholder approval is not obtained prior to the first Exercise Date, the Plan shall be null and void and all Participants shall be deemed to have withdrawn all payroll deductions credited to their accounts on such Exercise Date pursuant to Section 10.

18. Conditions Upon Issuance of Shares.

(a) The Plan, the grant and exercise of options to purchase shares of Common Stock under the Plan, and the Company's obligation to sell and deliver shares upon the exercise of options to purchase shares shall be subject to all applicable federal, state and foreign laws, rules and regulations, and to such approvals by any regulatory or governmental agency as may, in the opinion of counsel for the Company, be required. Notwithstanding anything in the Plan to the contrary, share certificates shall not be delivered to Participants until the later of (i) the date on which the applicable holding period to avoid a disqualifying disposition (within the meaning of Code Section 421) expires, or (ii) the date that a Participant specifically requests a certificate for shares purchased pursuant to the Plan.

(b) The Company may make such provisions, as it deems appropriate, for withholding by the Company pursuant to all applicable tax laws of such amounts as the Company determines it is required to withhold in connection with the purchase or sale by a Participant of any Common Stock acquired pursuant to the Plan. The Company may require a Participant to satisfy any relevant tax requirements before authorizing any issuance of Common Stock to such Participant.

Form 10-K

WASTE MANAGEMENT

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2014

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 1-12154

Waste Management, Inc.
(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**73-1309529** **(I.R.S. Employer Identification No.)**
1001 Fannin Street, Suite 4000 **Houston, Texas** **(Address of principal executive offices)**	**77002** **(Zip code)**

Registrant's telephone number, including area code:
(713) 512-6200

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Exchange on Which Registered
Common Stock, $.01 par value	**New York Stock Exchange**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined by Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulations S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulations S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☒ Accelerated filer ☐

Non-accelerated filer ☐ (Do not check if a smaller reporting company) Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of the voting stock held by non-affiliates of the registrant at June 30, 2014 was approximately $20.8 billion. The aggregate market value was computed by using the closing price of the common stock as of that date on the New York Stock Exchange ("NYSE"). (For purposes of calculating this amount only, all directors and executive officers of the registrant have been treated as affiliates.)

The number of shares of Common Stock, $0.01 par value, of the registrant outstanding at February 6, 2015 was 459,128,449 (excluding treasury shares of 171,154,012).

DOCUMENTS INCORPORATED BY REFERENCE

Document	Incorporated as to
Proxy Statement for the 2015 Annual Meeting of Stockholders	Part III

TABLE OF CONTENTS

		Page
	PART I	
Item 1.	Business	3
Item 1A.	Risk Factors	16
Item 1B.	Unresolved Staff Comments	28
Item 2.	Properties	28
Item 3.	Legal Proceedings	29
Item 4.	Mine Safety Disclosures	29
	PART II	
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	29
Item 6.	Selected Financial Data	31
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	32
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	70
Item 8.	Financial Statements and Supplementary Data	72
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	151
Item 9A.	Controls and Procedures	151
Item 9B.	Other Information	151
	PART III	
Item 10.	Directors, Executive Officers and Corporate Governance	151
Item 11.	Executive Compensation	151
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	152
Item 13.	Certain Relationships and Related Transactions, and Director Independence	152
Item 14.	Principal Accounting Fees and Services	152
	PART IV	
Item 15.	Exhibits, Financial Statement Schedules	152

PART I

Item 1. *Business.*

General

The financial statements presented in this report represent the consolidation of Waste Management, Inc., a Delaware corporation; Waste Management's wholly-owned and majority-owned subsidiaries; and certain variable interest entities for which Waste Management or its subsidiaries are the primary beneficiaries as described in Note 20 to the Consolidated Financial Statements. Waste Management is a holding company and all operations are conducted by its subsidiaries. When the terms "the Company," "we," "us" or "our" are used in this document, those terms refer to Waste Management, Inc., its consolidated subsidiaries and consolidated variable interest entities. When we use the term "WM," we are referring only to Waste Management, Inc., the parent holding company.

WM was incorporated in Oklahoma in 1987 under the name "USA Waste Services, Inc." and was reincorporated as a Delaware company in 1995. In a 1998 merger, the Illinois-based waste services company formerly known as Waste Management, Inc. became a wholly-owned subsidiary of WM and changed its name to Waste Management Holdings, Inc. ("WM Holdings"). At the same time, our parent holding company changed its name from USA Waste Services to Waste Management, Inc. Like WM, WM Holdings is a holding company and all operations are conducted by subsidiaries. For detail on the financial position, results of operations and cash flows of WM, WM Holdings and their subsidiaries, see Note 23 to the Consolidated Financial Statements.

Our principal executive offices are located at 1001 Fannin Street, Suite 4000, Houston, Texas 77002. Our telephone number at that address is (713) 512-6200. Our website address is www.wm.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K are all available, free of charge, on our website as soon as practicable after we file the reports with the SEC. Our stock is traded on the New York Stock Exchange under the symbol "WM."

We are North America's leading provider of comprehensive waste management environmental services. We partner with our residential, commercial, industrial and municipal customers and the communities we serve to manage and reduce waste at each stage from collection to disposal, while recovering valuable resources and creating clean, renewable energy. Our "Solid Waste" business is operated and managed locally by our subsidiaries that focus on distinct geographic areas and provides collection, transfer, recycling and resource recovery, and disposal services. Through our subsidiaries, we are also a leading developer, operator and owner of landfill gas-to-energy facilities in the United States. In December 2014, we completed the sale of our subsidiary, Wheelabrator Technologies Inc. Our Wheelabrator business provided waste-to-energy services and managed waste-to-energy facilities and independent power production plants. During 2014, our largest customer represented less than 1% of annual revenues. We employed approximately 39,800 people as of December 31, 2014.

We own or operate 252 landfill sites, which is the largest network of landfills in our industry. In order to make disposal more practical for larger urban markets, where the distance to landfills is typically farther, we manage 298 transfer stations that consolidate, compact and transport waste efficiently and economically. We also use waste to create energy, recovering the gas produced naturally as waste decomposes in landfills and using the gas in generators to make electricity. We are a leading recycler in North America, handling materials that include paper, cardboard, glass, plastic, metal and electronics. We provide cost-efficient, environmentally sound recycling programs for municipalities, businesses and households across the U.S. and Canada as well as other services that supplement our traditional Solid Waste business.

Our Company's goals are targeted at serving our customers, our employees, the environment, the communities in which we work and our stockholders, and achievement of our goals is intended to meet the needs of a changing industry. Our Company and others have recognized the value of the traditional waste stream as a potential resource. Increasingly, customers want more of their waste materials recovered, while waste streams are

becoming more complex, and our aim is to address, and anticipate, the current, expanding and evolving needs of our customers. Accomplishment of our goals will grow our Company and allow us to meet the needs of our customers and communities as they, too, Think Green®.

We believe we are uniquely equipped to meet the challenges of the changing waste industry and our customers' waste management needs, both today and as we work together to envision and create a more sustainable future. As the waste industry leader, we have the expertise necessary to collect and handle our customers' waste efficiently and responsibly by delivering environmental performance — maximizing resource value, while minimizing environmental impact — so that both our economy and our environment can thrive. Drawing on our resources and experience, we also pursue projects and initiatives that benefit the waste industry, the customers and communities we serve and the environment.

We remain dedicated to providing long-term value to our stockholders by successfully executing our strategy: to know and service our customers better than anyone in our industry, to extract more value from the materials we manage, and to innovate and optimize our business. We plan to accomplish our strategic goals through competitive advantages derived from a "best cost" structure achieved through operational improvements and differentiation in our industry, driven by capitalizing on our extensive, well-placed network of assets. While we will continue to monitor emerging diversion technologies that may generate additional value, our current attention will be on improving existing diversion technologies, such as recycling operations.

In pursuit of these long-term goals, we recognize that we must grow the business, and do so as efficiently and cost effectively as possible. Accordingly, we are focusing on the following five key company priorities:

- Customers: provide the best possible service to our customers;
- Traditional Waste Business: continuously improve our operational performance;
- Growth: take advantage of opportunities in our current business, as well as considering attractive acquisition opportunities;
- Yield Management: remain focused on price leadership while considering competitive dynamics; and
- Costs: minimize both operating costs and selling, general & administrative expenses.

We believe that execution of our strategy through these key priorities will drive continued financial performance and leadership in a dynamic industry. In addition, we intend to continue to return value to our stockholders through dividend payments and common stock repurchases. In February 2015, we announced that our Board of Directors expects to increase the quarterly dividend from $0.375 to $0.385 per share for dividends declared in 2015, which is a 2.7% increase from the quarterly dividends we declared in 2014. This will result in an increase in the amount of free cash flow that we expect to pay out as dividends for the 12th consecutive year and is an indication of our ability to generate strong and consistent cash flows. All quarterly dividends will be declared at the discretion of our Board of Directors.

Operations

General

We evaluate, oversee and manage the financial performance of our local Solid Waste business subsidiaries through our 17 Areas. See Note 21 to the Consolidated Financial Statements for additional information about our reportable segments. In December 2014, we sold our Wheelabrator business, which provides waste-to-energy services and manages waste-to-energy facilities and independent power production plants. We intend to re-invest the proceeds from the sale of our Wheelabrator business to create long-term stockholder value. Our priority is to pursue acquisitions in our Solid Waste business, and we will also evaluate repurchasing our common stock and making other investments in support of our strategic growth plans, while continuing our focus on a strong balance sheet. Refer to Note 19 to the Consolidated Financial Statements for additional information related to our

divestiture. We also provide additional services that are not managed through our Solid Waste business as described below. These operations are presented in this report as "Other."

We have expanded certain of our operations through acquisitions, which are discussed further in Note 19 to the Consolidated Financial Statements. In January 2013, we acquired Greenstar, LLC, ("Greenstar"), an operator of recycling and resource recovery facilities. This acquisition provides the Company's customers with greater access to recycling solutions, having supplemented the Company's extensive nationwide recycling network with the operations of one of the nation's largest private recyclers. In July 2013, we acquired substantially all of the assets of RCI Environnement, Inc. ("RCI"), the largest waste management company in Quebec, and certain related entities. RCI provides collection, transfer, recycling and disposal operations throughout the Greater Montreal area. The acquired RCI operations complement and expand the Company's existing assets and operations in Quebec.

The table below shows the total revenues (in millions) contributed annually by our Solid Waste and Wheelabrator businesses, in the three-year period ended December 31, 2014. More information about our results of operations is included in Note 21 to the Consolidated Financial Statements and in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, included in this report.

	Years Ended December 31,		
	2014	2013	2012
Solid Waste	$13,449	$13,477	$13,056
Wheelabrator	817	845	846
Other	2,191	2,185	2,106
Intercompany	(2,461)	(2,524)	(2,359)
Total	$13,996	$13,983	$13,649

The services we currently provide include collection, landfill (solid and hazardous waste landfills), transfer, recycling and resource recovery and other services, as described below. Prior to the sale of our Wheelabrator business in December 2014, we provided waste-to-energy services and managed waste-to-energy facilities and independent power production plants. The following table shows revenues (in millions) contributed by these services for each of the three years presented:

	Years Ended December 31,		
	2014	2013	2012
Collection	$ 8,507	$ 8,513	$ 8,405
Landfill	2,849	2,790	2,685
Transfer	1,353	1,329	1,296
Wheelabrator	817	845	846
Recycling	1,370	1,447	1,360
Other	1,561	1,583	1,416
Intercompany	(2,461)	(2,524)	(2,359)
Total	$13,996	$13,983	$13,649

Collection. Our commitment to customers begins with a vast waste collection network. Collection involves picking up and transporting waste and recyclable materials from where it was generated to a transfer station, material recovery facility ("MRF") or disposal site. We generally provide collection services under one of two types of arrangements:

- For commercial and industrial collection services, typically we have a three-year service agreement. The fees under the agreements are influenced by factors such as collection frequency, type of collection

equipment we furnish, type and volume or weight of the waste collected, distance to the disposal facility, labor costs, cost of disposal and general market factors. As part of the service, we provide steel containers to most customers to store their solid waste between pick-up dates. Containers vary in size and type according to the needs of our customers and the restrictions of their communities. Many are designed to be lifted mechanically and either emptied into a truck's compaction hopper or directly into a disposal site. By using these containers, we can service most of our commercial and industrial customers with trucks operated by only one employee.

- For most residential collection services, we have a contract with, or a franchise granted by, a municipality, homeowners' association or some other regional authority that gives us the exclusive right to service all or a portion of the homes in an area. These contracts or franchises are typically for periods of three to six years. We also provide services under individual monthly subscriptions directly to households. The fees for residential collection are either paid by the municipality or authority from their tax revenues or service charges, or are paid directly by the residents receiving the service.

Landfill. Landfills are the main depositories for solid waste in North America. At December 31, 2014, we owned or operated 247 solid waste landfills and five secure hazardous waste landfills, which represents the largest network of landfills in North America. Solid waste landfills are constructed and operated on land with engineering safeguards that limit the possibility of water and air pollution, and are operated under procedures prescribed by regulation. A landfill must meet federal, state or provincial, and local regulations during its design, construction, operation and closure. The operation and closure activities of a solid waste landfill include excavation, construction of liners, continuous spreading and compacting of waste, covering of waste with earth or other acceptable material and constructing final capping of the landfill. These operations are carefully planned to maintain environmentally safe conditions and to maximize the use of the airspace.

All solid waste management companies must have access to a disposal facility, such as a solid waste landfill. The significant capital requirements of developing and operating a landfill serve as a barrier to landfill ownership and, as a result, third-party haulers often dispose of waste at our landfills. It is usually preferable for our collection operations to use disposal facilities that we own or operate, a practice we refer to as internalization, rather than using third-party disposal facilities. Internalization generally allows us to realize higher consolidated margins and stronger operating cash flows. The fees charged at disposal facilities, which are referred to as tipping fees, are based on several factors, including competition and the type and weight or volume of solid waste deposited.

Under environmental laws, the federal government (or states with delegated authority) must issue permits for all hazardous waste landfills. All of our hazardous waste landfills have obtained the required permits, although some can accept only certain types of hazardous waste. These landfills must also comply with specialized operating standards. Only hazardous waste in a stable, solid form, which meets regulatory requirements, can be deposited in our secure disposal cells. In some cases, hazardous waste can be treated before disposal. Generally, these treatments involve the separation or removal of solid materials from liquids and chemical treatments that transform waste into inert materials that are no longer hazardous. Our hazardous waste landfills are sited, constructed and operated in a manner designed to provide long-term containment of waste. We also operate a hazardous waste facility at which we isolate treated hazardous waste in liquid form by injection into deep wells that have been drilled in certain acceptable geologic formations far below the base of fresh water to a point that is safely separated by other substantial geological confining layers.

Transfer. At December 31, 2014, we owned or operated 298 transfer stations in North America. We deposit waste at these stations, as do other waste haulers. The solid waste is then consolidated and compacted to reduce the volume and increase the density of the waste and transported by transfer trucks or by rail to disposal sites.

Access to transfer stations is critical to haulers who collect waste in areas not in close proximity to disposal facilities. Fees charged to third parties at transfer stations are usually based on the type and volume or weight of

the waste deposited at the transfer station, the distance to the disposal site, market rates for disposal costs and other general market factors.

The utilization of our transfer stations by our own collection operations improves internalization by allowing us to retain fees that we would otherwise pay to third parties for the disposal of the waste we collect. It enables us to manage costs associated with waste disposal because (i) transfer trucks, railcars or rail containers have larger capacities than collection trucks, allowing us to deliver more waste to the disposal facility in each trip; (ii) waste is accumulated and compacted at transfer stations that are strategically located to increase the efficiency of our network of operations and (iii) we can retain the volume by managing the transfer of the waste to one of our own disposal sites.

The transfer stations that we operate but do not own generally are operated through lease agreements under which we lease property from third parties. There are some instances where transfer stations are operated under contract, generally for municipalities. In most cases we own the permits and will be responsible for any regulatory requirements relating to the operation and closure of the transfer station.

Wheelabrator. On December 19, 2014, we sold our Wheelabrator business to an affiliate of Energy Capital Partners and received cash proceeds of $1.95 billion, net of cash divested, subject to certain post-closing adjustments. We recognized a gain of $519 million on this sale which is included within "(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items" in the Consolidated Statement of Operations. In conjunction with the sale, the Company entered into several agreements to dispose of a minimum number of tons of waste at certain Wheelabrator facilities. These agreements generally provide for fixed volume commitments, with certain market price resets, for up to seven years.

Wheelabrator provides waste-to-energy services and manages waste-to-energy facilities and independent power production plants. Wheelabrator owns or operates 16 waste-to-energy facilities and four independent power production plants. Prior to the sale, our Wheelabrator business constituted a reportable segment, as discussed in Note 21 to the Consolidated Financial Statements. We concluded that the sale of our Wheelabrator business did not qualify for discontinued operations accounting under current authoritative guidance based on our significant continuing obligations under the long-term waste supply agreements referred to above and in Note 11 to the Consolidated Financial Statements.

Recycling. Our recycling operations provide communities and businesses with an alternative to traditional landfill disposal and support our strategic goals to extract more value from the materials we manage. In 2001, we became the first major solid waste company to focus on residential single-stream recycling, which allows customers to mix recyclable paper, plastic and glass in one bin. Residential single-stream programs have greatly increased the recycling rates. Single-stream recycling is possible through the use of various mechanized screens and optical sorting technologies. We have also been advancing the single-stream recycling programs for commercial applications. Recycling involves the separation of reusable materials from the waste stream for processing and resale or other disposition. Our recycling operations include the following:

Materials processing — Through our collection operations, we collect recyclable materials from residential, commercial and industrial customers and direct these materials to one of our MRFs for processing. We operate 126 MRFs where paper, cardboard, metals, plastics, glass, construction and demolition materials and other recyclable commodities are recovered for resale.

Plastics materials recycling — Using state-of-the-art sorting and processing technology, we process, inventory and sell plastic commodities making the recycling of such items more cost effective and convenient.

Commodities recycling — We market and resell recyclable commodities to customers world-wide. We manage the marketing of recyclable commodities that are processed in our facilities by maintaining comprehensive service centers that continuously analyze market prices, logistics, market demands and product quality.

Recycling brokerage services — We also provide recycling brokerage services, which involve managing the marketing of recyclable materials for third parties. The experience of our recycling operations in managing recyclable commodities for our own operations gives us the expertise needed to effectively manage volumes for third parties. Utilizing the resources and knowledge of our recycling operations' service centers, we can assist customers in marketing and selling their recyclable commodities with minimal capital requirements. We also provide electronics recycling. We recycle discarded computers, communications equipment, and other electronic equipment. Services include the collection, sorting and disassembling of electronics in an effort to reuse or recycle all collected materials. In recent years, we have teamed with major electronics manufacturers to offer comprehensive "take-back" programs of their products to assist the general public in disposing of their old electronics in a convenient and environmentally safe manner.

Some of the recyclable materials processed in our MRFs are purchased from various sources, including third parties and our own operations. The price we pay for recyclable materials is often referred to as a "rebate." Rebates generally are based upon the price we receive for sales of processed goods, market conditions and transportation costs, but in some cases are based on fixed contractual rates or on defined minimum per-ton rates. As a result, changes in commodity prices for recycled materials also significantly affect the rebates we pay to our suppliers, which are recorded as "Operating expenses" within our Consolidated Statements of Operations. In recent years, we have been focused on revising our rebate structures to ensure that we cover our cost of handling and processing the materials and generate an acceptable margin on the materials we process and sell.

Other. Other services we provide include the following:

Although many waste management services such as collection and disposal are local services, our strategic accounts program, which is managed by our Strategic Business Solutions organization, works with customers whose locations span the United States. Our strategic accounts program provides centralized customer service, billing and management of accounts to streamline the administration of customers' multiple and nationwide locations' waste management needs.

Our Energy and Environmental Services organization offers our customers in all Areas a variety of services in collaboration with our Area and strategic accounts programs, including (i) construction and remediation services; (ii) services associated with the disposal of fly ash, residue generated from the combustion of coal and other fuel stocks; (iii) in-plant services, where our employees work full-time inside our customers' facilities to provide full-service waste management solutions and consulting services; this service is managed through our Energy and Environmental Services organization but reflected principally in our collection business and (iv) specialized disposal services for oil and gas exploration and production operations; revenues for this service are also reflected principally in our collection business. Our vertically integrated waste management operations enable us to provide customers with full management of their waste. The breadth of our service offerings and the familiarity we have with waste management practices gives us the unique ability to assist customers in minimizing the amount of waste they generate, identifying recycling opportunities, determining the most efficient means available for waste collection and disposal and ensuring that disposal is achieved in a manner that is both reflective of the current regulatory environment and environmentally friendly.

We develop, operate and promote projects for the beneficial use of landfill gas through our WM Renewable Energy Program. Landfill gas is produced naturally as waste decomposes in a landfill. The methane component of the landfill gas is a readily available, renewable energy source that can be gathered and used beneficially as an alternative to fossil fuel. The EPA endorses landfill gas as a renewable energy resource, in the same category as wind, solar and geothermal resources. At December 31, 2014, we had 134 landfill gas beneficial use projects producing commercial quantities of methane gas at 123 of our solid waste landfills and four third-party landfills. At 107 of these landfills, the processed gas is used to fuel electricity generators. The electricity is then sold to public utilities, municipal utilities or power cooperatives. At 16 landfills, the gas is used at the landfill or delivered by pipeline to industrial customers as a direct substitute for fossil fuels in industrial processes. At

10 landfills, the landfill gas is processed to pipeline-quality natural gas and then sold to natural gas suppliers. At one landfill, the gas is processed into liquefied natural gas and used as vehicle fuel.

We continue to invest in businesses and technologies that are designed to offer services and solutions ancillary or supplementary to our current operations. These investments include joint ventures, acquisitions and partial ownership interests. The solutions and services include the collection of project waste, including construction debris and household or yard waste, through our Bagster® program; the development, operation and marketing of plasma gasification facilities; operation of a landfill gas-to-liquid natural gas plant; solar powered trash compactors; and organic waste-to-fuel conversion technology. We also offer portable self-storage services through a joint venture; fluorescent bulb and universal waste mail-back through our LampTracker® program; portable restroom servicing under the name Port-o-Let®; and street and parking lot sweeping services. In addition, we hold interests in oil and gas producing properties.

Competition

We encounter intense competition from governmental, quasi-governmental and private sources in all aspects of our operations. In North America, the industry consists primarily of two national waste management companies and regional and local companies of varying sizes and financial resources, including companies that specialize in certain discrete areas of waste management, operators of alternative disposal facilities and companies that seek to use parts of the waste stream as feedstock for renewable energy and other by-products. Some of our regional competitors can be significant competitors in local markets and are pursuing aggressive regional growth strategies. We compete with these companies as well as with counties and municipalities that maintain their own waste collection and disposal operations.

Operating costs, disposal costs and collection fees vary widely throughout the areas in which we operate. The prices that we charge are determined locally, and typically vary by volume and weight, type of waste collected, treatment requirements, risk of handling or disposal, frequency of collections, distance to final disposal sites, the availability of airspace within the geographic region, labor costs and amount and type of equipment furnished to the customer. We face intense competition in our Solid Waste business based on pricing and quality of service. We have also begun competing for business based on breadth of service offerings. As companies, individuals and communities look for ways to be more sustainable, we are investing in greener technologies and promoting our comprehensive services that go beyond our core business of collecting and disposing of waste.

Seasonal Trends

Our operating revenues tend to be somewhat higher in summer months, primarily due to the higher volume of construction and demolition waste. The volumes of industrial and residential waste in certain regions where we operate also tend to increase during the summer months. Our second and third quarter revenues and results of operations typically reflect these seasonal trends. Through 2014, the operating results of our first quarter also often reflected higher repair and maintenance expenses because, prior to the sale of our Wheelabrator business, we relied on the slower winter months, when waste flows are generally lower, to perform scheduled maintenance at our waste-to-energy facilities.

Service disruptions caused by severe storms, extended periods of inclement weather or climate extremes can significantly affect the operating results of the affected Areas. On the other hand, certain destructive weather conditions that tend to occur during the second half of the year, such as the hurricanes that most often impact our operations in the Southern and Eastern U.S., can actually increase our revenues in the areas affected. While weather-related and other "one-time" occurrences can boost revenues through additional work for a limited time span, as a result of significant start-up costs and other factors, such revenue sometimes generates earnings at comparatively lower margins.

Employees

At December 31, 2014, we had approximately 39,800 full-time employees, of which approximately 7,000 were employed in administrative and sales positions and the balance in operations. Approximately 8,500 of our employees are covered by collective bargaining agreements.

Financial Assurance and Insurance Obligations

Financial Assurance

Municipal and governmental waste service contracts generally require contracting parties to demonstrate financial responsibility for their obligations under the contract. Financial assurance is also a requirement for (i) obtaining or retaining disposal site or transfer station operating permits; (ii) supporting variable-rate tax-exempt debt and (iii) estimated final capping, closure, post-closure and environmental remedial obligations at many of our landfills. We establish financial assurance using surety bonds, letters of credit, insurance policies, trust and escrow agreements and financial guarantees. The type of assurance used is based on several factors, most importantly: the jurisdiction, contractual requirements, market factors and availability of credit capacity.

Surety bonds and insurance policies are supported by (i) a diverse group of third-party surety and insurance companies; (ii) an entity in which we have a noncontrolling financial interest or (iii) wholly-owned insurance subsidiary, National Guaranty Insurance Company of Vermont, the sole business of which is to issue surety bonds and/or insurance policies on our behalf. Letters of credit generally are supported by our $2.25 billion revolving credit facility and other credit facilities established for that purpose.

Insurance

We carry a broad range of insurance coverages, including general liability, automobile liability, real and personal property, workers' compensation, directors' and officers' liability, pollution legal liability, business interruption and other coverages we believe are customary to the industry. Our exposure to loss for insurance claims is generally limited to the per-incident deductible under the related insurance policy. As of December 31, 2014, our commercial General Liability Insurance Policy carried self-insurance exposures of up to $2.5 million per incident and our workers' compensation insurance program carried self-insurance exposures of up to $5 million per incident. As of December 31, 2014, our auto liability insurance program included a per-incident base deductible of $5 million, subject to additional deductibles of $4.8 million in the $5 million to $10 million layer. We do not expect the impact of any known casualty, property, environmental or other contingency to have a material impact on our financial condition, results of operations or cash flows. Our estimated insurance liabilities as of December 31, 2014 are summarized in Note 11 to the Consolidated Financial Statements.

The Directors' and Officers' Liability Insurance policy we choose to maintain covers only individual executive liability, often referred to as "Broad Form Side A," and does not provide corporate reimbursement coverage, often referred to as "Side B." The Side A policy covers directors and officers directly for loss, including defense costs, when corporate indemnification is unavailable. Side A-only coverage cannot be exhausted by payments to the Company, as the Company is not insured for any money it advances for defense costs or pays as indemnity to the insured directors and officers.

Regulation

Our business is subject to extensive and evolving federal, state or provincial and local environmental, health, safety and transportation laws and regulations. These laws and regulations are administered by the U.S. Environmental Protection Agency ("EPA"), Environment Canada, and various other federal, state, provincial and local environmental, zoning, transportation, land use, health and safety agencies in the United States and Canada. Many of these agencies regularly examine our operations to monitor compliance with these laws and regulations and have the power to enforce compliance, obtain injunctions or impose civil or criminal penalties in case of

violations. In recent years, we have perceived an increase in both the amount of government regulation and the number of enforcement actions being brought by regulatory entities against operations in the waste services industry. We expect this heightened governmental focus on regulation and enforcement to continue.

Because the primary mission of our business is to collect and manage solid waste in an environmentally sound manner, a significant amount of our capital expenditures are related, either directly or indirectly, to environmental protection measures, including compliance with federal, state or provincial and local rules. There are costs associated with siting, design, permitting, operations, monitoring, site maintenance, corrective actions, financial assurance, and facility closure and post-closure obligations. In connection with our acquisition, development or expansion of a management or disposal facility or transfer station, we must often spend considerable time, effort and money to obtain or maintain required permits and approvals. There are no assurances that we will be able to obtain or maintain required governmental approvals. Once obtained, operating permits are subject to renewal, modification, suspension or revocation by the issuing agency. Compliance with current regulations and future requirements could require us to make significant capital and operating expenditures. However, most of these expenditures are made in the normal course of business and do not place us at any competitive disadvantage.

The primary United States federal statutes affecting our business are summarized below:

- The Resource Conservation and Recovery Act of 1976 ("RCRA"), as amended, regulates handling, transporting and disposing of hazardous and non-hazardous waste and delegates authority to states to develop programs to ensure the safe disposal of solid waste. In 1991, the EPA issued its final regulations under Subtitle D of RCRA, which set forth minimum federal performance and design criteria for solid waste landfills. These regulations are typically implemented by the states, although states can impose requirements that are more stringent than the Subtitle D standards. We incur costs in complying with these standards in the ordinary course of our operations.
- The Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, ("CERCLA") which is also known as Superfund, provides for federal authority to respond directly to releases or threatened releases of hazardous substances into the environment that have created actual or potential environmental hazards. CERCLA's primary means for addressing such releases is to impose strict liability for cleanup of disposal sites upon current and former site owners and operators, generators of the hazardous substances at the site and transporters who selected the disposal site and transported substances thereto. Liability under CERCLA is not dependent on the intentional release of hazardous substances; it can be based upon the release or threatened release, even as a result of lawful, unintentional and non-negligent action, of hazardous substances as the term is defined by CERCLA and other applicable statutes and regulations. The EPA may issue orders requiring responsible parties to perform response actions at sites, or the EPA may seek recovery of funds expended or to be expended in the future at sites. Liability may include contribution for cleanup costs incurred by a defendant in a CERCLA civil action or by an entity that has previously resolved its liability to federal or state regulators in an administrative or judicially-approved settlement. Liability under CERCLA could also include obligations to a potentially responsible party, or PRP, that voluntarily expends site clean-up costs. Further, liability for damage to publicly-owned natural resources may also be imposed. We are subject to potential liability under CERCLA as an owner or operator of facilities at which hazardous substances have been disposed and as a generator or transporter of hazardous substances disposed of at other locations.
- The Federal Water Pollution Control Act of 1972, as amended, known as the Clean Water Act, regulates the discharge of pollutants into streams, rivers, groundwater, or other surface waters from a variety of sources, including solid and hazardous waste disposal sites. If run-off from our operations may be discharged into surface waters, the Clean Water Act requires us to apply for and obtain discharge permits, conduct sampling and monitoring, and, under certain circumstances, reduce the quantity of pollutants in those discharges. In 1990, the EPA issued additional standards for management of storm water runoff that require landfills and other waste-handling facilities to obtain

storm water discharge permits. In addition, if a landfill or other facility discharges wastewater through a sewage system to a publicly-owned treatment works, the facility must comply with discharge limits imposed by the treatment works. Also, before the development or expansion of a landfill can alter or affect "wetlands," a permit may have to be obtained providing for mitigation or replacement wetlands. The Clean Water Act provides for civil, criminal and administrative penalties for violations of its provisions.

- The Clean Air Act of 1970, as amended, provides for increased federal, state and local regulation of the emission of air pollutants. Certain of our operations are subject to the requirements of the Clean Air Act, including large municipal solid waste landfills and landfill gas-to-energy facilities. In 1996 the EPA issued new source performance standards ("NSPS") and emission guidelines ("EG") controlling landfill gases from new and existing large landfills. In January 2003, the EPA issued Maximum Achievable Control Technology ("MACT") standards for municipal solid waste landfills subject to the NSPS. These regulations impose limits on air emissions from large municipal solid waste landfills, subject most of our large municipal solid waste landfills to certain operating permit requirements under Title V of the Clean Air Act and, in many instances, require installation of landfill gas collection and control systems to control emissions or to treat and utilize landfill gas on- or off-site. The EPA entered into a settlement agreement with the Environmental Defense Fund to evaluate the 1996 NSPS for new landfills as required by the Clean Air Act every eight years and revise them if deemed necessary. The EPA published a proposed NSPS rule July 17, 2014 and plans to finalize this rule by March 31, 2015. Where we identified potential for increased capital and operating expenses, we provided formal comment and technical support to the EPA to minimize the impact to our operations. We expect the EPA will address our comments in the final rule. Where the EPA does not address our comments in the final rule, we will re-assess the capital and operating cost impact to our operations. The EPA also plans to propose an EG rule for existing landfills by March 31, 2015 and finalize this rule by March 2016. Should the EPA adopt more stringent requirements, capital expenditures and operating costs may increase. However, we do not believe that the regulatory changes would have a material adverse impact on our business as a whole.

  Additionally, emission and fuel economy standards have been imposed on manufacturers of transportation vehicles (including waste collection vehicles). The EPA continues to evaluate and develop regulations to increase fuel economy standards and reduce vehicle emissions; such regulations could increase the costs of operating our fleet, but we do not believe any such regulations would have a material adverse impact on our business as a whole.

- The Occupational Safety and Health Act of 1970, as amended, ("OSHA") establishes certain employer responsibilities, including maintenance of a workplace free of recognized hazards likely to cause death or serious injury, compliance with standards promulgated by the Occupational Safety and Health Administration, and various reporting and record keeping obligations as well as disclosure and procedural requirements. Various standards for notices of hazards, safety in excavation and demolition work and the handling of asbestos, may apply to our operations. The Department of Transportation and OSHA, along with other federal agencies, have jurisdiction over certain aspects of hazardous materials and hazardous waste, including safety, movement and disposal. Various state and local agencies with jurisdiction over disposal of hazardous waste may seek to regulate movement of hazardous materials in areas not otherwise preempted by federal law.

We are also actively monitoring the following recent developments in United States federal regulations affecting our business:

- In 2010, the EPA issued the Prevention of Significant Deterioration ("PSD") and Title V Greenhouse Gas ("GHG") Tailoring Rule, which expanded the EPA's federal air permitting authority to include the six GHGs, including methane and carbon dioxide. The rule sets new thresholds for GHG emissions that define when Clean Air Act permits are required. The requirements of these rules have not significantly affected our operations or cash flows, due to the tailored thresholds and exclusions of certain emissions from regulation.

In June 2013, the U.S. Supreme Court issued a decision that significantly limited the applicability and scope of EPA permitting requirements for GHGs from stationary sources, concluding that: the EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is required to obtain a PSD or Title V permit; and the EPA can continue to require that PSD permits otherwise required based on emissions of conventional pollutants contain limitations on GHG emissions based on Best Available Control Technology ("BACT"). Following this ruling, the EPA issued a policy memorandum advising that it intends to propose exempting biogenic carbon dioxide emissions from waste-derived feedstocks (municipal solid waste and landfill gas) from PSD and Title V air permitting. The EPA anticipates basing this proposal on the rationale that those emissions are likely to have minimal or no net atmospheric contributions, or even reduce such impacts, when compared to an alternate method of disposal. As a result of this U.S. Supreme Court ruling and EPA policy action, the potential impact of the PSD and Title V GHG Tailoring Rule on our air permits, compliance and results of operations is significantly reduced.

Other recent final and proposed rules to increase the stringency of certain National Ambient Air Quality Standards, such as the Ozone rule proposed in December 2014, and related PSD increment/ significance thresholds could affect the cost, timeliness and availability of air permits for new and modified large municipal solid waste landfills and landfill gas-to-energy facilities. In general, controlling emissions involves installing collection wells in a landfill and routing the gas to a suitable energy recovery system or combustion device. At December 31, 2014, we had 134 projects at solid waste landfills where landfill gas was captured and utilized for its renewable energy value rather than flared. Efforts to curtail the emission of GHGs and to ameliorate the effect of climate change may require our landfills to deploy more stringent emission controls, with associated capital or operating costs; however, we do not believe that such regulations will have a material adverse impact on our business as a whole. See Item 1A. Risk Factors — "The adoption of climate change legislation or regulations restricting emissions of "greenhouse gases" could increase our costs to operate."

The EPA recently clarified in its November 2014 policy memorandum that states may rely on waste-derived biogenic feedstocks in their future proposed compliance plans required by the proposed Clean Power Plan rules. This recognition by the EPA may create new or expanded opportunities for renewable energy projects.

We are taking steps to anticipate the future needs of our customers which include investing in and developing ever-more-advanced recycling and reuse technologies. Potential climate change and GHG regulatory initiatives have influenced our business strategy to provide low-carbon services to our customers, and we increasingly view our ability to offer lower carbon services as a key component of our business growth. If the U.S. were to impose a carbon tax or other form of GHG regulation increasing demand for low-carbon service offerings in the future, the services we are developing will be increasingly valuable.

- In 2011, the EPA published the Non-Hazardous Secondary Materials ("NHSM") Rule, which provides the standards and procedures for identifying whether NHSM are solid waste under RCRA when used as fuels or ingredients in combustion units. The EPA also published new source performance standards and emission guidelines for commercial and industrial solid waste incineration units, and Maximum Achievable Control Technology Standards for commercial and industrial boilers. The EPA published clarifications and amendments to these rules in 2013, and there is litigation surrounding the rules. Although the recently published amendments are generally favorable to our industry, some of the potential regulatory interpretations are undergoing review and other regulatory outcomes may be dependent on case-by-case administrative determinations. These could have a significant impact on some of our projects in which we are seeking to convert biomass or other secondary materials into products, fuels or energy. Therefore, it is not possible to quantify the financial impact of these rulemakings or pending administrative determinations at the present time. However, we believe the rules and administrative determinations will not have a material adverse impact on our business as a whole and are more likely to facilitate our efforts to reuse or recover energy value from secondary material streams.

- In December 2014, the EPA issued a final rule regulating the disposal and beneficial use of coal combustion residuals ("CCR"). The regulations encourage beneficial use of CCR in encapsulated uses (e.g., used in cement or wallboard), and use according to established industry standards (e.g., application of sludge for agricultural enrichment). The EPA also deemed disposal and beneficial use of CCR at permitted municipal solid waste landfills exempt from the new regulations because the RCRA Subtitle D standards applicable at municipal solid waste landfills provide at least equivalent protection. The new standards are consistent with our approach to handling CCR at our sites currently, and we believe the new standards will provide a potential growth opportunity for the Company. States may impose standards more stringent than the federal program, and we will be monitoring state implementation to determine impact.

State, Provincial and Local Regulations

There are also various state or provincial and local regulations that affect our operations. Each state and province in which we operate has its own laws and regulations governing solid waste disposal, water and air pollution, and, in most cases, releases and cleanup of hazardous substances and liabilities for such matters. States and provinces have also adopted regulations governing the design, operation, maintenance and closure of landfills and transfer stations. Some counties, municipalities and other local governments have adopted similar laws and regulations. Our facilities and operations are likely to be subject to these types of requirements.

Our landfill operations are affected by the increasing preference for alternatives to landfill disposal. Several state and local governments mandate recycling and waste reduction at the source and prohibit the disposal of certain types of waste, such as yard and food waste, at landfills. The number of cities with food waste recycling requirements and disposal bans continues to grow, while the logistics and economics of food waste recycling remain challenging.

Various states have enacted, or are considering enacting, laws that restrict the disposal within the state of solid waste generated outside the state. While laws that overtly discriminate against out-of-state waste have been found to be unconstitutional, some laws that are less overtly discriminatory have been upheld in court. From time to time, the United States Congress has considered legislation authorizing states to adopt regulations, restrictions, or taxes on the importation of out-of-state or out-of-jurisdiction waste. Additionally, several state and local governments have enacted "flow control" regulations, which attempt to require that all waste generated within the state or local jurisdiction be deposited at specific sites. In 1994, the United States Supreme Court ruled that a flow control ordinance that gave preference to a local facility that was privately owned was unconstitutional, but in 2007, the Court ruled that an ordinance directing waste to a facility owned by the local government was constitutional. The United States Congress' adoption of legislation allowing restrictions on interstate transportation of out-of-state or out-of-jurisdiction waste or certain types of flow control, or courts' interpretations of interstate waste and flow control legislation, could adversely affect our solid and hazardous waste management services.

Additionally, regulations establishing extended producer responsibility ("EPR") are being considered or implemented in many places around the world, including in Canada and the U.S. EPR regulations are designed to place either partial or total responsibility on producers to fund the post-use life cycle of the products they create. Along with the funding responsibility, producers may be required to take over management of local recycling programs by taking back their products from end users or managing the collection operations and recycling processing infrastructure. There is no federal law establishing EPR in the U.S. or Canada; however, state, provincial and local governments could, and in some cases have, taken steps to implement EPR regulations. If wide-ranging EPR regulations were adopted, they could have a fundamental impact on the waste, recycling and other streams we manage and how we operate our business, including contract terms and pricing.

Many states, provinces and local jurisdictions have enacted "fitness" laws that allow the agencies that have jurisdiction over waste services contracts or permits to deny or revoke these contracts or permits based on the

applicant's or permit holder's compliance history. Some states, provinces and local jurisdictions go further and consider the compliance history of the parent, subsidiaries or affiliated companies, in addition to the applicant or permit holder. These laws authorize the agencies to make determinations of an applicant's or permit holder's fitness to be awarded a contract to operate, and to deny or revoke a contract or permit because of unfitness, unless there is a showing that the applicant or permit holder has been rehabilitated through the adoption of various operating policies and procedures put in place to assure future compliance with applicable laws and regulations.

Foreign Import Regulation

Enforcement or implementation of foreign regulations can affect our ability to export products. In 2013, the Chinese government began to strictly enforce regulations that establish limits on moisture and non-conforming materials that may be contained in imported recycled paper and plastics as well as restricting the import of certain other plastic recyclables. The higher quality expectations resulting from initiatives such as "Operation Green Fence" can drive up operating costs in the recycling industry, particularly for single stream MRFs. Single stream MRFs process a wide range of commingled materials and tend to receive a higher percentage of non-recyclables, which results in increased processing and residual disposal costs. Despite these increased costs, we believe we are well positioned among our potential competitors to respond to and comply with such regulations. We are revising our service agreements to address these increased costs and are working with stakeholders to educate the general public on the need to recycle properly.

Hydraulic Fracturing Regulation

Our Energy Services line of business provides specialized environmental management and disposal services for oil and gas exploration and production operations. Recently, there has been increased attention from the public, some states and the EPA on the alleged potential for hydraulic fracturing to impact drinking water supplies. There is also heightened regulatory focus on emissions of methane that occur during drilling and transportation of natural gas, as well as protective disposal of drilling residuals. Increased regulation of hydraulic fracturing and new rules regarding the treatment and disposal of wastes associated with exploration and production operations could increase our costs to provide oilfield services and reduce our margins and revenue from such services. On the other hand, we believe the size, capital structure, regulatory sophistication and established reliability of our Company provide us with an advantage in providing services that must comply with any complex regulatory regime that may govern providing oilfield waste services.

Emissions from Natural Gas Fueling and Infrastructure

We currently operate the largest compressed natural gas ("CNG") fleet in the waste industry, and we plan to continue to transition a significant portion of our collection fleet from diesel fuel to CNG. We have constructed and operate 72 natural gas fueling stations, 25 of which also serve the public or pre-approved third parties, in 28 states and three Canadian provinces. Concerns have been raised about the potential for emissions from the fueling stations and infrastructure that serve natural gas-fueled vehicles. We have partnered with the environmental organization Environmental Defense Fund, as well as other heavy-duty equipment users and experts, on an emissions study to be made available to policy makers. We anticipate that this comprehensive study of emissions from our heavy-duty fleet may ultimately result in regulations that will affect equipment manufacturers and will define operating procedures across the industry. Additional regulation of, or restrictions on, CNG fueling infrastructure or reductions in associated tax incentives could increase our operating costs. We are not yet able to evaluate potential operating changes or costs associated with such regulations, but we do not anticipate that such regulations would have a material adverse impact on our business or our current plan to continue transitioning to CNG vehicles.

Federal, State and Local Climate Change Initiatives

In light of regulatory and business developments related to concerns about climate change, we have identified a strategic business opportunity to provide our public and private sector customers with sustainable solutions to reduce their GHG emissions. As part of our on-going marketing evaluations, we assess customer demand for and opportunities to develop waste services offering verifiable carbon reductions, such as waste reduction, increased recycling, and conversion of landfill gas and discarded materials into electricity and fuel. We use carbon life cycle tools in evaluating potential new services and in establishing the value proposition that makes us attractive as an environmental service provider. We are active in support of public policies that encourage development and use of lower carbon energy and waste services that lower users' carbon footprints. We understand the importance of broad stakeholder engagement in these endeavors, and actively seek opportunities for public policy discussion on more sustainable materials management practices. In addition, we work with stakeholders at the federal and state level in support of legislation that encourages production and use of renewable, low-carbon fuels and electricity.

We continue to assess the physical risks to company operations from the effects of severe weather events and use risk mitigation planning to increase our resiliency in the face of such events. We are investing in infrastructure to withstand more severe storm events, which may afford us a competitive advantage and reinforce our reputation as a reliable service provider through continued service in the aftermath of such events.

Item 1A. ***Risk Factors.***

In an effort to keep our stockholders and the public informed about our business, we may make "forward-looking statements." Forward-looking statements usually relate to future events and anticipated revenues, earnings, cash flows or other aspects of our operations or operating results. Forward-looking statements are often identified by the words, "will," "may," "should," "continue," "anticipate," "believe," "expect," "plan," "forecast," "project," "estimate," "intend" and words of a similar nature and generally include statements containing:

- projections about accounting and finances;
- plans and objectives for the future;
- projections or estimates about assumptions relating to our performance; or
- our opinions, views or beliefs about the effects of current or future events, circumstances or performance.

You should view these statements with caution. These statements are not guarantees of future performance, circumstances or events. They are based on facts and circumstances known to us as of the date the statements are made. All aspects of our business are subject to uncertainties, risks and other influences, many of which we do not control. Any of these factors, either alone or taken together, could have a material adverse effect on us and could change whether any forward-looking statement ultimately turns out to be true. Additionally, we assume no obligation to update any forward-looking statement as a result of future events, circumstances or developments. The following discussion should be read together with the Consolidated Financial Statements and the notes thereto. Outlined below are some of the risks that we believe could affect our business and financial statements for 2015 and beyond and that could cause actual results to be materially different from those that may be set forth in forward-looking statements made by the Company.

The waste industry is highly competitive, and if we cannot successfully compete in the marketplace, our business, financial condition and operating results may be materially adversely affected.

We encounter intense competition from governmental, quasi-governmental and private sources in all aspects of our operations. In North America, the industry consists primarily of two national waste management companies and regional and local companies of varying sizes and financial resources, including companies that

specialize in certain discrete areas of waste management, operators of alternative disposal facilities and companies that seek to use parts of the waste stream as feedstock for renewable energy and other by-products. Some of our regional competitors can be significant competitors in local markets and are pursuing aggressive regional growth strategies. We compete with these companies as well as with counties and municipalities that maintain their own waste collection and disposal operations. These counties and municipalities may have financial competitive advantages because tax revenues are available to them and tax-exempt financing is more readily available to them. Also, such governmental units may attempt to impose flow control or other restrictions that would give them a competitive advantage. In addition, some of our competitors may have lower financial expectations, allowing them to reduce their prices to expand sales volume or to win competitively-bid contracts, including large national accounts and exclusive franchise arrangements with municipalities. When this happens, we may lose customers and be unable to execute our pricing strategy, resulting in a negative impact to our revenue growth from yield on base business.

If we fail to implement our business strategy, our financial performance and our growth could be materially and adversely affected.

Our future financial performance and success are dependent in large part upon our ability to implement our business strategy successfully. Implementation of our strategy will require effective management of our operational, financial and human resources and will place significant demands on those resources. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — *Overview* for more information on our business strategy.

There are risks involved in pursuing our strategy, including the following:

- Our employees, customers or investors may not embrace and support our strategy.
- We may not be able to hire or retain the personnel necessary to manage our strategy effectively.
- In efforts to enhance our revenues, we have implemented price increases and environmental fees, and we have continued our fuel surcharge program to offset fuel costs. The loss of volumes as a result of price increases may negatively affect our cash flows or results of operations.
- We may be unsuccessful in implementing improvements to operational efficiency and such efforts may not yield the intended result.
- Our restructuring may not achieve and/or maintain the goals and cost savings intended.
- Strategic decisions with respect to our asset portfolio may result in impairments to our assets. See Item 1A. Risk Factors — We may record material charges against earnings due to any number of events that could cause impairments to our assets.
- Our ability to make strategic acquisitions depends on our ability to identify desirable acquisition targets, negotiate advantageous transactions despite competition for such opportunities, fund such acquisitions on favorable terms, and realize the benefits we expect from those transactions.
- Acquisitions, investments and/or new service offerings may not increase our earnings in the timeframe anticipated, or at all, due to difficulties operating in new markets or providing new service offerings, failure of emerging technologies to perform as expected, failure to operate within budget, integration issues, or regulatory issues, among others.
- Integration of acquisitions and/or new services offerings could increase our exposure to the risk of inadvertent noncompliance with applicable laws and regulations.
- Execution of our strategy, particularly growth through acquisitions, may cause us to incur substantial additional indebtedness, which may divert capital away from our traditional business operations and other financial plans.

- We continue to seek to divest underperforming and non-strategic assets if we cannot improve their profitability. We may not be able to successfully negotiate the divestiture of underperforming and non-strategic operations, which could result in asset impairments or the continued operation of low-margin businesses.

In addition to the risks set forth above, implementation of our business strategy could also be affected by a number of factors beyond our control, such as increased competition, legal developments, government regulation, general economic conditions, increased operating costs or expenses and changes in industry trends. We may decide to alter or discontinue certain aspects of our business strategy at any time. If we are not able to implement our business strategy successfully, our long-term growth and profitability may be adversely affected. Even if we are able to implement some or all of the initiatives of our business strategy successfully, our operating results may not improve to the extent we anticipate, or at all.

Compliance with existing or future regulations and/or enforcement of such regulations may restrict or change our operations, increase our operating costs or require us to make additional capital expenditures.

Stringent government regulations at the federal, state, provincial, and local level in the United States and Canada have a substantial impact on our business, and compliance with such regulations is costly. A large number of complex laws, rules, orders and interpretations govern environmental protection, health, safety, land use, zoning, transportation and related matters. In recent years, we have perceived an increase in both the amount of government regulation and the number of enforcement actions being brought by regulatory entities against operations in the waste services industry. We expect this heightened governmental focus on regulation and enforcement to continue. Among other things, governmental regulations and enforcement actions may restrict our operations and adversely affect our financial condition, results of operations and cash flows by imposing conditions such as:

- limitations on siting and constructing new waste disposal, transfer, recycling or processing facilities or on expanding existing facilities;
- limitations, regulations or levies on collection and disposal prices, rates and volumes;
- limitations or bans on disposal or transportation of out-of-state waste or certain categories of waste;
- mandates regarding the management of solid waste, including requirements to recycle, divert or otherwise process certain waste, recycling and other streams; or
- limitations or restrictions on the recycling, processing or transformation of waste, recycling and other streams.

Regulations affecting the siting, design and closure of landfills could require us to undertake investigatory or remedial activities, curtail operations or close landfills temporarily or permanently. Future changes in these regulations may require us to modify, supplement or replace equipment or facilities. The costs of complying with these regulations could be substantial.

In order to develop, expand or operate a landfill or other waste management facility, we must have various facility permits and other governmental approvals, including those relating to zoning, environmental protection and land use. The permits and approvals are often difficult, time consuming and costly to obtain and could contain conditions that limit our operations.

We also have significant financial obligations relating to final capping, closure, post-closure and environmental remediation at our existing landfills. We establish accruals for these estimated costs, but we could underestimate such accruals. Environmental regulatory changes could accelerate or increase capping, closure, post-closure and remediation costs, requiring our expenditures to materially exceed our current accruals.

Various states have enacted, or are considering enacting, laws that restrict the disposal within the state of solid waste generated outside the state. From time to time, the United States Congress has considered legislation authorizing states to adopt regulations, restrictions, or taxes on the importation of out-of-state or out-of-jurisdiction waste. Additionally, several state and local governments have enacted "flow control" regulations, which attempt to require that all waste generated within the state or local jurisdiction be deposited at specific sites. The United States Congress' adoption of legislation allowing restrictions on interstate transportation of out-of-state or out-of-jurisdiction waste certain types of flow control, or courts' interpretations of interstate waste and flow control legislation, could adversely affect our solid and hazardous waste management services.

Additionally, regulations establishing extended producer responsibility, or EPR, are being considered or implemented in many places around the world, including in Canada and the U.S. EPR regulations are designed to place either partial or total responsibility on producers to fund the post-use life cycle of the products they create. Along with the funding responsibility, producers may be required to take over management of local recycling programs by taking back their products from end users or managing the collection operations and recycling processing infrastructure. There is no federal law establishing EPR in the U.S. or Canada; however, state, provincial and local governments could, and in some cases have, taken steps to implement EPR regulations. If wide-ranging EPR regulations were adopted, they could have a fundamental impact on the waste streams we manage and how we operate our business, including contract terms and pricing. A significant reduction in the waste, recycling and other streams we manage could have a material adverse effect on our financial condition, results of operations and cash flows.

Enforcement or implementation of foreign regulations can affect our ability to export products. In 2013, the Chinese government began to strictly enforce regulations that establish limits on moisture and non-conforming materials that may be contained in imported recycled paper and plastics. The higher quality expectations resulting from initiatives such as "Operation Green Fence" can drive up operating costs in the recycling industry, particularly for single stream MRFs. Single stream MRFs process a wide range of commingled materials and tend to receive a higher percentage of non-recyclables, which results in increased processing and residual disposal costs. If Operation Green Fence or other similar initiatives or new regulations increase our operating costs in the future, and we are not able to recapture those costs from our customers, such regulations could have a material adverse effect on our results of operations.

Our revenues, earnings and cash flows will fluctuate based on changes in commodity prices.

Our recycling operations process for sale certain recyclable materials, including fibers, aluminum and glass, all of which are subject to significant market price fluctuations. The majority of the recyclables that we process for sale are paper fibers, including old corrugated cardboard and old newsprint. The fluctuations in the market prices or demand for these commodities, particularly demand from Chinese paper mills, can affect our operating income and cash flows negatively, such as we experienced in 2014, 2013 and 2012. As we have increased the size of our recycling operations, we have also increased our exposure to commodity price fluctuations. The decline in market prices in 2014, 2013 and 2012 for commodities resulted in year-over-year decreases in revenue of $53 million, $79 million and $428 million, respectively. Additionally, our recycling operations offer rebates to suppliers. Therefore, even if we experience higher revenues based on increased market prices for commodities, the rebates we pay will also increase. In other circumstances, the rebates may be subject to a floor, such that as market prices decrease, any expected profit margins on materials subject to the rebate floor are reduced or eliminated.

Fluctuation in energy prices also affects our business. Significant variations in the price of methane gas, electricity and other energy-related products that are marketed and sold by our landfill gas recovery operations can result in corresponding significant impact to our revenue from yield from such operations. Additionally, we provide specialized disposal services for oil and gas exploration and production operations through our Energy Services business. Demand for these services may decrease if drilling activity slows due to changes in oil and gas prices, such as the pronounced recent price decreases. Any of the commodity prices to which we are subject may fluctuate substantially and without notice in the future.

Changes in regulations applicable to oil and gas drilling and production could adversely affect our Energy Services business.

Energy Services business demand may also be adversely affected if drilling activity slows due to industry conditions beyond our control, in addition to changes in oil and gas prices. Changes in laws or government regulations regarding GHG emissions from oil and gas operations and/or hydraulic fracturing could increase our customers' costs of doing business and reduce oil and gas exploration and production by customers. Recently, there has been increased attention from the public, some states and the EPA to the alleged potential for hydraulic fracturing to impact drinking water supplies. There is also heightened regulatory focus on emissions of methane that occur during drilling and transportation of natural gas, as well as protective disposal of drilling residuals. Increased regulation of oil and gas exploration and production and new rules regarding the treatment and disposal of wastes associated with exploration and production operations could increase our costs to provide oilfield services and reduce our margins and revenue from such services.

Increasing customer preference for alternatives to landfill disposal could reduce our landfill volumes and cause our revenues and operating results to decline.

Our customers are increasingly diverting waste to alternatives to landfill disposal, such as recycling and composting, while also working to reduce the amount of waste they generate. In addition, several state and local governments mandate recycling and waste reduction at the source and prohibit the disposal of certain types of waste, such as yard and food waste, at landfills or waste-to-energy facilities. Where such organic waste is not banned from the landfill or waste-to-energy facility, some large customers such as grocery stores and restaurants are choosing to divert their organic waste from landfills. Zero-waste goals (sending no waste to the landfill) have been set by many of North America's largest companies. Although such mandates and initiatives help to protect our environment, these developments reduce the volume of waste going to our landfills which may affect the prices that we can charge for landfill disposal. Our landfills currently provide and, together with our divested waste-to-energy facilities, have historically provided our highest income from operations margins. If we are not successful in expanding our service offerings and growing lines of businesses to service waste streams that do not go to landfills and to provide services for customers that wish to reduce waste entirely, then our revenues and operating results may decline. Additionally, despite the development of new service offerings and lines of business, it is possible that our revenues and our income from operations margins could be negatively affected due to disposal alternatives.

Developments in technology could trigger a fundamental change in the waste management industry, as waste streams are increasingly viewed as a resource, which may adversely impact volumes at our landfills and waste-to-energy facilities and our profitability.

Our Company and others have recognized the value of the traditional waste stream as a potential resource. Research and development activities are on-going to provide disposal alternatives that maximize the value of waste, including using waste as a source for renewable energy and other valuable by-products. We and many other companies are investing in these technologies. It is possible that such investments and technological advancements may reduce the cost of waste disposal or the value of landfill gas recovery to a level below our costs and may reduce the demand for landfill space. As a result, our revenues and margins could be adversely affected due to advancements in disposal alternatives.

If we are not able to develop new service offerings and protect intellectual property, or if a competitor develops or obtains exclusive rights to a breakthrough technology, our financial results may suffer.

Our existing and proposed service offerings to customers may require that we invest in, develop or license, and protect, new technologies. Research and development of new technologies and investment in emerging technologies often requires significant spending that may divert capital investment away from our traditional business operations. We may experience difficulties or delays in the research, development, production and/or marketing of new products and services or emerging technologies in which we have invested, which may

negatively impact our operating results and prevent us from recouping or realizing a return on the investments required to bring new products and services to market. Further, protecting our intellectual property rights and combating unlicensed copying and use of intellectual property is difficult, and any inability to obtain or protect new technologies could impact our services to customers and development of new revenue sources. Our Company and others are increasingly focusing on new technologies that provide alternatives to traditional disposal and maximize the resource value of waste. If a competitor develops or obtains exclusive rights to a "breakthrough technology" that provides a revolutionary change in traditional waste management, or if we have inferior intellectual property to our competitors, our financial results may suffer.

Our business depends on our reputation and the value of our brand.

We believe we have developed a reputation for high-quality service, reliability and social and environmental responsibility, and we believe our brand symbolizes these attributes. The Waste Management brand name, trademarks and logos and our reputation are powerful sales and marketing tools, and we devote significant resources to promoting and protecting them. Adverse publicity, whether or not justified, relating to activities by our operations, employees or agents could tarnish our reputation and reduce the value of our brand. Damage to our reputation and loss of brand equity could reduce demand for our services. This reduction in demand, together with the dedication of time and expense necessary to defend our reputation, could have an adverse effect on our financial condition, liquidity and results of operations, as well as require additional resources to rebuild our reputation and restore the value of our brand.

Our operations are subject to environmental, health and safety laws and regulations, as well as contractual obligations that may result in significant liabilities.

There is risk of incurring significant environmental liabilities in the use, treatment, storage, transfer and disposal of waste materials. Under applicable environmental laws and regulations, we could be liable if our operations cause environmental damage to our properties or to the property of other landowners, particularly as a result of the contamination of air, drinking water or soil. Under current law, we could also be held liable for damage caused by conditions that existed before we acquired the assets or operations involved. This risk is of particular concern as we execute our growth strategy, partially though acquisitions, because we may be unsuccessful in identifying and assessing potential liabilities during our due diligence investigations. Further, the counterparties in such transactions may be unable to perform their indemnification obligations owed to us. Additionally, we could be liable if we arrange for the transportation, disposal or treatment of hazardous substances that cause environmental contamination, or if a predecessor owner made such arrangements and, under applicable law, we are treated as a successor to the prior owner. Any substantial liability for environmental damage could have a material adverse effect on our financial condition, results of operations and cash flows.

In the ordinary course of our business, we have in the past, we are currently, and we may in the future, become involved in legal and administrative proceedings relating to land use and environmental laws and regulations. These include proceedings in which:

- agencies of federal, state, local or foreign governments seek to impose liability on us under applicable statutes, sometimes involving civil or criminal penalties for violations, or to revoke or deny renewal of a permit we need; and
- local communities, citizen groups, landowners or governmental agencies oppose the issuance of a permit or approval we need, allege violations of the permits under which we operate or laws or regulations to which we are subject, or seek to impose liability on us for environmental damage.

We generally seek to work with the authorities or other persons involved in these proceedings to resolve any issues raised. If we are not successful, the adverse outcome of one or more of these proceedings could result in, among other things, material increases in our costs or liabilities as well as material charges for asset impairments.

Further, we often enter into agreements with landowners imposing obligations on us to meet certain regulatory or contractual conditions upon site closure or upon termination of the agreements. Compliance with these agreements inherently involves subjective determinations and may result in disputes, including litigation. Costs to remediate or restore the condition of closed sites may be significant.

General economic conditions can directly and adversely affect our revenues and our income from operations margins.

Our business is directly affected by changes in national and general economic factors that are outside of our control, including consumer confidence, interest rates and access to capital markets. A weak economy generally results in decreased consumer spending and decreases in volumes of waste generated, which decreases our revenues. A weak market for consumer goods can significantly decrease demand by paper mills for recycled corrugated cardboard used in packaging; such decrease in demand can negatively impact commodity prices and our operating income and cash flows. In addition, we have a relatively high fixed-cost structure, which is difficult to quickly adjust to match shifting volume levels. Consumer uncertainty and the loss of consumer confidence may limit the number or amount of services requested by customers. Economic conditions may also limit our ability to implement our pricing strategy. For example, many of our contracts have price adjustment provisions that are tied to an index such as the Consumer Price Index, and our costs may increase in excess of the increase, if any, in the Consumer Price Index.

Some of our customers, including governmental entities, have suffered financial difficulties affecting their credit risk, which could negatively impact our operating results.

We provide service to a number of governmental entities and municipalities, some of which have suffered significant financial difficulties in recent years, due in part to reduced tax revenue and/or high cost structures. Some of these entities could be unable to pay amounts owed to us or renew contracts with us at previous or increased rates.

Many non-governmental customers have also suffered serious financial difficulties, including bankruptcy in some cases. Purchasers of our recyclable commodities can be particularly vulnerable to financial difficulties in times of commodity price volatility. The inability of our customers to pay us in a timely manner or to pay increased rates, particularly large national accounts, could negatively affect our operating results.

In addition, the financial difficulties of municipalities could result in a decline in investors' demand for municipal bonds and a correlating increase in interest rates. As of December 31, 2014, we had $501 million of variable-rate tax-exempt bonds that are subject to repricing on either a daily or a weekly basis through a remarketing process and $638 million of tax-exempt bonds with term interest rate periods that are subject to repricing within the next twelve months. If the weakness in the municipal debt market results in repricing of our tax-exempt bonds at significantly higher interest rates, we will incur increased interest expenses that may negatively affect our operating results and cash flows.

We may be unable to obtain or maintain required permits or to expand existing permitted capacity of our landfills, which could decrease our revenue and increase our costs.

Our ability to meet our financial and operating objectives depends in part on our ability to obtain and maintain the permits necessary to operate landfill sites. Permits to build, operate and expand solid waste management facilities, including landfills and transfer stations, have become more difficult and expensive to obtain and maintain. Permits often take years to obtain as a result of numerous hearings and compliance requirements with regard to zoning, environmental and other regulations. These permits are also often subject to resistance from citizen or other groups and other political pressures. Local communities and citizen groups, adjacent landowners or governmental agencies may oppose the issuance of a permit or approval we may need, allege violations of the permits under which we currently operate or laws or regulations to which we are subject,

or seek to impose liability on us for environmental damage. Responding to these challenges has, at times, increased our costs and extended the time associated with establishing new facilities and expanding existing facilities. In addition, failure to receive regulatory and zoning approval may prohibit us from establishing new facilities or expanding existing facilities. Our failure to obtain the required permits to operate our landfills could have a material adverse impact on our consolidated financial condition, results of operations and cash flows.

Significant shortages in diesel fuel supply or increases in diesel fuel prices will increase our operating expenses.

The price and supply of diesel fuel can fluctuate significantly based on international, political and economic circumstances, as well as other factors outside our control, such as actions by the Organization of the Petroleum Exporting Countries ("OPEC") and other oil and gas producers, regional production patterns, weather conditions and environmental concerns. Average diesel fuel prices decreased in both 2014 and 2013 but increased in 2012. We need diesel fuel to run a significant portion of our collection and transfer trucks and our equipment used in our landfill operations. Supply shortages could substantially increase our operating expenses. Additionally, if fuel prices increase, our direct operating expenses increase and many of our vendors raise their prices as a means to offset their own rising costs. We have in place a fuel surcharge program, designed to offset increased fuel expenses; however, we may not be able to pass through all of our increased costs and some customers' contracts prohibit any pass-through of the increased costs. Additionally, we recently settled litigation that pertained to our fuel and environmental charges included on our invoices, and we may face similar claims in the future. See Note 11 of the Consolidated Financial Statements for more information. Regardless of any offsetting surcharge programs, increased operating costs due to higher diesel fuel prices will decrease our income from operations margins.

We are expanding our compressed natural gas ("CNG") truck fleet, which makes us increasingly dependent on the availability of CNG and CNG fueling infrastructure and vulnerable to CNG prices.

We currently operate the largest CNG fleet in the waste industry, and we plan to continue to transition a significant portion of our collection fleet from diesel fuel to CNG. However, CNG is not yet broadly available in North America; as a result, we have constructed and operate natural gas fueling stations, some of which also serve the public or pre-approved third parties. Until the public and third parties in North America broadly adopt CNG, which may not be on the timetable we anticipate, it will remain necessary for us to invest capital in CNG fueling infrastructure in order to power our CNG fleet. Concerns have been raised about the potential for emissions from fueling infrastructure that serve natural gas-fueled vehicles. New regulation of, or restrictions on, CNG fueling infrastructure or reductions in associated tax incentives could increase our operating costs. Additionally, fluctuations in the price and supply of CNG could substantially increase our operating expenses, and a reduction in the existing cost differential between CNG and diesel fuel could materially reduce the benefits we anticipate from our investment in CNG vehicles. Further, our fuel surcharge program is currently indexed to diesel fuel prices, and price fluctuations for CNG may not effectively be recovered by this program.

We are increasingly dependent on technology in our operations and if our technology fails, our business could be adversely affected.

We may experience problems with the operation of our current information technology systems or the technology systems of third parties on which we rely, as well as the development and deployment of new information technology systems, that could adversely affect, or even temporarily disrupt, all or a portion of our operations until resolved. Inabilities and delays in implementing new systems can also affect our ability to realize projected or expected cost savings. Additionally, any systems failures could impede our ability to timely collect and report financial results in accordance with applicable laws and regulations.

A cybersecurity incident could negatively impact our business and our relationships with customers.

We use computers in substantially all aspects of our business operations. We also use mobile devices, social networking and other online activities to connect with our employees and our customers. Such uses give rise to cybersecurity risks, including security breach, espionage, system disruption, theft and inadvertent release of information. Our business involves the storage and transmission of numerous classes of sensitive and/or confidential information and intellectual property, including customers' personal information, private information about employees, and financial and strategic information about the Company and its business partners. We also rely on a Payment Card Industry compliant third party to protect our customers' credit card information. Further, as the Company pursues its strategy to grow through acquisitions and to pursue new initiatives that improve our operations and cost structure, the Company is also expanding and improving its information technologies, resulting in a larger technological presence and corresponding exposure to cybersecurity risk. If we fail to assess and identify cybersecurity risks associated with acquisitions and new initiatives, we may become increasingly vulnerable to such risks. Additionally, while we have implemented measures to prevent security breaches and cyber incidents, our preventative measures and incident response efforts may not be entirely effective. The theft, destruction, loss, misappropriation, or release of sensitive and/or confidential information or intellectual property, or interference with our information technology systems or the technology systems of third parties on which we rely, could result in business disruption, negative publicity, brand damage, violation of privacy laws, loss of customers, potential liability and competitive disadvantage.

Our operating expenses could increase as a result of labor unions organizing or changes in regulations related to labor unions.

Labor unions continually attempt to organize our employees, and these efforts will likely continue in the future. Certain groups of our employees are currently represented by unions, and we have negotiated collective bargaining agreements with these unions. Additional groups of employees may seek union representation in the future, and, if successful, the negotiation of collective bargaining agreements could divert management attention and result in increased operating expenses and lower net income. If we are unable to negotiate acceptable collective bargaining agreements, our operating expenses could increase significantly as a result of work stoppages, including strikes. Any of these matters could adversely affect our financial condition, results of operations and cash flows.

We could face significant liabilities for withdrawal from multiemployer pension plans.

We are a participating employer in a number of trustee-managed multiemployer, defined benefit pension plans for employees who are covered by collective bargaining agreements. The risks of participating in these multiemployer plans are different from single-employer plans in that (i) assets contributed to the multiemployer plan by one employer may be used to provide benefits to employees or former employees of other participating employers; (ii) if a participating employer stops contributing to the plan, the unfunded obligations of the plan may be required to be assumed by the remaining participating employers and (iii) if we choose to stop participating in any of our multiemployer plans, we may be required to pay those plans a withdrawal amount based on the underfunded status of the plan.

In connection with our ongoing renegotiations of various collective bargaining agreements, we may discuss and negotiate for the complete or partial withdrawal from one or more of these pension plans. Further, business events, such as the discontinuation or nonrenewal of a customer contract, the decertification of a union, or relocation, reduction or discontinuance of certain operations, which result in the decline of Company contributions to a multiemployer pension plan, could trigger a partial or complete withdrawal. In the event of a withdrawal, we may incur expenses associated with our obligations for unfunded vested benefits at the time of the withdrawal. Various factors affect our liabilities for a plan's underfunded status, including the numbers of retirees and active workers in the plan, the ongoing solvency of participating employers, the investment returns obtained on plan assets, and the ratio of our historical participation in such plan to all employers' historical participation; depending on such factors, future withdrawals could have a material adverse effect on results of

operations for a particular reporting period. We reflect any withdrawal liability as an operating expense in our statement of operations and as a liability on our balance sheet.

We have previously withdrawn several employee bargaining units from underfunded multiemployer pension plans, and we recognized related expenses of $4 million in 2014, $5 million in 2013 and $10 million in 2012. We are still negotiating and litigating final resolutions of our withdrawal liability for certain withdrawals, which could be higher than the charges we have recognized.

Our business is subject to operational and safety risks, including the risk of personal injury to employees and others.

Providing environmental and waste management services, including constructing and operating landfills, involves risks such as truck accidents, equipment defects, malfunctions and failures, mass instability or waste slides, severe weather and natural disasters, which could potentially result in releases of hazardous materials and odors, injury or death of employees and others, or a need to shut down or reduce operation of our facilities while remedial actions are undertaken. Additionally, we have built and are operating CNG fueling stations to serve our growing fleet of CNG trucks, some of which also serve the public or third parties. Operation of fueling stations and landfill gas collection and control systems involves additional risks of fire and explosion. All of these risks expose us to potential liability for pollution and other environmental damages, personal injury, loss of life, business interruption, and property damage or destruction.

While we seek to minimize our exposure to such risks through comprehensive training and compliance programs, as well as vehicle and equipment maintenance programs, if we were to incur substantial liabilities in excess of any applicable insurance, our business, results of operations and financial condition could be adversely affected. Any such incidents could also tarnish our reputation and reduce the value of our brand.

We have substantial financial assurance and insurance requirements, and increases in the costs of obtaining adequate financial assurance, or the inadequacy of our insurance coverages, could negatively impact our liquidity and increase our liabilities.

The amount of insurance we are required to maintain for environmental liability is governed by statutory requirements. We believe that the cost for such insurance is high relative to the coverage it would provide and, therefore, our coverages are generally maintained at the minimum statutorily-required levels. We face the risk of incurring additional costs for environmental damage if our insurance coverage is ultimately inadequate to cover those damages. We also carry a broad range of other insurance coverages that are customary for a company our size. We use these programs to mitigate risk of loss, thereby enabling us to manage our self-insurance exposure associated with claims. The inability of our insurers to meet their commitments in a timely manner and the effect of significant claims or litigation against insurance companies may subject us to additional risks. To the extent our insurers are unable to meet their obligations, or our own obligations for claims are more than we estimated, there could be a material adverse effect to our financial results.

In addition, to fulfill our financial assurance obligations with respect to variable-rate tax-exempt debt, final capping, closure, post-closure and environmental remediation obligations, we generally obtain letters of credit or surety bonds, rely on insurance, including captive insurance, fund trust and escrow accounts or rely upon WM financial guarantees. We currently have in place all financial assurance instruments necessary for our operations. Our financial position, which can be negatively affected by asset impairments, our credit profile and general economic factors, may adversely affect the cost of our current financial assurance instruments, and changes in regulations may impose stricter requirements on the types of financial assurance that will be accepted. Additionally, in the event we are unable to obtain sufficient surety bonding, letters of credit or third-party insurance coverage at reasonable cost, or one or more states cease to view captive insurance as adequate coverage, we would need to rely on other forms of financial assurance. It is possible that we could be forced to deposit cash to collateralize our obligations. Other forms of financial assurance could be more expensive to

obtain, and any requirements to use cash to support our obligations would negatively impact our liquidity and capital resources and could affect our ability to meet our obligations as they become due.

We may record material charges against our earnings due to any number of events that could cause impairments to our assets.

In accordance with U.S. Generally Accepted Accounting Principles ("GAAP"), we capitalize certain expenditures and advances relating to disposal site development, expansion projects, acquisitions, software development costs and other projects. Events that could, in some circumstances, lead to an impairment include, but are not limited to, shutting down a facility or operation or abandoning a development project or the denial of an expansion permit. Additionally, declining waste volumes and development of, and customer preference for, alternatives to traditional waste disposal could warrant asset impairments. If we determine an asset or expansion project is impaired, we will charge against earnings any unamortized capitalized expenditures and advances relating to such asset or project reduced by any portion of the capitalized costs that we estimate will be recoverable, through sale or otherwise. We also carry a significant amount of goodwill on our Consolidated Balance Sheet, which is required to be assessed for impairment annually, and more frequently in the case of certain triggering events. We may be required to incur charges against earnings if such impairment tests indicate that the fair value of a reporting unit is below its carrying value. Any such charges could have a material adverse effect on our results of operations.

Our capital requirements and our business strategy could increase our expenses, cause us to change our growth and development plans, or fail to maintain our desired credit profile.

If economic conditions or other risks and uncertainties cause a significant reduction in our cash flows from operations, we may reduce or suspend capital expenditures, growth and acquisition activity, implementation of our business strategy, dividend declarations or share repurchases. We may choose to incur indebtedness to pay for these activities, although our access to capital markets is not assured and we may not be able to incur indebtedness at a cost that is consistent with current borrowing rates. We also may need to incur indebtedness to refinance scheduled debt maturities, and it is possible that the cost of financing could increase significantly, thereby increasing our expenses and decreasing our net income. Further, our ability to execute our financial strategy and our ability to incur indebtedness is somewhat dependent upon our ability to maintain investment grade ratings on our senior debt. The credit rating process is contingent upon our credit profile, as well as a number of other factors, many of which are beyond our control, including methodologies established and interpreted by third party rating agencies. If we were unable to maintain our investment grade credit ratings in the future, our interest expense would increase and our ability to obtain financing on favorable terms could be adversely affected.

Additionally, we have $1.4 billion of debt as of December 31, 2014 that is exposed to changes in market interest rates within the next 12 months because of the combined impact of our tax-exempt bonds and borrowings outstanding under our Canadian term loan. If interest rates increase, our interest expense would also increase, lowering our net income and decreasing our cash flow.

We may use our $2.25 billion revolving credit facility and our C$150 million Canadian revolving credit facility to meet our cash needs, to the extent available, until maturity in July 2018 and November 2017, respectively. As of December 31, 2014, we had no outstanding borrowings and $785 million of letters of credit issued and supported by the $2.25 billion revolving credit facility, leaving an unused and available credit capacity of $1,465 million, and we had no borrowings under the Canadian revolving credit facility. In the event of a default under our credit facilities, we could be required to immediately repay all outstanding borrowings and make cash deposits as collateral for all obligations the facility supports, which we may not be able to do. Additionally, any such default could cause a default under many of our other credit agreements and debt instruments. Without waivers from lenders party to those agreements, any such default would have a material adverse effect on our ability to continue to operate.

The adoption of climate change legislation or regulations restricting emissions of "greenhouse gases" could increase our costs to operate.

Our landfill operations emit methane, identified as a GHG. There are a number of legislative and regulatory efforts at the state, regional and federal levels to curtail the emission of GHGs to ameliorate the effect of climate change. Should comprehensive federal climate change legislation be enacted, we expect it could impose costs on our operations that might not be offset by the revenue increases associated with our lower-carbon service options, the materiality of which we cannot predict. In 2010, the EPA published a Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, which expanded the EPA's federal air permitting authority to include the six GHGs. The rule sets new thresholds for GHG emissions that define when Clean Air Act permits are required. The current requirements of these rules have not significantly affected our operations or cash flows, due to the tailored thresholds and exclusions of certain emissions from regulation. However, if certain changes to these regulations were enacted, such as lowering the thresholds or the inclusion of biogenic emissions, then the amendments could have an adverse effect on our operating costs.

The seasonal nature of our business, severe weather events and "one-time" special projects cause our results to fluctuate, and prior performance is not necessarily indicative of our future results.

Our operating revenues tend to be somewhat higher in summer months, primarily due to the higher volume of construction and demolition waste. The volumes of industrial and residential waste in certain regions where we operate also tend to increase during the summer months. Our second and third quarter revenues and results of operations typically reflect these seasonal trends. The operating results of our first quarter often reflect higher repair and maintenance expenses because we rely on the slower winter months, when waste flows are generally lower, to perform scheduled maintenance at our waste-to-energy facilities.

Service disruptions caused by severe storms, extended periods of inclement weather or climate extremes resulting from climate change can significantly affect the operating results of the affected Areas. On the other hand, certain destructive weather conditions that tend to occur during the second half of the year, such as the hurricanes that most often impact our operations in the Southern and Eastern U.S., can actually increase our revenues in the areas affected. While weather-related and other "one-time" occurrences can boost revenues through additional work for a limited time span, as a result of significant start-up costs and other factors, such revenue sometimes generates earnings at comparatively lower margins.

For these and other reasons, operating results in any interim period are not necessarily indicative of operating results for an entire year, and operating results for any historical period are not necessarily indicative of operating results for a future period. Our stock price may be negatively impacted by interim variations in our results.

We could be subject to significant fines and penalties, and our reputation could be adversely affected, if our businesses, or third parties with whom we have a relationship, were to fail to comply with United States or foreign laws or regulations.

Some of our projects and new business may be conducted in countries where corruption has historically been prevalent. It is our policy to comply with all applicable anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act, and with applicable local laws of the foreign countries in which we operate, and we monitor our local partners' compliance with such laws as well. Our reputation may be adversely affected if we were reported to be associated with corrupt practices or if we or our local partners failed to comply with such laws. Such damage to our reputation could adversely affect our ability to grow our business. Additionally, violations of such laws could subject us to significant fines and penalties.

Currently pending or future litigation or governmental proceedings could result in material adverse consequences, including judgments or settlements.

We are involved in civil litigation in the ordinary course of our business and from time-to-time are involved in governmental proceedings relating to the conduct of our business. The timing of the final resolutions to these types of matters is often uncertain. Additionally, the possible outcomes or resolutions to these matters could include adverse judgments or settlements, either of which could require substantial payments, adversely affecting our liquidity.

We may experience adverse impacts on our reported results of operations as a result of adopting new accounting standards or interpretations.

Our implementation of and compliance with changes in accounting rules, including new accounting rules and interpretations, could adversely affect our reported financial position or operating results or cause unanticipated fluctuations in our reported operating results in future periods.

Item 1B. ***Unresolved Staff Comments.***

None.

Item 2. ***Properties.***

Our principal executive offices are in Houston, Texas, where we lease approximately 380,000 square feet under leases expiring through 2020. We also have administrative offices in Arizona, Illinois, Texas, Connecticut and India. We own or lease real property in most locations where we have operations or administrative functions. We have operations in all 50 states. We also have operations in the District of Columbia and throughout Canada.

Our principal property and equipment consists of land (primarily landfills and other disposal facilities, transfer stations and bases for collection operations), buildings, vehicles and equipment. We believe that our vehicles, equipment, and operating properties are adequately maintained and sufficient for our current operations. However, we expect to continue to make investments in additional equipment and property for expansion, for replacement of assets, and in connection with our strategic growth plans. For more information, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations included within this report.

The following table summarizes our various operations at December 31 for the periods noted:

	2014	2013
Landfills:		
Owned	202	209
Operated through lease agreements	17	22
Operated through contractual agreements	33	36
	252	267
Transfer stations	298	315
Material recovery facilities	126	120
Secondary processing facilities	—	5
Waste-to-energy facilities	—	16
Independent power production plants	—	4

The following table provides certain information regarding the 219 landfills owned or operated through lease agreements and a count of landfills operated through contractual agreements, transfer stations and material recovery facilities as of December 31, 2014:

	Landfills Owned or Operated Through Lease Agreements				Landfills Operating Through Contractual Agreements	Transfer Stations	Material Recovery Facilities
	Landfills	Total Acreage(a)	Permitted Acreage(b)	Expansion Acreage(c)			
Solid Waste	219	138,567	35,637	1,210	33	298	126

(a) "Total acreage" includes permitted acreage, expansion acreage, other acreage available for future disposal that has not been permitted, buffer land and other land owned or leased by our landfill operations.

(b) "Permitted acreage" consists of all acreage at the landfill encompassed by an active permit to dispose of waste.

(c) "Expansion acreage" consists of unpermitted acreage where the related expansion efforts meet our criteria to be included as expansion airspace. A discussion of the related criteria is included within Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — *Critical Accounting Estimates and Assumptions* included herein.

Item 3. ***Legal Proceedings.***

Information regarding our legal proceedings can be found under the *Environmental Matters* and *Litigation* sections of Note 11 in the Consolidated Financial Statements included in this report.

Item 4. ***Mine Safety Disclosures.***

Information concerning mine safety and other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K is included in Exhibit 95 to this annual report.

PART II

Item 5. ***Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.***

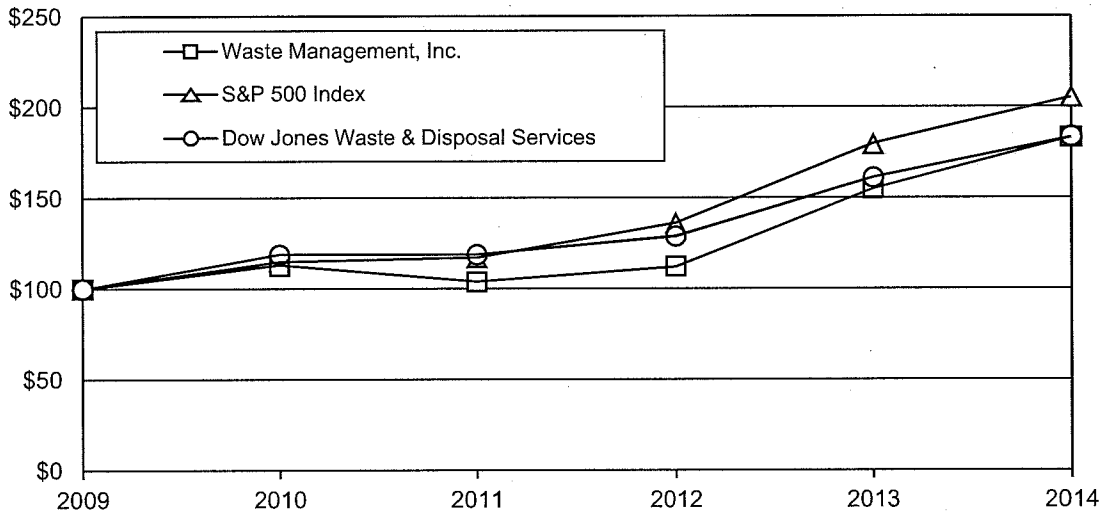
Our common stock is traded on the New York Stock Exchange ("NYSE") under the symbol "WM." The following table sets forth the range of the high and low per-share sales prices for our common stock as reported on the NYSE:

	High	Low
2013		
First Quarter	$39.26	$33.70
Second Quarter	42.99	37.97
Third Quarter	43.58	39.60
Fourth Quarter	46.37	40.29
2014		
First Quarter	$44.80	$40.36
Second Quarter	44.87	41.05
Third Quarter	47.67	43.50
Fourth Quarter	51.94	45.50
2015		
First Quarter (through February 6, 2015)	$53.49	$50.82

On February 6, 2015, the closing sales price as reported on the NYSE was $52.44 per share. The number of holders of record of our common stock on February 6, 2015 was 11,821.

The graph below shows the relative investment performance of Waste Management, Inc. common stock, the Dow Jones Waste & Disposal Services Index and the S&P 500 Index for the last five years, assuming reinvestment of dividends at date of payment into the common stock. The graph is presented pursuant to SEC rules and is not meant to be an indication of our future performance.

Comparison of Cumulative Five Year Total Return



	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14
Waste Management, Inc.	$100	$113	$104	$112	$155	$183
S&P 500 Index	$100	$115	$117	$136	$180	$205
Dow Jones Waste & Disposal Services Index	$100	$119	$119	$129	$161	$183

Our quarterly dividends have been declared and approved by our Board of Directors and paid in accordance with our financial plans. Cash dividends declared and paid were $693 million in 2014, or $1.50 per common share, $683 million in 2013, or $1.46 per common share and $658 million in 2012, or $1.42 per common share.

In February 2015, we announced that our Board of Directors expects to increase the quarterly dividend from $0.375 to $0.385 per share for dividends declared in 2015. However, all future dividend declarations are at the discretion of the Board of Directors and depend on various factors, including our net earnings, financial condition, cash required for future business plans and other factors the Board may deem relevant.

Our share repurchases have been made in accordance with financial plans approved by our Board of Directors. In February 2014, the Board of Directors authorized up to $600 million in future share repurchases. During the third quarter of 2014, we entered into accelerated share repurchase ("ASR") agreements with two financial institutions to repurchase an aggregate of $600 million of our common stock. At the beginning of the ASR repurchase periods, we delivered the $600 million in cash and received 9.6 million shares, which represented 70% of the shares expected to be repurchased based on then-current market prices. These agreements were completed in February 2015 and we received approximately 2.8 million additional shares. The final weighted average per share purchase price for the completed ASR agreements was $48.58.

We announced in February 2015 that the Board of Directors has authorized up to $1 billion in future share repurchases. Any future share repurchases will be made at the discretion of management, and will depend on factors similar to those considered by the Board in making dividend declarations.

Item 6. ***Selected Financial Data.***

The information below was derived from the audited Consolidated Financial Statements included in this report and in previous annual reports we filed with the SEC. This information should be read together with those Consolidated Financial Statements and the notes thereto. The adoption of new accounting pronouncements and certain reclassifications impact the comparability of the financial information presented below. These historical results are not necessarily indicative of the results to be expected in the future.

	Years Ended December 31,				
	2014(a)	2013(a)	2012(a)	2011	2010
	(In millions, except per share amounts)				
Statement of Operations Data:					
Operating revenues	$13,996	$13,983	$13,649	$13,378	$12,515
Costs and expenses:					
Operating	9,002	9,112	8,879	8,541	7,824
Selling, general and administrative	1,481	1,468	1,472	1,551	1,461
Depreciation and amortization	1,292	1,333	1,297	1,229	1,194
Restructuring	82	18	67	19	(2)
Goodwill impairments	10	509	4	1	—
(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items	(170)	464	79	9	(78)
	11,697	12,904	11,798	11,350	10,399
Income from operations	2,299	1,079	1,851	2,028	2,116
Other expense, net	(548)	(585)	(548)	(508)	(485)
Income before income taxes	1,751	494	1,303	1,520	1,631
Provision for income taxes	413	364	443	511	629
Consolidated net income	1,338	130	860	1,009	1,002
Less: Net income attributable to noncontrolling interests	40	32	43	48	49
Net income attributable to Waste Management, Inc.	$ 1,298	$ 98	$ 817	$ 961	$ 953
Basic earnings per common share	$ 2.80	$ 0.21	$ 1.76	$ 2.05	$ 1.98
Diluted earnings per common share	$ 2.79	$ 0.21	$ 1.76	$ 2.04	$ 1.98
Cash dividends declared per common share	$ 1.50	$ 1.46	$ 1.42	$ 1.36	$ 1.26
Balance Sheet Data (at end of period):					
Working capital (deficit)	$ 156	$ (515)	$ (613)	$ (689)	$ (3)
Goodwill and other intangible assets, net	6,180	6,599	6,688	6,672	6,021
Total assets	21,412	22,603	23,097	22,569	21,476
Debt, including current portion	9,435	10,226	9,916	9,756	8,907
Total Waste Management, Inc. stockholders' equity	5,866	5,707	6,354	6,070	6,260
Total equity	5,889	6,002	6,675	6,390	6,591

(a) For more information regarding these financial data, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations included in this report. For disclosures associated with the impact of the adoption of new accounting pronouncements on the comparability of this information, see Note 2 to the Consolidated Financial Statements.

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations.***

This section includes a discussion of our results of operations for the three years ended December 31, 2014. This discussion may contain forward-looking statements that anticipate results based on management's plans that are subject to uncertainty. We discuss in more detail various factors that could cause actual results to differ materially from expectations in Item 1A, *Risk Factors*. The following discussion should be read in light of that disclosure and together with the Consolidated Financial Statements and the notes to the Consolidated Financial Statements.

Overview

Our Company's goals are targeted at serving our customers, our employees, the environment, the communities in which we work and our stockholders, and achievement of our goals is intended to meet the needs of a changing industry. Our Company and others have recognized the value of the traditional waste stream as a potential resource. Increasingly, customers want more of their waste materials recovered, while waste streams are becoming more complex, and our aim is to address, and anticipate, the current, expanding and evolving needs of our customers. Accomplishment of our goals will grow our Company and allow us to meet the needs of our customers and communities as they, too, Think Green®.

We believe we are uniquely equipped to meet the challenges of the changing waste industry and our customers' waste management needs, both today and as we work together to envision and create a more sustainable future. As the waste industry leader, we have the expertise necessary to collect and handle our customers' waste efficiently and responsibly by delivering environmental performance — maximizing resource value, while minimizing environmental impact — so that both our economy and our environment can thrive. Drawing on our resources and experience, we also pursue projects and initiatives that benefit the waste industry, the customers and communities we serve and the environment.

We remain dedicated to providing long-term value to our stockholders by successfully executing our strategy: to know and service our customers better than anyone in our industry, to extract more value from the materials we manage, and to innovate and optimize our business. We plan to accomplish our strategic goals through competitive advantages derived from a "best cost" structure achieved through operational improvements and differentiation in our industry, driven by capitalizing on our extensive, well-placed network of assets. While we will continue to monitor emerging diversion technologies that may generate additional value, our current attention will be on improving existing diversion technologies, such as recycling operations.

In pursuit of these long-term goals, we recognize that we must grow the business, and do so as efficiently and cost effectively as possible. Accordingly, we are focusing on the following five key company priorities:

- Customers: provide the best possible service to our customers;
- Traditional Waste Business: continuously improve our operational performance;
- Growth: take advantage of opportunities in our current business, as well as considering attractive acquisition opportunities;
- Yield Management: remain focused on price leadership while considering competitive dynamics; and
- Costs: minimize both operating costs and selling, general & administrative expenses.

We believe that execution of our strategy through these key priorities will drive continued financial performance and leadership in a dynamic industry.

Notable items of our 2014 financial results include:

- Revenues of $13,996 million in 2014 compared with $13,983 million in 2013, an increase of $13 million. This increase in revenues is primarily attributable to (i) positive revenue growth from

yield on our collection and disposal operations of $262 million, or 2.3%, and (ii) revenue from acquired operations, particularly the RCI operations acquired in July 2013, which increased revenues by $77 million. Substantially offsetting these increases were (i) lower volumes which decreased our revenues by $188 million; (ii) divestitures of our Puerto Rico operations and certain other collection and landfill assets as well as the December 2014 sale of our Wheelabrator business, which decreased our revenues by $90 million and (iii) foreign currency translation of $61 million related to our Canadian operations;

- Operating expenses of $9,002 million in 2014, or 64.3% of revenues, compared with $9,112 million, or 65.2% of revenues, in 2013. This decrease of $110 million is largely driven by our decline in collection volumes and divestitures, both of which affect several of our operating expense categories, particularly labor costs, transfer and disposal costs, and fuel costs;
- Selling, general and administrative expenses of $1,481 million in 2014, or 10.6% of revenues, compared with $1,468 million, or 10.5% of revenues, in 2013. This increase of $13 million is driven mainly by higher litigation settlements;
- Restructuring costs of $82 million in 2014 compared to $18 million in 2013. The 2014 restructuring charges relate to the consolidation and realignment of several Corporate functions. We anticipate saving in excess of $100 million annually from these actions when fully implemented in 2015;
- Income from operations of $2,299 million, or 16.4% of revenues, in 2014 compared with $1,079 million, or 7.7% of revenues, in 2013, the increase of which is primarily attributable to the $519 million gain on the sale of our Wheelabrator business in December 2014 and impairment charges of $355 million recognized in 2014 compared to impairment charges of $981 million recognized in 2013 discussed below;
- Net income attributable to Waste Management, Inc. of $1,298 million, or $2.79 per diluted share for 2014, as compared with $98 million, or $0.21 per diluted share for 2013, the increase of which is primarily attributable to the increase in income from operations discussed above; and
- In 2014, we returned $1,293 million to our shareholders through dividends and share repurchases compared with $922 million in 2013.

The following explanation of certain items that impacted the comparability of our 2014 results with 2013 has been provided to support investors' understanding of our performance. Our 2014 results were affected by the following:

- The recognition of net pre-tax gains of $515 million, which includes the $519 million gain on the sale of our Wheelabrator business. These items had a positive impact of $1.10 on our diluted earnings per share;
- Net income was negatively impacted by the recognition of net pre-tax charges aggregating $420 million primarily related to (i) $272 million of charges to impair our oil and gas producing properties; (ii) $69 million of charges to impair investments related to waste diversion technology companies; (iii) $31 million of litigation settlements; (iv) $10 million of goodwill impairment charges associated with our recycling operations; and (v) other charges to write down the carrying value of assets to their estimated fair values related to certain of our operations. These items had a negative impact of $0.68 on our diluted earnings per share; and
- The recognition of pre-tax restructuring charges of $82 million, which had a negative impact of $0.11 on our diluted earnings per share.

The following explanation of certain items that impacted the comparability of our 2013 results with 2012 has been provided to support investors' understanding of our performance. Our 2013 results were affected by the following:

- The recognition of net pre-tax charges aggregating $1.0 billion, primarily related to (i) a $483 million charge to impair goodwill associated with our Wheelabrator business; (ii) $262 million of charges to

impair certain landfills, primarily in our Eastern Canada Area; (iii) $144 million of charges to write down the carrying value of three waste-to-energy facilities and (iv) $71 million of impairment charges relating to investments in waste diversion technology companies. These items had a negative impact of $1.91 on our diluted earnings per share; and

- The recognition of pre-tax charges aggregating $23 million primarily related to our acquisitions of Greenstar and RCI as well as our 2012 restructuring and other charges. These items had a negative impact of $0.03 on our diluted earnings per share.

Our 2012 results were affected by the following:

- The recognition of pre-tax impairment charges aggregating $109 million attributable primarily to facilities in our medical waste services business and investments in waste diversion technologies. These items had a negative impact of $0.17 on our diluted earnings per share;
- The recognition of pre-tax costs aggregating $82 million primarily related to our July 2012 restructuring as well as integration costs associated with our acquisition of Oakleaf. These items had a negative impact of $0.11 on our diluted earnings per share;

  The recognition of a pre-tax charge of $10 million related to the withdrawal from an underfunded multiemployer pension plan and a pre-tax charge of $6 million resulting from a labor union dispute. These items had a negative impact of $0.02 on our diluted earnings per share; and
- The recognition of pre-tax charges aggregating $10 million related to an accrual for legal reserves and the impact of a decrease in the risk-free discount rate used to measure our environmental remediation liabilities. These items had a negative impact of $0.01 on our diluted earnings per share.

We began the year with a focus on growing earnings and free cash flow, increasing yield and exercising discipline around capital spending and costs, and the Company's execution on these goals translated into strong overall operating results in 2014. Additionally, we increased the amount we returned to stockholders in 2014 compared to 2013 by increasing our dividend and share repurchases. Our fourth quarter results capitalized on the momentum we built throughout the year, delivering growth in income from operations and income from operations margin in our Solid Waste business that we expect to continue into 2015. During the fourth quarter, we also completed our previously announced divestiture of our Wheelabrator business for cash proceeds of $1.95 billion, net of cash divested, subject to certain post-closing adjustments. We intend to use these proceeds in support of our strategic growth plans to drive long-term stockholder value, with our priority being on making accretive acquisitions in our Solid Waste business. We also expect our focus on our five key priorities set forth above — Customers; Traditional Waste Business; Growth; Yield Management and Costs – to translate into continued strong free cash flow to pay our dividends, repurchase shares and make other growth investments, while continuing our commitment to maintain a strong balance sheet.

Free Cash Flow

As is our practice, we are presenting free cash flow, which is a non-GAAP measure of liquidity, in our disclosures because we use this measure in the evaluation and management of our business. We define free cash flow as net cash provided by operating activities, less capital expenditures, plus proceeds from divestitures of businesses (net of cash divested) and other sales of assets. We believe it is indicative of our ability to pay our quarterly dividends, repurchase common stock, fund acquisitions and other investments and, in the absence of refinancings, to repay our debt obligations. Free cash flow is not intended to replace "Net cash provided by operating activities," which is the most comparable GAAP measure. However, we believe free cash flow gives investors useful insight into how we view our liquidity. Nevertheless, the use of free cash flow as a liquidity measure has material limitations because it excludes certain expenditures that are required or that we have committed to, such as declared dividend payments and debt service requirements.

Our calculation of free cash flow and reconciliation to "Net cash provided by operating activities" is shown in the table below (in millions), and may not be calculated the same as similarly-titled measures presented by other companies:

	Years Ended December 31,		
	2014	2013	2012
Net cash provided by operating activities	$ 2,331	$ 2,455	$ 2,295
Capital expenditures	(1,151)	(1,271)	(1,510)
Proceeds from divestitures of businesses and other assets (net of cash divested)	2,253	138	44
Free cash flow	$ 3,433	$ 1,322	$ 829

When comparing our cash flows from operating activities for the year ended December 31, 2014 to the comparable period in 2013, the decrease of $124 million is primarily related to higher income tax payments of $247 million in the current year and a payment of $36 million made in the first quarter of 2014 to terminate our forward starting swaps. These decreases were partially offset by higher cash earnings and favorable working capital changes.

When comparing our cash flows from operating activities for the year ended December 31, 2013 to the comparable period in 2012, the increase of $160 million was primarily related to the impact of higher cash earnings, favorable impacts of working capital changes and the payment of $59 million to settle the liabilities associated with the termination of our forward starting swaps in September 2012. The increase was partially offset by an increase in tax payments of $145 million and the favorable cash receipt of $72 million resulting from the termination of interest rate swaps in April 2012.

The decrease in capital expenditures when comparing the year ended December 31, 2014 to the comparable period in 2013 and comparing the year ended December 31, 2013 to the comparable period in 2012 can generally be attributed to increased focus on capital spending management.

The increase in proceeds from divestitures of businesses and other assets (net of cash divested) for the year ended December 31, 2014 from the comparable period in 2013 is largely driven by (i) the sale of our Wheelabrator business in the fourth quarter of 2014 for $1.95 billion; (ii) the sale of our investment in Shanghai Environment Group ("SEG"), which was part of our Wheelabrator business, in the first quarter of 2014 for $155 million; (iii) the sale of our Puerto Rico operations and certain other collection and landfill assets in the second quarter of 2014, for proceeds of $80 million, including $65 million in cash; (iv) the sale of certain landfill and collection operations in our Eastern Canada Area in the third quarter of 2014 for $39 million and (v) the sale of a vacant facility in the second quarter of 2014 for $19 million.

Pending Acquisition

On September 17, 2014, the Company signed a definitive agreement to acquire the outstanding stock of Deffenbaugh Disposal, Inc., one of the largest privately owned collection and disposal firms in the Midwest. Closing of the acquisition is expected to occur in early 2015, subject to the receipt of regulatory approvals and the satisfaction of customary closing conditions.

Acquisitions

Greenstar, LLC — On January 31, 2013, we paid $170 million inclusive of certain adjustments, to acquire Greenstar, LLC ("Greenstar"). Pursuant to the sale and purchase agreement, up to an additional $40 million is payable to the sellers during the period from 2014 to 2018, of which $20 million is guaranteed. The remaining $20 million of this consideration is contingent based on changes in certain recyclable commodity indexes and

had an estimated fair value at closing of $16 million. Greenstar was an operator of recycling and resource recovery facilities. This acquisition provides the Company's customers with greater access to recycling solutions, having supplemented our extensive nationwide recycling network with the operations of one of the nation's largest private recyclers.

RCI Environnement, Inc. — On July 5, 2013, we paid C$509 million, or $481 million, to acquire substantially all of the assets of RCI Environnement, Inc. ("RCI"), the largest waste management company in Quebec, and certain related entities. Total consideration, inclusive of amounts for estimated working capital, was C$515 million, or $487 million. RCI provides collection, transfer, recycling and disposal operations throughout the Greater Montreal area. The acquired RCI operations complement and expand the Company's existing assets and operations in Quebec.

Divestitures

Divestiture of Wheelabrator Business

On December 19, 2014, we sold our Wheelabrator business to an affiliate of Energy Capital Partners and received cash proceeds of $1.95 billion, net of cash divested, subject to certain post-closing adjustments. We recognized a gain of $519 million on this sale which is included within "(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items" in the Consolidated Statement of Operations. In conjunction with the sale, the Company entered into several agreements to dispose of a minimum number of tons of waste at certain Wheelabrator facilities. These agreements generally provide for fixed volume commitments, with certain market price resets, for up to seven years.

Wheelabrator provides waste-to-energy services and manages waste-to-energy facilities and independent power production plants. Wheelabrator owns or operates 16 waste-to-energy facilities and four independent power production plants. Prior to the sale, our Wheelabrator business constituted a reportable segment for the Company, as discussed in Note 21 to the Consolidated Financial Statements. We concluded that the sale of our Wheelabrator business did not qualify for discontinued operations accounting under current authoritative guidance based on our significant continuing obligations under the long-term waste supply agreements referred to above and in Note 11 to the Consolidated Financial Statements.

Other Divestitures

In the second quarter of 2014, we sold our Puerto Rico operations and certain other collection and landfill assets which were included in Tier 3 and Tier 1, respectively, of our Solid Waste business. We received proceeds from the sale of $80 million, consisting of $65 million of cash and $15 million of preferred stock and recognized a loss on the sale of $25 million.

In the third quarter of 2014, we sold certain landfill and collection operations in our Eastern Canada Area, which were included in Tier 3. We received cash proceeds from the sale of $39 million and recognized a gain of $18 million.

The gain or loss on these divestitures is included within "(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items" in the Consolidated Statement of Operations. The remaining proceeds from divestitures in 2014 were comprised substantially of cash. Additional information on our reportable segments can be found in Note 21 to the Consolidated Financial Statements.

Basis of Presentation of Consolidated Financial Information

Comprehensive Income — In February 2013, the Financial Accounting Standards Board ("FASB") issued amended authoritative guidance associated with comprehensive income, which requires companies to provide

information about the amounts that are reclassified out of accumulated other comprehensive income by component. Additionally, companies are required to present significant amounts reclassified out of accumulated other comprehensive income by the respective line items of net income. The amendment to authoritative guidance associated with comprehensive income was effective for the Company on January 1, 2013. The adoption of this guidance did not have a material impact on our consolidated financial statements. We have presented the information required by this amendment in Note 14 to the Consolidated Financial Statements.

Indefinite-Lived Intangible Assets Impairment Testing — In July 2012, the FASB amended authoritative guidance associated with indefinite-lived intangible assets impairment testing. The amended guidance provides companies the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the indefinite-lived intangible asset is impaired. If, after assessing the totality of events or circumstances, an entity determines it is not more likely than not that the indefinite-lived intangible asset is impaired, then the entity is not required to take further action. The amendments were effective for indefinite-lived intangible impairment tests performed for fiscal years beginning after September 15, 2012; however, early adoption was permitted. The Company's early adoption of this guidance in 2012 did not have an impact on our consolidated financial statements. Additional information on impairment testing can be found in Note 3 to the Consolidated Financial Statements.

Critical Accounting Estimates and Assumptions

In preparing our financial statements, we make numerous estimates and assumptions that affect the accounting for and recognition and disclosure of assets, liabilities, equity, revenues and expenses. We must make these estimates and assumptions because certain information that we use is dependent on future events, cannot be calculated with precision from available data or simply cannot be calculated. In some cases, these estimates are difficult to determine, and we must exercise significant judgment. In preparing our financial statements, the most difficult, subjective and complex estimates and the assumptions that present the greatest amount of uncertainty relate to our accounting for landfills, environmental remediation liabilities, asset impairments, deferred income taxes and reserves associated with our insured and self-insured claims. Each of these items is discussed in additional detail below. Actual results could differ materially from the estimates and assumptions that we use in the preparation of our financial statements.

Landfills

Accounting for landfills requires that significant estimates and assumptions be made regarding (i) the cost to construct and develop each landfill asset; (ii) the estimated fair value of final capping, closure and post-closure asset retirement obligations, which must consider both the expected cost and timing of these activities; (iii) the determination of each landfill's remaining permitted and expansion airspace and (iv) the airspace associated with each final capping event.

Landfill Costs — We estimate the total cost to develop each of our landfill sites to its remaining permitted and expansion capacity. This estimate includes such costs as landfill liner material and installation, excavation for airspace, landfill leachate collection systems, landfill gas collection systems, environmental monitoring equipment for groundwater and landfill gas, directly related engineering, capitalized interest, on-site road construction and other capital infrastructure costs. Additionally, landfill development includes all land purchases for the landfill footprint and required landfill buffer property. The projection of these landfill costs is dependent, in part, on future events. The remaining amortizable basis of each landfill includes costs to develop a site to its remaining permitted and expansion capacity and includes amounts previously expended and capitalized, net of accumulated airspace amortization, and projections of future purchase and development costs.

Final Capping Costs — We estimate the cost for each final capping event based on the area to be finally capped and the capping materials and activities required. The estimates also consider when these costs are anticipated to be paid and factor in inflation and discount rates. Our engineering personnel allocate landfill final

capping costs to specific final capping events. The landfill capacity associated with each final capping event is then quantified and the final capping costs for each event are amortized over the related capacity associated with the event as waste is disposed of at the landfill. We review these costs annually, or more often if significant facts change. Changes in estimates, such as timing or cost of construction, for final capping events immediately impact the required liability and the corresponding asset. When the change in estimate relates to a fully consumed asset, the adjustment to the asset must be amortized immediately through expense. When the change in estimate relates to a final capping event that has not been fully consumed, the adjustment to the asset is recognized in income prospectively as a component of landfill airspace amortization.

Closure and Post-Closure Costs — We base our estimates for closure and post-closure costs on our interpretations of permit and regulatory requirements for closure and post-closure monitoring and maintenance. The estimates for landfill closure and post-closure costs also consider when the costs are anticipated to be paid and factor in inflation and discount rates. The possibility of changing legal and regulatory requirements and the forward-looking nature of these types of costs make any estimation or assumption less certain. Changes in estimates for closure and post-closure events immediately impact the required liability and the corresponding asset. When the change in estimate relates to a fully consumed asset, the adjustment to the asset must be amortized immediately through expense. When the change in estimate relates to a landfill asset that has not been fully consumed, the adjustment to the asset is recognized in income prospectively as a component of landfill airspace amortization.

Remaining Permitted Airspace — Our engineers, in consultation with third-party engineering consultants and surveyors, are responsible for determining remaining permitted airspace at our landfills. The remaining permitted airspace is determined by an annual survey, which is used to compare the existing landfill topography to the expected final landfill topography.

Expansion Airspace — We also include currently unpermitted expansion airspace in our estimate of remaining permitted and expansion airspace in certain circumstances. First, to include airspace associated with an expansion effort, we must generally expect the initial expansion permit application to be submitted within one year, and the final expansion permit to be received within five years. Second, we must believe that obtaining the expansion permit is likely, considering the following criteria:

- Personnel are actively working on the expansion of an existing landfill, including efforts to obtain land use and local, state or provincial approvals;
- It is likely that the approvals will be received within the normal application and processing time periods for approvals in the jurisdiction in which the landfill is located;
- We have a legal right to use or obtain land to be included in the expansion plan;
- There are no significant known technical, legal, community, business, or political restrictions or similar issues that could negatively affect the success of such expansion; and
- Financial analysis has been completed based on conceptual design, and the results demonstrate that the expansion has a positive financial and operational impact.

For unpermitted airspace to be initially included in our estimate of remaining permitted and expansion airspace, the expansion effort must meet all of the criteria listed above. These criteria are evaluated by our field-based engineers, accountants, managers and others to identify potential obstacles to obtaining the permits. Once the unpermitted airspace is included, our policy provides that airspace may continue to be included in remaining permitted and expansion airspace even if certain of these criteria are no longer met as long as we continue to believe we will ultimately obtain the permit, based on the facts and circumstances of a specific landfill. In these circumstances, continued inclusion must be approved through a landfill-specific review process that includes approval by our Chief Financial Officer and a review by the Audit Committee of our Board of Directors on a quarterly basis. Of the 23 landfill sites with expansions included at December 31, 2014, five landfills required the

Chief Financial Officer to approve the inclusion of the unpermitted airspace. Two of these landfills required approval by our Chief Financial Officer because of community or political opposition that could impede the expansion process. The remaining three landfills required approval due to local zoning restrictions or because the permit application processes do not meet the one- or five-year requirements.

When we include the expansion airspace in our calculations of remaining permitted and expansion airspace, we also include the projected costs for development, as well as the projected asset retirement costs related to final capping, closure and post-closure of the expansion in the amortization basis of the landfill.

Once the remaining permitted and expansion airspace is determined in cubic yards, an airspace utilization factor ("AUF") is established to calculate the remaining permitted and expansion capacity in tons. The AUF is established using the measured density obtained from previous annual surveys and is then adjusted to account for future settlement. The amount of settlement that is forecasted will take into account several site-specific factors including current and projected mix of waste type, initial and projected waste density, estimated number of years of life remaining, depth of underlying waste, anticipated access to moisture through precipitation or recirculation of landfill leachate, and operating practices. In addition, the initial selection of the AUF is subject to a subsequent multi-level review by our engineering group, and the AUF used is reviewed on a periodic basis and revised as necessary. Our historical experience generally indicates that the impact of settlement at a landfill is greater later in the life of the landfill when the waste placed at the landfill approaches its highest point under the permit requirements.

After determining the costs and remaining permitted and expansion capacity at each of our landfills, we determine the per ton rates that will be expensed as waste is received and deposited at the landfill by dividing the costs by the corresponding number of tons. We calculate per ton amortization rates for each landfill for assets associated with each final capping event, for assets related to closure and post-closure activities and for all other costs capitalized or to be capitalized in the future. These rates per ton are updated annually, or more often, as significant facts change.

It is possible that actual results, including the amount of costs incurred, the timing of final capping, closure and post-closure activities, our airspace utilization or the success of our expansion efforts could ultimately turn out to be significantly different from our estimates and assumptions. To the extent that such estimates, or related assumptions, prove to be significantly different than actual results, lower profitability may be experienced due to higher amortization rates or higher expenses; or higher profitability may result if the opposite occurs. Most significantly, if it is determined that expansion capacity should no longer be considered in calculating the recoverability of a landfill asset, we may be required to recognize an asset impairment or incur significantly higher amortization expense. If at any time management makes the decision to abandon the expansion effort, the capitalized costs related to the expansion effort are expensed immediately.

Environmental Remediation Liabilities

We are subject to an array of laws and regulations relating to the protection of the environment. Under current laws and regulations, we may have liabilities for environmental damage caused by operations, or for damage caused by conditions that existed before we acquired a site. These liabilities include potentially responsible party ("PRP") investigations, settlements, and certain legal and consultant fees, as well as costs directly associated with site investigation and clean up, such as materials, external contractor costs and incremental internal costs directly related to the remedy. We provide for expenses associated with environmental remediation obligations when such amounts are probable and can be reasonably estimated. We routinely review and evaluate sites that require remediation and determine our estimated cost for the likely remedy based on a number of estimates and assumptions.

Where it is probable that a liability has been incurred, we estimate costs required to remediate sites based on site-specific facts and circumstances. We routinely review and evaluate sites that require remediation,

considering whether we were an owner, operator, transporter, or generator at the site, the amount and type of waste hauled to the site and the number of years we were associated with the site. Next, we review the same type of information with respect to other named and unnamed PRPs. Estimates of the costs for the likely remedy are then either developed using our internal resources or by third-party environmental engineers or other service providers. Internally developed estimates are based on:

- Management's judgment and experience in remediating our own and unrelated parties' sites;
- Information available from regulatory agencies as to costs of remediation;
- The number, financial resources and relative degree of responsibility of other PRPs who may be liable for remediation of a specific site; and
- The typical allocation of costs among PRPs, unless the actual allocation has been determined.

Asset Impairments

Our long-lived assets, including landfills and landfill expansions, are carried on our financial statements based on their cost less accumulated depreciation or amortization. We monitor the carrying value of our long-lived assets for potential impairment on an ongoing basis and test the recoverability of such assets using significant unobservable ("Level 3") inputs whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. These events or changes in circumstances, including management decisions pertaining to such assets, are referred to as impairment indicators. If an impairment indicator occurs, we perform a test of recoverability by comparing the carrying value of the asset or asset group to its undiscounted expected future cash flows. If cash flows cannot be separately and independently identified for a single asset, we will determine whether an impairment has occurred for the group of assets for which we can identify the projected cash flows. If the carrying values are in excess of undiscounted expected future cash flows, we measure any impairment by comparing the fair value of the asset or asset group to its carrying value. Fair value is generally determined by considering (i) internally developed discounted projected cash flow analysis of the asset or asset group; (ii) actual third-party valuations and/or (iii) information available regarding the current market for similar assets. If the fair value of an asset or asset group is determined to be less than the carrying amount of the asset or asset group, an impairment in the amount of the difference is recorded in the period that the impairment indicator occurs and is included in the "(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items" line item in our Consolidated Statement of Operations. Estimating future cash flows requires significant judgment and projections may vary from the cash flows eventually realized, which could impact our ability to accurately assess whether an asset has been impaired.

There are additional considerations for impairments of landfills, goodwill and other indefinite-lived intangible assets, as described below.

Landfills — The assessment of impairment indicators and the recoverability of our capitalized costs associated with landfills and related expansion projects require significant judgment due to the unique nature of the waste industry, the highly regulated permitting process and the sensitive estimates involved. During the review of a landfill expansion application, a regulator may initially deny the expansion application although the expansion permit is ultimately granted. In addition, management may periodically divert waste from one landfill to another to conserve remaining permitted landfill airspace, or a landfill may be required to cease accepting waste, prior to receipt of the expansion permit. However, such events occur in the ordinary course of business in the waste industry and do not necessarily result in impairment of our landfill assets because, after consideration of all facts, such events may not affect our belief that we will ultimately obtain the expansion permit. As a result, our tests of recoverability, which generally make use of a probability-weighted cash flow estimation approach, may indicate that no impairment loss should be recorded. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — *Critical Accounting Estimates and Assumptions — Expansion Airspace* above for discussion of criteria involved in assessing our likelihood of obtaining an expansion permit.

At December 31, 2014, one of our landfill sites for which we believe receipt of the expansion permit is probable, is not currently accepting waste. The net recorded capitalized landfill asset cost for this site was $247 million at December 31, 2014. We performed a test of recoverability for this landfill and the undiscounted cash flows resulting from our probability-weighted estimation approach significantly exceeded the carrying value of this site. During the year ended December 31, 2013, we recognized $262 million of charges to impair certain of our landfills, primarily as a result of our consideration of management's decision in the fourth quarter of 2013 not to actively pursue expansion and/or development of such landfills. These charges were primarily associated with two landfills in our Eastern Canada Area, which are no longer accepting waste. We had previously concluded that receipt of permits for these landfills was probable. However, in connection with our asset rationalization and capital allocation analysis, which was influenced, in part, by our acquisition of RCI, we determined that the future costs to construct these landfills could be avoided as we are able to allocate disposal that would have gone to these landfills to other facilities and not materially impact operations. As a result of management's decision, we determined that the carrying values of landfill assets were no longer able to be recovered by the undiscounted cash flows attributable to these assets. As such, we wrote their carrying values down to their estimated fair values using a market approach considering the highest and best use of the assets.

See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — *(Income) Expense from Divestitures, Asset Impairments (Other than Goodwill)* and *Unusual Items* and Note 13 to the Consolidated Financial Statements for additional information related to landfill asset impairments recognized during the reported periods.

Goodwill — At least annually, and more frequently if warranted, we assess our goodwill for impairment using Level 3 inputs.

We assess whether a goodwill impairment exists using both qualitative and quantitative assessments. Our qualitative assessment involves determining whether events or circumstances exist that indicate it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. If based on this qualitative assessment we determine it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, we will not perform a quantitative assessment.

If the qualitative assessment indicates that it is more likely than not that the fair value of a reporting unit is less than its carrying amount or if we elect not to perform a qualitative assessment, we perform a quantitative assessment, or two-step impairment test, to determine whether a goodwill impairment exists at the reporting unit. The first step in our quantitative assessment identifies potential impairments by comparing the estimated fair value of the reporting unit to its carrying value, including goodwill. If the carrying value exceeds estimated fair value, there is an indication of potential impairment and the second step is performed to measure the amount of impairment. Fair value is typically estimated using a combination of the income approach and market approach or only an income approach when applicable. The income approach is based on the long-term projected future cash flows of the reporting units. We discount the estimated cash flows to present value using a weighted-average cost of capital that considers factors such as market assumptions, the timing of the cash flows and the risks inherent in those cash flows. We believe that this approach is appropriate because it provides a fair value estimate based upon the reporting units' expected long-term performance considering the economic and market conditions that generally affect our business. The market approach estimates fair value by measuring the aggregate market value of publicly-traded companies with similar characteristics to our business as a multiple of their reported cash flows. We then apply that multiple to the reporting units' cash flows to estimate their fair values. We believe that this approach is appropriate because it provides a fair value estimate using valuation inputs from entities with operations and economic characteristics comparable to our reporting units.

Fair value computed by these two methods is arrived at using a number of factors, including projected future operating results, economic projections, anticipated future cash flows, comparable marketplace data and the cost of capital. There are inherent uncertainties related to these factors and to our judgment in applying them to this analysis. However, we believe that these two methods provide a reasonable approach to estimating the fair value of our reporting units.

During our annual 2013 impairment test of our goodwill balances we determined the fair value of our Wheelabrator business had declined and the associated goodwill was impaired. As a result, we recognized an impairment charge of $483 million, which had no related tax benefit. We estimated the implied fair value of our Wheelabrator reporting unit goodwill using a combination of income and market approaches. Because the annual impairment test indicated that Wheelabrator's carrying value exceeded its estimated fair value, we performed the "step two" analysis. In the "step two" analysis, the fair values of all assets and liabilities were estimated, including tangible assets, power contracts, customer relationships and trade name for the purpose of deriving an estimate of the implied fair value of goodwill. The implied fair value of goodwill was then compared to the carrying amount of goodwill to determine the amount of the impairment. The factors contributing to the $483 million goodwill impairment charge principally related to the continued challenging business environment in areas of the country in which Wheelabrator operated, characterized by lower available disposal volumes (which impact disposal rates and overall disposal revenue, as well as the amount of electricity Wheelabrator was able to generate), lower electricity pricing due to the pricing pressure created by availability of natural gas and increased operating costs as Wheelabrator's facilities aged. These factors caused us to lower prior assumptions for electricity and disposal revenue, and increase assumed operating costs. Additionally, the discount factor previously utilized in the income approach in 2013 increased mainly due to increases in interest rates. In 2013, we incurred an additional $10 million of charges to impair goodwill associated with our Puerto Rico operations and $4 million to impair goodwill associated with our recycling business. In 2014, we recognized $10 million of goodwill impairment charges associated with our recycling operations.

See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — *Goodwill Impairments* and Notes 6 and 13 to the Consolidated Financial Statements for additional information related to goodwill impairments recognized during the reported periods.

Indefinite-Lived Intangible Assets Other Than Goodwill — At least annually, and more frequently if warranted, we assess indefinite-lived intangible assets other than goodwill for impairment.

When performing the impairment test for indefinite-lived intangible assets, we generally first conduct a qualitative analysis to determine whether we believe it is more likely than not that an asset has been impaired. If we believe an impairment has occurred, we then evaluate for impairment by comparing the estimated fair value of assets to the carrying value. An impairment charge is recognized if the asset's estimated fair value is less than its carrying value.

Fair value is typically estimated using an income approach. The income approach is based on the long-term projected future cash flows. We discount the estimated cash flows to present value using a weighted-average cost of capital that considers factors such as market assumptions, the timing of the cash flows and the risks inherent in those cash flows. We believe that this approach is appropriate because it provides a fair value estimate based upon the expected long-term performance considering the economic and market conditions that generally affect our business.

Fair value computed by this method is arrived at using a number of factors, including projected future operating results, economic projections, anticipated future cash flows, comparable marketplace data and the cost of capital. There are inherent uncertainties related to these factors and to our judgment in applying them to this analysis. However, we believe that this method provides a reasonable approach to estimating the fair value of the reporting units.

Deferred Income Taxes

Deferred income taxes are based on the difference between the financial reporting and tax basis of assets and liabilities. The deferred income tax provision represents the change during the reporting period in the deferred tax assets and deferred tax liabilities, net of the effect of acquisitions and dispositions. Deferred tax assets include tax loss and credit carry-forwards and are reduced by a valuation allowance if, based on available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized.

Significant judgment is required in assessing the timing and amounts of deductible and taxable items. We establish reserves for uncertain tax positions when, despite our belief that our tax return positions are fully supportable, we believe that certain positions may be challenged and potentially disallowed. When facts and circumstances change, we adjust these reserves through our provision for income taxes. To the extent interest and penalties may be assessed by taxing authorities on any underpayment of income tax, such amounts have been accrued and are classified as a component of income tax expense in our Consolidated Statements of Operations.

Insured and Self-Insured Claims

We have retained a significant portion of the risks related to our health and welfare, automobile, general liability and workers' compensation insurance programs. The exposure for unpaid claims and associated expenses, including incurred but not reported losses, are based on an actuarial valuation and internal estimates. The accruals for these liabilities could be revised if future occurrences or loss development significantly differ from our assumptions used. Estimated recoveries associated with our insured claims are recorded as assets when we believe that the receipt of such amounts is probable.

Results of Operations

Operating Revenues

Our operating revenues set forth below have generally come from fees charged for our collection, disposal, transfer, recycling and resource recovery, and waste-to-energy services and from sales of commodities by our recycling, waste-to-energy and landfill gas-to-energy operations. Revenues from our collection operations are influenced by factors such as collection frequency, type of collection equipment furnished, type and volume or weight of the waste collected, distance to the disposal facility or MRF and our disposal costs. Revenues from our landfill operations consist of tipping fees, which are generally based on the type and weight or volume of waste being disposed of at our disposal facilities. Fees charged at transfer stations are generally based on the weight or volume of waste deposited, taking into account our cost of loading, transporting and disposing of the solid waste at a disposal site. Recycling revenue generally consists of tipping fees and the sale of recyclable commodities to third parties. The fees we charge for our collection, disposal, transfer and recycling services generally include fuel surcharges, which are indexed to current market costs for diesel fuel. Our recently divested Wheelabrator business provided waste-to-energy services and managed waste-to-energy facilities and independent power production plants. We also provide additional services that are not managed through our Solid Waste or Wheelabrator businesses, including Strategic Business Solutions ("WMSBS"), Energy and Environmental Services, recycling brokerage and electronic recycling services, landfill gas-to-energy services, and expanded service offerings and solutions. We also offer portable self-storage services through a joint venture; fluorescent bulb and universal waste mail-back through our LampTracker® program; portable restroom servicing under the name Port-o-Let® and street and parking lot sweeping services. In addition, we hold interests in oil and gas producing properties. These operations are presented as "Other" in the table below. The following table summarizes revenues during each period (in millions):

	Years Ended December 31,		
	2014	2013	2012
Solid Waste:			
Tier 1	$ 3,495	$ 3,487	$ 3,370
Tier 2	6,416	6,438	6,273
Tier 3	3,538	3,552	3,413
Solid Waste	13,449	13,477	13,056
Wheelabrator	817	845	846
Other	2,191	2,185	2,106
Intercompany	(2,461)	(2,524)	(2,359)
Total	$13,996	$13,983	$13,649

The mix of operating revenues from our major lines of business is reflected in the table below (in millions):

	Years Ended December 31,		
	2014	2013	2012
Collection:			
Commercial	$ 3,393	$ 3,423	$ 3,417
Residential	2,543	2,608	2,584
Industrial	2,231	2,209	2,129
Other	340	273	275
Total collection	8,507	8,513	8,405
Landfill	2,849	2,790	2,685
Transfer	1,353	1,329	1,296
Wheelabrator	817	845	846
Recycling	1,370	1,447	1,360
Other	1,561	1,583	1,416
Intercompany	(2,461)	(2,524)	(2,359)
Total	$13,996	$13,983	$13,649

The following table provides details associated with the period-to-period change in revenues (dollars in millions) along with an explanation of the significant components of the current period changes:

	Period-to-Period Change 2014 vs. 2013		Period-to-Period Change 2013 vs. 2012	
	Amount	As a % of Total Company(a)	Amount	As a % of Total Company(a)
Average yield(b)	$ 228	1.6%	$ 206	1.5%
Volume	(188)	(1.4)	(133)	(1.0)
Internal revenue growth	40	0.2	73	0.5
Acquisitions	124	0.9	292	2.1
Divestitures	(90)	(0.6)	(6)	—
Foreign currency translation	(61)	(0.4)	(25)	(0.2)
Total	$ 13	0.1%	$ 334	2.4%

(a) Calculated by dividing the amount of current year increase or decrease by the prior year's total company revenue adjusted to exclude the impacts of current year divestitures ($13,893 million and $13,643 million for 2014 and 2013, respectively).

(b) The amounts reported herein represent the changes in our revenue attributable to average yield for the total Company. We also analyze the changes in average yield in terms of related-business revenues in order to differentiate the changes in yield attributable to our pricing strategies from the changes that are caused by

market-driven price changes in commodities. The following table summarizes changes in revenues from average yield on a related-business basis (dollars in millions):

	Period-to-Period Change 2014 vs. 2013		Period-to-Period Change 2013 vs. 2012	
	Amount	As a % of Related Business(i)	Amount	As a % of Related Business(i)
Average yield:				
Collection, landfill and transfer	$263	2.4%	$241	2.2%
Waste-to-energy disposal(ii)	(1)	(0.2)	(6)	(1.4)
Collection and disposal(ii)	262	2.3	235	2.1
Recycling commodities	(53)	(3.7)	(79)	(5.8)
Electricity(ii)	21	7.9	18	6.8
Fuel surcharges and mandated fees	(2)	(0.3)	32	4.9
Total	$228	1.6	$206	1.5

(i) Calculated by dividing the increase or decrease for the current year by the prior year's related business revenue, adjusted to exclude the impacts of divestitures for the current year. The table below summarizes the related business revenues for each year, adjusted to exclude the impacts of divestitures (in millions):

	Denominator	
	2014	2013
Related-business revenues:		
Collection, landfill and transfer	$11,103	$10,939
Waste-to-energy disposal	409	431
Collection and disposal	11,512	11,370
Recycling commodities	1,431	1,357
Electricity	266	266
Fuel surcharges and mandated fees	684	650
Total Company	$13,893	$13,643

(ii) Average revenue growth for yield for "Collection and disposal" excludes all electricity-related revenues generated by our Wheelabrator business and our landfill gas-to-energy operations, which are reported as "Electricity" revenues.

Our revenues increased $13 million, or 0.1%, for the year ended December 31, 2014. Our revenue fluctuation in the current period has been driven by (i) revenue growth from yield on our collection and disposal operations; (ii) revenue from acquired operations, particularly the RCI operations acquired in July 2013, which contributed approximately $77 million to the revenue growth for the year ended December 31, 2014; and (iii) fluctuations in electricity prices at Wheelabrator's merchant waste-to-energy facilities that favorably affected revenues. Offsetting these revenue increases were (i) revenue declines due to lower volumes; (ii) divestitures, primarily our Puerto Rico divestiture in the second quarter of 2014, certain landfill and collection operations in our Eastern Canada Area in the third quarter of 2014, and our Wheelabrator business in December 2014; (iii) foreign currency translation, which affects revenues from our Canadian operations; and (iv) revenue declines resulting from lower recyclable commodity prices.

Our revenues increased $334 million, or 2.4%, for the year ended December 31, 2013. Our revenue fluctuation in the prior period was driven by (i) revenue from acquired operations, particularly Greenstar acquired in January 2013 and RCI, which increased revenues by $138 million and $80 million, respectively; (ii) increased revenue growth from our collection and disposal average yield; (iii) higher revenues provided by

our fuel surcharge program; and (iv) fluctuations in electricity prices at our merchant waste-to-energy facilities. Offsetting these revenue increases were (i) revenue declines resulting from lower recyclable commodity prices; (ii) foreign currency translation, which negatively affected revenues from our Canadian operations; and (iii) revenue declines due to lower volumes.

The following provides further details associated with our period-to-period change in revenues.

Average yield

Collection and disposal average yield — This measure reflects the effect on our revenue from the pricing activities of our collection, transfer, landfill and waste-to-energy disposal operations, exclusive of volume changes. Revenue growth from collection and disposal average yield includes not only base rate changes and environmental and service fee increases, but also (i) certain average price changes related to the overall mix of services, which are due to both the types of services provided and the geographic locations where our services are provided; (ii) changes in average price from new and lost business and (iii) price decreases to retain customers.

Revenue growth from collection and disposal average yield was $262 million, or 2.3%, and $235 million, or 2.1%, for the years ended December 31, 2014 and 2013, respectively.

We experienced growth in all three of our principal collection lines of business in both 2014 and 2013. The details are as follows (dollars in millions):

	Period-to-Period Change 2014 vs. 2013		Period-to-Period Change 2013 vs. 2012	
	Amount	As a % of Related Business	Amount	As a % of Related Business
Commercial	$134	4.3%	$101	3.3%
Industrial	84	4.2	88	4.5
Residential	32	1.3	43	1.8
	$250		$232	

Our year-over-year yield growth in both 2014 and 2013 was driven largely by our pricing strategy that combines focused effort on price increases with lower rollbacks. Conversely, our revenue growth due to volume has been negatively affected by our pricing strategy, with more significant volume declines during 2014. However, our pricing strategy and our focus on controlling variable costs have consistently provided margin improvements in our collection line of business, although we have seen margin deterioration in our residential line of business throughout 2014. Other drivers affecting the current period average yield include:

- A fee instituted in April 2013 to help us recover a portion of the significant regulatory costs and fees, such as host fees and disposal taxes, which have not been recouped by our pricing programs. Revenues generated from this fee are approximately $97 million and $43 million for the years ended December 31, 2014 and 2013, respectively, principally in our collection business, with the most significant impact in our commercial line of business.
- Revenue growth from yield in our industrial line of business was aided by our Energy Services business, which typically has higher average rates due to extended transportation distances, special waste handling costs and higher disposal costs as compared with our typical industrial business.
- Our focus on bidding on residential contracts to improve our yield performance and increase our overall returns. Our effort to increase yield in our residential line of business is a challenge principally due to a very competitive environment. A high percentage of our residential business is in municipal franchise markets, and many municipalities are facing significant budget challenges, which results in increased competition on the basis of price as we rebid contracts and try to win new contracts.

- Yield growth from our landfill and transfer station operations also improved slightly for both 2014 and 2013.

Recycling commodities — Decreases in the prices of the recycling commodities we sell resulted in revenue declines of $53 million and $79 million for the years ended December 31, 2014 and 2013, respectively, compared with the same prior year period.

Fuel surcharges and mandated fees — These revenues, which are predominantly generated by our fuel surcharge program, decreased $2 million and increased $32 million for the years ended December 31, 2014 and 2013, respectively. These revenues fluctuate in response to changes in the national average prices for diesel fuel on which our surcharge is based. We experienced a fuel price decline of approximately 2.4% in 2014, which caused a slight decrease in our fuel surcharge revenues. These revenues increased in 2013 resulting from a revision of the surcharge calculation implemented to better capture price increases intended to be recovered by the surcharge. The mandated fees included in this line item are primarily related to pass-through fees and taxes assessed by various state, county and municipal government agencies at our landfills and transfer stations.

Volume — Declines in our volume caused our revenue to decrease $188 million, or 1.4%, and $133 million, or 1.0%, for the years ended December 31, 2014 and 2013, respectively, as compared with prior year periods, driven primarily by declines in our collection business. Our volume fluctuations are generally attributable to economic conditions, pricing changes, competition and diversion of waste by customers. Our revenue growth due to volume has been negatively affected by our pricing strategy. We are experiencing volume declines due to the loss of low margin customers that we are not willing to keep at current rates. Additionally, we are experiencing losses of certain municipal contracts that are up for bid. As a result of both the very competitive environment and our focus on reasonable returns, we continue to face challenges to keep existing contracts and to win new contracts. Finally, we experienced revenue declines associated with the loss of certain large accounts in our WMSBS organization.

Other drivers affecting the comparability of volumes for the periods presented include:

- We experienced revenue declines due to lower volumes in our material recovery facilities in 2014 primarily driven by the rationalization of our underperforming assets. Revenue increased due to higher volumes in 2013 driven by additional recycling capacity that we added in 2012.
- We experienced revenue declines of approximately $23 million associated with the severe winter weather conditions in the first quarter of 2014.
- We experienced higher landfill volumes in both comparable periods primarily driven by our municipal solid waste business. In addition, higher special waste volumes in the Southern U.S. also contributed to our higher landfill volumes in 2014.
- We experienced revenue increases due to higher volumes in our ancillary services, primarily driven by increases in our Energy and Environmental Services, our WM Renewable Energy Program and our portable self-storage services in 2014.

Acquisitions and Divestitures — Revenues increased $124 million and $292 million for the years ended December 31, 2014 and 2013, respectively, due to acquisitions. The revenue increase due to acquisitions in both 2014 and 2013 was principally associated with the RCI operations acquired in July 2013. To a lesser extent, 2013 revenues increased due to the acquisition of Greenstar in January of that year, which is reported in our "Recycling" line of business.

These revenues were offset partially by revenue decreases of $90 million and $6 million due to divestitures for the years ended 2014 and 2013, respectively. The revenue decrease in 2014 is primarily due to (i) our divestiture of our Puerto Rico operations and certain other collection and landfill assets in the second quarter of 2014; (ii) the divestiture of certain landfill and collection operations in our Eastern Canada Area in the third quarter of 2014; and (iii) the divestiture of our Wheelabrator business in December 2014.

Operating Expenses

Our operating expenses are comprised of (i) labor and related benefits (excluding labor costs associated with maintenance and repairs discussed below), which include salaries and wages, bonuses, related payroll taxes, insurance and benefits costs and the costs associated with contract labor; (ii) transfer and disposal costs, which include tipping fees paid to third-party disposal facilities and transfer stations; (iii) maintenance and repairs relating to equipment, vehicles and facilities and related labor costs; (iv) subcontractor costs, which include the costs of independent haulers who transport waste collected by us to disposal facilities and are affected by variables such as volumes, distance and fuel prices; (v) costs of goods sold, which are primarily rebates paid to suppliers associated with recycling commodities; (vi) fuel costs, which represent the costs of fuel and oil to operate our truck fleet and landfill operating equipment; (vii) disposal and franchise fees and taxes, which include landfill taxes, municipal franchise fees, host community fees, contingent landfill lease payments and royalties; (viii) landfill operating costs, which include interest accretion on landfill liabilities, interest accretion on and discount rate adjustments to environmental remediation liabilities and recovery assets, leachate and methane collection and treatment, landfill remediation costs and other landfill site costs; (ix) risk management costs, which include auto liability, workers' compensation, general liability and insurance and claim costs and (x) other operating costs, which include telecommunications, equipment and facility rent, property taxes, utilities and supplies.

Our operating expenses decreased $110 million, or 1.2%, when comparing 2014 with 2013 and increased $233 million, or 2.6%, when comparing 2013 with 2012. Operating expenses as a percentage of revenues were 64.3% in 2014, 65.2% in 2013, and 65.1% in 2012.

Divestitures — During 2014, we divested our Wheelabrator business in the fourth quarter, our Puerto Rico operations and certain other collection and landfill assets in the second quarter, and certain landfill and collection operations in our Eastern Canada Area in the third quarter. As mentioned above, we estimate that divestitures reduced our annual revenues by $90 million. Commensurately, we estimate our operating expenses decreased by approximately $56 million due to divestitures when compared to the prior year period. The decreases in costs were primarily in (i) labor and related benefits and (ii) maintenance and repairs.

The following table summarizes the major components of our operating expenses, including the impact of foreign currency translation, for the years ended December 31 (dollars in millions), with significant changes in our operating expenses discussed below:

	2014	Period-to-Period Change		2013	Period-to-Period Change		2012
Labor and related benefits	$2,452	$ (54)	(2.2)%	$2,506	$ 99	4.1%	$2,407
Transfer and disposal costs	935	(38)	(3.9)	973	9	0.9	964
Maintenance and repairs	1,181	—	—	1,181	24	2.1	1,157
Subcontractor costs	1,223	41	3.5	1,182	(8)	(0.7)	1,190
Cost of goods sold	974	(26)	(2.6)	1,000	81	8.8	919
Fuel	553	(50)	(8.3)	603	(46)	(7.1)	649
Disposal and franchise fees and taxes	669	16	2.5	653	23	3.7	630
Landfill operating costs	266	34	14.7	232	8	3.6	224
Risk management	219	(25)	(10.2)	244	14	6.1	230
Other	530	(8)	(1.5)	538	29	5.7	509
	$9,002	$(110)	(1.2)%	$9,112	$233	2.6%	$8,879

Labor and related benefits — The following significant items affected the comparability of expenses for the periods presented.

The decrease in labor and related benefits in 2014 as compared with 2013 was due to:

- Lower headcount and contract labor due to lower volumes in our collection line of business and operating efficiencies in our recycling line of business;
- Lower costs resulting from recent divestitures, particularly the divestiture of our Puerto Rico operations, offset in part by;
- Higher wages due to merit increases effective in the second quarter of 2013 and 2014; and
- Increased health and welfare costs.

The increase in labor and related benefits in 2013 as compared with 2012 was due to:

- Higher wages due to merit increases effective in the second quarter of 2013;
- Higher incentive compensation expense in 2013;
- Higher contract labor principally attributed to the recycling line of business;
- Recent acquisitions, principally the Greenstar acquisition, offset in part by; and
- Lower headcount resulting principally from the flexing of our costs in response to lower collection volumes.

Maintenance and repairs — The increase in 2013 compared to 2012 was driven by (i) the Greenstar acquisition and (ii) higher internal shop labor costs due in part to higher incentive compensation and merit increases.

Subcontractor costs — The increase in 2014 was driven by (i) remediation services within our Energy and Environmental Services business and (ii) the RCI operations acquired in July 2013; offset in part by the volume decline related to the loss of certain large accounts in our WMSBS organization. The decrease in 2013 was driven primarily by the volume decline associated with the loss of certain large accounts in our WMSBS organization. These decreases were offset, in part, by higher costs associated with the acquired RCI operations.

Cost of goods sold — The decrease in cost of goods sold in 2014 is due to (i) increased efforts to reduce controllable recycling rebates paid to customers; (ii) better alignment of rebate structures to commodity prices for new recycling contracts; (iii) ongoing recycling business improvement efforts around inbound quality control and (iv) lower commodity prices. These cost decreases were offset in part by our business in portable self-storage services and remediation services. The increase in cost of goods sold in 2013 is due in large part to higher customer rebates resulting from higher volumes in our recycling commodity business driven primarily by the acquired Greenstar operations.

Fuel — The decrease in fuel expense in both 2014 and 2013 when compared to the prior year periods was driven by (i) lower fuel purchases due to reduced collection volumes; (ii) lower costs resulting from the conversion of our fleet to CNG vehicles; (iii) lower fuel prices and (iv) retroactive CNG fuel excise credits.

Disposal and franchise fees and taxes— The increase in costs in both 2014 and 2013 can be attributable to (i) higher disposal fees and taxes due to higher landfill volumes and (ii) higher municipal franchise fees relating to the collection line of business. A disposal surcharge at one of our waste-to-energy facilities in 2013 affected the comparability in both periods.

Landfill operating costs — Significant items affecting the comparability of expenses for the periods presented include (i) unfavorable adjustments in 2014 and 2012 as well as favorable adjustments in 2013 related to changes in U.S. Treasury rates used to discount the present value of our environmental remediation obligations and recovery rates and (ii) higher leachate costs for all comparable periods.

Risk management — The decrease in costs in 2014 was primarily due to lower auto and general liability claims and, to a lesser extent, decreased workers' compensation, claims and lower truck insurance expenses. The increase in costs in 2013 was driven principally by higher workers' compensation claims.

Other — The decrease in 2014 is primarily due to the gain on the sale of a vacant facility and lower rental costs. The increased costs in 2013 when compared to 2012 were due in part to (i) higher telecommunications costs driven by our initiative to equip our fleet with onboard computers; (ii) higher utilities; (iii) higher property taxes and (iv) lower gains on the sale of assets. These increases were offset, in part, by favorable adjustments to contingent consideration associated with acquisitions.

Selling, General and Administrative

Our selling, general and administrative expenses consist of (i) labor and related benefit costs, which include salaries, bonuses, related insurance and benefits, contract labor, payroll taxes and equity-based compensation; (ii) professional fees, which include fees for consulting, legal, audit and tax services; (iii) provision for bad debts, which includes allowances for uncollectible customer accounts and collection fees and (iv) other selling, general and administrative expenses, which include, among other costs, facility-related expenses, voice and data telecommunication, advertising, travel and entertainment, rentals, postage and printing. In addition, the financial impacts of litigation settlements generally are included in our "Other" selling, general and administrative expenses.

Our selling, general and administrative expenses increased by $13 million, or 0.9%, and decreased by $4 million, or 0.3%, when comparing 2014 with 2013 and 2013 with 2012, respectively. Our selling, general and administrative expenses as a percentage of revenues were 10.6% in 2014, 10.5% in 2013 and 10.8% in 2012.

The following table summarizes the major components of our selling, general and administrative expenses for the years ended December 31 (dollars in millions):

	2014	Period-to-Period Change		2013	Period-to-Period Change		2012
Labor and related benefits	$ 933	$ 2	0.2%	$ 931	$ 81	9.5%	$ 850
Professional fees	126	(5)	(3.8)	131	(32)	(19.6)	163
Provision for bad debts	41	—	—	41	(19)	(31.7)	60
Other	381	16	4.4	365	(34)	(8.5)	399
	$1,481	$ 13	0.9%	$1,468	$ (4)	(0.3)%	$1,472

Labor and related benefits — Factors affecting the year-over-year changes in our labor and related benefits costs include:

- Merit increases;
- Higher incentive compensation cost, particularly in 2013, as compared with the prior year periods, including bonuses and equity-based compensation;
- Higher health and welfare costs in 2014 as compared to 2013; and
- Year-over-year labor and related benefits cost savings of approximately $40 million in 2014 and $45 million in 2013 from restructuring plans implemented in 2014 and 2012.

Professional fees — Our professional fees continued to decline during 2014 as a result of our concerted effort to reduce consulting fees. Our 2013 consulting fees were lower as we incurred significant fees during 2012 resulting from company-wide initiatives. The lower consulting fees were partially offset by higher legal fees in 2014 as compared to 2013.

Provision for bad debts — Our provision for bad debts decreased in 2013 as compared to 2012 primarily as a result of (i) the collection of certain fully reserved receivables related to our Puerto Rico operations and (ii) resolution of billing delay issues experienced during 2012 in our WMSBS organization.

Other — In 2014, increased costs resulting principally from litigation settlements were partially offset by a decline in controllable costs associated with advertising and travel and entertainment costs. In 2013, controllable costs associated with (i) building and equipment; (ii) advertising; (iii) computer and telecommunication; (iv) travel and entertainment and (v) seminars and education declined primarily as a result of our July 2012 restructuring and focus on cost-control initiatives.

Depreciation and Amortization

Depreciation and amortization includes (i) depreciation of property and equipment, including assets recorded for capital leases, on a straight-line basis from three to 50 years; (ii) amortization of landfill costs, including those incurred and all estimated future costs for landfill development, construction and asset retirement costs arising from closure and post-closure, on a units-of-consumption method as landfill airspace is consumed over the total estimated remaining capacity of a site, which includes both permitted capacity and expansion capacity that meets our Company-specific criteria for amortization purposes; (iii) amortization of landfill asset retirement costs arising from final capping obligations on a units-of-consumption method as airspace is consumed over the estimated capacity associated with each final capping event and (iv) amortization of intangible assets with a definite life, using either a 150% declining balance approach or a straight-line basis over the definitive terms of the related agreements, which are generally from two to 15 years depending on the type of asset.

The following table summarizes the components of our depreciation and amortization expenses for the years ended December 31 (dollars in millions):

	2014	Period-to-Period Change		2013	Period-to-Period Change		2012
Depreciation of tangible property and equipment	$ 834	$(19)	(2.2)%	$ 853	$20	2.4%	$ 833
Amortization of landfill airspace	380	(20)	(5.0)	400	5	1.3	395
Amortization of intangible assets	78	(2)	(2.5)	80	11	15.9	69
	$1,292	$(41)	(3.1)%	$1,333	$36	2.8%	$1,297

The decrease in depreciation and amortization expense during 2014 is primarily attributable to favorable adjustments resulting from changes in landfill estimates and fixed asset depreciation that was suspended when our Wheelabrator business was classified as held-for-sale in the third quarter of 2014 and subsequently sold in December 2014. The increase in amortization of intangible assets in 2013 that continued in 2014 is primarily related to the amortization of customer relationships acquired through our acquisition of RCI.

Restructuring

In August 2014, we announced a consolidation and realignment of several Corporate functions to better support achievement of the Company's strategic goals, including cost reduction. Voluntary separation arrangements were offered to all salaried employees within these organizations. Approximately 650 employees have separated from our Corporate and recycling organizations in connection with this restructuring, but we do not anticipate that all of these positions will be permanently eliminated.

During the year ended December 31, 2014 we recognized a total of $82 million of pre-tax restructuring charges, of which $70 million was related to employee severance and benefit costs. The remaining charges were primarily related to operating lease obligations for property that will no longer be utilized. We do not expect to incur any material charges associated with our 2014 restructuring in future periods.

During the year ended December 31, 2013, we recognized a total of $18 million of pre-tax restructuring charges, of which $7 million was related to employee severance and benefit costs, including costs associated with our acquisitions of Greenstar and RCI and our 2012 restructurings. The remaining charges were primarily related to operating lease obligations for property that will no longer be utilized.

In July 2012, we announced a reorganization of operations, designed to streamline management and staff support and reduce our cost structure, while not disrupting our front-line operations. Principal organizational changes included removing the management layer of our four geographic Groups, each of which previously constituted a reportable segment, and consolidating and reducing the number of our geographic Areas through which we evaluate and oversee our Solid Waste subsidiaries from 22 to 17. This reorganization eliminated approximately 700 employee positions throughout the Company, including positions at both the management and support level. Voluntary separation arrangements were offered to many employees.

During the year ended December 31, 2012, we recognized a total of $67 million of pre-tax restructuring charges, of which $56 million were primarily related to employee severance and benefit costs associated with these reorganizations. The remaining charges were primarily related to operating lease obligations for property that will no longer be utilized.

Goodwill Impairments

During the year ended December 31, 2014, we recognized $10 million of goodwill impairment charges associated with our recycling operations. During the year ended December 31, 2013, we recognized $509 million of goodwill impairment charges, primarily related to (i) $483 million associated with our Wheelabrator business; (ii) $10 million associated with our Puerto Rico operations and (iii) $9 million associated with a majority-owned waste diversion technology company. During the year ended December 31, 2012, we recognized goodwill impairment charges of $4 million related to certain of our non-Solid Waste operations. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — *Critical Estimates and Assumptions — Asset Impairments* and Notes 3 and 6 to the Consolidated Financial Statements for additional information related to these impairment charges as well as the accounting policy and analysis involved in identifying and calculating impairments.

(Income) Expense from Divestitures, Asset Impairments (Other than Goodwill) and Unusual Items

The following table summarizes the major components of "(Income) expense from divestitures, asset impairments and unusual items" for the year ended December 31 for the respective periods (in millions):

	Years Ended December 31,		
	2014	2013	2012
(Income) expense from divestitures	$(515)	$ (8)	$—
Asset impairments	345	472	79
	$(170)	$464	$79

During the year ended December 31, 2014, we recognized net income of $170 million, primarily related to the following:

- *(Income) expense from divestitures* — We recognized net gains of $515 million, primarily as a result of a $519 million gain on the sale of our Wheelabrator business and an $18 million gain on the sale of certain landfill and collection operations in our Eastern Canada Area. Partially offsetting these gains was a $25 million loss on the divestiture of our Puerto Rico operations and certain other collection and landfill assets. Refer to Note 19 for additional information related to our divestitures.
- *Oil and gas properties impairments* — We recognized $272 million of charges to impair certain of our oil and gas producing properties, primarily as a result of the pronounced decrease in oil and gas prices

in the fourth quarter of 2014. We wrote down the carrying value of these properties to their estimated fair value using an income approach.

- *Other impairments* — We recognized additional impairment charges of $73 million to write down assets in our waste diversion technology, renewable energy, recycling and medical waste operations.

During the year ended December 31, 2013, we recognized net charges of $464 million, primarily related to the following:

- *Landfill impairments* — We recognized $262 million of charges to impair certain of our landfills, primarily as a result of our consideration of management's decision in the fourth quarter of 2013 not to actively pursue expansion and/or development of such landfills. These charges were primarily associated with two landfills in our Eastern Canada Area, which are no longer accepting waste. We had previously concluded that receipt of permits for these landfills was probable. However, in connection with our asset rationalization and capital allocation analysis, which was influenced, in part, by our acquisition of RCI, we determined that the future costs to construct these landfills could be avoided as we are able to allocate disposal that would have gone to these landfills to other facilities and not materially impact operations. As a result of management's decision, we determined that the landfill assets were no longer able to be recovered by the undiscounted cash flows attributable to these assets. As such, we wrote them down to their estimated fair values using a market approach considering the highest and best use of the assets.
- *Waste-to-energy impairments* — We recognized $144 million of impairment charges relating to three waste-to-energy facilities, primarily as a result of closure or anticipated closure due to continued difficulty securing sufficient volumes to operate the plants at capacity and the prospect of additional capacity entering the market where the largest facility is located. We wrote down the carrying value of our facilities to their estimated fair value using a market approach.
- *Other impairments* — The remainder of our 2013 charges were attributable to (i) $31 million of charges to impair various recycling assets; (ii) $20 million of charges to write down assets related to a majority-owned waste diversion technology company and (iii) a $15 million charge to write down the carrying value of an oil and gas property to its estimated fair value.
- *Divestitures* — Partially offsetting these charges were $8 million of net gains on divestitures.

During the year ended December 31, 2012, we recognized impairment charges of $79 million, attributable to (i) $45 million of charges related to three facilities in our medical waste services business as a result of projected operating losses at each of these facilities; (ii) $20 million of charges related to investments in waste diversion technology companies and (iii) other charges to write down the carrying value of assets to their estimated fair values, all of which are individually immaterial.

See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations — *Critical Accounting Estimates and Assumptions — Asset Impairments* for additional information related to the accounting policy and analysis involved in identifying and calculating impairments.

In addition to the impairments discussed above, we are continuing to evaluate opportunities associated with the sale or discontinued use of assets that may no longer meet our strategic objectives or are underperforming. Accordingly, it is possible that additional charges may be recorded as assets are sold or become held-for-sale.

Income from Operations

The following table summarizes income from operations for the years ended December 31 (dollars in millions):

	2014	Period-to-Period Change		2013	Period-to-Period Change		2012
Solid Waste:							
Tier 1	$ 893	$ 41	4.8%	$ 852	$ 1	0.1%	$ 851
Tier 2	1,318	27	2.1	1,291	21	1.7	1,270
Tier 3	588	297	*	291	(213)	(42.3)	504
Solid Waste	2,799	365	15.0	2,434	(191)	(7.3)	2,625
Wheelabrator	669	1,186	*	(517)	(630)	*	113
Other	(400)	(229)	*	(171)	71	(29.3)	(242)
Corporate and other	(769)	(102)	15.3	(667)	(22)	3.4	(645)
Total	$2,299	$1,220	*	$1,079	$(772)	(41.7)%	$1,851

* Percentage change does not provide a meaningful comparison.

Items affecting the comparability of our results of operations include (i) charges associated with our August 2014 and July 2012 restructurings; (ii) subsequent benefits realized as a result of these restructurings and ongoing cost containment efforts; (iii) increased labor costs due to merit increases effective in 2014 and 2013 and (iv) lower 2012 year-over-year incentive compensation costs.

Solid Waste — The comparability of our income from operations for the periods presented is driven by $279 million of net charges primarily related to impairments recognized in 2013. The most significant impairment charges were in our Eastern Canada Area, which is included in Tier 3, and were associated with the impairment of certain landfills as discussed above in *(Income) Expense from Divestitures, Asset Impairments (Other than Goodwill) and Unusual Items*. Other significant items affecting the results of operations of our Solid Waste business during the three years ended December 31, 2014 are summarized below:

- Our base business benefited from (i) internal revenue growth, principally in our collection and disposal business; (ii) increased fuel cost recovery and (iii) decreased fuel costs. These favorable variances were offset, in part, by net cost increases driven by higher operating expenses in 2013;
- Results from our recycling business contributed favorably in 2014 when compared to the prior period principally due to (i) increased efforts to reduce controllable recycling rebates paid to customers; (ii) better alignment of rebate structures to commodity prices for new recycling contracts and (iii) ongoing business improvement efforts around inbound quality control. These favorable variances more than offset lower market prices for recyclable commodities and lower volumes. Results from our recycling business contributed unfavorably in 2013 when compared to the prior period primarily due to (i) lower prices for commodities; (ii) higher processing costs driven in part by increased outbound quality control in 2013 and (iii) operating losses related to the operations of Greenstar acquired in 2013.

In addition, the following items affected comparability of 2014 to 2013 within specific segments:

- The loss on the sale of our Puerto Rico operations and certain other collection and landfill assets in 2014, which were included in Tier 3 and Tier 1, respectively;
- Adverse weather in the first quarter of 2014 unfavorably affected income from operations primarily in Tier 2;
- The gain on the sale of certain landfill and collection operations in our Eastern Canada Area in 2014, which were included in Tier 3;
- The accretive benefits of the RCI operations acquired in July 2013, which are included in Tier 3;

- The gain on the sale of a vacant facility in 2014, which was included in Tier 3; and
- A reversal of a reserve in 2014 due to a favorable litigation resolution, which was included in Tier 1.

In addition, the following items affected comparability of 2013 to 2012 within specific segments:

- A decrease in bad debt expense during 2013 due primarily to the collection of receivables previously reserved during 2012, principally in Puerto Rico, which was included in Tier 3;
- The accretive benefits of the RCI operations acquired, as discussed above;
- A charge for the withdrawal from an underfunded multiemployer pension plan in New England in 2012, which is included in Tier 2; and
- Incremental operating expenses due to a labor union dispute in the Pacific Northwest Area in 2012, which is included in Tier 3.

Wheelabrator — The most significant items affecting the results of operations of our Wheelabrator business in 2014 and 2013 were (i) a $519 million gain on sale of our Wheelabrator business in December 2014 and (ii) $627 million of pre-tax charges to impair goodwill and certain waste-to-energy facilities in 2013 as discussed above in *Goodwill Impairments* and *(Income) Expense from Divestitures, Asset Impairments (Other than Goodwill) and Unusual Items.* Other items contributing to the variability included (i) higher year-over-year electricity prices at our merchant waste-to-energy facilities and (ii) impairment charges at a waste-to-energy facility as a result of projected operating losses in 2013.

Other — Our "Other" income from operations includes (i) those elements of our landfill gas-to-energy operations and third-party subcontract and administration revenues managed by our Energy and Environmental Services and Renewable Energy organizations, that are not included with the operations of our reportable segments; (ii) our recycling brokerage and electronic recycling services and (iii) the results of investments that we are making in expanded service offerings, such as portable self-storage and fluorescent lamp recycling, and in oil and gas producing properties. In addition, our "Other" income from operations reflects the results of non-operating entities that provide financial assurance and self-insurance support for our Solid Waste.

Significant items affecting the comparability of expenses for the periods presented include:

- Net charges of $339 million and $59 million primarily related to impairments recognized in 2014 and 2013, respectively;
- Improved results in our Strategic Business Solutions as a result of our system and process enhancements;
- Favorable adjustments in 2014 and 2013 to contingent consideration associated with the Greenstar acquisition, offset by higher administrative and restructuring costs associated with the acquired operations in 2013; and
- Improved results in our organics and medical waste services in 2013.

Corporate and Other — Significant items affecting the comparability of expenses for the periods presented include:

- Restructuring charges recognized in 2014 and subsequent benefits realized as a result of the restructuring;
- Charges for the settlement of a legal dispute and related fees in 2014;
- Increased health and welfare costs in 2014;

- Unfavorable adjustments in both 2014 and 2012 as well as favorable adjustments in 2013 related to changes in U.S. Treasury rates used to discount the present value of our environmental remediation obligations and recovery assets;
- Our professional fees continued to decline during 2014 as a result of our concerted effort to reduce consulting fees. Our 2013 consulting fees were lower as we incurred significant fees during 2012 resulting from company-wide initiatives; and
- Favorable risk management allocation in 2014 and higher year-over-year risk management expense in 2013 primarily due to increased overall costs associated with auto and general liability insurance.

Interest Expense, net

Our interest expense, net was $466 million in 2014, $477 million in 2013 and $484 million in 2012. During 2014, the decrease in interest expense was primarily attributable to (i) the impacts that lower market interest rates have had on certain of our tax-exempt debt; (ii) issuing new debt at lower fixed interest rates than debt repaid upon scheduled maturities and (iii) reduced costs associated with our letter of credit facilities due to improvements in the Company's overall credit rating. These decreases were partially offset by increases in expense associated with our terminated interest rate swaps due to the maturity of the underlying senior notes. In December 2014, the Company decided to redeem $947 million of senior notes due in 2015, 2017 and 2019 with a weighted average coupon rate of 7.0%. The Company incurred a make-whole premium of $130 million to repay these notes with available cash in January 2015. We anticipate that a near-term refinancing of these debt balances will reduce interest expense in future years.

During 2013, our debt balances increased by approximately $300 million, which can generally be attributed to the debt financing of our acquisition of RCI offset by debt repayments. In spite of this increase in debt, we reduced our interest costs by (i) reducing the interest rate periods of some of our tax-exempt bonds, allowing us to benefit from lower rates available for shorter-term remarketings; (ii) issuing new debt at lower fixed interest rates than debt repaid upon scheduled maturities and (iii) reducing the cost of our revolving credit facility by amending the credit agreement to provide for lower fees and rates.

Equity in Net Losses of Unconsolidated Entities

We recognized "Equity in net losses of unconsolidated entities" of $53 million, $34 million and $46 million in 2014, 2013 and 2012, respectively. These losses are primarily related to our noncontrolling interests in two limited liability companies established to invest in and manage low-income housing properties and a refined coal facility, as well as (i) noncontrolling investments made to support our strategic initiatives and (ii) unconsolidated trusts for final capping, closure, post-closure or environmental obligations. The tax impacts realized as a result of our investments in low-income housing properties and the refined coal facility are discussed below in *Provision for Income Taxes.* Refer to Notes 9 and 20 to the Consolidated Financial Statements for more information related to these investments. The expense in 2014 as compared to 2013 was impacted by charges of $11 million in 2014 primarily to write down equity method investments in waste diversion technology companies to their fair value. The expense in 2013 as compared to 2012 was impacted by a charge of $10 million in 2012 related to a payment we made under a guarantee on behalf of an equity method investment in an unconsolidated entity that went into liquidation.

Other, net

We recognized other, net expense of $29 million, $74 million and $18 million in 2014, 2013 and 2012, respectively. The expenses for 2014, 2013 and 2012 were impacted by impairment charges of $22 million, $71 million and $16 million, respectively, related to other-than-temporary declines in the value of investments in waste diversion technology companies which were accounted for under the cost method. We wrote down our investments to their fair value which was primarily determined using an income approach based on estimated

future cash flow projections and, to a lesser extent, third-party investors' recent transactions in these securities. Partially offsetting the 2013 charges was a $4 million gain on the sale of a similar investment. The remaining expenses recognized during the reported periods are primarily related to the impact of foreign currency translation.

Provision for Income Taxes

We recorded provisions for income taxes of $413 million in 2014, $364 million in 2013 and $443 million in 2012. These tax provisions resulted in an effective income tax rate of approximately 23.6%, 73.8% and 34.0% for the years ended 2014, 2013 and 2012, respectively. The comparability of our reported income taxes for the years ended December 31, 2014, 2013 and 2012 is primarily affected by (i) variations in our income before income taxes; (ii) the tax implications of divestitures; (iii) federal tax credits; (iv) adjustments to our accruals and related deferred taxes; (v) tax audit settlements; (vi) the realization of federal and state net operating loss and credit carry-forwards and (vii) the tax implications of impairments. The impacts of these items are summarized below:

- *Tax Implications of Divestitures* — During 2014, the Company recorded a net gain of $515 million primarily related to the divestiture of our Wheelabrator business, our Puerto Rico operations and certain landfill and collection operations in our Eastern Canada Area. Had this net gain been fully taxable, our provision for income taxes would have increased by $138 million. Refer to Note 19 to the Consolidated Financial Statements for more information related to divestitures.
- *Investment in Refined Coal Facility* — Our refined coal facility investment and the resulting federal tax credits reduced our provision for income taxes by $21 million, $20 million and $21 million for the years ended December 31, 2014, 2013 and 2012, respectively. Refer to Note 9 to the Consolidated Financial Statements for more information related to our refined coal facility investment.
- *Investment in Low-Income Housing Properties* — Our low-income housing properties investment and the resulting federal tax credits reduced our provision for income taxes by $37 million, $38 million and $38 million for the years ended December 31, 2014, 2013 and 2012, respectively. Refer to Note 9 to the Consolidated Financial Statements for more information related to our low-income housing properties investment.
- *Adjustments to Accruals and Related Deferred Taxes* — Adjustments to our accruals and related deferred taxes due to the filing of our income tax returns and changes in state law resulted in a reduction of $24 million and increases of $4 million and $7 million to our provision for income taxes for the years ended December 31, 2014, 2013 and 2012, respectively.
- *Tax Audit Settlements* — The settlement of various tax audits resulted in reductions to our provision for income taxes of $12 million, $11 million and $10 million for the years ended December 31, 2014, 2013 and 2012, respectively.
- *State Net Operating Loss and Credit Carry-forwards* — During 2014, 2013 and 2012, we recognized state net operating loss and credit carry-forwards resulting in a reduction to our provision for income taxes of $16 million, $16 million and $5 million, respectively.
- *Federal Net Operating Loss Carry-Forwards* — During 2012, we recognized additional federal net operating loss carry-forwards resulting in a reduction to our provision for income taxes of $8 million.
- *Tax Implications of Impairments* — A portion of the impairment charges recognized are not deductible for tax purposes. Had the charges been fully deductible, our provision for income taxes would have been reduced by $8 million, $235 million and $7 million for the years ended December 31, 2014, 2013, and 2012 respectively. See Notes 6 and 13 to the Consolidated Financial Statements for more information related to asset impairments and unusual items.

We expect our 2015 recurring effective tax rate will be approximately 36.0% based on projected income before income taxes, federal tax credits and other permanent items.

The Tax Increase Prevention Act of 2014 was signed into law on December 19, 2014 and included an extension for one year of the bonus depreciation allowance. As a result, 50% of qualifying capital expenditures on property placed in service before January 1, 2015 were depreciated immediately. The acceleration of deductions on 2014 qualifying capital expenditures resulting from the bonus depreciation provisions had no impact on our effective income tax rate for 2014 although it will reduce our future cash taxes by approximately $60 million. Taking accelerated deductions results in increased cash taxes in subsequent periods when the deductions related to the capital expenditures would have otherwise been taken.

Noncontrolling Interests

Net income attributable to noncontrolling interests was $40 million in 2014, $32 million in 2013 and $43 million in 2012. These amounts are principally related to third parties' equity interests in two limited liability companies ("LLCs") that own three waste-to-energy facilities operated by our Wheelabrator business. In December 2014, we purchased the noncontrolling interests in the LLCs from the third parties in anticipation of our sale of the Wheelabrator business. The LLCs were then subsequently sold as part of the divestment of our Wheelabrator business. Refer to Notes 19 and 20 to the Consolidated Financial Statements for information related to the sale of our Wheelabrator business and the consolidation of these variable interest entities, respectively.

The decrease in 2013 is primarily due to the net loss of $10 million attributable to noncontrolling interest holders associated with the $20 million impairment charge related to a majority-owned waste diversion technology company discussed above in *(Income) Expense from Divestitures, Asset Impairments (Other than Goodwill) and Unusual Items.*

Landfill and Environmental Remediation Discussion and Analysis

We owned or operated 247 solid waste and five secure hazardous waste landfills at December 31, 2014 and 262 solid waste and five secure hazardous waste landfills at December 31, 2013. At December 31, 2014 and 2013, the expected remaining capacity, in cubic yards and tonnage of waste that can be accepted at our owned or operated landfills, is shown below (in millions):

	December 31, 2014			December 31, 2013		
	Remaining Permitted Capacity	Expansion Capacity	Total Capacity	Remaining Permitted Capacity	Expansion Capacity	Total Capacity
Remaining cubic yards	4,708	275	4,983	4,839	279	5,118
Remaining tonnage	4,660	275	4,935	4,769	282	5,051

Based on remaining permitted airspace as of December 31, 2014 and projected annual disposal volumes, the weighted average remaining landfill life for all of our owned or operated landfills is approximately 46 years. Many of our landfills have the potential for expanded disposal capacity beyond what is currently permitted. We monitor the availability of permitted disposal capacity at each of our landfills and evaluate whether to pursue an expansion at a given landfill based on estimated future waste volumes and prices, remaining capacity and likelihood of obtaining an expansion permit. We are seeking expansion permits at 23 of our landfills that meet the expansion criteria outlined in the *Critical Accounting Estimates and Assumptions* section above. Although no assurances can be made that all future expansions will be permitted or permitted as designed, the weighted average remaining landfill life for all owned or operated landfills is approximately 49 years when considering remaining permitted airspace, expansion airspace and projected annual disposal volume.

The number of landfills we own or operate as of December 31, 2014, segregated by their estimated operating lives (in years), based on remaining permitted and expansion airspace and projected annual disposal volume, was as follows:

	0 to 5	6 to 10	11 to 20	21 to 40	41+	Total
Owned	11	12	27	63	89	202
Operated through lease(a)	5	3	1	2	6	17
Operating contracts(b)	9	7	3	6	8	33
Total landfills	25	22	31	71	103	252

(a) Landfills we operate through lease agreements are similar to landfills we own because we own the landfill's operating permit and will operate the landfill for the entire lease term, which in many cases is the life of the landfill. We are usually responsible for the final capping, closure and post-closure obligations of the landfills we lease.

(b) For operating contracts, the property owner owns the permit and we operate the landfill for a contracted term, which may be the life of the landfill. However, we are generally responsible for final capping, closure and post-closure obligations under the operating contracts.

The following table reflects landfill capacity and airspace changes, as measured in tons of waste, for landfills owned or operated by us during the years ended December 31, 2014 and 2013 (in millions):

	December 31, 2014			December 31, 2013		
	Remaining Permitted Capacity	Expansion Capacity	Total Capacity	Remaining Permitted Capacity	Expansion Capacity	Total Capacity
Balance, beginning of year	4,769	282	5,051	4,558	612	5,170
Acquisitions, divestitures, newly permitted landfills and closures	(90)	(5)	(95)	22	—	22
Changes in expansions pursued(a)	—	90	90	—	33	33
Expansion permits granted(b)	94	(94)	—	364	(364)	—
Airspace consumed	(96)	—	(96)	(93)	—	(93)
Changes in engineering estimates and other(c)	(17)	2	(15)	(82)	1	(81)
Balance, end of year	4,660	275	4,935	4,769	282	5,051

(a) Amounts reflected here relate to the combined impacts of (i) new expansions pursued; (ii) increases or decreases in the airspace being pursued for ongoing expansion efforts; (iii) adjustments for differences between the airspace being pursued and airspace granted and (iv) decreases due to decisions to no longer pursue expansion permits.

(b) We received expansion permits at eight of our landfills during 2014 and 12 of our landfills during 2013, demonstrating our continued success in working with municipalities and regulatory agencies to expand the disposal capacity of our existing landfills.

(c) Changes in engineering estimates can result in changes to the estimated available remaining capacity of a landfill or changes in the utilization of such landfill capacity, affecting the number of tons that can be placed in the future. Estimates of the amount of waste that can be placed in the future are reviewed annually by our engineers and are based on a number of factors, including standard engineering techniques and site-specific factors such as current and projected mix of waste type; initial and projected waste density; estimated number of years of life remaining; depth of underlying waste; anticipated access to moisture through precipitation or recirculation of landfill leachate; and operating practices. We continually focus on improving the utilization of airspace through efforts that include recirculating landfill leachate where allowed by permit; optimizing the placement of daily cover materials; and increasing initial compaction through improved landfill equipment, operations and training.

The tons received at our landfills in 2014 and 2013 are shown below (tons in thousands):

	2014			2013		
	# of Sites	Total Tons	Tons per Day	# of Sites	Total Tons	Tons per Day
Solid waste landfills	247(a)	92,847	341	262	93,804	345
Hazardous waste landfills	5	505	2	5	568	2
	252	93,352	343	267	94,372	347
Solid waste landfills closed, divested or contract expired during related year	15	3,768		5	390	
		97,120(b)			94,762(b)	

(a) In 2014, we divested 11 landfills, our contract expired at three landfills and we closed one landfill.

(b) These amounts include 1.2 million tons at December 31, 2014 and 1.5 million tons at December 31, 2013, that were received at our landfills but were used for beneficial purposes and generally were redirected from the permitted airspace to other areas of the landfill. Waste types that are frequently identified for beneficial use include green waste for composting and clean dirt for on-site construction projects.

When a landfill we own or operate receives certification of closure from the applicable regulatory agency, we generally transfer the management of the site, including any remediation activities, to our closed sites management group. As of December 31, 2014, our closed sites management group managed 210 closed landfills.

Landfill Assets — We capitalize various costs that we incur to prepare a landfill to accept waste. These costs generally include expenditures for land (including the landfill footprint and required landfill buffer property), permitting, excavation, liner material and installation, landfill leachate collection systems, landfill gas collection systems, environmental monitoring equipment for groundwater and landfill gas, directly related engineering, capitalized interest, and on-site road construction and other capital infrastructure costs. The cost basis of our landfill assets also includes estimates of future costs associated with landfill final capping, closure and post-closure activities, which are discussed further below.

The following table reflects the total cost basis of our landfill assets and accumulated landfill airspace amortization as of December 31, 2014 and 2013, and summarizes significant changes in these amounts during 2014 (in millions):

	Cost Basis of Landfill Assets	Accumulated Landfill Airspace Amortization	Landfill Assets
December 31, 2013	$13,416	$(7,518)	$5,898
Capital additions	407	—	407
Asset retirement obligations incurred and capitalized	54	—	54
Amortization of landfill airspace	—	(380)	(380)
Foreign currency translation	(106)	34	(72)
Asset retirements and other adjustments	(308)	174	(134)
December 31, 2014	$13,463	$(7,690)	$5,773

As of December 31, 2014, we estimate that we will spend approximately $400 million in 2015, and approximately $800 million in 2016 and 2017 combined, for the construction and development of our landfill assets. The specific timing of landfill capital spending is dependent on future events, and spending estimates are subject to change due to fluctuations in landfill waste volumes, changes in environmental requirements and other factors impacting landfill operations.

Landfill and Environmental Remediation Liabilities — As we accept waste at our landfills, we incur significant asset retirement obligations, which include liabilities associated with landfill final capping, closure and post-closure activities. These liabilities are accounted for in accordance with authoritative guidance associated with accounting for asset retirement obligations and are discussed in Note 3 of our Consolidated Financial Statements. We also have liabilities for the remediation of properties that have incurred environmental damage, which generally was caused by operations or for damage caused by conditions that existed before we acquired operations or a site. We recognize environmental remediation liabilities when we determine that the liability is probable and the estimated cost for the likely remedy can be reasonably estimated.

The following table reflects our landfill liabilities and our environmental remediation liabilities as of December 31, 2014 and 2013, and summarizes significant changes in these amounts during 2014 (in millions):

	Landfill	Environmental Remediation
December 31, 2013	$1,421	$227
Obligations incurred and capitalized	54	—
Obligations settled	(69)	(21)
Interest accretion	88	5
Revisions in estimates and interest rate assumptions	(9)	25
Acquisitions, divestitures and other adjustments	(42)	(1)
December 31, 2014	$1,443	$235

Landfill Costs and Expenses — As disclosed in the *Operating Expenses* section above, our landfill operating costs include interest accretion on asset retirement obligations, interest accretion on and discount rate adjustments to environmental remediation liabilities and recovery assets, leachate and methane collection and treatment, landfill remediation costs, and other landfill site costs. The following table summarizes these costs for each of the three years indicated (in millions):

	Years Ended December 31,		
	2014	2013	2012
Interest accretion on landfill liabilities	$ 88	$ 87	$ 84
Interest accretion on and discount rate adjustments to environmental remediation liabilities and recovery assets	14	(10)	6
Leachate and methane collection and treatment	84	77	67
Landfill remediation costs	9	10	—
Other landfill site costs	71	68	67
Total landfill operating costs	$266	$232	$224

The comparison of these costs for the reported periods has been significantly affected by accounting for changes in the risk-free discount rate that we use to estimate the present value of our environmental remediation liabilities and environmental remediation recovery assets, which is based on the rate for U.S. Treasury bonds with a term approximating the weighted-average period until settlement of the underlying obligations.

Amortization of landfill airspace, which is included as a component of "Depreciation and amortization" expense, includes the following:

- the amortization of landfill capital costs, including (i) costs that have been incurred and capitalized and (ii) estimated future costs for landfill development and construction required to develop our landfills to their remaining permitted and expansion airspace; and

- the amortization of asset retirement costs arising from landfill final capping, closure and post-closure obligations, including (i) costs that have been incurred and capitalized and (ii) projected asset retirement costs.

Amortization expense is recorded on a units-of-consumption basis, applying cost as a rate per ton. The rate per ton is calculated by dividing each component of the amortizable basis of a landfill by the number of tons needed to fill the corresponding asset's airspace. Landfill capital costs and closure and post-closure asset retirement costs are generally incurred to support the operation of the landfill over its entire operating life and are, therefore, amortized on a per-ton basis using a landfill's total airspace capacity. Final capping asset retirement costs are related to a specific final capping event and are, therefore, amortized on a per-ton basis using each discrete final capping event's estimated airspace capacity. Accordingly, each landfill has multiple per-ton amortization rates.

The following table presents our landfill airspace amortization expense on a per-ton basis:

	Years Ended December 31,		
	2014	2013	2012
Amortization of landfill airspace (in millions)	$ 380	$ 400	$ 395
Tons received, net of redirected waste (in millions)	96	93	92
Average landfill airspace amortization expense per ton	$3.96	$4.29	$4.30

Different per-ton amortization rates are applied at each of our 252 landfills, and per-ton amortization rates vary significantly from one landfill to another due to (i) inconsistencies that often exist in construction costs and provincial, state and local regulatory requirements for landfill development and landfill final capping, closure and post-closure activities and (ii) differences in the cost basis of landfills that we develop versus those that we acquire. Accordingly, our landfill airspace amortization expense measured on a per-ton basis can fluctuate due to changes in the mix of volumes we receive across the Company year-over-year.

Liquidity and Capital Resources

We continually monitor our actual and forecasted cash flows, our liquidity and our capital resources, enabling us to plan for our present needs and fund unbudgeted business activities that may arise during the year as a result of changing business conditions or new opportunities. In addition to our working capital needs for the general and administrative costs of our ongoing operations, we have cash requirements for: (i) the construction and expansion of our landfills; (ii) additions to and maintenance of our trucking fleet and landfill equipment; (iii) construction, refurbishments and improvements at materials recovery facilities; (iv) the container and equipment needs of our operations; (v) final capping, closure and post-closure activities at our landfills; (vi) the repayment of debt and discharging of other obligations and (vii) capital expenditures, acquisitions and investments in support of our strategic growth plans. We also are committed to providing our shareholders with a return on their investment through dividend payments, and we have also returned value to our shareholders through share repurchases.

Summary of Cash and Cash Equivalents, Restricted Trust and Escrow Accounts and Debt Obligations

The following is a summary of our cash and cash equivalents, restricted trust and escrow accounts and debt balances as of December 31, 2014 and 2013 (in millions):

	2014	2013
Cash and cash equivalents	$1,307	$ 58
Restricted trust and escrow accounts:		
Final capping, closure, post-closure and environmental remediation funds	$ 129	$ 125
Tax-exempt bond funds	1	27
Other	41	15
Total restricted trust and escrow accounts	$ 171	$ 167
Debt:		
Current portion	$1,090	$ 726
Long-term portion	8,345	9,500
Total debt	$9,435	$10,226
Increase in carrying value of debt due to hedge accounting for interest rate swaps	$ 45	$ 59

Cash and cash equivalents — Cash and cash equivalents consist primarily of short-term interest-bearing instruments with maturities of three months or less at date of purchase. The increase at December 31, 2014 is primarily related to the December 2014 sale of our Wheelabrator business.

Restricted trust and escrow accounts — Restricted trust and escrow accounts consist primarily of funds deposited for purposes of settling landfill final capping, closure, post-closure and environmental remediation obligations. These balances are primarily included within "Other assets" in our Consolidated Balance Sheets. The "Other" balance at December 31, 2014 includes the $29.2 million funding of a legal settlement pending final court approval for disbursement.

Debt — We use long-term borrowings in addition to the cash we generate from operations as part of our overall financial strategy to support and grow our business. We primarily use senior notes and tax-exempt bonds to borrow on a long-term basis, but we also use other instruments and facilities when appropriate. The components of our long-term borrowings as of December 31, 2014 are described in Note 7 to the Consolidated Financial Statements.

Changes in our outstanding debt balances from December 31, 2014 to December 31, 2013 were primarily attributable to (i) the use of cash proceeds from the sale of our Wheelabrator business to temporarily repay outstanding borrowings under our $2.25 billion revolving credit facility; (ii) the use of cash generated from our Canadian operations to reduce the balance of our Canadian term loan and (iii) the impacts of other non-cash changes in our debt balances due to hedge accounting for interest rate swaps, foreign currency translation, interest accretion and capital leases and other debt obligations.

Our current debt balances as of December 31, 2014, are primarily related to $947 million of senior notes that the Company decided to redeem in advance of their scheduled maturity, including $350 million of 6.375% senior notes that were scheduled to mature in March 2015, $147 million of 7.125% senior notes that were scheduled to mature in December 2017 and $450 million of 7.375% senior notes that were scheduled to mature in March 2019. We repaid these notes and the related make-whole premium and accrued interest with available cash in January 2015. We anticipate that a near-term refinancing of these debt balances will reduce interest expense in future years.

We have credit facilities in place to support our liquidity and financial assurance needs. The following table summarizes our outstanding letters of credit (in millions) at December 31, categorized by type of facility:

	2014	2013
Revolving credit facility(a)	$ 785	$ 872
Letter of credit facilities(b)	400	400
Other(c)	278	267
	$1,463	$1,539

(a) In July 2013, we amended and restated our revolving credit facility, increasing our total credit capacity to $2.25 billion and extending the term through July 2018. At December 31, 2014, we had no outstanding borrowings and $785 million of letters of credit issued and supported by the facility, leaving an unused and available credit capacity of $1,465 million.

(b) As of December 31, 2014, we had an aggregate committed capacity of $400 million under letter of credit facilities with terms extending through December 2018. This letter of credit capacity was fully utilized as of December 31, 2014.

(c) These letters of credit are outstanding under various arrangements that do not obligate the counterparty to provide a committed capacity.

Summary of Cash Flow Activity

The following is a summary of our cash flows for the years ended December 31 (in millions):

	2014	2013	2012
Net cash provided by operating activities	$ 2,331	$ 2,455	$ 2,295
Net cash provided by (used in) investing activities	$ 995	$(1,900)	$(1,830)
Net cash used in financing activities	$(2,072)	$ (687)	$ (530)

Net Cash Provided by Operating Activities — The most significant items affecting the comparisons of our operating cash flows in 2014 as compared to 2013 are summarized below:

- *Increase in earnings* – Our income from operations, excluding depreciation and amortization, increased by $1.2 billion, on a year-over-year basis. Certain of the more significant drivers of our earnings improvement include:
  - Lower non-cash impairment charges of $652 million in 2014 as compared to 2013; and
  - The net gain on the sale of our Wheelabrator business of $519 million in 2014.

  After considering these items, and certain other non-cash items included in our comparative results, our earnings drove an improvement in our cash flows from operating activities of approximately $100 million.
- *Increase in tax payments* — Cash paid for income taxes was approximately $247 million higher on a year-over-year basis due to (i) higher pre-tax earnings; (ii) approximately $210 million anticipated overpayment during 2014, when comparing our year-end tax provisions to payments made throughout the year; and (iii) taxes associated with the divestiture of our Puerto Rico operations and certain other collection and landfill assets.
- *Forward starting swaps* — During the first quarter of 2014, the forward-starting interest rate swaps associated with the anticipated issuance of senior notes in 2014 matured, and we paid cash of $36 million to settle the liabilities related to the swaps. This cash payment has been classified as a change in "Accounts payable and accrued liabilities" within "Net cash provided by operating activities" in the Consolidated Statement of Cash Flows.

- *Changes in assets and liabilities, net of effects from business acquisitions and divestitures* — Our cash flow from operations was favorably impacted on a year-over-year basis by changes in our working capital accounts. Although our working capital changes may vary from year to year, they are typically driven by changes in accounts receivable, which are affected by both revenue changes and timing of payments received, and accounts payable changes, which are affected by both cost changes and timing of payments.

The most significant items affecting the comparison of our operating cash flows in 2013 as compared with 2012 are summarized below:

- *Earnings change* — Our 2013 earnings drove our improved net cash provided by operating activities in spite of a year-over-year decrease in income from operations, of $772 million. Our income from operations decline resulted from higher non-cash charges during 2013 of $945 million, associated principally with higher impairment charges. Absent these non-cash charges, we experienced higher earnings, which resulted in cash flow expansion.
- *Increased income tax payments* — Cash paid for income taxes, net of excess tax benefits associated with equity-based transactions, was approximately $144 million higher on a year-over-year basis. Note that, while pre-tax income on a year-over-year basis has declined $809 million, a significant portion of the 2013 impairments discussed above do not qualify for a tax benefit. See *Liquidity Impacts of Income Tax Items* below for additional information.
- *Forward starting swaps* — During the third quarter of 2012, the forward-starting interest rate swaps associated with anticipated fixed-rate debt issuances were terminated contemporaneously with the actual issuance of senior notes requiring a cash payment of $59 million. This cash payment has been classified as a change in "Other liabilities" within "Net cash provided by operating activities" in the Consolidated Statement of Cash Flows.
- *Termination of interest rate swaps* — In April 2012, we elected to terminate our $1 billion interest rate swap portfolio associated with senior notes that were scheduled to mature from November 2012 through March 2018. Upon termination of the swaps, we received $72 million in cash for their fair value. The cash proceeds received from the termination of interest rate swap agreements have been classified as a change in "Other assets" within "Net cash provided by operating activities" in the Consolidated Statement of Cash Flows.
- *Changes in assets and liabilities, net of effects from business acquisitions and divestitures* — Our cash flow from operations was favorably impacted in 2013 by changes in our working capital accounts. Although our working capital changes may vary from year to year, they are typically driven by changes in accounts receivable, which are affected by both revenue changes and timing of payments received, and accounts payable, which are affected by both cost changes and timing of payments. Additionally, accruals for our annual incentive plan favorably affected our working capital comparison, driven by both higher incentive plan expense accruals in 2013 compared to 2012 and lower incentive plan payments in 2013 as compared to 2012.

Net Cash Provided by (Used in) Investing Activities — The most significant items affecting the comparison of our investing cash flows for the periods presented are summarized below:

- *Capital expenditures* — We used $1,151 million during 2014 for capital expenditures, compared with $1,271 million in 2013 and $1,510 million in 2012. The decrease can generally be attributed to increased focus on capital spending management. Capital expenditures in 2012 included increased spending on compressed natural gas vehicles, related fueling infrastructure, and information technology infrastructure and growth initiatives, as well as our taking advantage of the bonus depreciation legislation.
- *Proceeds from divestitures* — Proceeds from divestitures and other assets (net of cash divested) were $2,253 million in 2014, $138 million in 2013 and $44 million in 2012. These divestitures were made as

part of our initiative to improve or divest certain non-strategic or underperforming operations. In 2014, our proceeds from divestitures were primarily related to the sale of our Wheelabrator business for $1.95 billion and, to a lesser extent, the sale of our Puerto Rico operations and certain other collection and landfill assets and certain landfill and collection operations in our Eastern Canada Area. In 2013, our proceeds from divestitures included approximately $41 million related to oil and gas producing properties and $14 million related to certain of our medical waste service operations and a transfer station in our Greater Mid-Atlantic Area. The remaining amount reported for 2013, as well as the proceeds in 2012 generally relate to the sale of fixed assets.

- *Acquisitions* — Our spending on acquisitions was $35 million in 2014 compared with $724 million in 2013 and $250 million in 2012. All of our 2014 acquisitions related to our Solid Waste business. In 2013, our acquisitions consisted primarily of the recycling operations of Greenstar, for which we paid $170 million, and substantially all of the assets of RCI, for which we paid $481 million. The remainder of our 2013 acquisitions related to our Solid Waste business and energy services operations. In 2012, our acquisitions consisted primarily of interests in oil and gas producing properties acquired through two transactions, for which we paid $94 million. See Note 19 to the Consolidated Financial Statements for additional information related to our acquisitions. We continue to focus on accretive acquisitions and growth opportunities that will enhance and expand our existing service offerings.
- *Investments in unconsolidated entities* — We made $33 million, $33 million and $77 million of cash investments in unconsolidated entities during 2014, 2013 and 2012, respectively. In 2014 and 2013, our investments primarily related to additional capital contributions associated with our investment in a refined coal facility and waste diversion technology companies. In 2012, our investments primarily related to furthering our goal of expanding our service offerings and developing waste diversion technologies.
- *Net receipts from restricted funds* — Net cash received from our restricted trust and escrow accounts, which are largely generated from the issuance of tax-exempt bonds for our capital needs, contributed $19 million to our investing activities in 2014 compared with $71 million in 2013 and $14 million in 2012. The significant increase in cash received from our restricted trust and escrow accounts during 2013 was due to an increase in tax-exempt borrowings.
- *Other* — Net cash used by our other investing activities of $58 million, $81 million and $51 million during 2014, 2013 and 2012, respectively, was primarily associated with the funding of notes receivable associated with Wheelabrator's investments in the U.K., prior to the sale of our Wheelabrator business in December 2014.

Net Cash Used in Financing Activities — The most significant items affecting the comparison of our financing cash flows for the periods presented are summarized below:

- *Share repurchases* — For the periods presented, all share repurchases have been made in accordance with financial plans approved by our Board of Directors.

  During the third quarter of 2014, we entered into accelerated share repurchase ("ASR") agreements with two financial institutions to repurchase an aggregate of $600 million of our common stock. At the beginning of the ASR repurchase periods, we delivered the $600 million in cash and received 9.6 million shares, which represented 70% of the shares expected to be repurchased based on then-current market prices. These agreements were completed in February 2015 and we received approximately 2.8 million additional shares. The final weighted average per share purchase price for the completed ASR agreements was $48.58.

  We paid $239 million to repurchase 5.4 million shares of our common stock in 2013. We did not repurchase any shares during 2012.

  We announced in February 2015 that the Board of Directors has authorized up to $1 billion in future share repurchases; this authorization is the only currently outstanding authorization for share

repurchases. Any future share repurchases will be made at the discretion of management and will depend on factors similar to those considered by the Board of Directors in making dividend declarations.

- *Dividend payments* — For the periods presented, all dividends have been declared and approved by our Board of Directors and paid in accordance with our financial plans.

  We paid an aggregate of $693 million in cash dividends during 2014, compared with $683 million in 2013, and $658 million in 2012. The increase in dividend payments is due to our quarterly per share dividend increasing from $0.355 in 2012, to $0.365 in 2013, and to $0.375 in 2014 and has been offset, in part, by a reduction in our common stock outstanding during 2013 and 2014 as a result of our share repurchase programs.

  In February 2015, we announced that our Board of Directors expects to increase the quarterly dividend from $0.375 to $0.385 per share for dividends declared in 2015. However, all future dividend declarations are at the discretion of the Board of Directors, and depend on various factors, including our net earnings, financial condition, cash required for future business plans and other factors the Board of Directors may deem relevant.

- *Proceeds from the exercise of common stock options* — The exercise of common stock options and the related excess tax benefits generated a total of $93 million of financing cash inflows during 2014 compared with $132 million during 2013 and $43 million during 2012. The increase in exercised stock options during 2013 and, to a lesser extent, during 2014 is primarily due to the increase in the Company's stock price combined with exercises in advance of stock option expiration dates.

- *Debt borrowings (repayments)* — Net debt repayments were $751 million in 2014 compared to net debt borrowings of $155 million and $122 million in 2013 and 2012, respectively. The following summarizes our cash borrowings and debt repayments made during each year (in millions):

	Years Ended December 31,		
	2014	2013	2012
Borrowings:			
U.S. revolving credit facility	$ 2,225	$ 1,140	$ 650
Canadian credit facility	88	1,007	379
Senior notes	347	—	495
Capital leases and other debt	157	85	96
	$ 2,817	$ 2,232	$ 1,620
Repayments:			
U.S. revolving credit facility	$(2,645)	$(1,120)	$ (400)
Canadian credit facility	(243)	(666)	(447)
Senior notes	(350)	—	(400)
Tax-exempt bonds	(123)	(162)	(129)
Capital leases and other debt	(207)	(129)	(122)
	$(3,568)	$(2,077)	$(1,498)
Net borrowings (repayments)	$ (751)	$ 155	$ 122

During 2014 and 2012, we did not have any significant non-cash investing and financing activities. For the year ended December 31, 2013, non-cash investing and financing activities included proceeds from tax-exempt borrowings, net of principal payments made directly from trust funds, of $99 million.

- *Acquisitions of and distributions paid to noncontrolling interests* — The purchases of and distributions paid to our noncontrolling interests were $125 million, $59 million and $46 million in 2014, 2013 and 2012, respectively. The increase during 2014 compared to 2013 is primarily attributable to the purchase of the noncontrolling interests in the LLCs related to our waste-to-energy facilities in December 2014

for $91 million, in anticipation of our sale of our Wheelabrator business. The LLCs were then subsequently sold as part of the divestment of our Wheelabrator business. See Note 20 to the Consolidated Financial Statements for further discussion of these LLCs.

Summary of Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2014 and the anticipated effect of these obligations on our liquidity in future years (in millions):

	2015	2016	2017	2018	2019	Thereafter	Total
Recorded Obligations:							
Expected environmental liabilities:(a)							
Final capping, closure and post-closure	$ 104	$ 120	$128	$ 115	$116	$2,112	$ 2,695
Environmental remediation	43	26	26	24	12	98	229
	147	146	154	139	128	2,210	2,924
Debt payments(b),(c),(d)	1,075	717	402	801	132	6,349	9,476
Unrecorded Obligations:(e)							
Non-cancelable operating lease obligations	103	83	70	57	47	308	668
Estimated unconditional purchase obligations(f)	189	172	156	116	91	430	1,154
Anticipated liquidity impact as of December 31, 2014	$1,514	$1,118	$782	$1,113	$398	$9,297	$14,222

(a) Environmental liabilities include final capping, closure, post-closure and environmental remediation costs. The amounts included here reflect environmental liabilities recorded in our Consolidated Balance Sheet as of December 31, 2014 without the impact of discounting and inflation. Our recorded environmental liabilities for final capping, closure and post-closure will increase as we continue to place additional tons within the permitted airspace at our landfills.

(b) The amounts reported here represent the scheduled principal payments related to our long-term debt, excluding related interest. Refer to Note 7 to the Consolidated Financial Statements for information regarding interest rates.

(c) Our debt obligations as of December 31, 2014 include $638 million of tax-exempt bonds subject to repricing within the next 12 months, which is prior to their scheduled maturities. If the re-offerings of the bonds are unsuccessful, then the bonds can be put to us, requiring immediate repayment. We have classified the anticipated cash flows for these contractual obligations based on the scheduled maturity of the borrowing for purposes of this disclosure. For additional information regarding the classification of these borrowings in our Consolidated Balance Sheet as of December 31, 2014, refer to Note 7 to the Consolidated Financial Statements.

(d) Our recorded debt obligations include non-cash adjustments associated with discounts, premiums and fair value adjustments for interest rate hedging activities. These amounts have been excluded here because they will not result in an impact to our liquidity in future periods.

(e) Our unrecorded obligations represent operating lease obligations and purchase commitments from which we expect to realize an economic benefit in future periods. We have also made certain guarantees, as discussed in Note 11 to the Consolidated Financial Statements, that we do not expect to materially affect our current or future financial position, results of operations or liquidity.

(f) Our unconditional purchase obligations are for various contractual obligations that we generally incur in the ordinary course of our business. Certain of our obligations are quantity driven. For contracts that require us to purchase minimum quantities of goods or services, we have estimated our future minimum obligations based on the current market values of the underlying products or services. Accordingly, the amounts reported in the table are not necessarily indicative of our actual cash flow obligations. See Note 11 to the Consolidated Financial Statements for discussion of the nature and terms of our unconditional purchase obligations.

Liquidity Impacts of Income Tax Items

Bonus Depreciation — The Tax Increase Prevention Act of 2014 was signed into law on December 19, 2014 and included an extension for one year of the bonus depreciation allowance. As a result, 50% of qualifying capital expenditures on property placed in service before January 1, 2015 were depreciated immediately. The acceleration of deductions on 2014 qualifying capital expenditures resulting from the bonus depreciation provisions had no impact on our effective income tax rate for 2014 although it will reduce our cash taxes by approximately $60 million.

Taking accelerated deductions results in increased cash taxes in subsequent periods when the deductions related to the capital expenditures would have otherwise been taken. Overall, the effect of all applicable years' bonus depreciation programs resulted in increased cash taxes of $30 million in 2014. Separately, our tax payments in 2014 were $247 million higher than the tax payments made in 2013 primarily due to (i) higher pre-tax earnings, (ii) an anticipated overpayment of taxes, and (iii) divestiture of our Puerto Rico operations and certain other collection and landfill assets.

Uncertain Tax Positions — We have liabilities associated with unrecognized tax benefits and related interest. These liabilities are included as a component of long-term "Other liabilities" in our Consolidated Balance Sheets because the Company does not anticipate that settlement of the liabilities will require payment of cash within the next 12 months. We are not able to reasonably estimate when we would make any cash payments required to settle these liabilities, but we do not believe that the ultimate settlement of our obligations will materially affect our liquidity. We anticipate that approximately $12 million of liabilities for unrecognized tax benefits, including accrued interest, and $3 million of related tax assets may be reversed within the next 12 months. The anticipated reversals primarily relate to state tax items, none of which are material, and are expected to result from audit settlements or the expiration of the applicable statute of limitations period.

Off-Balance Sheet Arrangements

We have financial interests in unconsolidated variable interest entities as discussed in Note 20 to the Consolidated Financial Statements. Additionally, we are party to guarantee arrangements with unconsolidated entities as discussed in the *Guarantees* section of Note 11 to the Consolidated Financial Statements. These arrangements have not materially affected our financial position, results of operations or liquidity during the year ended December 31, 2014, nor are they expected to have a material impact on our future financial position, results of operations or liquidity.

New Accounting Standard Pending Adoption

In May 2014, the FASB amended authoritative guidance associated with revenue recognition. The amended guidance requires companies to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Additionally, the amendments will require enhanced qualitative and quantitative disclosures regarding customer contracts. The amended authoritative guidance associated with revenue recognition is effective for the Company on January 1, 2017. The amended guidance may be applied retrospectively for all periods presented or retrospectively with the cumulative effect of initially applying the amended guidance recognized at the date of initial application. We are in the process of assessing the provisions of the amended guidance and have not determined whether the adoption will have a material impact on our consolidated financial statements.

Inflation

While inflationary increases in costs, including the cost of diesel fuel, have affected our income from operations margins in recent years, we believe that inflation generally has not had, and in the near future is not

expected to have, any material adverse effect on our results of operations. However, as of December 31, 2014, approximately 30% of our collection revenues are generated under long-term agreements with price adjustments based on various indices intended to measure inflation. Additionally, management's estimates associated with inflation have had, and will continue to have, an impact on our accounting for landfill and environmental remediation liabilities.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

In the normal course of business, we are exposed to market risks, including changes in interest rates, Canadian currency rates and certain commodity prices. From time to time, we use derivatives to manage some portion of these risks. Our derivatives are agreements with independent counterparties that provide for payments based on a notional amount. As of December 31, 2014, all of our derivative transactions were related to actual or anticipated economic exposures. We are exposed to credit risk in the event of non-performance by our derivative counterparties. However, we monitor our derivative positions by regularly evaluating our positions and the creditworthiness of the counterparties.

Interest Rate Exposure — Our exposure to market risk for changes in interest rates relates primarily to our financing activities, although our interest costs can also be significantly affected by our on-going financial assurance needs, which are discussed in the *Financial Assurance and Insurance Obligations* section of Item 1.

As of December 31, 2014, we had $9.4 billion of long-term debt when excluding the impacts of accounting for fair value adjustments attributable to interest rate derivatives, discounts and premiums. The effective interest rates of approximately $1.4 billion of our outstanding debt obligations are subject to change during 2015. The most significant components of our variable-rate debt obligations are (i) $501 million of tax-exempt bonds that are subject to repricing on either a daily or weekly basis through a remarketing process; (ii) $638 million of tax-exempt bonds with term interest rate periods that are subject to repricing within 12 months and (iii) $232 million of outstanding advances under our Canadian credit facility. We currently estimate that a 100 basis point increase in the interest rates of our outstanding variable-rate debt obligations would increase our 2015 interest expense by approximately $11.2 million. As of December 31, 2013, the effective interest rates of approximately $2.4 billion of our outstanding debt obligations were subject to change within 12 months.

Our remaining outstanding debt obligations have fixed interest rates through either the scheduled maturity of the debt or, for certain of our "fixed-rate" tax exempt bonds, through the end of a term interest rate period that exceeds twelve months. The fair value of our fixed-rate debt obligations and various interest rate derivative instruments, if any, can increase or decrease significantly if market interest rates change.

We have performed sensitivity analyses to determine how market rate changes might affect the fair value of our market risk-sensitive derivatives and related positions. These analyses are inherently limited because they reflect a singular, hypothetical set of assumptions. Actual market movements may vary significantly from our assumptions. An instantaneous, one percentage point increase in interest rates across all maturities and applicable yield curves attributable to these instruments would have decreased the fair value of our combined debt and interest rate derivative positions by approximately $650 million at December 31, 2014.

We are also exposed to interest rate market risk because we have significant cash and cash equivalent balances as well as assets held in restricted trust funds and escrow accounts. These assets are generally invested in high quality, liquid instruments including money market funds that invest in U.S. government obligations with original maturities of three months or less. Because of the short terms to maturity of these investments, we believe that our exposure to changes in fair value due to interest rate fluctuations is insignificant.

Commodity Price Exposure — In the normal course of our business, we are subject to operating agreements that expose us to market risks arising from changes in the prices for commodities such as diesel fuel; recyclable materials, including old corrugated cardboard, old newsprint and plastics; and electricity, which generally

correlates with natural gas prices in many of the markets in which we operate. During the three years ended December 31, 2014, we generally have not entered into derivatives to hedge the risks associated with changes in the market prices of these commodities, with the exception of electricity commodity derivatives divested in conjunction with the sale of our Wheelabrator business in December 2014. Alternatively, we attempt to manage these risks through operational strategies that focus on capturing our costs in the prices we charge our customers for the services provided. Accordingly, as the market prices for these commodities increase or decrease, our revenues also increase or decrease.

Currency Rate Exposure — We have operations in Canada as well as a cost center in India and investments in Hong Kong. From time to time, we use currency derivatives to mitigate the impact of currency translation on cash flows of intercompany Canadian-currency denominated debt transactions. Our foreign currency derivatives have not materially affected our financial position or results of operations for the periods presented. In addition, while changes in foreign currency exchange rates could significantly affect the fair value of our foreign currency derivatives, we believe these changes in fair value would not have a material impact to the Company. The foreign currency exposure associated with these investments has not been material. Refer to Notes 8 and 14 of the Consolidated Financial Statements for additional information regarding our foreign currency derivatives.

Item 8. ***Financial Statements and Supplementary Data.***

INDEX TO

CONSOLIDATED FINANCIAL STATEMENTS

	Page
Management's Report on Internal Control Over Financial Reporting	73
Reports of Independent Registered Public Accounting Firm	74
Consolidated Balance Sheets as of December 31, 2014 and 2013	76
Consolidated Statements of Operations for the Years Ended December 31, 2014, 2013 and 2012	77
Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2014, 2013 and 2012	77
Consolidated Statements of Cash Flows for the Years Ended December 31, 2014, 2013 and 2012	78
Consolidated Statements of Changes in Equity for the Years Ended December 31, 2014, 2013 and 2012	79
Notes to Consolidated Financial Statements	80

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management of the Company, including the principal executive and financial officers, is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) of the Securities Exchange Act of 1934, as amended. Our internal controls are designed to provide reasonable assurance as to the reliability of our financial reporting and the preparation of the consolidated financial statements for external purposes in accordance with accounting principles generally accepted in the United States and includes those policies and procedures that:

i. pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;

ii. provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and

iii. provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management of the Company assessed the effectiveness of our internal control over financial reporting as of December 31, 2014 based on the Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on its assessment, management has concluded that our internal control over financial reporting was effective as of December 31, 2014.

The effectiveness of our internal control over financial reporting has been audited by Ernst & Young LLP, the independent registered public accounting firm that audited our consolidated financial statements, as stated in their report, which is included herein.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of Waste Management, Inc.

We have audited Waste Management, Inc.'s internal control over financial reporting as of December 31, 2014, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Waste Management, Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Waste Management, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Waste Management, Inc. as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive income, cash flows, and changes in equity for each of the three years in the period ended December 31, 2014, and our report dated February 17, 2015 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Houston, Texas
February 17, 2015

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of Waste Management, Inc.

We have audited the accompanying consolidated balance sheets of Waste Management, Inc. (the "Company") as of December 31, 2014 and 2013, and the related consolidated statements of operations, comprehensive income, cash flows, and changes in equity for each of the three years in the period ended December 31, 2014. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Waste Management, Inc. at December 31, 2014 and 2013, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2014, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Waste Management, Inc.'s internal control over financial reporting as of December 31, 2014, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 17, 2015 expressed an unqualified opinion thereon.

/s/ ERNST & YOUNG LLP

Houston, Texas
February 17, 2015

WASTE MANAGEMENT, INC.
CONSOLIDATED BALANCE SHEETS
(In Millions, Except Share and Par Value Amounts)

	December 31, 2014	December 31, 2013
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,307	$ 58
Accounts receivable, net of allowance for doubtful accounts of $30 and $33, respectively	1,587	1,699
Other receivables	350	111
Investment in unconsolidated entity	—	177
Parts and supplies	106	178
Deferred income taxes	115	113
Other assets	176	163
Total current assets	3,641	2,499
Property and equipment, net of accumulated depreciation and amortization of $15,968 and $16,723, respectively	10,657	12,344
Goodwill	5,740	6,070
Other intangible assets, net	440	529
Investments in unconsolidated entities	408	414
Other assets	526	747
Total assets	$21,412	$22,603
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$ 740	$ 744
Accrued liabilities	1,180	1,069
Deferred revenues	475	475
Current portion of long-term debt	1,090	726
Total current liabilities	3,485	3,014
Long-term debt, less current portion	8,345	9,500
Deferred income taxes	1,453	1,842
Landfill and environmental remediation liabilities	1,531	1,518
Other liabilities	709	727
Total liabilities	15,523	16,601
Commitments and contingencies		
Equity:		
Waste Management, Inc. stockholders' equity:		
Common stock, $0.01 par value; 1,500,000,000 shares authorized; 630,282,461 shares issued	6	6
Additional paid-in capital	4,585	4,596
Retained earnings	6,888	6,289
Accumulated other comprehensive income	23	154
Treasury stock at cost, 171,745,077 and 165,961,646 shares, respectively	(5,636)	(5,338)
Total Waste Management, Inc. stockholders' equity	5,866	5,707
Noncontrolling interests	23	295
Total equity	5,889	6,002
Total liabilities and equity	$21,412	$22,603

See notes to Consolidated Financial statements.

WASTE MANAGEMENT, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS
(In Millions, Except per Share Amounts)

	Years Ended December 31,		
	2014	2013	2012
Operating revenues:			
Service revenues	$12,646	$12,566	$12,327
Tangible product revenues	1,350	1,417	1,322
Total operating revenues	13,996	13,983	13,649
Costs and expenses:			
Operating costs:			
Cost of services	7,856	7,880	7,765
Cost of tangible products	1,146	1,232	1,114
Total operating costs	9,002	9,112	8,879
Selling, general and administrative	1,481	1,468	1,472
Depreciation and amortization	1,292	1,333	1,297
Restructuring	82	18	67
Goodwill impairments	10	509	4
(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items	(170)	464	79
	11,697	12,904	11,798
Income from operations	2,299	1,079	1,851
Other income (expense):			
Interest expense, net	(466)	(477)	(484)
Equity in net losses of unconsolidated entities	(53)	(34)	(46)
Other, net	(29)	(74)	(18)
	(548)	(585)	(548)
Income before income taxes	1,751	494	1,303
Provision for income taxes	413	364	443
Consolidated net income	1,338	130	860
Less: Net income attributable to noncontrolling interests	40	32	43
Net income attributable to Waste Management, Inc.	$ 1,298	$ 98	$ 817
Basic earnings per common share	$ 2.80	$ 0.21	$ 1.76
Diluted earnings per common share	$ 2.79	$ 0.21	$ 1.76
Cash dividends declared per common share	$ 1.50	$ 1.46	$ 1.42

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In Millions)

	Years Ended December 31,		
	2014	2013	2012
Consolidated net income	$ 1,338	$ 130	$ 860
Other comprehensive income (loss), net of taxes:			
Derivative instruments, net	1	12	(12)
Available-for-sale securities, net	4	2	2
Foreign currency translation adjustments	(124)	(68)	33
Post-retirement benefit obligation, net	(12)	15	(2)
Other comprehensive income (loss), net of taxes	(131)	(39)	21
Comprehensive income	1,207	91	881
Less: Comprehensive income attributable to noncontrolling interests	40	32	43
Comprehensive income attributable to Waste Management, Inc.	$ 1,167	$ 59	$ 838

See notes to Consolidated Financial statements.

WASTE MANAGEMENT, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In Millions)

	Years Ended December 31,		
	2014	2013	2012
Cash flows from operating activities:			
Consolidated net income	$ 1,338	$ 130	$ 860
Adjustments to reconcile consolidated net income to net cash provided by operating activities:			
Depreciation and amortization	1,292	1,333	1,297
Deferred income tax (benefit) provision	(118)	(149)	67
Interest accretion on landfill liabilities	88	87	84
Interest accretion on and discount rate adjustments to environmental remediation liabilities and recovery assets	14	(10)	6
Provision for bad debts	42	39	57
Equity-based compensation expense	65	58	29
Excess tax benefits associated with equity-based transactions	(5)	(10)	(11)
Net gain on disposal of assets	(35)	(21)	(21)
Effect of goodwill impairments	10	509	4
Effect of (income) expense from divestitures, asset impairments (other than goodwill) and unusual items and other	(137)	535	95
Equity in net losses of unconsolidated entities, net of dividends	42	34	46
Change in operating assets and liabilities, net of effects of acquisitions and divestitures:			
Receivables	(268)	44	(131)
Other current assets	(19)	(7)	(50)
Other assets	22	4	105
Accounts payable and accrued liabilities	117	(27)	(57)
Deferred revenues and other liabilities	(117)	(94)	(85)
Net cash provided by operating activities	2,331	2,455	2,295
Cash flows from investing activities:			
Acquisitions of businesses, net of cash acquired	(35)	(724)	(250)
Capital expenditures	(1,151)	(1,271)	(1,510)
Proceeds from divestitures of businesses and other assets (net of cash divested)	2,253	138	44
Net receipts from restricted trust and escrow accounts	19	71	14
Investments in unconsolidated entities	(33)	(33)	(77)
Other	(58)	(81)	(51)
Net cash provided by (used in) investing activities	995	(1,900)	(1,830)
Cash flows from financing activities:			
New borrowings	2,817	2,232	1,620
Debt repayments	(3,568)	(2,077)	(1,498)
Common stock repurchases	(600)	(239)	—
Cash dividends	(693)	(683)	(658)
Exercise of common stock options	93	132	43
Excess tax benefits associated with equity-based transactions	5	10	11
Acquisitions of and distributions paid to noncontrolling interests	(125)	(59)	(46)
Other	(1)	(3)	(2)
Net cash used in financing activities	(2,072)	(687)	(530)
Effect of exchange rate changes on cash and cash equivalents	(5)	(4)	1
Increase (decrease) in cash and cash equivalents	1,249	(136)	(64)
Cash and cash equivalents at beginning of year	58	194	258
Cash and cash equivalents at end of year	$ 1,307	$ 58	$ 194

See notes to Consolidated Financial statements.

WASTE MANAGEMENT, INC.

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(In Millions, Except Shares in Thousands)

		Waste Management, Inc. Stockholders' Equity							
		Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock		Noncontrolling Interests
	Total	Shares	Amounts				Shares	Amounts	
Balance, December 31, 2011	$6,390	630,282	$ 6	$4,561	$6,721	$ 172	(169,750)	$(5,390)	$ 320
Consolidated net income	860	—	—	—	817	—	—	—	43
Other comprehensive income (loss), net of taxes	21	—	—	—	—	21	—	—	—
Cash dividends declared	(658)	—	—	—	(658)	—	—	—	—
Equity-based compensation transactions, including dividend equivalents, net of taxes	101	—	—	(15)	(1)	—	3,680	117	—
Distributions paid to noncontrolling interests	(46)	—	—	—	—	—	—	—	(46)
Other	7	—	—	3	—	—	8	—	4
Balance, December 31, 2012	$6,675	630,282	$ 6	$4,549	$6,879	$ 193	(166,062)	$(5,273)	$ 321
Consolidated net income	130	—	—	—	98	—	—	—	32
Other comprehensive income (loss), net of taxes	(39)	—	—	—	—	(39)	—	—	—
Cash dividends declared	(683)	—	—	—	(683)	—	—	—	—
Equity-based compensation transactions, including dividend equivalents, net of taxes	216	—	—	47	(5)	—	5,461	174	—
Common stock repurchases	(239)	—	—	—	—	—	(5,368)	(239)	—
Distributions paid to noncontrolling interests	(59)	—	—	—	—	—	—	—	(59)
Other	1	—	—	—	—	—	7	—	1
Balance, December 31, 2013	$6,002	630,282	$ 6	$4,596	$6,289	$ 154	(165,962)	$(5,338)	$ 295
Consolidated net income	1,338	—	—	—	1,298	—	—	—	40
Other comprehensive income (loss), net of taxes	(131)	—	—	—	—	(131)	—	—	—
Cash dividends declared	(693)	—	—	—	(693)	—	—	—	—
Equity-based compensation transactions, including dividend equivalents, net of taxes	195	—	—	79	(6)	—	3,779	122	—
Common stock repurchases	(600)	—	—	(180)	—	—	(9,569)	(420)	—
Distributions paid to noncontrolling interests	(34)	—	—	—	—	—	—	—	(34)
Acquisitions of noncontrolling interests and divestiture of Wheelabrator business	(188)	—	—	90	—	—	—	—	(278)
Other	—	—	—	—	—	—	7	—	—
Balance, December 31, 2014	$5,889	630,282	$ 6	$4,585	$6,888	$ 23	(171,745)	$(5,636)	$ 23

See notes to Consolidated Financial statements.

1. Business

The financial statements presented in this report represent the consolidation of Waste Management, Inc., a Delaware corporation; Waste Management's wholly-owned and majority-owned subsidiaries; and certain variable interest entities for which Waste Management or its subsidiaries are the primary beneficiaries as described in Note 20. Waste Management is a holding company and all operations are conducted by its subsidiaries. When the terms "the Company," "we," "us" or "our" are used in this document, those terms refer to Waste Management, Inc., its consolidated subsidiaries and consolidated variable interest entities. When we use the term "WM," we are referring only to Waste Management, Inc., the parent holding company.

We are North America's leading provider of comprehensive waste management environmental services. We partner with our residential, commercial, industrial and municipal customers and the communities we serve to manage and reduce waste at each stage from collection to disposal, while recovering valuable resources and creating clean, renewable energy. Our "Solid Waste" business is operated and managed locally by our subsidiaries that focus on distinct geographic areas and provides collection, transfer, recycling and resource recovery, and disposal services. Through our subsidiaries, we are also a leading developer, operator and owner of landfill gas-to-energy facilities in the United States. In December 2014, we completed the previously announced sale of our Wheelabrator business, which provided waste-to-energy services and managed waste-to-energy facilities and independent power production plants. Refer to Note 19 for additional information related to our divestitures.

We evaluate, oversee and manage the financial performance of our Solid Waste business subsidiaries through our 17 geographic Areas. We also provide additional services that are not managed through our Solid Waste business, which are presented in this report as "Other." Additional information related to our segments can be found in Note 21.

2. Accounting Changes and Reclassifications

Accounting Changes

Comprehensive Income — In February 2013, the Financial Accounting Standards Board ("FASB") issued amended authoritative guidance associated with comprehensive income, which requires companies to provide information about the amounts that are reclassified out of accumulated other comprehensive income by component. Additionally, companies are required to present significant amounts reclassified out of accumulated other comprehensive income by the respective line items of net income. The amendment to authoritative guidance associated with comprehensive income was effective for the Company on January 1, 2013. The adoption of this guidance did not have a material impact on our consolidated financial statements. We have presented the information required by this amendment in Note 14.

Indefinite-Lived Intangible Assets Impairment Testing — In July 2012, the FASB amended authoritative guidance associated with indefinite-lived intangible assets impairment testing. The amended guidance provides companies the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the indefinite-lived intangible asset is impaired. If, after assessing the totality of events or circumstances, an entity determines it is not more likely than not that the indefinite-lived intangible asset is impaired, then the entity is not required to take further action. The amendments are effective for indefinite-lived intangible impairment tests performed for fiscal years beginning after September 15, 2012; however, early adoption was permitted. The Company's early adoption of this guidance in 2012 did not have an impact on our consolidated financial statements. Additional information on impairment testing can be found in Note 3.

Reclassifications

When necessary, reclassifications have been made to our prior period consolidated financial information in order to conform to the current year presentation.

3. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying Consolidated Financial Statements include the accounts of WM, its wholly-owned and majority-owned subsidiaries and certain variable interest entities for which we have determined that we are the primary beneficiary. All material intercompany balances and transactions have been eliminated. Investments in entities in which we do not have a controlling financial interest are accounted for under either the equity method or cost method of accounting, as appropriate.

Estimates and Assumptions

In preparing our financial statements, we make numerous estimates and assumptions that affect the accounting for and recognition and disclosure of assets, liabilities, equity, revenues and expenses. We must make these estimates and assumptions because certain information that we use is dependent on future events, cannot be calculated with precision from available data or simply cannot be calculated. In some cases, these estimates are difficult to determine, and we must exercise significant judgment. In preparing our financial statements, the most difficult, subjective and complex estimates and the assumptions that present the greatest amount of uncertainty relate to our accounting for landfills, environmental remediation liabilities, asset impairments, deferred income taxes and reserves associated with our insured and self-insured claims. Each of these items is discussed in additional detail below. Actual results could differ materially from the estimates and assumptions that we use in the preparation of our financial statements.

Cash and Cash Equivalents

Cash in excess of current operating requirements is invested in short-term interest-bearing instruments with maturities of three months or less at the date of purchase and is stated at cost, which approximates market value.

Concentrations of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash and cash equivalents, investments held within our trust funds and escrow accounts, accounts receivable and derivative instruments. We make efforts to control our exposure to credit risk associated with these instruments by (i) placing our assets and other financial interests with a diverse group of credit-worthy financial institutions; (ii) holding high-quality financial instruments while limiting investments in any one instrument and (iii) maintaining strict policies over credit extension that include credit evaluations, credit limits and monitoring procedures, although generally we do not have collateral requirements for credit extensions. We also control our exposure associated with trade receivables by discontinuing service, to the extent allowable, to non-paying customers. However, our overall credit risk associated with trade receivables is limited due to the large number of diverse customers we serve. At December 31, 2014 and 2013, no single customer represented greater than 5% of total accounts receivable.

Trade and Other Receivables

Our receivables, which are recorded when billed, when services are performed or when cash is advanced, are claims against third parties that will generally be settled in cash. The carrying value of our receivables, net of

the allowance for doubtful accounts, represents the estimated net realizable value. We estimate our allowance for doubtful accounts based on historical collection trends; type of customer, such as municipal or commercial; the age of outstanding receivables; and existing economic conditions. If events or changes in circumstances indicate that specific receivable balances may be impaired, further consideration is given to the collectability of those balances and the allowance is adjusted accordingly. Past-due receivable balances are written off when our internal collection efforts have been unsuccessful. Also, we recognize interest income on long-term interest-bearing notes receivable as the interest accrues under the terms of the notes. We no longer accrue interest once the notes are deemed uncollectible.

Other receivables at December 31, 2014 and 2013 include receivables related to tax payments in excess of the provision of $255 million and $23 million, respectively.

Parts and Supplies

Parts and supplies consist primarily of spare parts, fuel, tires, lubricants and processed recycling materials. Our parts and supplies are stated at the lower of cost, using the average cost method, or market.

Landfill Accounting

Cost Basis of Landfill Assets — We capitalize various costs that we incur to make a landfill ready to accept waste. These costs generally include expenditures for land (including the landfill footprint and required landfill buffer property); permitting; excavation; liner material and installation; landfill leachate collection systems; landfill gas collection systems; environmental monitoring equipment for groundwater and landfill gas; and directly related engineering, capitalized interest, on-site road construction and other capital infrastructure costs. The cost basis of our landfill assets also includes asset retirement costs, which represent estimates of future costs associated with landfill final capping, closure and post-closure activities. These costs are discussed below.

Final Capping, Closure and Post-Closure Costs — Following is a description of our asset retirement activities and our related accounting:

- *Final Capping* — Involves the installation of flexible membrane liners and geosynthetic clay liners, drainage and compacted soil layers and topsoil over areas of a landfill where total airspace capacity has been consumed. Final capping asset retirement obligations are recorded on a units-of-consumption basis as airspace is consumed related to the specific final capping event with a corresponding increase in the landfill asset. Each final capping event is accounted for as a discrete obligation and recorded as an asset and a liability based on estimates of the discounted cash flows and capacity associated with each final capping event.
- *Closure* — Includes the construction of the final portion of methane gas collection systems (when required), demobilization and routine maintenance costs. These are costs incurred after the site ceases to accept waste, but before the landfill is certified as closed by the applicable state regulatory agency. These costs are recorded as an asset retirement obligation as airspace is consumed over the life of the landfill with a corresponding increase in the landfill asset. Closure obligations are recorded over the life of the landfill based on estimates of the discounted cash flows associated with performing closure activities.
- *Post-Closure* — Involves the maintenance and monitoring of a landfill site that has been certified closed by the applicable regulatory agency. Generally, we are required to maintain and monitor landfill sites for a 30-year period. These maintenance and monitoring costs are recorded as an asset retirement obligation as airspace is consumed over the life of the landfill with a corresponding increase in the landfill asset. Post-closure obligations are recorded over the life of the landfill based on estimates of the discounted cash flows associated with performing post-closure activities.

We develop our estimates of these obligations using input from our operations personnel, engineers and accountants. Our estimates are based on our interpretation of current requirements and proposed regulatory changes and are intended to approximate fair value. Absent quoted market prices, the estimate of fair value is based on the best available information, including the results of present value techniques. In many cases, we contract with third parties to fulfill our obligations for final capping, closure and post-closure. We use historical experience, professional engineering judgment and quoted and actual prices paid for similar work to determine the fair value of these obligations. We are required to recognize these obligations at market prices whether we plan to contract with third parties or perform the work ourselves. In those instances where we perform the work with internal resources, the incremental profit margin realized is recognized as a component of operating income when the work is performed.

Once we have determined the final capping, closure and post-closure costs, we inflate those costs to the expected time of payment and discount those expected future costs back to present value. During the years ended December 31, 2014, 2013 and 2012, we inflated these costs in current dollars until the expected time of payment using an inflation rate of 2.5%. We discounted these costs to present value using the credit-adjusted, risk-free rate effective at the time an obligation is incurred, consistent with the expected cash flow approach. Any changes in expectations that result in an upward revision to the estimated cash flows are treated as a new liability and discounted at the current rate while downward revisions are discounted at the historical weighted-average rate of the recorded obligation. As a result, the credit-adjusted, risk-free discount rate used to calculate the present value of an obligation is specific to each individual asset retirement obligation. The weighted-average rate applicable to our asset retirement obligations at December 31, 2014 is between 4.00% and 7.75%. We expect to apply a credit-adjusted, risk-free discount rate of 4.00% to liabilities incurred in the first quarter of 2015.

We record the estimated fair value of final capping, closure and post-closure liabilities for our landfills based on the capacity consumed through the current period. The fair value of final capping obligations is developed based on our estimates of the airspace consumed to date for each final capping event and the expected timing of each final capping event. The fair value of closure and post-closure obligations is developed based on our estimates of the airspace consumed to date for the entire landfill and the expected timing of each closure and post-closure activity. Because these obligations are measured at estimated fair value using present value techniques, changes in the estimated cost or timing of future final capping, closure and post-closure activities could result in a material change in these liabilities, related assets and results of operations. We assess the appropriateness of the estimates used to develop our recorded balances annually, or more often if significant facts change.

Changes in inflation rates or the estimated costs, timing or extent of future final capping, closure and post-closure activities typically result in both (i) a current adjustment to the recorded liability and landfill asset and (ii) a change in liability and asset amounts to be recorded prospectively over either the remaining capacity of the related discrete final capping event or the remaining permitted and expansion airspace (as defined below) of the landfill. Any changes related to the capitalized and future cost of the landfill assets are then recognized in accordance with our amortization policy, which would generally result in amortization expense being recognized prospectively over the remaining capacity of the final capping event or the remaining permitted and expansion airspace of the landfill, as appropriate. Changes in such estimates associated with airspace that has been fully utilized result in an adjustment to the recorded liability and landfill assets with an immediate corresponding adjustment to landfill airspace amortization expense.

Interest accretion on final capping, closure and post-closure liabilities is recorded using the effective interest method and is recorded as final capping, closure and post-closure expense, which is included in "Operating" costs and expenses within our Consolidated Statements of Operations.

Amortization of Landfill Assets — The amortizable basis of a landfill includes (i) amounts previously expended and capitalized; (ii) capitalized landfill final capping, closure and post-closure costs; (iii) projections of future purchase and development costs required to develop the landfill site to its remaining permitted and expansion capacity and (iv) projected asset retirement costs related to landfill final capping, closure and post-closure activities.

Amortization is recorded on a units-of-consumption basis, applying expense as a rate per ton. The rate per ton is calculated by dividing each component of the amortizable basis of a landfill by the number of tons needed to fill the corresponding asset's airspace. For landfills that we do not own, but operate through operating or lease arrangements, the rate per ton is calculated based on expected capacity to be utilized over the lesser of the contractual term of the underlying agreement or the life of the landfill.

We apply the following guidelines in determining a landfill's remaining permitted and expansion airspace:

- *Remaining Permitted Airspace* — Our engineers, in consultation with third-party engineering consultants and surveyors, are responsible for determining remaining permitted airspace at our landfills. The remaining permitted airspace is determined by an annual survey, which is used to compare the existing landfill topography to the expected final landfill topography.
- *Expansion Airspace* — We also include currently unpermitted expansion airspace in our estimate of remaining permitted and expansion airspace in certain circumstances. First, to include airspace associated with an expansion effort, we must generally expect the initial expansion permit application to be submitted within one year and the final expansion permit to be received within five years. Second, we must believe that obtaining the expansion permit is likely, considering the following criteria:
  - Personnel are actively working on the expansion of an existing landfill, including efforts to obtain land use and local, state or provincial approvals;
  - It is likely that the approvals will be received within the normal application and processing time periods for approvals in the jurisdiction in which the landfill is located;
  - We have a legal right to use or obtain land to be included in the expansion plan;
  - There are no significant known technical, legal, community, business, or political restrictions or similar issues that could negatively affect the success of such expansion; and
  - Financial analysis has been completed based on conceptual design, and the results demonstrate that the expansion has a positive financial and operational impact.

For unpermitted airspace to be initially included in our estimate of remaining permitted and expansion airspace, the expansion effort must meet all of the criteria listed above. These criteria are evaluated by our field-based engineers, accountants, managers and others to identify potential obstacles to obtaining the permits. Once the unpermitted airspace is included, our policy provides that airspace may continue to be included in remaining permitted and expansion airspace even if certain of these criteria are no longer met as long as we continue to believe we will ultimately obtain the permit, based on the facts and circumstances of a specific landfill. In these circumstances, continued inclusion must be approved through a landfill-specific review process that includes approval by our Chief Financial Officer and a review by the Audit Committee of our Board of Directors on a quarterly basis. Of the 23 landfill sites with expansions included at December 31, 2014, five landfills required the Chief Financial Officer to approve the inclusion of the unpermitted airspace. Two of these landfills required approval by our Chief Financial Officer because of community or political opposition that could impede the

expansion process. The remaining three landfills required approval due to local zoning restrictions or because the permit application processes do not meet the one- or five-year requirements.

When we include the expansion airspace in our calculations of remaining permitted and expansion airspace, we also include the projected costs for development, as well as the projected asset retirement costs related to final capping, closure and post-closure of the expansion in the amortization basis of the landfill.

Once the remaining permitted and expansion airspace is determined in cubic yards, an airspace utilization factor ("AUF") is established to calculate the remaining permitted and expansion capacity in tons. The AUF is established using the measured density obtained from previous annual surveys and is then adjusted to account for future settlement. The amount of settlement that is forecasted will take into account several site-specific factors including current and projected mix of waste type, initial and projected waste density, estimated number of years of life remaining, depth of underlying waste, anticipated access to moisture through precipitation or recirculation of landfill leachate, and operating practices. In addition, the initial selection of the AUF is subject to a subsequent multi-level review by our engineering group, and the AUF used is reviewed on a periodic basis and revised as necessary. Our historical experience generally indicates that the impact of settlement at a landfill is greater later in the life of the landfill when the waste placed at the landfill approaches its highest point under the permit requirements.

After determining the costs and remaining permitted and expansion capacity at each of our landfills, we determine the per ton rates that will be expensed as waste is received and deposited at the landfill by dividing the costs by the corresponding number of tons. We calculate per ton amortization rates for each landfill for assets associated with each final capping event, for assets related to closure and post-closure activities and for all other costs capitalized or to be capitalized in the future. These rates per ton are updated annually, or more often, as significant facts change.

It is possible that actual results, including the amount of costs incurred, the timing of final capping, closure and post-closure activities, our airspace utilization or the success of our expansion efforts could ultimately turn out to be significantly different from our estimates and assumptions. To the extent that such estimates, or related assumptions, prove to be significantly different than actual results, lower profitability may be experienced due to higher amortization rates or higher expenses; or higher profitability may result if the opposite occurs. Most significantly, if it is determined that expansion capacity should no longer be considered in calculating the recoverability of a landfill asset, we may be required to recognize an asset impairment or incur significantly higher amortization expense. If at any time management makes the decision to abandon the expansion effort, the capitalized costs related to the expansion effort are expensed immediately.

Environmental Remediation Liabilities

We are subject to an array of laws and regulations relating to the protection of the environment. Under current laws and regulations, we may have liabilities for environmental damage caused by operations, or for damage caused by conditions that existed before we acquired a site. These liabilities include potentially responsible party ("PRP") investigations, settlements, and certain legal and consultant fees, as well as costs directly associated with site investigation and clean up, such as materials, external contractor costs and incremental internal costs directly related to the remedy. We provide for expenses associated with environmental remediation obligations when such amounts are probable and can be reasonably estimated. We routinely review and evaluate sites that require remediation and determine our estimated cost for the likely remedy based on a number of estimates and assumptions.

Where it is probable that a liability has been incurred, we estimate costs required to remediate sites based on site-specific facts and circumstances. We routinely review and evaluate sites that require remediation, considering whether we were an owner, operator, transporter, or generator at the site, the amount and type of waste hauled to the site and the number of years we were associated with the site. Next, we review the same type of information with respect to other named and unnamed PRPs. Estimates of the costs for the likely remedy are then either developed using our internal resources or by third-party environmental engineers or other service providers. Internally developed estimates are based on:

- Management's judgment and experience in remediating our own and unrelated parties' sites;
- Information available from regulatory agencies as to costs of remediation;
- The number, financial resources and relative degree of responsibility of other PRPs who may be liable for remediation of a specific site; and
- The typical allocation of costs among PRPs, unless the actual allocation has been determined.

Estimating our degree of responsibility for remediation is inherently difficult. We recognize and accrue for an estimated remediation liability when we determine that such liability is both probable and reasonably estimable. Determining the method and ultimate cost of remediation requires that a number of assumptions be made. There can sometimes be a range of reasonable estimates of the costs associated with the likely site remediation alternatives identified in the investigation of the extent of environmental impact. In these cases, we use the amount within the range that constitutes our best estimate. If no amount within a range appears to be a better estimate than any other, we use the amount that is the low end of such range. If we used the high ends of such ranges, our aggregate potential liability would be approximately $190 million higher than the $235 million recorded in the Consolidated Financial Statements as of December 31, 2014. Our ultimate responsibility may differ materially from current estimates. It is possible that technological, regulatory or enforcement developments, the results of environmental studies, the inability to identify other PRPs, the inability of other PRPs to contribute to the settlements of such liabilities, or other factors could require us to record additional liabilities. Our ongoing review of our remediation liabilities, in light of relevant internal and external facts and circumstances, could result in revisions to our accruals that could cause upward or downward adjustments to income from operations. These adjustments could be material in any given period.

Where we believe that both the amount of a particular environmental remediation liability and the timing of the payments are fixed or reliably determinable, we inflate the cost in current dollars (by 2.5% at December 31, 2014 and 2013) until the expected time of payment and discount the cost to present value using a risk-free discount rate, which is based on the rate for U.S. Treasury bonds with a term approximating the weighted average period until settlement of the underlying obligation. We determine the risk-free discount rate and the inflation rate on an annual basis unless interim changes would significantly impact our results of operations. For remedial liabilities that have been discounted, we include interest accretion, based on the effective interest method, in "Operating" costs and expenses in our Consolidated Statements of Operations. The following table summarizes the impacts of revisions in the risk-free discount rate applied to our environmental remediation liabilities and recovery assets during the reported periods (in millions) and the risk-free discount rate applied as of each reporting date:

	Years Ended December 31,		
	2014	2013	2012
Charge (reduction) to Operating expenses	$ 10	$ (13)	$ 3
Risk-free discount rate applied to environmental remediation liabilities and recovery assets	2.00%	3.00%	1.75%

The portion of our recorded environmental remediation liabilities that has never been subject to inflation or discounting, as the amounts and timing of payments are not fixed or reliably determinable, was $41 million at December 31, 2014 and $36 million at December 31, 2013. Had we not inflated and discounted any portion of our environmental remediation liability, the amount recorded would have decreased by $6 million at December 31, 2014 and increased by $7 million at December 31, 2013.

Property and Equipment (exclusive of landfills, discussed above)

We record property and equipment at cost. Expenditures for major additions and improvements are capitalized and maintenance activities are expensed as incurred. We depreciate property and equipment over the estimated useful life of the asset using the straight-line method. We assume no salvage value for our depreciable property and equipment. When property and equipment are retired, sold or otherwise disposed of, the cost and accumulated depreciation are removed from our accounts and any resulting gain or loss is included in results of operations as an offset or increase to operating expense for the period.

The estimated useful lives for significant property and equipment categories are as follows (in years):

	Useful Lives
Vehicles — excluding rail haul cars	3 to 10
Vehicles — rail haul cars	10 to 20
Machinery and equipment — including containers	3 to 30
Buildings and improvements — excluding waste-to-energy facilities	5 to 40
Waste-to-energy facilities and related equipment	up to 50
Furniture, fixtures and office equipment	3 to 10

We include capitalized costs associated with developing or obtaining internal-use software within furniture, fixtures and office equipment. These costs include direct external costs of materials and services used in developing or obtaining the software and internal costs for employees directly associated with the software development project. As of December 31, 2014 and 2013, capitalized costs for software placed in service, net of accumulated depreciation, were $114 million and $129 million, respectively. In addition, our furniture, fixtures and office equipment as of December 31, 2014 and 2013 included $5 million and $11 million, respectively, for costs incurred for software under development.

Leases

We lease property and equipment in the ordinary course of our business. Our most significant lease obligations are for property and equipment specific to our industry, including real property operated as a landfill or transfer station. Our leases have varying terms. Some may include renewal or purchase options, escalation clauses, restrictions, penalties or other obligations that we consider in determining minimum lease payments. The leases are classified as either operating leases or capital leases, as appropriate.

Operating Leases (excluding landfills discussed below) — The majority of our leases are operating leases. This classification generally can be attributed to either (i) relatively low fixed minimum lease payments as a result of real property lease obligations that vary based on the volume of waste we receive or process or (ii) minimum lease terms that are much shorter than the assets' economic useful lives. Management expects that in the normal course of business our operating leases will be renewed, replaced by other leases, or replaced with fixed asset expenditures. Our rent expense during each of the last three years and our future minimum operating lease payments for each of the next five years for which we are contractually obligated as of December 31, 2014 are disclosed in Note 11.

Capital Leases (excluding landfills discussed below) — Assets under capital leases are capitalized using interest rates determined at the inception of each lease and are amortized over either the useful life of the asset or the lease term, as appropriate, on a straight-line basis. The present value of the related lease payments is recorded as a debt obligation. Our future minimum annual capital lease payments are included in our total future debt obligations as disclosed in Note 7.

Landfill Leases — From an operating perspective, landfills that we lease are similar to landfills we own because generally we own the landfill's operating permit and will operate the landfill for the entire lease term, which in many cases is the life of the landfill. As a result, our landfill leases are generally capital leases. The most significant portion of our rental obligations for landfill leases is contingent upon operating factors such as disposal volumes and often there are no contractual minimum rental obligations. Contingent rental obligations are expensed as incurred. For landfill capital leases that provide for minimum contractual rental obligations, we record the present value of the minimum obligation as part of the landfill asset, which is amortized on a units-of-consumption basis over the shorter of the lease term or the life of the landfill.

Acquisitions

We generally recognize assets acquired and liabilities assumed in business combinations, including contingent assets and liabilities, based on fair value estimates as of the date of acquisition.

Contingent Consideration — In certain acquisitions, we agree to pay additional amounts to sellers contingent upon achievement by the acquired businesses of certain negotiated goals, such as targeted revenue levels, targeted disposal volumes or the issuance of permits for expanded landfill airspace. We have recognized liabilities for these contingent obligations based on their estimated fair value at the date of acquisition with any differences between the acquisition-date fair value and the ultimate settlement of the obligations being recognized as an adjustment to income from operations.

Acquired Assets and Assumed Liabilities — Assets and liabilities arising from contingencies such as pre-acquisition environmental matters and litigation are recognized at their acquisition-date fair value when their respective fair values can be determined. If the fair values of such contingencies cannot be determined, they are recognized at the acquisition date if the contingencies are probable and an amount can be reasonably estimated.

Acquisition-date fair value estimates are revised as necessary and accounted for as an adjustment to income from operations if, and when, additional information regarding these contingencies becomes available to further define and quantify assets acquired and liabilities assumed. All acquisition-related transaction costs have been expensed as incurred.

Goodwill and Other Intangible Assets

Goodwill is the excess of our purchase cost over the fair value of the net assets of acquired businesses. We do not amortize goodwill, but as discussed in the *Asset Impairments* section below, we assess our goodwill for impairment at least annually.

Other intangible assets consist primarily of customer and supplier relationships, covenants not-to-compete, licenses, permits (other than landfill permits, as all landfill-related intangible assets are combined with landfill tangible assets and amortized using our landfill amortization policy), and other contracts. Other intangible assets are recorded at acquisition date fair value and are generally amortized using either a 150% declining balance approach or a straight-line basis as we determine appropriate. Customer and supplier relationships are typically

amortized over a term ranging between 10 and 15 years. Covenants not-to-compete are amortized over the term of the non-compete covenant, which is generally two to five years. Licenses, permits and other contracts are amortized over the definitive terms of the related agreements. If the underlying agreement does not contain definitive terms and the useful life is determined to be indefinite, the asset is not amortized.

Asset Impairments

We monitor the carrying value of our long-lived assets for potential impairment on an ongoing basis and test the recoverability of such assets using significant unobservable ("Level 3") inputs whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. These events or changes in circumstances, including management decisions pertaining to such assets, are referred to as impairment indicators. If an impairment indicator occurs, we perform a test of recoverability by comparing the carrying value of the asset or asset group to its undiscounted expected future cash flows. If cash flows cannot be separately and independently identified for a single asset, we will determine whether an impairment has occurred for the group of assets for which we can identify the projected cash flows. If the carrying values are in excess of undiscounted expected future cash flows, we measure any impairment by comparing the fair value of the asset or asset group to its carrying value. Fair value is generally determined by considering (i) internally developed discounted projected cash flow analysis of the asset or asset group; (ii) actual third-party valuations and/or (iii) information available regarding the current market for similar assets. If the fair value of an asset or asset group is determined to be less than the carrying amount of the asset or asset group, an impairment in the amount of the difference is recorded in the period that the impairment indicator occurs and is included in the "(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items" line item in our Consolidated Statement of Operations. Estimating future cash flows requires significant judgment and projections may vary from the cash flows eventually realized, which could impact our ability to accurately assess whether an asset has been impaired.

There are additional considerations for impairments of landfills, goodwill and other indefinite-lived intangible assets, as described below.

Landfills — The assessment of impairment indicators and the recoverability of our capitalized costs associated with landfills and related expansion projects require significant judgment due to the unique nature of the waste industry, the highly regulated permitting process and the sensitive estimates involved. During the review of a landfill expansion application, a regulator may initially deny the expansion application although the expansion permit is ultimately granted. In addition, management may periodically divert waste from one landfill to another to conserve remaining permitted landfill airspace, or a landfill may be required to cease accepting waste, prior to receipt of the expansion permit. However, such events occur in the ordinary course of business in the waste industry and do not necessarily result in impairment of our landfill assets because, after consideration of all facts, such events may not affect our belief that we will ultimately obtain the expansion permit. As a result, our tests of recoverability, which generally make use of a probability-weighted cash flow estimation approach, may indicate that no impairment loss should be recorded. At December 31, 2014, one of our landfill sites for which we believe receipt of the expansion permit is probable, is not currently accepting waste. The net recorded capitalized landfill asset cost for this site was $247 million at December 31, 2014. We performed a test of recoverability for this landfill and the undiscounted cash flows resulting from our probability-weighted estimation approach significantly exceeded the carrying value of this site. During the year ended December 31, 2013, we recognized $262 million of charges to impair certain of our landfills, primarily as a result of our consideration of management's decision in the fourth quarter of 2013 not to actively pursue expansion and/or development of such landfills. These charges were primarily associated with two landfills in our Eastern Canada Area, which are no longer accepting waste. We had previously concluded that receipt of permits for these landfills was probable. However, in connection with our asset rationalization and capital allocation analysis,

which was influenced, in part, by our acquisition of RCI Environnement, Inc. ("RCI"), we determined that the future costs to construct these landfills could be avoided as we are able to allocate disposal that would have gone to these landfills to other facilities and not materially impact operations. As a result of management's decision, we determined that the carrying values of landfill assets were no longer able to be recovered by the undiscounted cash flows attributable to these assets. As such, we wrote their carrying values down to their estimated fair values using a market approach considering the highest and best use of the assets.

Refer to Note 13 for additional information related to landfill asset impairments recognized during the reported periods.

Goodwill — At least annually, and more frequently if warranted, we assess our goodwill for impairment using Level 3 inputs.

We assess whether a goodwill impairment exists using both qualitative and quantitative assessments. Our qualitative assessment involves determining whether events or circumstances exist that indicate it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. If based on this qualitative assessment we determine it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, we will not perform a quantitative assessment.

If the qualitative assessment indicates that it is more likely than not that the fair value of a reporting unit is less than its carrying amount or if we elect not to perform a qualitative assessment, we perform a quantitative assessment, or two-step impairment test, to determine whether a goodwill impairment exists at the reporting unit. The first step in our quantitative assessment identifies potential impairments by comparing the estimated fair value of the reporting unit to its carrying value, including goodwill. If the carrying value exceeds estimated fair value, there is an indication of potential impairment and the second step is performed to measure the amount of impairment. Fair value is typically estimated using a combination of the income approach and market approach or only an income approach when applicable. The income approach is based on the long-term projected future cash flows of the reporting units. We discount the estimated cash flows to present value using a weighted-average cost of capital that considers factors such as market assumptions, the timing of the cash flows and the risks inherent in those cash flows. We believe that this approach is appropriate because it provides a fair value estimate based upon the reporting units' expected long-term performance considering the economic and market conditions that generally affect our business. The market approach estimates fair value by measuring the aggregate market value of publicly-traded companies with similar characteristics to our business as a multiple of their reported cash flows. We then apply that multiple to the reporting units' cash flows to estimate their fair values. We believe that this approach is appropriate because it provides a fair value estimate using valuation inputs from entities with operations and economic characteristics comparable to our reporting units.

Fair value computed by these two methods is arrived at using a number of factors, including projected future operating results, economic projections, anticipated future cash flows, comparable marketplace data and the cost of capital. There are inherent uncertainties related to these factors and to our judgment in applying them to this analysis. However, we believe that these two methods provide a reasonable approach to estimating the fair value of our reporting units.

Refer to Notes 6 and 13 for additional information related to goodwill impairments recognized during the reported periods.

Indefinite-Lived Intangible Assets Other Than Goodwill — At least annually, and more frequently if warranted, we assess indefinite-lived intangible assets other than goodwill for impairment.

When performing the impairment test for indefinite-lived intangible assets, we generally first conduct a qualitative analysis to determine whether we believe it is more likely than not that an asset has been impaired. If we believe an impairment has occurred, we then evaluate for impairment by comparing the estimated fair value of assets to the carrying value. An impairment charge is recognized if the asset's estimated fair value is less than its carrying value.

Fair value is typically estimated using an income approach. The income approach is based on the long-term projected future cash flows. We discount the estimated cash flows to present value using a weighted-average cost of capital that considers factors such as market assumptions, the timing of the cash flows and the risks inherent in those cash flows. We believe that this approach is appropriate because it provides a fair value estimate based upon the expected long-term performance considering the economic and market conditions that generally affect our business.

Fair value computed by this method is arrived at using a number of factors, including projected future operating results, economic projections, anticipated future cash flows, comparable marketplace data and the cost of capital. There are inherent uncertainties related to these factors and to our judgment in applying them to this analysis. However, we believe that this method provides a reasonable approach to estimating the fair value of the reporting units.

Restricted Trust and Escrow Accounts

As of both December 31, 2014 and December 31, 2013, our restricted trust and escrow accounts consist principally of funds deposited for purposes of settling landfill final capping, closure, post-closure and environmental remediation obligations. We often also have restricted trust and escrow account balances related to funds received from the issuance of tax-exempt bonds held in trust for the construction of various projects or facilities. As of December 31, 2014 and 2013, we had $171 million and $167 million, respectively, of restricted trust and escrow accounts, which are primarily included in "Other assets" in our Consolidated Balance Sheets.

Final Capping, Closure, Post-Closure and Environmental Remediation Funds — At several of our landfills, we provide financial assurance by depositing cash into restricted trust funds or escrow accounts for purposes of settling final capping, closure, post-closure and environmental remediation obligations. Balances maintained in these trust funds and escrow accounts will fluctuate based on (i) changes in statutory requirements; (ii) future deposits made to comply with contractual arrangements; (iii) the ongoing use of funds for qualifying final capping, closure, post-closure and environmental remediation activities; (iv) acquisitions or divestitures of landfills and (v) changes in the fair value of the financial instruments held in the trust fund or escrow accounts.

Tax-Exempt Bond Funds — We obtain funds from the issuance of industrial revenue bonds for the construction of disposal facilities and for equipment necessary to provide waste management services. Proceeds from these arrangements are directly deposited into trust accounts, and we do not have the ability to use the funds in regular operating activities. Accordingly, these borrowings are treated as non-cash financing activities and are excluded from our Consolidated Statements of Cash Flows. As our construction and equipment expenditures are documented and approved by the applicable bond trustee, the funds are released and we receive a cash reimbursement. These cash reimbursements are reported in the Consolidated Statements of Cash Flows as an investing activity when the cash is released from the trust funds. Generally, the funds are fully expended within one year of the debt issuance. When the debt matures, we generally repay our obligation with cash on hand and the debt repayments are included as a financing activity in the Consolidated Statements of Cash Flows.

Investments in Unconsolidated Entities

Investments in unconsolidated entities over which the Company has significant influence are accounted for under the equity method of accounting. Investments in entities in which the Company does not have the ability to exert significant influence over the investees' operating and financing activities are accounted for under the cost method of accounting. In addition to equity investments in unconsolidated subsidiaries, we support these ventures through loans and advances. These loans and advances are included as a component of "Other" within the "Net cash provided by investing activities" in our Consolidated Statement of Cash Flows. The following table summarizes our equity and cost method investments as of December 31 (in millions):

	2014	2013
Equity investments(a)	$228	$437
Cost investments	180	154
Investments in unconsolidated entities	$408	$591

(a) The amount reported in 2013 included $177 million attributable to our 2010 investment in Shanghai Environment Group ("SEG"), which was part of our Wheelabrator business. This investment was classified as a current asset and reflected in "Investment in unconsolidated entity" in our Consolidated Balance Sheet as of December 31, 2013, based on our intent to sell our investment in SEG within the next 12 months. We sold our investment in SEG in the first quarter of 2014.

We monitor and assess the carrying value of our investments throughout the year for potential impairment and write them down to their fair value when other-than-temporary declines exist. Fair value is generally based on (i) other third-party investors' recent transactions in the securities; (ii) other information available regarding the current market for similar assets and/or (iii) a market or income approach as deemed appropriate.

Foreign Currency

We have operations in Canada as well as a cost center in India. Local currencies generally are considered the functional currencies of our operations and investments outside the United States. The assets and liabilities of our foreign operations are translated to U.S. dollars using the exchange rate at the balance sheet date. Revenues and expenses are translated to U.S. dollars using the average exchange rate during the period. The resulting translation difference is reflected as a component of comprehensive income.

Derivative Financial Instruments

We primarily use derivative financial instruments to manage our risk associated with fluctuations in interest rates and foreign currency exchange rates. In prior years, we used interest rate swaps to maintain a strategic portion of our long-term debt obligations at variable, market-driven interest rates or in anticipation of planned senior note issuances to effectively lock in a fixed interest rate for those anticipated issuances. Foreign currency exchange rate derivatives are used to hedge our exposure to changes in exchange rates for anticipated intercompany debt transactions, and related interest payments, between Waste Management Holdings, Inc., a wholly-owned subsidiary ("WM Holdings"), and its Canadian subsidiaries. Prior to the sale of our Wheelabrator business, we used electricity commodity derivatives to mitigate the variability in our revenues and cash flows caused by fluctuations in the market prices for electricity. The financial statement impacts of our derivatives are discussed in Notes 8 and 14.

We obtain current valuations of our interest rate and foreign currency hedging instruments from third-party pricing models. The estimated fair values of derivatives used to hedge risks fluctuate over time and should be

viewed in relation to the underlying hedged transaction and the overall management of our exposure to fluctuations in the underlying risks. The fair value of derivatives is included in other current assets, other long-term assets, current accrued liabilities or other long-term liabilities, as appropriate. Any ineffectiveness present in either fair value or cash flow hedges is recognized immediately in earnings without offset. There was no significant ineffectiveness in 2014, 2013 or 2012.

- *Foreign Currency Derivatives* — Our foreign currency derivatives have been designated as cash flow hedges for accounting purposes, which results in the unrealized changes in the fair value of the derivative instruments being recorded in "Accumulated other comprehensive income" within the equity section of our Consolidated Balance Sheets. The associated balance in other comprehensive income is reclassified to earnings as the hedged cash flows affect earnings. In each of the periods presented, these derivatives have effectively mitigated the impacts of the hedged transactions, resulting in immaterial impacts to our results of operations for the periods presented.
- *Interest Rate Derivatives* — Our previously outstanding "receive fixed, pay variable" interest rate swaps associated with outstanding fixed-rate senior notes had been designated as fair value hedges for accounting purposes. Accordingly, derivative assets were accounted for as an increase in the carrying value of our underlying debt obligations and derivative liabilities were accounted for as a decrease in the carrying value of our underlying debt instruments. These fair value adjustments are deferred and recognized as an adjustment to interest expense over the remaining term of the hedged instruments. Treasury locks and forward-starting swaps executed in prior years were designated as cash flow hedges for accounting purposes. The fair value of these derivative instruments were recorded in "Accumulated other comprehensive income" within the equity section of our Consolidated Balance Sheets. The associated balance in other comprehensive income is reclassified to earnings as the hedged cash flows occur.

Insured and Self-Insured Claims

We have retained a significant portion of the risks related to our health and welfare, automobile, general liability and workers' compensation claims programs. The exposure for unpaid claims and associated expenses, including incurred but not reported losses, generally is estimated with the assistance of external actuaries and by factoring in pending claims and historical trends and data. The gross estimated liability associated with settling unpaid claims is included in "Accrued liabilities" in our Consolidated Balance Sheets if expected to be settled within one year, or otherwise is included in long-term "Other liabilities." Estimated insurance recoveries related to recorded liabilities are reflected as current "Other receivables" or long-term "Other assets" in our Consolidated Balance Sheets when we believe that the receipt of such amounts is probable.

Revenue Recognition

Our revenues are generated from the fees we charge for waste collection, transfer, disposal and recycling and resource recovery services; from the sale of electricity and landfill gas, which are byproducts of our landfill operations; and from the sale of recyclable commodities, oil and gas and organic lawn and garden products. The fees charged for our services are generally defined in our service agreements and vary based on contract-specific terms such as frequency of service, weight, volume and the general market factors influencing a region's rates. The fees we charge for our services generally include fuel surcharges, which are intended to pass through to customers increased direct and indirect costs incurred because of changes in market prices for fuel. We generally recognize revenue as services are performed or products are delivered. For example, revenue typically is recognized as waste is collected, tons are received at our landfills or transfer stations, recycling commodities are delivered or as kilowatts are delivered to a customer by a waste-to-energy facility or independent power production plant.

Tangible product revenues primarily include the sale of recyclable commodities at our material recovery facilities and through our recycling brokerage services and, to a lesser extent, sales of oil and gas, metals and organic lawn and garden products.

We bill for certain services prior to performance. Such services include, among others, certain residential contracts that are billed on a quarterly basis and equipment rentals. These advance billings are included in deferred revenues and recognized as revenue in the period service is provided.

Capitalized Interest

We capitalize interest on certain projects under development, including internal-use software and landfill expansion projects, and on certain assets under construction, including operating landfills and landfill gas-to-energy projects. During 2014, 2013 and 2012, total interest costs were $487 million, $500 million and $509 million, respectively, of which $16 million was capitalized in 2014, $19 million was capitalized in 2013 and $21 million was capitalized in 2012. In 2014, 2013 and 2012, interest was capitalized primarily for landfill construction costs.

Income Taxes

The Company is subject to income tax in the United States and Canada. Current tax obligations associated with our provision for income taxes are reflected in the accompanying Consolidated Balance Sheets as a component of "Accrued liabilities" and the deferred tax obligations are reflected in "Deferred income taxes."

Deferred income taxes are based on the difference between the financial reporting and tax basis of assets and liabilities. The deferred income tax provision represents the change during the reporting period in the deferred tax assets and deferred tax liabilities, net of the effect of acquisitions and dispositions. Deferred tax assets include tax loss and credit carry-forwards and are reduced by a valuation allowance if, based on available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Significant judgment is required in assessing the timing and amounts of deductible and taxable items. We establish reserves for uncertain tax positions when, despite our belief that our tax return positions are fully supportable, we believe that certain positions may be challenged and potentially disallowed. When facts and circumstances change, we adjust these reserves through our provision for income taxes.

To the extent interest and penalties may be assessed by taxing authorities on any underpayment of income tax, such amounts have been accrued and are classified as a component of income tax expense in our Consolidated Statements of Operations.

Contingent Liabilities

We estimate the amount of potential exposure we may have with respect to claims, assessments and litigation in accordance with U.S. Generally Accepted Accounting Principles ("GAAP"). We are party to pending or threatened legal proceedings covering a wide range of matters in various jurisdictions. It is difficult to predict the outcome of litigation, as it is subject to many uncertainties. Additionally, it is not always possible for management to make a meaningful estimate of the potential loss or range of loss associated with such contingencies.

Supplemental Cash Flow Information

Cash paid during the year (in millions):	Years Ended December 31, 2014	2013	2012
Interest, net of capitalized interest and periodic settlements from interest rate swap agreements	$461	$478	$485
Income taxes	758	511	366

For the year ended December 31, 2013, non-cash investing and financing activities included proceeds from tax-exempt borrowings, net of principal payments made directly from trust funds, of $99 million. During 2014 and 2012, we did not have any significant non-cash investing and financing activities. Non-cash investing and financing activities are excluded from the Consolidated Statements of Cash Flows.

4. Landfill and Environmental Remediation Liabilities

Liabilities for landfill and environmental remediation costs are presented in the table below (in millions):

	December 31, 2014			December 31, 2013		
	Landfill	Environmental Remediation	Total	Landfill	Environmental Remediation	Total
Current (in accrued liabilities)	$ 104	$ 43	$ 147	$ 95	$ 35	$ 130
Long-term	1,339	192	1,531	1,326	192	1,518
	$1,443	$235	$1,678	$1,421	$227	$1,648

The changes to landfill and environmental remediation liabilities for the years ended December 31, 2013 and 2014 are reflected in the table below (in millions):

	Landfill	Environmental Remediation
December 31, 2012	$1,338	$253
Obligations incurred and capitalized	59	—
Obligations settled	(71)	(20)
Interest accretion	87	4
Revisions in estimates and interest rate assumptions(a)(b)	6	(6)
Acquisitions, divestitures and other adjustments	2	(4)
December 31, 2013	$1,421	$227
Obligations incurred and capitalized	54	—
Obligations settled	(69)	(21)
Interest accretion	88	5
Revisions in estimates and interest rate assumptions(a)(b)	(9)	25
Acquisitions, divestitures and other adjustments(c)	(42)	(1)
December 31, 2014	$1,443	$235

(a) The amounts reported for our landfill liabilities include a reduction of approximately $20 million for 2013 and an increase of approximately $2 million for 2014, related to our year-end annual review of landfill final capping, closure and post-closure obligations. The amount reported in 2013 also includes an increase of

approximately $23 million due to the acceleration of the timing of closure and post-closure activities at two of our landfills related to landfill asset impairments, discussed further in Note 13.

(b) The amount reported in 2013 for our environmental remediation liabilities includes the impact of an increase in the risk-free discount rate used to measure our liabilities from 1.75% at December 31, 2012 to 3.0% at December 31, 2013, resulting in a decrease of $18 million to our environmental remediation liabilities and a corresponding decrease to "Operating" expenses.

The amount reported in 2014 for environmental remediation liabilities includes the impact of a decrease in the risk-free discount rate used to measure our liabilities from 3.0% at December 31, 2013 to 2.0% at December 31, 2014, resulting in an increase of $13 million to our environmental remediation liabilities and a corresponding increase to "Operating" expenses.

(c) The amounts reported for our 2014 landfill liabilities include reductions of approximately $25 million for divestitures, including the divestiture of our Wheelabrator business.

Our recorded liabilities as of December 31, 2014 include the impacts of inflating certain of these costs based on our expectations for the timing of cash settlement and of discounting certain of these costs to present value. Anticipated payments of currently identified environmental remediation liabilities as measured in current dollars are $43 million in 2015, $26 million in 2016, $26 million in 2017, $24 million in 2018, $12 million in 2019 and $98 million thereafter.

At several of our landfills, we provide financial assurance by depositing cash into restricted trust funds or escrow accounts for purposes of settling final capping, closure, post-closure and environmental remediation obligations. Generally, these trust funds are established to comply with statutory requirements and operating agreements. See Note 20 for additional information related to these trusts.

5. Property and Equipment

Property and equipment at December 31 consisted of the following (in millions):

	2014	2013
Land	$ 611	$ 636
Landfills	13,463	13,416
Vehicles	4,131	4,115
Machinery and equipment(a)	2,470	3,888
Containers	2,377	2,449
Buildings and improvements(a)	2,588	3,594
Furniture, fixtures and office equipment	985	969
	26,625	29,067
Less accumulated depreciation on tangible property and equipment	(8,278)	(9,205)
Less accumulated landfill airspace amortization	(7,690)	(7,518)
	$10,657	$12,344

(a) The decreases at December 31, 2014 are primarily related to the sale of our Wheelabrator business as discussed further in Note 19.

Depreciation and amortization expense, including amortization expense for assets recorded as capital leases, was comprised of the following for the years ended December 31 (in millions):

	2014	2013	2012
Depreciation of tangible property and equipment	$ 834	$ 853	$ 833
Amortization of landfill airspace	380	400	395
Depreciation and amortization expense	$1,214	$1,253	$1,228

6. Goodwill and Other Intangible Assets

Goodwill was $5,740 million as of December 31, 2014 compared with $6,070 million as of December 31, 2013. The $330 million decrease in goodwill during 2014 is primarily related to the sale of our Wheelabrator business and, to a lesser extent, the effect of foreign currency translation adjustments related to the goodwill associated with our Canadian operations and goodwill impairment charges associated with our recycling operations. See Notes 3, 13, 19 and 21 for additional information.

As discussed more fully in Note 3, we perform our annual impairment test of our goodwill balances using a measurement date of October 1. We will also perform interim tests if an impairment indicator exists such that the fair value of a reporting unit could potentially be less than its carrying amount. We did not encounter any events or changes in circumstances that indicated that an impairment was more likely than not during interim periods in 2014, 2013 or 2012.

During our annual 2013 impairment test of our goodwill balances we determined the fair value of our Wheelabrator business had declined and the associated goodwill was impaired. As a result, we recognized an impairment charge of $483 million, which had no related tax benefit. We estimated the implied fair value of our Wheelabrator reporting unit goodwill using a combination of income and market approaches. Because the annual impairment test indicated that Wheelabrator's carrying value exceeded its estimated fair value, we performed the "step two" analysis. In the "step two" analysis, the fair values of all assets and liabilities were estimated, including tangible assets, power contracts, customer relationships and trade name for the purpose of deriving an estimate of the implied fair value of goodwill. The implied fair value of goodwill was then compared to the carrying amount of goodwill to determine the amount of the impairment. The factors contributing to the $483 million goodwill impairment charge principally related to the continued challenging business environment in areas of the country in which Wheelabrator operated, characterized by lower available disposal volumes (which impact disposal rates and overall disposal revenue, as well as the amount of electricity Wheelabrator was able to generate), lower electricity pricing due to the pricing pressure created by availability of natural gas and increased operating costs as Wheelabrator's facilities aged. These factors caused us to lower prior assumptions for electricity and disposal revenue, and increase assumed operating costs. Additionally, the discount factor previously utilized in the income approach in 2013 increased mainly due to increases in interest rates. In 2013, we incurred an additional $10 million of charges to impair goodwill associated with our Puerto Rico operations and $4 million to impair goodwill associated with our recycling business.

Our other intangible assets as of December 31, 2014 and 2013 were comprised of the following (in millions):

	Customer and Supplier Relationships	Covenants Not-to-Compete	Licenses, Permits and Other	Total
December 31, 2014:				
Intangible assets	$ 576	$ 63	$116	$ 755
Less accumulated amortization	(231)	(44)	(40)	(315)
	$ 345	$ 19	$ 76	$ 440
December 31, 2013:				
Intangible assets	$ 604	$ 87	$123	$ 814
Less accumulated amortization	(193)	(57)	(35)	(285)
	$ 411	$ 30	$ 88	$ 529

Amortization expense for other intangible assets was $78 million for 2014, $80 million for 2013 and $69 million for 2012. At December 31, 2014, we had $19 million of licenses, permits and other intangible assets that are not subject to amortization, because they do not have stated expirations or have routine, administrative renewal processes. Additional information related to other intangible assets acquired through business combinations is included in Note 19. As of December 31, 2014, expected annual amortization expense related to other intangible assets is $69 million in 2015; $62 million in 2016; $55 million in 2017; $50 million in 2018 and $43 million in 2019.

7. Debt

The following table summarizes the major components of debt at each balance sheet date (in millions) and provides the maturities and interest rate ranges of each major category as of December 31, 2014:

	2014	2013
U.S. revolving credit facility, maturing July 2018 (weighted average interest rate of 1.2% at December 31, 2013)	$ —	$ 420
Letter of credit facilities, maturing through December 2018	—	—
Canadian credit facility and term loan, maturing November 2017 (weighted average effective interest rate of 2.6% at December 31, 2014 and 2.7% at December 31, 2013)	232	414
Senior notes maturing through 2039, interest rates ranging from 2.60% to 7.75% (weighted average interest rate of 5.7% at December 31, 2014 and 2013)	6,273	6,287
Tax-exempt bonds maturing through 2045, fixed and variable interest rates ranging from 0.04% to 5.7% (weighted average interest rate of 2.2% at December 31, 2014 and 2.3% at December 31, 2013)	2,541	2,664
Capital leases and other, maturing through 2055, interest rates up to 12%	389	441
	$9,435	$10,226
Current portion of long-term debt	1,090	726
	$8,345	$ 9,500

Debt Classification

As of December 31, 2014, our current debt balances include (i) $947 million of senior notes repaid with available cash in January 2015 that the Company decided to redeem in advance of their scheduled maturities, including $350 million of 6.375% senior notes that were scheduled to mature in March 2015, $147 million of 7.125% senior notes that were scheduled to mature in December 2017 and $450 million of 7.375% senior notes that were scheduled to mature in March 2019 and (ii) $143 million of debt with scheduled maturities within the next 12 months, including $64 million of tax-exempt bonds.

As of December 31, 2014, we also have $638 million of tax-exempt bonds with term interest rate periods that expire within 12 months and an additional $501 million of variable-rate tax-exempt bonds that are supported by letters of credit. The interest rates on these bonds are reset on either a daily or weekly basis through a remarketing process. All recent remarketings have successfully placed Company bonds with investors at reasonable, market-driven rates and we currently expect future remarketings to be a success. However, if the remarketing agent is unable to remarket our bonds, the remarketing agent can put the bonds to us. In the event of a failed remarketing, we have the intent and ability to use availability under our long-term U.S. revolving credit facility ("$2.25 billion revolving credit facility") to fund the debt obligation until it can be remarketed successfully. Accordingly, we classified these borrowings as long-term in our Consolidated Balance Sheet at December 31, 2014.

Access to and Utilization of Credit Facilities

$2.25 Billion Revolving Credit Facility — In July 2013, we amended and restated our revolving credit facility, increasing our total credit capacity to $2.25 billion and extending the term through July 2018. This facility provides us with credit capacity to be used for either cash borrowings or to support letters of credit. The rates we pay for outstanding loans are generally based on LIBOR plus a spread depending on the Company's debt rating assigned by Moody's Investors Service and Standard and Poor's. The spread above LIBOR ranges from 0.90% to 1.475%. At December 31, 2014, we had no outstanding borrowings and $785 million of letters of credit issued and supported by the facility, leaving unused and available credit capacity of $1,465 million.

Letter of Credit Facilities — As of December 31, 2014, we had an aggregate committed capacity of $400 million under letter of credit facilities with terms ending through December 2018. This letter of credit capacity was fully utilized as of December 31, 2014. The financial assurance needs of our business are extensive so we supplement the letter of credit capacity we have through these committed facilities with stand-alone letters of credit with various banking partners.

Canadian Credit Facility and Term Loan — Waste Management of Canada Corporation and WM Quebec Inc., wholly-owned subsidiaries of WM, are borrowers under a Canadian credit agreement that provides C$150 million of revolving credit capacity and initially provided C$500 million of term credit. The credit agreement matures in November 2017. WM and WM Holdings guaranty all subsidiary obligations outstanding under the credit agreement. The rates we pay for outstanding loans under the Canadian credit agreement are generally based on the applicable Canadian Dealer Offered Rate (CDOR) plus a spread depending on the Company's debt rating assigned by Moody's Investors Service and Standard and Poor's. The spread above CDOR ranges from 1.125% to 2.15%.

In the fourth quarter of 2012, we established the C$150 million revolving credit capacity to refinance borrowings outstanding under a Canadian term credit agreement that would have matured in November 2012 and to provide additional liquidity for our Canadian operations. We have the ability to issue up to C$50 million of letters of credit under the Canadian revolving credit facility, which if utilized, reduces the amount of credit capacity available for borrowings. As of December 31, 2014 and 2013, we had no letters of credit outstanding

under the facility. We had no outstanding borrowings as of December 31, 2014 and C$10 million of outstanding borrowings as of December 31, 2013.

The C$500 million of term credit was established specifically to fund the acquisition of substantially all of the assets of RCI and was fully drawn in July 2013. The term credit is non-revolving credit and principal amounts repaid may not be re-borrowed. Through December 31, 2014, we had repaid C$230 million of the term credit with available cash, reducing the outstanding and drawn credit to C$270 million. For additional information related to borrowings and principal repayments under the term credit, see below.

Debt Borrowings and Repayments

Canadian Credit Facility and Term Loan — Our outstanding CDOR-based advances, which are generally indexed to one-month CDOR, mature in November 2017, but are prepayable without penalty. Accordingly, this debt has been classified as long-term in our Consolidated Balance Sheet. We repaid C$170 million, or $155 million, of the advances under our Canadian credit agreement during the year ended December 31, 2014 with available cash. The remaining change in the carrying value of our Canadian credit facility and term loan is due to changes in the Canadian currency translation rate.

Senior Notes — In March 2014, we repaid $350 million of 5.0% senior notes upon maturity with borrowings under our $2.25 billion revolving credit facility. In May 2014, we issued $350 million of 3.5% senior notes due May 15, 2024. The net proceeds from the debt issuance were $347 million, all of which were used to repay borrowings under our $2.25 billion revolving credit facility. The change in the carrying value of our senior notes from December 31, 2013 to December 31, 2014 is principally due to fair value hedge accounting for interest rate swap contracts. Refer to Notes 8 and 14 for additional information regarding our interest rate derivatives.

Tax-Exempt Bonds — During the year ended December 31, 2014, we repaid $123 million of our tax-exempt bonds with available cash.

Scheduled Debt Payments — Principal payments of our debt and capital leases for the next five years, based on scheduled maturities as adjusted for the Company's optional early redemption of certain of its senior notes, are as follows: $1,075 million in 2015; $717 million in 2016; $402 million in 2017; $801 million in 2018; and $132 million in 2019. Our recorded debt and capital lease obligations include non-cash adjustments associated with discounts, premiums and fair value adjustments for interest rate hedging activities, which have been excluded from these amounts because they will not result in cash payments.

Secured Debt

Our debt balances are generally unsecured, except for capital leases and the note payable associated with our investment in low-income housing properties.

Debt Covenants

Our $2.25 billion revolving credit facility, our Canadian credit agreement and certain other financing agreements contain financial covenants. The following table summarizes the most restrictive requirements of these financial covenants (all terms used to measure these ratios are defined by the facilities):

Interest coverage ratio	> 2.75 to 1
Total debt to EBITDA(a)	< 3.75 to 1

(a) In conjunction with the amendment and restatement of our $2.25 billion revolving credit facility in July 2013, the maximum ratio was increased from 3.50:1 to 3.75:1 for quarters ending before September 30, 2015. After such time, the covenant ratio will revert back to 3.50:1 for each fiscal quarter through maturity of the facility in July 2018.

Our credit facilities and senior notes also contain certain restrictions intended to monitor our level of subsidiary indebtedness, types of investments and net worth. We monitor our compliance with these restrictions, but do not believe that they significantly impact our ability to enter into investing or financing arrangements typical for our business. As of December 31, 2014 and 2013, we were in compliance with the covenants and restrictions under all of our debt agreements that may have a material effect on our Consolidated Financial Statements.

8. Derivative Instruments and Hedging Activities

The following table summarizes the fair values of derivative instruments recorded in our Consolidated Balance Sheet (in millions):

		December 31,	
Derivatives Designated as Hedging Instruments	**Balance Sheet Location**	**2014**	**2013**
Foreign currency derivatives	Long-term other assets	$ 28	$ 2
Total derivative assets		$ 28	$ 2
Electricity commodity derivatives(a)	Current accrued liabilities	$—	$ 3
Interest rate derivatives	Current accrued liabilities	—	28
Total derivative liabilities		$—	$31

(a) Our electricity commodity derivatives were associated with our Wheelabrator business and were divested in conjunction with the sale of that business in December 2014.

We have not offset fair value amounts recognized for our derivative instruments. For information related to the inputs used to measure our derivative assets and liabilities at fair value, refer to Note 18.

Fair Value Hedges

Interest Rate Swaps

In prior years, we entered into interest rate swaps to maintain a portion of our debt obligations at variable market interest rates. We designated these interest rate swaps as fair value hedges of our fixed-rate senior notes. Fair value hedge accounting for interest rate swap contracts increased the carrying value of our debt instruments by $45 million as of December 31, 2014 and $59 million as of December 31, 2013. These fair value adjustments to long-term debt are being amortized as a reduction to interest expense using the effective interest method over the remaining term of the related senior notes, which extend through 2028.

Gains or losses on the derivatives as well as the offsetting gains or losses on the hedged items attributable to our interest rate swaps are recognized in current earnings. We include gains and losses on our interest rate swaps as adjustments to interest expense, which is the same financial statement line item where offsetting gains and losses on the related hedged items are recorded. The fair value adjustment from active interest rate swaps and the offsetting gain on the related hedged items was immaterial during the year ended December 31, 2012. We did not have any active swaps outstanding in 2014 and 2013.

We also recognize the impacts of (i) net periodic settlements of current interest on our active interest rate swaps, if any, and (ii) the amortization of previously terminated interest rate swap agreements as adjustments to interest expense. The following table summarizes these impacts on our results of operations (in millions):

	Years Ended December 31,		
Decrease to Interest Expense Due to Hedge Accounting for Interest Rate Swaps	**2014**	**2013**	**2012**
Periodic settlements of active swap agreements	$—	$—	$ 8
Terminated swap agreements	14	20	22
	$ 14	$ 20	$30

Cash Flow Hedges

Forward-Starting Interest Rate Swaps

In prior years, we entered into forward-starting interest rate swaps with a total notional value of $525 million to hedge the risk of changes in semi-annual interest payments due to fluctuations in the forward ten-year LIBOR swap rate for anticipated fixed-rate debt issuances in 2011, 2012 and 2014. We designated these forward-starting interest rate swaps as cash flow hedges.

The active forward-starting interest rate swaps outstanding at December 31, 2013 related to a debt issuance initially forecasted for March 2014, that occurred in May 2014. As of December 31, 2013, the fair value of these active interest rate derivatives of $28 million was included in current liabilities. During the first quarter of 2014, these forward-starting interest rate swaps with a notional value of $175 million matured and we paid cash of $36 million to settle the associated liabilities.

At December 31, 2014 and 2013, our "Accumulated other comprehensive income" included $50 million and $34 million, respectively, of after-tax deferred losses related to all terminated forward-starting interest rate swaps. These losses are being amortized as an increase to interest expense using the effective interest method over the ten-year term of the related senior notes, which extend through 2024. As of December 31, 2014, $11 million (on a pre-tax basis) is scheduled to be reclassified as an increase to interest expense over the next 12 months.

Foreign Currency Derivatives

We use foreign currency exchange rate derivatives to hedge our exposure to fluctuations in exchange rates for anticipated intercompany cash transactions between WM Holdings and its Canadian subsidiaries. As of December 31, 2014 and 2013, we had foreign exchange cross currency swaps outstanding for all of the anticipated cash flows associated with intercompany loans from WM Holdings to the wholly-owned Canadian subsidiaries. The hedged cash flows as of December 31, 2014 and 2013 included C$370 million of total notional value. The scheduled principal payments of the loan and the related swaps are as follows: C$70 million due on October 31, 2016, C$150 million due on October 31, 2017 and C$150 million due on October 31, 2018. We designated these cross currency swaps as cash flow hedges. Gains or losses resulting from the remeasurement of the underlying non-functional currency intercompany loans are recognized in current earnings in the same financial statement line item as offsetting gains or losses on the related cross currency swaps.

There was no significant ineffectiveness associated with our cash flow hedges during the years ended December 31, 2014, 2013 or 2012. Refer to Note 14 for information regarding the impacts of our cash flow derivatives on our comprehensive income and results of operations.

Credit-Risk-Related Contingent Features

Our interest rate derivative instruments have in the past, and may in the future, contain provisions related to the Company's credit rating. These provisions generally provide that if the Company's credit rating were to fall to specified levels below investment grade, the counterparties have the ability to terminate the derivative agreements, resulting in settlement of all affected transactions. As of December 31, 2014 and 2013, we did not have any interest rate derivatives outstanding that contained these credit-risk-related features.

9. Income Taxes

Provision for Income Taxes

Our "Provision for income taxes" consisted of the following (in millions):

	Years Ended December 31,		
	2014	2013	2012
Current:			
Federal	$ 414	$ 389	$268
State	61	79	72
Foreign	56	45	36
	531	513	376
Deferred:			
Federal	(89)	(82)	48
State	(33)	(14)	17
Foreign	4	(53)	2
	(118)	(149)	67
Provision for income taxes	$ 413	$ 364	$443

The U.S. federal statutory income tax rate is reconciled to the effective income tax rate as follows:

	Years Ended December 31,		
	2014	2013	2012
Income tax expense at U.S. federal statutory rate	35.00%	35.00%	35.00%
Federal tax credits	(3.21)	(11.74)	(4.13)
Taxing authority audit settlements and other tax adjustments	(1.59)	(3.56)	(0.02)
Noncontrolling interests	(0.81)	(2.28)	(1.16)
State and local income taxes, net of federal income tax benefit	1.77	9.81	3.85
Tax rate differential on foreign income	(0.46)	1.63	(0.96)
Tax impact of impairments	0.46	41.95	0.57
Tax impact of divestitures	(7.89)	—	—
Other	0.34	2.94	0.80
Provision for income taxes	23.61%	73.75%	33.95%

The comparability of our provision for income taxes for the reported periods has been primarily affected by (i) variations in our income before income taxes; (ii) the tax implications of divestitures; (iii) federal tax credits; (iv) adjustments to our accruals and related deferred taxes; (v) tax audit settlements; (vi) the realization of federal and state net operating loss and credit carry-forwards and (vii) the tax implications of impairments.

For financial reporting purposes, income (loss) before income taxes by source was as follows (in millions):

	Years Ended December 31,		
	2014	2013	2012
Domestic	$1,601	$548	$1,175
Foreign	150	(54)	128
Income before income taxes	$1,751	$494	$1,303

Tax Implications of Divestitures — During 2014, the Company recorded a net gain of $515 million primarily related to the divestiture of our Wheelabrator business, our Puerto Rico operations and certain landfill and collection operations in our Eastern Canada Area. Had this net gain been fully taxable, our provision for income taxes would have increased by $138 million. See Note 19 for more information related to divestitures.

Investment in Refined Coal Facility — In 2011, we acquired a noncontrolling interest in a limited liability company, which was established to invest in and manage a refined coal facility in North Dakota. The facility's refinement processes qualify for federal tax credits that are expected to be realized through 2019 in accordance with Section 45 of the Internal Revenue Code.

We account for our investment in this entity using the equity method of accounting, recognizing our share of the entity's results of operations and other reductions in the value of our investment in "Equity in net losses of unconsolidated entities," within our Consolidated Statement of Operations. We recognized $7 million, $8 million and $7 million of net losses resulting from our share of the entity's operating losses during the years ended December 31, 2014, 2013 and 2012, respectively. Our tax provision was reduced by $21 million, $20 million and $21 million for the years ended December 31, 2014, 2013 and 2012, respectively, primarily as a result of tax credits realized from this investment. See Note 20 for additional information related to this investment.

Investment in Low-Income Housing Properties — In 2010, we acquired a noncontrolling interest in a limited liability company established to invest in and manage low-income housing properties. The entity's low-income housing investments qualify for federal tax credits that are expected to be realized through 2020 in accordance with Section 42 of the Internal Revenue Code.

We account for our investment in this entity using the equity method of accounting recognizing our share of the entity's results of operations and other reductions in the value of our investment in "Equity in net losses of unconsolidated entities," within our Consolidated Statement of Operations. The value of our investment decreases as the tax credits are generated and utilized. During the years ended December 31, 2014, 2013 and 2012, we recognized $25 million, $25 million and $24 million, respectively, of losses relating to our equity investment in this entity, $5 million, $6 million and $7 million, respectively, of interest expense, and a reduction in our tax provision of $37 million (including $25 million of tax credits), $38 million (including $26 million of tax credits) and $38 million (including $26 million of tax credits), respectively. See Note 20 for additional information related to this investment.

Adjustments to Accruals and Related Deferred Taxes — Adjustments to our accruals and related deferred taxes due to the filing of our income tax returns and changes in state law resulted in a reduction of $24 million and increases of $4 million and $7 million to our provision for income taxes for the years ended December 31, 2014, 2013 and 2012, respectively.

Tax Audit Settlements — We file income tax returns in the United States and Canada as well as various state and local jurisdictions. We are currently under audit by the IRS, Canada Revenue Agency and various state and local taxing authorities. Our audits are in various stages of completion.

During 2014, 2013 and 2012 we settled various tax audits. The settlement of these tax audits resulted in a reduction to our provision for income taxes of $12 million, $11 million and $10 million for the years ended December 31, 2014, 2013 and 2012, respectively.

We participate in the IRS's Compliance Assurance Process, which means we work with the IRS throughout the year in order to resolve any material issues prior to the filing of our annual tax return. We are currently in the examination phase of IRS audits for the tax years 2013, 2014 and 2015 and expect these audits to be completed within the next three, 15 and 27 months, respectively. We are also currently undergoing audits by various state and local jurisdictions for tax years that date back to 2009, with the exception of affirmative claims in a limited number of jurisdictions that date back to 2000. We are also under audit in Canada for the tax years 2012 and 2013. In 2011, we acquired Oakleaf Global Holdings ("Oakleaf"), which is subject to potential IRS examination for the year 2011. Pursuant to the terms of our acquisition of Oakleaf, we are entitled to indemnification for Oakleaf's pre-acquisition period tax liabilities.

State Net Operating Loss and Credit Carry-Forwards — During 2014, 2013 and 2012, we recognized state net operating loss and credit carry-forwards resulting in a reduction to our provision for income taxes of $16 million, $16 million and $5 million, respectively.

Federal Net Operating Loss Carry-Forwards — During 2012, we recognized additional federal net operating loss ("NOL") carry-forwards resulting in a reduction to our provision for income taxes of $8 million. As a result of the acquisition of Oakleaf in 2011, we received income tax attributes (primarily federal and state net operating loss carry-forwards) and allocated a portion of the purchase price to these acquired assets. At the time of the acquisition, we fully recognized all of the income tax attributes identified by the seller and concluded the realization of these attributes did not affect our overall provision for income taxes. In 2012, as a result of new information, we recognized the tax benefit related to additional federal net operating loss carry-forwards received in the Oakleaf acquisition.

Tax Implications of Impairments — A portion of the impairment charges recognized are not deductible for tax purposes. Had the charges been fully deductible, our provision for income taxes would have been reduced by $8 million, $235 million and $7 million for the years ended December 31, 2014, 2013, and 2012 respectively. See Notes 6 and 13 for more information related to asset impairments and unusual items.

Unremitted Earnings in Foreign Subsidiaries — At December 31, 2014, remaining unremitted earnings in foreign operations were approximately $750 million, which are considered permanently invested and, therefore, no provision for U.S. income taxes were accrued for these unremitted earnings. Determination of the unrecognized deferred U.S. income tax liability is not practicable due to uncertainties related to the timing and source of any potential distribution of such funds, along with other important factors such as the amount of associated foreign tax credits.

Deferred Tax Assets (Liabilities)

The components of net deferred tax assets (liabilities) are as follows (in millions):

	December 31,	
	2014	2013
Deferred tax assets:		
Net operating loss, capital loss and tax credit carry-forwards	$ 297	$ 164
Miscellaneous and other reserves, net	380	356
Subtotal	677	520
Valuation allowance	(300)	(149)
Deferred tax liabilities:		
Landfill and environmental remediation liabilities	(22)	(30)
Property and equipment	(598)	(966)
Goodwill and other intangibles	(1,095)	(1,104)
Net deferred tax liabilities	$(1,338)	$(1,729)

The valuation allowance increased by $151 million in 2014 due to changes in our capital loss carry-forwards and in our state NOL and tax credit carry-forwards, as well as the tax impacts of impairments.

At December 31, 2014, we had $28 million of federal NOL carry-forwards and $1.6 billion of state NOL carry-forwards. The federal and state NOL carry-forwards have expiration dates through the year 2034. We also have $519 million of federal capital loss carry-forwards which expire in 2019. In addition, we have $33 million of state tax credit carry-forwards at December 31, 2014.

We have established valuation allowances for uncertainties in realizing the benefit of certain tax loss and credit carry-forwards and other deferred tax assets. While we expect to realize the deferred tax assets, net of the valuation allowances, changes in estimates of future taxable income or in tax laws may alter this expectation.

Liabilities for Uncertain Tax Positions

A reconciliation of the beginning and ending amount of gross unrecognized tax benefits, including accrued interest for 2014, 2013 and 2012 is as follows (in millions):

	2014	2013	2012
Balance at January 1	$ 49	$ 54	$ 49
Additions based on tax positions related to the current year	9	6	15
Additions based on tax positions of prior years	2	—	—
Additions due to acquisitions	—	—	—
Accrued interest	1	2	2
Reductions based on tax positions related to the current year	—	—	—
Reductions for tax positions of prior years	—	(7)	(1)
Settlements	(11)	(1)	(4)
Lapse of statute of limitations	(8)	(5)	(7)
Balance at December 31	$ 42	$ 49	$ 54

These liabilities are included as a component of long-term "Other liabilities" in our Consolidated Balance Sheets because the Company does not anticipate that settlement of the liabilities will require payment of cash within the next 12 months. As of December 31, 2014, $28 million of net unrecognized tax benefits, if recognized in future periods, would impact our effective tax rate.

We recognize interest expense related to unrecognized tax benefits in income tax expense. During the years ended December 31, 2014, 2013 and 2012, we recognized $1 million, $2 million and $2 million, respectively, of such interest expense as a component of our provisions for income taxes. We had $3 million and $7 million of accrued interest expense in our Consolidated Balance Sheets as of December 31, 2014 and 2013, respectively. We do not have any accrued liabilities or expense for penalties related to unrecognized tax benefits for the years ended December 31, 2014, 2013 and 2012.

We are not able to reasonably estimate when we might make any cash payments required to settle these liabilities, but we do not believe that the ultimate settlement of our obligations will materially affect our liquidity. As of December 31, 2014 we anticipate that approximately $12 million of liabilities for unrecognized tax benefits, including accrued interest, and $3 million of related tax assets may be reversed within the next 12 months. The anticipated reversals primarily relate to state tax items, none of which are material, and are expected to result from audit settlements or the expiration of the applicable statute of limitations period.

Bonus Depreciation

The Tax Increase Prevention Act of 2014 was signed into law on December 19, 2014 and included an extension for one year of the bonus depreciation allowance. As a result, 50% of qualifying capital expenditures on property placed in service before January 1, 2015 were depreciated immediately. The acceleration of deductions on 2014 qualifying capital expenditures resulting from the bonus depreciation provisions had no impact on our effective income tax rate for 2014 although it will reduce our cash taxes. This reduction will be offset by increased cash taxes in subsequent periods when the deductions related to the capital expenditures would have otherwise been taken.

10. Employee Benefit Plans

Defined Contribution Plans — Waste Management sponsors 401(k) retirement savings plans that cover employees, except those working subject to collective bargaining agreements that do not allow for coverage under such plans. United States employees who are not subject to such collective bargaining agreements are generally eligible to participate in one of our plans following a 90-day waiting period after hire and may contribute as much as 25% of their annual compensation, subject to annual contribution limitations established by the IRS. Under our largest retirement savings plan, we match, in cash, 100% of employee contributions on the first 3% of their eligible compensation and 50% of employee contributions on the next 3% of their eligible compensation, resulting in a maximum match of 4.5% of eligible compensation. Both employee and Company contributions vest immediately. Certain United States employees who are subject to collective bargaining agreements may participate in a Company-sponsored 401(k) retirement savings plan under terms specified in their collective bargaining agreement. Certain employees outside the United States, including those in Canada, participate in defined contribution plans maintained by the Company in compliance with laws of the appropriate jurisdiction. Charges to "Operating" and "Selling, general and administrative" expenses for our defined contribution plans were $63 million for each of the years ended December 31, 2014, 2013 and 2012.

Defined Benefit Plans (other than multiemployer defined benefit plans discussed below) — Waste Management Holdings, Inc. sponsors a defined benefit plan for certain employees who are subject to collective

bargaining agreements that provide for participation in that plan. Further, qualifying Canadian employees participate in defined benefit plans sponsored by certain of our Canadian subsidiaries. As of December 31, 2014, the combined benefit obligation of these pension plans was $121 million, and the plans had $90 million of plan assets, resulting in an unfunded benefit obligation for these plans of $31 million.

In addition, WM Holdings and certain of its subsidiaries provided post-retirement health care and other benefits to eligible retirees. In conjunction with our acquisition of WM Holdings in July 1998, we limited participation in these plans to participating retirees as of December 31, 1998. The unfunded benefit obligation for these plans was $33 million at December 31, 2014.

Our accrued benefit liabilities for our defined benefit pension and other post-retirement plans are $64 million as of December 31, 2014 and are included as components of "Accrued liabilities" and long-term "Other liabilities" in our Consolidated Balance Sheet.

Multiemployer Defined Benefit Pension Plans — We are a participating employer in a number of trustee-managed multiemployer, defined benefit pension plans for employees who are covered by collective bargaining agreements. The risks of participating in these multiemployer plans are different from single-employer plans in that (i) assets contributed to the multiemployer plan by one employer may be used to provide benefits to employees or former employees of other participating employers; (ii) if a participating employer stops contributing to the plan, the unfunded obligations of the plan may be required to be assumed by the remaining participating employers and (iii) if we choose to stop participating in any of our multiemployer plans, we may be required to pay those plans a withdrawal amount based on the underfunded status of the plan. The following table outlines our participation in multiemployer plans considered to be individually significant (dollar amounts in millions):

Pension Fund	EIN/Pension Plan Number	Pension Protection Act Reported Status(a)		FIP/RP Status(b),(c)	Company Contributions(d)			Expiration Date of Collective Bargaining Agreement(s)
		2014	2013		2014	2013	2012	
Automotive Industries Pension Plan	EIN: 94-1133245; Plan Number: 001	Critical	Critical	Implemented	$ 1	$ 1	$ 1	Various dates through 6/30/2018
Central States, Southeast and Southwest Areas Pension Plan	EIN: 36-6044243; Plan Number: 001	Critical	Critical	Implemented	1	—	—	(e)
Local 731 Private Scavengers and Garage Attendants Pension Trust Fund	EIN: 36-6513567; Plan Number: 001	Endangered as of 9/30/2013	Endangered as of 9/30/2012	Implemented	6	6	5	9/30/2018
Suburban Teamsters of Northern Illinois Pension Plan	EIN: 36-6155778; Plan Number: 001	Critical	Critical	Implemented	3	2	2	Various dates through 9/30/2017
Teamsters Employers Local 945 Pension Fund	EIN: 22-6196388; Plan Number: 001	Critical	Critical	Implemented	—	—	—	Various dates through 12/31/2015
Teamsters Local 301 Pension Plan	EIN: 36-6492992; Plan Number: 001	Not Endangered or Critical	Not Endangered or Critical	Not Applicable	1	1	1	9/30/2018
Western Conference of Teamsters Pension Plan	EIN: 91-6145047; Plan Number: 001	Not Endangered or Critical	Not Endangered or Critical	Not Applicable	24	22	22	Various dates through 12/31/2019
Western Pennsylvania Teamsters and Employers Pension Plan	EIN: 25-6029946; Plan Number: 001	Critical	Critical	Implemented	1	1	1	12/31/2016
					$ 37	$ 33	$ 32	
Contributions to other multiemployer pension plans					7	7	7	
Total contributions to multiemployer pension plans					$ 44	$ 40	$ 39	

(a) Unless otherwise noted in the table, the most recent Pension Protection Act zone status available in 2014 and 2013 is for the plan's year-end at December 31, 2013 and 2012, respectively. The zone status is based on information that we received from the plan and is certified by the plan's actuary. As defined in the Pension Protection Act of 2006, among other factors, plans reported as critical are generally less than 65% funded and plans reported as endangered are generally less than 80% funded.

(b) The "FIP/RP Status" column indicates plans for which a Funding Improvement Plan ("FIP") or a Rehabilitation Plan ("RP") is either pending or has been implemented.

(c) A multiemployer defined benefit pension plan that has been certified as endangered, seriously endangered or critical may begin to levy a statutory surcharge on contribution rates. Once authorized, the surcharge is at the rate of 5% for the first 12 months and 10% for any periods thereafter. Contributing employers, however, may eliminate the surcharge by entering into a collective bargaining agreement that meets the requirements of the applicable FIP or RP.

(d) The Company was listed in the Form 5500 of the multiemployer plans considered to be individually significant as providing more than 5% of the total contributions for each of the following plans and plan years:

	Year Contributions to Plan Exceeded 5% of Total Contributions (as of Plan's Year End)
Local 731 Private Scavengers and Garage Attendants Pension Trust Fund	9/30/2013 and 9/30/2012
Suburban Teamsters of Northern Illinois Pension Plan	12/31/2013 and 12/31/2012
Teamsters Local 301 Pension Plan	12/31/2013 and 12/31/2012

At the date the financial statements were issued, Forms 5500 were not available for the plan years ended in 2014.

(e) The Company believes there are no collective bargaining agreements remaining that require continuing contributions to this plan; however, this point is the subject of pending litigation with the trustees for the Central States, Southeast and Southwest Areas Pension Plan.

Our portion of the projected benefit obligation, plan assets and unfunded liability of the multiemployer pension plans is not material to our financial position. However, the failure of participating employers to remain solvent could affect our portion of the plans' unfunded liability. Specific benefit levels provided by union pension plans are not negotiated with or known by the employer contributors.

In connection with our ongoing renegotiations of various collective bargaining agreements, we may discuss and negotiate for the complete or partial withdrawal from one or more of these pension plans. Further, business events, such as the discontinuation or nonrenewal of a customer contract, the decertification of a union, or relocation, reduction or discontinuance of certain operations, which result in the decline of Company contributions to a multiemployer pension plan could trigger a partial or complete withdrawal. In the event of a withdrawal, we may incur expenses associated with our obligations for unfunded vested benefits at the time of the withdrawal. In 2014, 2013 and 2012, we recognized aggregate charges of $4 million, $5 million and $10 million, respectively, to "Operating" expenses for the withdrawal of certain bargaining units from multiemployer pension plans. Refer to Note 11 for additional information related to our obligations to multiemployer plans for which we have withdrawn or partially withdrawn.

Multiemployer Plan Benefits Other Than Pensions — During the years ended December 31, 2014, 2013 and 2012 the Company made contributions of $34 million, $34 million and $36 million, respectively, to multiemployer health and welfare plans that also provide other postretirement employee benefits. Funding of benefit payments for plan participants are made at rates as negotiated in the respective collective bargaining agreements as costs are incurred.

11. Commitments and Contingencies

Financial Instruments — We have obtained letters of credit, surety bonds and insurance policies and have established trust funds and issued financial guarantees to support tax-exempt bonds, contracts, performance of landfill final capping, closure and post-closure requirements, environmental remediation and other obligations. Letters of credit generally are supported by our $2.25 billion revolving credit facility and other credit facilities

established for that purpose. These facilities are discussed further in Note 7. Surety bonds and insurance policies are supported by (i) a diverse group of third-party surety and insurance companies; (ii) an entity in which we have a noncontrolling financial interest or (iii) wholly-owned insurance companies, the sole business of which is to issue surety bonds and/or insurance policies on our behalf.

Management does not expect that any claims against or draws on these instruments would have a material adverse effect on our consolidated financial statements. We have not experienced any unmanageable difficulty in obtaining the required financial assurance instruments for our current operations. In an ongoing effort to mitigate risks of future cost increases and reductions in available capacity, we continue to evaluate various options to access cost-effective sources of financial assurance.

Insurance — We carry insurance coverage for protection of our assets and operations from certain risks including automobile liability, general liability, real and personal property, workers' compensation, directors' and officers' liability, pollution legal liability and other coverages we believe are customary to the industry. Our exposure to loss for insurance claims is generally limited to the per incident deductible under the related insurance policy. Our exposure, however, could increase if our insurers are unable to meet their commitments on a timely basis.

We have retained a significant portion of the risks related to our automobile, general liability and workers' compensation claims programs. "General liability" refers to the self-insured portion of specific third party claims made against us that may be covered under our commercial General Liability Insurance Policy. For our self-insured retentions, the exposure for unpaid claims and associated expenses, including incurred but not reported losses, is based on an actuarial valuation and internal estimates. The accruals for these liabilities could be revised if future occurrences or loss development significantly differ from our assumptions used. As of December 31, 2014, our commercial General Liability Insurance Policy carried self-insurance exposures of up to $2.5 million per incident and our workers' compensation insurance program carried self-insurance exposures of up to $5 million per incident. As of December 31, 2014, our auto liability insurance program included a per-incident base deductible of $5 million, subject to additional deductibles of $4.8 million in the $5 million to $10 million layer. Self-insurance claims reserves acquired as part of our acquisition of WM Holdings in July 1998 were discounted at 2.0% at December 31, 2014, 3.0% at December 31, 2013 and 1.75% at December 31, 2012. The changes to our net insurance liabilities for the three years ended December 31, 2014 are summarized below (in millions):

	Gross Claims Liability	Receivables Associated with Insured Claims(a)	Net Claims Liability
Balance, December 31, 2011	$ 511	$(161)	$ 350
Self-insurance expense (benefit)	222	(59)	163
Cash (paid) received	(164)	18	(146)
Balance, December 31, 2012	569	(202)	367
Self-insurance expense (benefit)	177	(5)	172
Cash (paid) received	(156)	10	(146)
Balance, December 31, 2013	590	(197)	393
Self-insurance expense (benefit)	168	(9)	159
Cash (paid) received	(161)	23	(138)
Balance, December 31, 2014(b)	$ 597	$(183)	$ 414
Current portion at December 31, 2014	$ 129	$ (17)	$ 112
Long-term portion at December 31, 2014	$ 468	$(166)	$ 302

(a) Amounts reported as receivables associated with insured claims are related to both paid and unpaid claims liabilities.

(b) We currently expect substantially all of our net claims liability to be settled in cash over the next five years.

The Directors' and Officers' Liability Insurance policy we choose to maintain covers only individual executive liability, often referred to as "Broad Form Side A," and does not provide corporate reimbursement coverage, often referred to as "Side B." The Side A policy covers directors and officers directly for loss, including defense costs, when corporate indemnification is unavailable. Side A-only coverage cannot be exhausted by payments to the Company, as the Company is not insured for any money it advances for defense costs or pays as indemnity to the insured directors and officers.

We do not expect the impact of any known casualty, property, environmental or other contingency to have a material impact on our financial condition, results of operations or cash flows.

Operating Leases — Rental expense for leased properties was $159 million during 2014, $170 million during 2013 and $180 million during 2012. Minimum contractual payments due for our operating lease obligations are $103 million in 2015, $83 million in 2016, $70 million in 2017, $57 million in 2018, $47 million in 2019 and $308 million thereafter. Our minimum contractual payments for lease agreements during future periods is less than current year rent expense due to short-term leases and the sale of our Wheelabrator business.

Other Commitments

- *Disposal* — We have several agreements expiring at various dates through 2052 that require us to dispose of a minimum number of tons at third-party disposal facilities. Under these put-or-pay agreements, we are required to pay for the agreed upon minimum volumes regardless of the actual number of tons placed at the facilities. We generally fulfill our minimum contractual obligations by disposing of volumes collected in the ordinary course of business at these disposal facilities.

  Additionally, following the sale of our Wheelabrator business, we entered into several agreements to dispose of a minimum number of tons of waste at certain Wheelabrator facilities. These agreements generally provide for fixed volume commitments, with certain market price resets, for up to seven years.

- *Waste Paper* — We are party to waste paper purchase agreements expiring at various dates through 2018 that require us to purchase a minimum number of tons of waste paper. The cost per ton we pay is based on market prices.

- *Royalties* — We have various arrangements that require us to make royalty payments to third parties including prior land owners, lessors or host communities where our operations are located. Our obligations generally are based on per ton rates for waste actually received at our transfer stations, landfills or waste-to-energy facilities. Royalty agreements that are non-cancelable and require fixed or minimum payments are included in our "Capital leases and other" debt obligations in our Consolidated Balance Sheet as disclosed in Note 7.

Our unconditional purchase obligations are generally established in the ordinary course of our business and are structured in a manner that provides us with access to important resources at competitive, market-driven rates. We may also establish unconditional purchase obligations in conjunction with acquisitions or divestitures. Our actual future minimum obligations under these outstanding purchase agreements are generally quantity driven and, as a result, our associated financial obligations are not fixed as of December 31, 2014. For contracts that require us to purchase minimum quantities of goods or services, we have estimated our future minimum obligations based on the current market values of the underlying products or services. As of December 31, 2014, our estimated minimum obligations for the above-described purchase obligations, which are not recognized in our Consolidated Balance Sheet, were $189 million in 2015, $172 million in 2016, $156 million in 2017, $116 million in 2018, $91 million in 2019 and $430 million thereafter. We currently expect the products and services

provided by these agreements to continue to meet the needs of our ongoing operations. Therefore, we do not expect these established arrangements to materially impact our future financial position, results of operations or cash flows.

Guarantees — We have entered into the following guarantee agreements associated with our operations:

- As of December 31, 2014, WM Holdings has fully and unconditionally guaranteed all of WM's senior indebtedness, including its senior notes, $2.25 billion revolving credit agreement and certain letter of credit facilities, which mature through 2039. WM has fully and unconditionally guaranteed the senior indebtedness of WM Holdings, which matures in 2026. Performance under these guarantee agreements would be required if either party defaulted on their respective obligations. No additional liabilities have been recorded for these guarantees because the underlying obligations are reflected in our Consolidated Balance Sheets. See Note 23 for further information.
- WM and WM Holdings have guaranteed subsidiary debt obligations, including the Canadian credit facility, tax-exempt bonds, capital leases and other indebtedness. If a subsidiary fails to meet its obligations associated with its debt agreements as they come due, WM or WM Holdings will be required to perform under the related guarantee agreement. No additional liabilities have been recorded for these guarantees because the underlying obligations are reflected in our Consolidated Balance Sheets. See Note 7 for information related to the balances and maturities of our tax-exempt bonds.
- Before the divestiture of our Wheelabrator business, WM had guaranteed certain performance and financial guarantees of Wheelabrator and its subsidiaries in the ordinary course of business. In conjunction with the divestiture, certain WM guarantees of Wheelabrator obligations were terminated, but others continued and are now guarantees of third-party obligations. Wheelabrator is working with the various third-party beneficiaries to release WM from these guarantees, but until they are successful, WM has agreed to retain the guarantees and, in exchange, receive a credit support fee. The most significant of these guarantees specifically define WM's maximum financial obligation over the course of the relevant agreements, and as of December 31, 2014, WM's maximum future payments associated with those guarantees is $176 million. WM's exposure under certain of the performance guarantees is variable and a maximum exposure is not defined. We have recorded the fair value of the financial and performance guarantees, some of which could extend through 2041 if not sooner terminated, in our December 31, 2014 Consolidated Balance Sheet. The estimated fair value of WM's potential obligation associated with guarantees of Wheelabrator obligations is $18 million (net of credit support fee). We currently do not expect the financial impact of such performance and financial guarantees to materially exceed the recorded fair value.
- We have guaranteed certain financial obligations of unconsolidated entities. The related obligations, which mature through 2020, are not recorded on our Consolidated Balance Sheets. As of December 31, 2014, our maximum future payments associated with these guarantees are approximately $8 million. Any requirement to act under these guarantees would not materially impact our financial position, results of operations or cash flows.
- Certain of our subsidiaries have guaranteed the market or contractually-determined value of certain homeowners' properties that are adjacent to certain of our landfills. These guarantee agreements extend over the life of the respective landfill. Under these agreements, we would be responsible for the difference, if any, between the sale value and the guaranteed market or contractually-determined value of the homeowners' properties. As of December 31, 2014, we have agreements guaranteeing certain market value losses for approximately 800 homeowners' properties adjacent to or near 20 of our landfills. We do not believe that these contingent obligations will have a material effect on our financial position, results of operations or cash flows.

- We have indemnified the purchasers of businesses or divested assets for the occurrence of specified events under certain of our divestiture agreements. Other than certain identified items that are currently recorded as obligations, we do not believe that it is possible to determine the contingent obligations associated with these indemnities. Additionally, under certain of our acquisition agreements, we have provided for additional consideration to be paid to the sellers if established financial targets are achieved post-closing. We have recognized liabilities for these contingent obligations based on an estimate of the fair value of these contingencies at the time of acquisition. Contingent obligations related to indemnifications arising from our divestitures and contingent consideration provided for by our acquisitions are not expected to be material to our financial position, results of operations or cash flows.
- WM and WM Holdings guarantee the service, lease, financial and general operating obligations of certain of their subsidiaries. If such a subsidiary fails to meet its contractual obligations as they come due, the guarantor has an unconditional obligation to perform on its behalf. No additional liability has been recorded for service, financial or general operating guarantees because the subsidiaries' obligations are properly accounted for as costs of operations as services are provided or general operating obligations as incurred. No additional liability has been recorded for the lease guarantees because the subsidiaries' obligations are properly accounted for as operating or capital leases, as appropriate.

Environmental Matters — A significant portion of our operating costs and capital expenditures could be characterized as costs of environmental protection as we are subject to an array of laws and regulations relating to the protection of the environment. Under current laws and regulations, we may have liabilities for environmental damage caused by our operations, or for damage caused by conditions that existed before we acquired a site. In addition to remediation activity required by state or local authorities, such liabilities include potentially responsible party, or PRP, investigations. The costs associated with these liabilities can include settlements, certain legal and consultant fees, as well as incremental internal and external costs directly associated with site investigation and clean-up.

As of December 31, 2014, we had been notified by the government that we are a PRP in connection with 75 locations listed on the EPA's Superfund National Priorities List, or NPL. Of the 75 sites at which claims have been made against us, 14 are sites we own. Each of the NPL sites we own was initially developed by others as a landfill disposal facility. At each of these facilities, we are working in conjunction with the government to characterize or remediate identified site problems, and we have either agreed with other legally liable parties on an arrangement for sharing the costs of remediation or are working toward a cost-sharing agreement. We generally expect to receive any amounts due from other participating parties at or near the time that we make the remedial expenditures. The other 61 NPL sites, which we do not own, are at various procedural stages under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, known as CERCLA or Superfund.

The majority of these proceedings involving NPL sites that we do not own are based on allegations that certain of our subsidiaries (or their predecessors) transported hazardous substances to the sites, often prior to our acquisition of these subsidiaries. CERCLA generally provides for liability for those parties owning, operating, transporting to or disposing at the sites. Proceedings arising under Superfund typically involve numerous waste generators and other waste transportation and disposal companies and seek to allocate or recover costs associated with site investigation and remediation, which costs could be substantial and could have a material adverse effect on our consolidated financial statements. At some of the sites at which we have been identified as a PRP, our liability is well defined as a consequence of a governmental decision and an agreement among liable parties as to the share each will pay for implementing that remedy. At other sites, where no remedy has been selected or the liable parties have been unable to agree on an appropriate allocation, our future costs are uncertain.

On December 22, 2011, the Harris County Attorney in Houston, Texas filed suit against McGinnes Industrial Maintenance Corporation ("MIMC"), WM and Waste Management of Texas, Inc., et al., seeking civil penalties and attorneys' fees for alleged violations of the Texas Water Code and the Texas Health and Safety Code. The County's Original Petition filed with the District Court of Harris County, Texas (the "District Court") alleges the mismanagement of certain waste pits that were operated from 1965 to 1966 by MIMC. In 1998, a predecessor of WM acquired the stock of the parent entity of MIMC. On October 9, 2014, the District Court granted a motion for summary judgment that resulted in the dismissal of WM from the case. On November 12, 2014, the parties agreed to resolve this case with a $29.2 million settlement payment by MIMC and dismissal of the claims against Waste Management of Texas, Inc. The entire settlement amount was funded into escrow in November 2014, pending finalization of the settlement. We remain focused on the remediation of the site and maintain our active participation in the EPA process established to evaluate and determine the appropriate remedy.

Additionally, on April 30, 2014, the United States District Court for the District of Hawaii issued an indictment against Waste Management of Hawaii, Inc. ("WMHI") and two employees of WMHI. The United States Attorney's Office for the District of Hawaii had been investigating water discharges at the Waimanalo Gulch Sanitary Landfill, which WMHI operates for the city and county of Honolulu, in connection with three major rainstorms in December 2010 and January 2011. The indictment alleges violations of the federal Clean Water Act, conspiracy and making false statements to the Hawaii Department of Health and the EPA. We are vigorously defending against this action. Given the early stage of this case and significant issues in dispute, we cannot currently predict an outcome or estimate a range of loss, but we could potentially be subject to sanctions, including requirements to pay monetary penalties.

Litigation — In October 2011 and January 2012, we were named as a defendant in a purported class action in the Circuit Court of Sarasota County, Florida and the Circuit Court of Lawrence County, Alabama, respectively. These cases primarily pertain to our fuel and environmental charges included on our invoices, generally alleging that such charges were not properly disclosed, were unfair and were contrary to the customer service contracts. We have reached a settlement in principal of both the pending Florida and Alabama cases, and we are currently working on documentation for the settlements. We anticipate seeking preliminary court approval of the Florida case settlement during the first quarter of 2015, with the Alabama case settlement to follow. The anticipated settlements will not have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

From time to time, we are also named as defendants in personal injury and property damage lawsuits, including purported class actions, on the basis of having owned, operated or transported waste to a disposal facility that is alleged to have contaminated the environment or, in certain cases, on the basis of having conducted environmental remediation activities at sites. Some of the lawsuits may seek to have us pay the costs of monitoring of allegedly affected sites and health care examinations of allegedly affected persons for a substantial period of time even where no actual damage is proven. While we believe we have meritorious defenses to these lawsuits, the ultimate resolution is often substantially uncertain due to the difficulty of determining the cause, extent and impact of alleged contamination (which may have occurred over a long period of time), the potential for successive groups of complainants to emerge, the diversity of the individual plaintiffs' circumstances, and the potential contribution or indemnification obligations of co-defendants or other third parties, among other factors. Additionally, we often enter into agreements with landowners imposing obligations on us to meet certain regulatory or contractual conditions upon site closure or upon termination of the agreements. Compliance with these agreements inherently involves subjective determinations and may result in disputes, including litigation.

As a large company with operations across the United States and Canada, we are subject to various proceedings, lawsuits, disputes and claims arising in the ordinary course of our business. Many of these actions raise complex factual and legal issues and are subject to uncertainties. Actions filed against us include commercial, customer, and employment-related claims, including purported class action lawsuits related to our sales and marketing practices and our customer service agreements and purported class actions involving federal and state wage and hour and other laws. The plaintiffs in some actions seek unspecified damages or injunctive relief, or both. These actions are in various procedural stages, and some are covered in part by insurance. We currently do not believe that the eventual outcome of any such actions could have a material adverse effect on the Company's business, financial condition, results of operations, or cash flows.

WM's charter and bylaws provide that WM shall indemnify against all liabilities and expenses, and upon request shall advance expenses to, any person who is subject to a pending or threatened proceeding because such person is a director or officer of the Company. Such indemnification is required to the maximum extent permitted under Delaware law. Accordingly, the director or officer must execute an undertaking to reimburse the Company for any fees advanced if it is later determined that the director or officer was not entitled to have such fees advanced under Delaware law. Additionally, WM has entered into separate indemnification agreements with each of the members of its Board of Directors, its Chief Executive Officer and each of its executive vice presidents. Additionally, the employment agreements between WM and its Chief Executive Officer and other executive and senior vice presidents contain a direct contractual obligation of the Company to provide indemnification to the executive. The Company may incur substantial expenses in connection with the fulfillment of its advancement of costs and indemnification obligations in connection with actions or proceedings that may be brought against its former or current officers, directors and employees.

Multiemployer Defined Benefit Pension Plans — About 20% of our workforce is covered by collective bargaining agreements with various union locals across the United States and Canada. As a result of some of these agreements, certain of our subsidiaries are participating employers in a number of trustee-managed multiemployer defined benefit pension plans for the covered employees. Refer to Note 10 for additional information about our participation in multiemployer defined benefit pension plans considered individually significant. In connection with our ongoing renegotiation of various collective bargaining agreements, we may discuss and negotiate for the complete or partial withdrawal from one or more of these pension plans. A complete or partial withdrawal from a multiemployer pension plan may also occur if employees covered by a collective bargaining agreement vote to decertify a union from continuing to represent them. Any other circumstance resulting in a decline in Company contributions to a multiemployer defined benefit pension plan through a reduction in the labor force, whether through attrition over time or through a business event (such as the discontinuation or nonrenewal of a customer contract, the decertification of a union, or relocation, reduction or discontinuance of certain operations) may also trigger a complete or partial withdrawal from one or more of these pension plans.

One of the most significant multiemployer pension plans in which we have participated is the Central States, Southeast and Southwest Areas Pension Plan ("Central States Pension Plan"). The Central States Pension Plan is in "critical status," as defined by the Pension Protection Act of 2006. Since 2008, certain of our affiliates have bargained to remove covered employees from the Central States Pension Plan, resulting in a series of withdrawals, and we have recognized charges to "Operating" expenses associated with the withdrawal of certain bargaining units from the Central States Pension Plan and other underfunded multiemployer pension plans. In October 2011, employees at the last of our affiliates with active participants in the Central States Pension Plan voted to decertify the union that represented them, withdrawing themselves from the Central States Pension Plan. The Company believes there are no collective bargaining agreements remaining that require continuing contributions to this plan; however, this point is the subject of pending litigation with the trustees for the Central States Pension Plan.

We are still negotiating and litigating final resolutions of our withdrawal liability for certain previous withdrawals. Except in the case of our withdrawals from the Central States Pension Plan, we do not believe any additional liability above the charges we have already recognized for such previous withdrawals could be material to the Company's business, financial condition, liquidity, results of operations or cash flows. In addition to charges recognized in prior years, we currently estimate that we could incur up to approximately $40 million in future charges based on demands from representatives of the Central States Pension Plan. As a result, we do not anticipate that the final resolution of the Central States Pension Plan matter could be material to the Company's business, financial condition or liquidity; however, such loss could have a material adverse effect on our cash flows and, to a lesser extent, our results of operations, for a particular reporting period. Similarly, we also do not believe that any future withdrawals, individually or in the aggregate, from the multiemployer pension plans to which we contribute, could have a material adverse effect on our business, financial condition or liquidity. However, such withdrawals could have a material adverse effect on our results of operations or cash flows for a particular reporting period, depending on the number of employees withdrawn in any future period and the financial condition of the multiemployer pension plan(s) at the time of such withdrawal(s).

Tax Matters — We participate in the IRS's Compliance Assurance Process, which means we work with the IRS throughout the year in order to resolve any material issues prior to the filing of our annual tax return. We are currently in the examination phase of IRS audits for the tax years 2013, 2014 and 2015 and expect these audits to be completed within the next three, 15 and 27 months, respectively. We are also currently undergoing audits by various state and local jurisdictions for tax years that date back to 2009, with the exception of affirmative claims in a limited number of jurisdictions that date back to 2000. We are also under audit in Canada for the tax years 2012 and 2013. In 2011, we acquired Oakleaf, which is subject to potential IRS examination for the year 2011. Pursuant to the terms of our acquisition of Oakleaf, we are entitled to indemnification for Oakleaf's pre-acquisition period tax liabilities. We maintain a liability for uncertain tax positions, the balance of which management believes is adequate. Results of audit assessments by taxing authorities are not currently expected to have a material adverse impact on our results of operations or cash flows.

12. Restructuring

The following table summarizes pre-tax restructuring charges, including employee severance and benefit costs and other charges, for the years ended December 31 for the respective periods (in millions):

	2014	2013	2012
Solid Waste	$10	$ 7	$19
Wheelabrator	1	1	3
Corporate and Other	71	10	45
	$82	$18	$67

2014 Restructuring — In August 2014, we announced a consolidation and realignment of several Corporate functions to better support achievement of the Company's strategic goals, including cost reduction. Voluntary separation arrangements were offered to all salaried employees within these organizations. Approximately 650 employees have separated from our Corporate and recycling organizations in connection with this restructuring, but we do not anticipate that all of these positions will be permanently eliminated.

During the year ended December 31, 2014 we recognized a total of $82 million of pre-tax restructuring charges, of which $70 million was related to employee severance and benefit costs. The remaining charges were primarily related to operating lease obligations for property that will no longer be utilized. We do not expect to incur any material charges associated with our 2014 restructuring in future periods.

During the year ended December 31, 2013, we recognized a total of $18 million of pre-tax restructuring charges, of which $7 million was related to employee severance and benefit costs, including costs associated with our acquisitions of Greenstar, LLC ("Greenstar") and RCI and our 2012 restructurings discussed below. The remaining charges were primarily related to operating lease obligations for property that will no longer be utilized.

2012 Restructuring — In July 2012, we announced a reorganization of operations, designed to streamline management and staff support and reduce our cost structure, while not disrupting our front-line operations. Principal organizational changes included removing the management layer of our four geographic Groups, each of which previously constituted a reportable segment, and consolidating and reducing the number of our geographic Areas through which we evaluate and oversee our Solid Waste subsidiaries from 22 to 17. This reorganization eliminated approximately 700 employee positions throughout the Company, including positions at both the management and support level. Voluntary separation arrangements were offered to many employees.

During the year ended December 31, 2012, we recognized a total of $67 million of pre-tax restructuring charges, of which $56 million were related to employee severance and benefit costs associated with these reorganizations. The remaining charges were primarily related to operating lease obligations for property that will no longer be utilized.

Through December 31, 2014, we had recognized charges of $133 million related to employee severance and benefits associated with our restructuring efforts beginning in 2012 and we have paid approximately $94 million of these costs. At December 31, 2014, we had approximately $33 million of accrued employee severance related to our restructuring efforts, which will be substantially paid through the end of 2015.

13. Asset Impairments and Unusual Items

Goodwill impairments

During the year ended December 31, 2014, we recognized $10 million of goodwill impairment charges associated with our recycling operations. During the year ended December 31, 2013, we recognized $509 million of goodwill impairment charges, primarily related to (i) $483 million associated with our Wheelabrator business; (ii) $10 million associated with our Puerto Rico operations and (iii) $9 million associated with a majority-owned waste diversion technology company. During the year ended December 31, 2012, we recognized goodwill impairment charges of $4 million related to certain of our non-Solid Waste operations. See Notes 3 and 6 for additional information related to these impairment charges as well as the accounting policy and analysis involved in identifying and calculating impairments.

(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items

The following table summarizes the major components of "(Income) expense from divestitures, asset impairments and unusual items" for the years ended December 31 for the respective periods (in millions):

	2014	2013	2012
(Income) expense from divestitures	$(515)	$ (8)	$—
Asset impairments (other than goodwill)	345	472	79
	$(170)	$464	$ 79

During the year ended December 31, 2014, we recognized net income of $170 million, primarily related to the following:

- *(Income) expense from divestitures* — We recognized net gains of $515 million, primarily as a result of a $519 million gain on the sale of our Wheelabrator business and an $18 million gain on the sale of certain landfill and collection operations in our Eastern Canada Area. Partially offsetting these gains was a $25 million loss on the divestiture of our Puerto Rico operations and certain other collection and landfill assets. Refer to Note 19 for additional information related to our divestitures.
- *Oil and gas properties impairments* — We recognized $272 million of charges to impair certain of our oil and gas producing properties, primarily as a result of the pronounced decrease in oil and gas prices in the fourth quarter of 2014. We wrote down the carrying value of these properties to their estimated fair value using an income approach.
- *Other impairments* — We recognized additional impairment charges of $73 million to write down assets in our waste diversion technology, renewable energy, recycling and medical waste operations.

During the year ended December 31, 2013, we recognized net charges of $464 million, primarily related to the following:

- *Landfill impairments* — We recognized $262 million of charges to impair certain of our landfills, primarily as a result of our consideration of management's decision in the fourth quarter of 2013 not to actively pursue expansion and/or development of such landfills. These charges were primarily associated with two landfills in our Eastern Canada Area, which are no longer accepting waste. We had previously concluded that receipt of permits for these landfills was probable. However, in connection with our asset rationalization and capital allocation analysis, which was influenced, in part, by our acquisition of RCI, we determined that the future costs to construct these landfills could be avoided as we are able to allocate disposal that would have gone to these landfills to other facilities and not materially impact operations. As a result of management's decision, we determined that the landfill assets were no longer able to be recovered by the undiscounted cash flows attributable to these assets. As such, we wrote them down to their estimated fair values using a market approach considering the highest and best use of the assets.
- *Waste-to-energy impairments* — We recognized $144 million of impairment charges relating to three waste-to-energy facilities, primarily as a result of closure or anticipated closure due to continued difficulty securing sufficient volumes to operate the plants at capacity and the prospect of additional capacity entering the market where the largest facility is located. We wrote down the carrying value of our facilities to their estimated fair value using a market approach.
- *Other impairments* — The remainder of our 2013 charges were attributable to (i) $31 million of charges to impair various recycling assets; (ii) $20 million of charges to write down assets related to a majority-owned waste diversion technology company; and (iii) a $15 million charge to write down the carrying value of an oil and gas property to its estimated fair value.
- *Divestitures* — Partially offsetting these charges were $8 million of net gains on divestitures.

During the year ended December 31, 2012, we recognized impairment charges of $79 million, attributable to (i) $45 million of charges related to three facilities in our medical waste services business as a result of projected operating losses at each of these facilities; (ii) $20 million of charges related to investments in waste diversion technology companies and (iii) other charges to write down the carrying value of assets to their estimated fair values, all of which are individually immaterial.

See Notes 3 and 21 for additional information related to the accounting policy and analysis involved in identifying and calculating impairments; and information related to the impact of impairments on the results of operations of our reportable segments, respectively.

Equity in net losses of unconsolidated entities

During the year ended December 31, 2014, we recognized charges of $11 million primarily to write down equity method investments in waste diversion technology companies to their fair value. During the year ended December 31, 2012, we recognized a charge of $10 million related to a payment we made under a guarantee on behalf of an unconsolidated entity that went into liquidation. This investment was accounted for under the equity method.

Other income (expense)

During the year ended December 31, 2014, we recognized impairment charges of $22 million relating to other-than-temporary declines in the value of investments in waste diversion technology companies accounted for under the cost method. We wrote down the carrying value of our investments to their fair value.

In the first quarter of 2014, we sold our investment in SEG, which was part of our Wheelabrator business. We received cash proceeds from the sale of $155 million, which have been included in "Proceeds from divestitures of businesses and other assets (net of cash divested)" within "Net cash used in investing activities" in the Consolidated Statement of Cash Flows. The losses recognized related to the sale were not material.

During the year ended December 31, 2013, we recognized impairment charges of $71 million relating to other-than-temporary declines in the value of investments in waste diversion technology companies accounted for under the cost method. We wrote down the carrying value of our investments to their fair value, which was primarily determined using an income approach based on estimated future cash flow projections obtained in the fourth quarter of 2013 and, to a lesser extent, third-party investors' recent transactions in these securities. Partially offsetting these charges was a $4 million gain on the sale of a similar investment recognized in the second quarter of 2013.

During the year ended December 31, 2012, we recognized an impairment charge of $16 million relating to an other-than-temporary decline in the value of another investment in a waste diversion technology company accounted for under the cost method. We wrote down the carrying value of our investment to its fair value based on other third-party investors' recent transactions in these securities, which are considered to be the best evidence of fair value currently available.

These net charges are recorded in "Other, net" in our Consolidated Statement of Operations.

14. Accumulated Other Comprehensive Income

The changes in the balances of each component of accumulated other comprehensive income, net of tax, which is included as a component of Waste Management, Inc. stockholders' equity, are as follows (in millions, with amounts in parentheses representing decreases to accumulated other comprehensive income):

	Derivative Instruments	Available-for-Sale Securities	Foreign Currency Translation Adjustments	Post-Retirement Benefit Plans	Total
Balance, December 31, 2011	$(62)	$ 2	$ 243	$ (11)	$ 172
Other comprehensive income (loss) before reclassifications, net of tax expense (benefit) of $(14), $2, $0 and $(2), respectively	(22)	2	33	(2)	11
Amounts reclassified from accumulated other comprehensive income, net of tax (expense) benefit of $5, $0, $0 and $0, respectively	10	—	—	—	10
Net current period other comprehensive income (loss)	(12)	2	33	(2)	21
Balance, December 31, 2012	$(74)	$ 4	$ 276	$ (13)	$ 193
Other comprehensive income (loss) before reclassifications, net of tax expense (benefit) of $9, $1, $0 and $10, respectively	14	2	(68)	15	(37)
Amounts reclassified from accumulated other comprehensive income, net of tax (expense) benefit of $(1), $0, $0 and $0, respectively	(2)	—	—	—	(2)
Net current period other comprehensive income (loss)	12	2	(68)	15	(39)
Balance, December 31, 2013	$(62)	$ 6	$ 208	$ 2	$ 154
Other comprehensive income (loss) before reclassifications, net of tax expense (benefit) of $4, $2, $0 and $(8), respectively	6	4	(107)	(11)	(108)
Amounts reclassified from accumulated other comprehensive income, net of tax (expense) benefit of $(3), $0, $0 and $0, respectively	(5)	—	(17)	(1)	(23)
Net current period other comprehensive income (loss)	1	4	(124)	(12)	(131)
Balance, December 31, 2014	$(61)	$ 10	$ 84	$ (10)	$ 23

The amounts of other comprehensive income (loss) before reclassifications associated with our cash flow derivative instruments are as follows (in millions):

	Amount of Derivative Gain (Loss) Recognized in OCI (Effective Portion)		
	Years Ended December 31,		
Derivatives Designated as Cash Flow Hedges	2014	2013	2012
Forward-starting interest rate swaps	$ (8)	$14	$ (27)
Foreign currency derivatives	23	17	(9)
Electricity commodity derivatives	(5)	(8)	—
Total before tax	10	23	(36)
Tax (expense) benefit	(4)	(9)	14
Net of tax	$ 6	$14	$ (22)

The significant amounts reclassified out of each component of accumulated other comprehensive income are as follows (in millions, with amounts in parentheses representing debits to the statement of operations classification):

	Amount Reclassified from Accumulated Other Comprehensive Income			
	Years Ended December 31,			
Details about Accumulated Other Comprehensive Income Components	2014	2013	2012	Statement of Operations Classification
Gains and losses on cash flow hedges:				
Forward-starting interest rate swaps	$(10)	$ (7)	$ (3)	Interest expense
Treasury rate locks	(1)	(2)	(7)	Interest expense
Foreign currency derivatives	27	21	(15)	Other, net
Electricity commodity derivatives	(8)	(9)	10	Operating revenues
	8	3	(15)	Total before tax
	(3)	(1)	5	Tax (expense) benefit
Total reclassifications for the period	$ 5	$ 2	$(10)	Net of tax

15. Capital Stock, Dividends and Share Repurchases

Capital Stock

We have 1.5 billion shares of authorized common stock with a par value of $0.01 per common share. As of December 31, 2014, we had 458.5 million shares of common stock issued and outstanding. The Board of Directors is authorized to issue preferred stock in series, and with respect to each series, to fix its designation, relative rights (including voting, dividend, conversion, sinking fund, and redemption rights), preferences (including dividends and liquidation) and limitations. We have 10 million shares of authorized preferred stock, $0.01 par value, none of which is currently outstanding.

Dividends

Our quarterly dividends have been declared and paid in accordance with our financial plans approved by our Board of Directors. Cash dividends declared and paid were $693 million in 2014, or $1.50 per common share, $683 million in 2013, or $1.46 per common share and $658 million in 2012, or $1.42 per common share.

In February 2015, we announced that our Board of Directors expects to increase the quarterly dividend from $0.375 to $0.385 per share for dividends declared in 2015. However, all future dividend declarations are at the discretion of the Board of Directors and depend on various factors, including our net earnings, financial condition, cash required for future business plans and other factors the Board may deem relevant.

Share Repurchases

Our share repurchases have been made in accordance with financial plans approved by our Board of Directors. The following is a summary of our share repurchases for the periods presented. We did not repurchase any shares of common stock in 2012.

	Years Ended December 31,	
	2014(a)	2013
Shares repurchased (in thousands)	9,569	5,368
Weighted average per share purchase price	$43.89	$43.48 - $45.95
Total repurchases (in millions)	$600	$239

(a) In February 2014, the Board of Directors authorized up to $600 million in share repurchases. During the third quarter of 2014, we entered into accelerated share repurchase ("ASR") agreements with two financial institutions to repurchase an aggregate of $600 million of our common stock. At the beginning of the ASR repurchase periods, we delivered the $600 million in cash and received 9.6 million shares, which represented 70% of the shares expected to be repurchased based on then-current market prices. These agreements were completed in February 2015 and we received approximately 2.8 million additional shares. The final weighted average per share purchase price for the completed ASR agreements was $48.58.

The ASR agreements were accounted for as two separate transactions: (i) as shares of reacquired common stock for the shares delivered to us upon effectiveness of the ASR agreements and (ii) as a forward contract indexed to our own common stock for the undelivered shares. The initial delivery of shares is included in treasury stock at a cost of $420 million and resulted in an immediate reduction of the outstanding shares used to calculate the weighted-average common shares outstanding for basic and diluted earnings per share. The $180 million forward contract indexed to our own stock met the criteria for equity classification and this amount was recorded in additional paid-in capital.

We announced in February 2015 that the Board of Directors has authorized up to $1 billion in future share repurchases. Any future share repurchases will be made at the discretion of management, and will depend on factors similar to those considered by the Board in making dividend declarations.

16. Stock-Based Compensation

Employee Stock Purchase Plan

We have an Employee Stock Purchase Plan ("ESPP") under which employees that have been employed for at least 30 days may purchase shares of our common stock at a discount. The plan provides for two offering periods for purchases: January through June and July through December. At the end of each offering period, employees are able to purchase shares of our common stock at a price equal to 85% of the lesser of the market value of the stock on the first and last day of such offering period. The purchases are made at the end of an offering period with funds accumulated through payroll deductions over the course of the offering period, and the number of shares that may be purchased is limited by IRS regulations. The total number of shares issued under the plan for the offering periods in each of 2014, 2013 and 2012 was approximately 774,000, 928,000 and 1 million, respectively. Including the impact of the January 2015 issuance of shares associated with the July to December 2014 offering period, approximately 1.0 million shares remain available for issuance under the plan.

Accounting for our ESPP increased annual compensation expense by approximately by $6 million, or $4 million net of tax, for both 2014 and 2013 and by $7 million, or $4 million net of tax, for 2012.

Employee Stock Incentive Plans

In May 2014, our stockholders approved our 2014 Stock Incentive Plan (the "2014 Plan") to replace our 2009 Stock Incentive Plan (the "2009 Plan"). The 2014 Plan authorized 23.8 million shares of our common stock for issuance pursuant to the 2014 Plan, plus the approximately 1.1 million shares that then remained available for issuance under the 2009 Plan, and any shares subject to outstanding awards under the 2009 Plan that are subsequently cancelled, forfeited, terminate, expire or lapse. As of December 31, 2014, approximately 25.9 million shares were available for future grants under the 2014 Plan. All of our stock-based compensation awards described herein have been made pursuant to either our 2009 Plan or our 2014 Plan, collectively referred to as the "Incentive Plans." We currently utilize treasury shares to meet the needs of our equity-based compensation programs.

Pursuant to the Incentive Plans, we have the ability to issue stock options, stock appreciation rights and stock awards, including restricted stock, restricted stock units, or RSUs, and performance share units, or PSUs. The terms and conditions of equity awards granted under the Incentive Plans are determined by the Management Development and Compensation Committee of our Board of Directors.

The 2014 annual Incentive Plan awards granted to the Company's senior leadership team, which generally includes the Company's executive officers, included a combination of PSUs and stock options. The annual Incentive Plan awards granted to certain key employees included a combination of PSUs, RSUs and stock options in 2014. The Company has also periodically granted RSUs and stock options to employees working on key initiatives, in connection with new hires and promotions and to field-based managers.

Restricted Stock Units — A summary of our RSUs is presented in the table below (units in thousands):

	Units	Weighted Average Fair Value
Unvested at January 1, 2014	535	$35.68
Granted	219	$41.41
Vested	(57)	$39.58
Forfeited	(77)	$38.41
Unvested at December 31, 2014	620	$37.44

The total fair market value of RSUs that vested during the years ended December 31, 2014, 2013 and 2012 was $3 million, $1 million and $11 million, respectively. Net of units deferred and units used for payment of associated taxes, we issued approximately 42,000 shares of common stock for RSUs that vested during the year ended December 31, 2014.

RSUs may not be voted or sold by award recipients until time-based vesting restrictions have lapsed. RSUs primarily provide for three-year cliff vesting and include divided equivalents accumulated during the vesting period. Unvested units are subject to forfeiture in the event of voluntary or for-cause termination. RSUs are subject to pro-rata vesting upon an employee's retirement or involuntary termination other than for cause and become immediately vested in the event of an employee's death or disability.

Compensation expense associated with RSUs is measured based on the grant-date fair value of our common stock and is recognized on a straight-line basis over the required employment period, which is generally the vesting period. Compensation expense is only recognized for those awards that we expect to vest, which we estimate based upon an assessment of expected forfeitures.

Performance Share Units — Three types of PSUs are currently outstanding: (i) PSUs for which payout is dependent on total shareholder return relative to the S&P 500 ("TSR PSUs"); (ii) PSUs for which payout is dependent on the Company's performance against pre-established return on invested capital metrics ("ROIC PSUs") and (iii) PSUs for which payout is dependent on the Company's performance against pre-established adjusted cash flow metrics ("Cash Flow PSUs"). All types of PSUs are payable in shares of common stock after the end of a three-year performance period, when the Company's financial performance for the entire performance period is reported, typically in mid- to late-February of the succeeding year. At the end of the performance period, the number of shares awarded can range from 0% to 200% of the targeted amount, depending on the performance against the pre-established targets. A summary of our PSUs is presented in the table below (units in thousands):

	Units	Weighted Average Fair Value
Unvested at January 1, 2014	1,826	$43.41
Granted	695	$45.83
Vested	(317)	$42.42
Forfeited	(171)	$46.20
Unvested at December 31, 2014	2,033	$46.28

The determination of achievement of performance results and corresponding vesting of PSUs for the three-year performance period ended December 31, 2014 was performed by the Management Development and Compensation Committee in February 2015. Accordingly, vesting information for such awards is not included in the table above as of December 31, 2014. The "vested" PSUs are for the three-year performance period ended December 31, 2013, as achievement of performance results and corresponding vesting was determined in February 2014. The Company's financial results, as measured for purposes of these awards, were lower than the target levels established but in excess of the threshold performance criteria. Accordingly, recipients of these PSU awards were entitled to receive a payout of approximately 60% of the vested PSUs. In early 2014, we issued approximately 106,000 shares of common stock for these vested PSUs, net of units deferred and units used for payment of associated taxes.

The shares of common stock that were earned during the years ended December 31, 2014, 2013 and 2012 on account of PSU awards had a fair market value of $8 million, $14 million and $32 million, respectively. PSUs have no voting rights. PSUs receive dividend equivalents that are paid out in cash based on actual performance at the end of the awards' performance period. PSUs are payable to an employee (or his beneficiary) upon death or disability as if that employee had remained employed until the end of the performance period, are subject to pro-rata vesting upon an employee's retirement or involuntary termination other than for cause and are subject to forfeiture in the event of voluntary or for-cause termination.

Compensation expense associated with our ROIC PSUs and Cash Flow PSUs that continue to vest based on future performance is measured based on the fair value of our common stock at the end of each reporting period until the performance period ends. Compensation expense is recognized ratably over the performance period based on our estimated achievement of the established performance criteria. Compensation expense is only recognized for those awards that we expect to vest, which we estimate based upon an assessment of both the probability that the performance criteria will be achieved and expected forfeitures.

The grant-date fair value of our TSR PSUs is based on a Monte Carlo valuation and compensation expense is recognized on a straight-line basis over the vesting period. Compensation expense is recognized for all TSR PSUs whether or not the market conditions are achieved less expected forfeitures.

Deferred Units — Recipients can elect to defer some or all of the vested RSU or PSU awards until a specified date or dates they choose. Deferred amounts are not invested, nor do they earn interest, but deferred amounts do earn dividend equivalents during deferral. Deferred amounts are paid out in shares of common stock at the end of the deferral period. At December 31, 2014, we had approximately 295,000 vested deferred units outstanding.

Stock Options — Stock options granted primarily vest in 25% increments on the first two anniversaries of the date of grant with the remaining 50% vesting on the third anniversary. The exercise price of the options is the average of the high and low market value of our common stock on the date of grant, and the options have a term of 10 years. A summary of our stock options is presented in the table below (options in thousands):

	Options	Weighted Average Exercise Price
Outstanding at January 1, 2014	9,674	$35.98
Granted	2,099	$41.23
Exercised	(2,798)	$35.85
Forfeited or expired	(597)	$37.60
Outstanding at December 31, 2014(a)	8,378	$37.22
Exercisable at December 31, 2014(b)	4,451	$36.05

(a) Stock options outstanding as of December 31, 2014 have a weighted average remaining contractual term of 7.2 years and an aggregate intrinsic value of $118 million based on the market value of our common stock on December 31, 2014.

(b) Stock options exercisable as of December 31, 2014 have a weighted average remaining contractual term of 6.2 years and an aggregate intrinsic value of $68 million based on the market value of our common stock on December 31, 2014. Stock options exercisable at December 31, 2014 have an exercise price ranging from $32.18 to $40.62.

We received cash proceeds of $93 million, $132 million and $43 million during the years ended December 31, 2014, 2013 and 2012, respectively, from employee stock option exercises. We also realized tax benefits from these stock option exercises during the years ended December 31, 2014, 2013 and 2012 of $5 million, $10 million and $5 million, respectively. These amounts have been presented as cash inflows in the "Cash flows from financing activities" section of our Consolidated Statements of Cash Flows. The aggregate intrinsic value of stock options exercised during the years ended December 31, 2014, 2013 and 2012 was $27 million, $41 million and $15 million, respectively.

All unvested stock options shall become exercisable upon the award recipient's death or disability. In the event of a recipient's retirement, stock options shall continue to vest pursuant to the original schedule set forth in the award agreement. If the recipient is terminated by the Company without cause or voluntarily resigns, the recipient shall be entitled to exercise all stock options outstanding and exercisable within a specified time frame after such termination. All outstanding stock options, whether exercisable or not, are forfeited upon termination for cause.

We account for our employee stock options under the fair value method of accounting using a Black-Scholes methodology to measure stock option expense at the date of grant. The weighted average grant-date fair value of stock options granted during the years ended December 31, 2014, 2013 and 2012 was $4.55, $4.26 and $4.66, respectively. The fair value of the stock options at the date of grant is amortized to expense over the vesting period less expected forfeitures, except for stock options granted to retirement-eligible employees, for which expense is accelerated over the period that the recipient becomes retirement-eligible. The following table presents the weighted average assumptions used to value employee stock options granted during the years ended December 31 under the Black-Scholes valuation model:

	2014	2013	2012
Expected option life	4.8 years	5.4 years	5.5 years
Expected volatility	18.4%	21.8%	24.2%
Expected dividend yield	3.6%	4.0%	4.1%
Risk-free interest rate	1.6%	1.0%	1.1%

The Company bases its expected option life on the expected exercise and termination behavior of its optionees and an appropriate model of the Company's future stock price. The expected volatility assumption is derived from the historical volatility of the Company's common stock over the most recent period commensurate with the estimated expected life of the Company's stock options, combined with other relevant factors including implied volatility in market-traded options on the Company's stock. The dividend yield is the annual rate of dividends per share over the exercise price of the option as of the grant date.

For the years ended December 31, 2014, 2013 and 2012 we recognized $59 million, $54 million and $22 million, respectively, of compensation expense associated with RSU, PSU and stock option awards as a component of "Selling, general and administrative" expenses in our Consolidated Statement of Operations. Our "Provision for income taxes" for the years ended December 31, 2014, 2013 and 2012 includes related deferred income tax benefits of $23 million, $21 million and $9 million, respectively. We have not capitalized any equity-based compensation costs during the years ended December 31, 2014, 2013 and 2012.

Compensation expense recognized in 2014 increased when compared to 2013, in part due to the increase in expected payout of our PSUs. Compensation expense recognized in 2013 increased when compared to 2012, in part due to the payout of PSUs granted in 2010, which was approved in 2013. Expense associated with these awards had been reversed in 2012 when it no longer appeared probable that threshold performance would be achieved. As of December 31, 2014 we estimate that a total of approximately $46 million of currently unrecognized compensation expense will be recognized over a weighted average period of 1.4 years for unvested RSU, PSU and stock option awards issued and outstanding.

Non-Employee Director Plan

Our non-employee directors currently receive annual grants of shares of our common stock, generally payable in two equal installments, under the Incentive Plans described above.

17. Earnings Per Share

Basic and diluted earnings per share were computed using the following common share data (shares in millions):

	Years Ended December 31,		
	2014	2013	2012
Number of common shares outstanding at year-end	458.5	464.3	464.2
Effect of using weighted average common shares outstanding	4.1	3.4	(0.6)
Weighted average basic common shares outstanding	462.6	467.7	463.6
Dilutive effect of equity-based compensation awards and other contingently issuable shares	3.0	2.1	0.8
Weighted average diluted common shares outstanding	465.6	469.8	464.4
Potentially issuable shares	11.3	12.3	15.3
Number of anti-dilutive potentially issuable shares excluded from diluted common shares outstanding	0.4	0.1	8.9

18. Fair Value Measurements

Assets and Liabilities Accounted for at Fair Value

Fair value is defined as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When measuring assets and liabilities that are required to be recorded at fair value, the Company considers the principal or most advantageous market in which the Company would transact. Fair value is estimated by applying the following hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

Level 1 — Quoted prices in active markets for identical assets or liabilities.

Level 2 — Observable inputs other than quoted prices in active markets for identical assets and liabilities, quoted prices for identical or similar assets or liabilities in inactive markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 — Inputs that are generally unobservable and typically reflect management's estimate of assumptions that market participants would use in pricing the asset or liability.

We use valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs. In measuring the fair value of our assets and liabilities, we use market data or assumptions that we believe market participants would use in pricing an asset or liability, including assumptions about risk when appropriate. Our assets and liabilities that are measured at fair value on a recurring basis include the following (in millions):

		Fair Value Measurements at December 31, 2014 Using		
	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Money market funds	$1,335	$1,335	$—	$—
Fixed-income securities	38	—	38	—
Redeemable preferred stock	44	—	—	44
Foreign currency derivatives	28	—	28	—
Total assets	$1,445	$1,335	$ 66	$ 44

		Fair Value Measurements at December 31, 2013 Using		
	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Money market funds	$ 99	$ 99	$—	$—
Fixed-income securities	36	—	36	—
Redeemable preferred stock	25	—	—	25
Foreign currency derivatives	2	—	2	—
Total assets	$162	$ 99	$ 38	$ 25
Liabilities:				
Interest rate derivatives	$ 28	$—	$ 28	$—
Electricity commodity derivatives(a)	3	—	3	—
Total liabilities	$ 31	$—	$ 31	$—

(a) Our electricity commodity derivatives were associated with our Wheelabrator business and were divested in conjunction with the sale of that business in December 2014.

Money Market Funds

We invest portions of our "Cash and cash equivalents" and restricted trust and escrow account balances in money market funds. We measure the fair value of these investments using quoted prices in active markets for identical assets. The fair value of our money market funds approximates our cost basis in the investments. The increase in the fair value at December 31, 2014 compared to December 31, 2013 is primarily attributable to cash proceeds received from the sale of our Wheelabrator business.

Fixed-Income Securities

We invest a portion of our restricted trust and escrow balances in fixed-income securities, including U.S. Treasury securities, U.S. agency securities, municipal securities and mortgage- and asset-backed securities. We measure the fair value of these securities using quoted prices for identical or similar assets in inactive markets. The fair value of our fixed-income securities approximates our cost basis in these investments.

Redeemable Preferred Stock

In 2011, we made a noncontrolling investment in redeemable preferred stock of an unconsolidated entity. The fair value of this investment increased by $4 million during 2014 due to an increase in the price per share established in a recent stock issuance. In addition, we received $15 million of redeemable preferred stock in conjunction with the sale of our Puerto Rico operations and certain other collection and landfill assets in the second quarter of 2014, as discussed in Note 19.

Such preferred stock is included in "Investments in unconsolidated entities" in our Consolidated Balance Sheet. The fair values of these investments have been measured based on third-party investors' recent or pending transactions in these securities, which are considered the best evidence of fair value currently available. When this evidence is not available, we use other valuation techniques as appropriate and available. These valuation methodologies may include transactions in similar instruments, discounted cash flow techniques, third-party appraisals or industry multiples and public comparables.

Foreign Currency Derivatives

Our foreign currency derivatives are valued using a third-party pricing model that incorporates information about forward Canadian dollar rates, or observable market data, as of the reporting date. The third-party pricing model used to value our foreign currency derivatives also incorporates Company and counterparty credit valuation adjustments, as appropriate. Counterparties to these contracts are financial institutions who participate in our $2.25 billion revolving credit facility. Valuations may fluctuate significantly from period-to-period due to volatility in the Canadian dollar to U.S. dollar exchange rate.

Interest Rate Derivatives

As of December 31, 2013, we were party to forward-starting interest rate swaps that were designated as cash flow hedges of anticipated interest payments for future fixed-rate debt issuances. Our forward-starting interest rate swaps were LIBOR-based instruments. Accordingly, these derivatives were valued using a third-party pricing model that incorporated information about LIBOR yield curves, which is considered observable market data, for each instrument's respective term. The third-party pricing model used to value our interest rate derivatives also incorporated Company and counterparty credit valuation adjustments, as appropriate. Counterparties to our interest rate contracts are financial institutions who participate in our $2.25 billion revolving credit facility. During the first quarter of 2014, our forward-starting interest rate swaps matured.

Refer to Notes 8 and 14 for additional information regarding our derivative instruments discussed above.

Fair Value of Debt

At December 31, 2014 the carrying value of our debt was approximately $9.4 billion compared with approximately $10.2 billion at December 31, 2013. The carrying value of our debt includes adjustments associated with fair value hedge accounting related to our interest rate swaps as discussed in Note 8.

The estimated fair value of our debt was approximately $10.6 billion at December 31, 2014 and approximately $11.0 billion at December 31, 2013. The estimated fair value of our senior notes is based on quoted market prices. The carrying value of remarketable debt and borrowings under our revolving credit facilities approximates fair value due to the short-term nature of the interest rates. The fair value of our other debt is estimated using discounted cash flow analysis, based on current market rates for similar types of instruments. The decrease in the fair value of our debt when comparing December 31, 2014 with December 31, 2013 is primarily related to $751 million of net repayments during 2014, partially offset by increases in the fair value attributable to an increase in market prices for fixed-rate corporate debt securities as a result of recent decreases in long-term interest rates.

Although we have determined the estimated fair value amounts using available market information and commonly accepted valuation methodologies, considerable judgment is required in interpreting market data to develop the estimates of fair value. Accordingly, our estimates are not necessarily indicative of the amounts that we, or holders of the instruments, could realize in a current market exchange. The use of different assumptions and/or estimation methodologies could have a material effect on the estimated fair values. The fair value estimates are based on Level 2 inputs of the fair value hierarchy available as of December 31, 2014 and 2013. These amounts have not been revalued since those dates, and current estimates of fair value could differ significantly from the amounts presented.

19. Acquisitions and Divestitures

Pending Acquisition

On September 17, 2014, the Company signed a definitive agreement to acquire the outstanding stock of Deffenbaugh Disposal, Inc., one of the largest privately owned collection and disposal firms in the Midwest. Closing of the acquisition is expected to occur in early 2015, subject to the receipt of regulatory approvals and the satisfaction of customary closing conditions.

Current Year Acquisitions

We continue to pursue the acquisition of businesses that are accretive to our Solid Waste business and enhance and expand our existing service offerings. During the year ended December 31, 2014, we acquired 15 businesses related to our Solid Waste business. Total consideration, net of cash acquired, for all acquisitions was $32 million, which included $26 million in cash paid in 2014 and a liability for contingent consideration with a preliminary estimated fair value of $6 million. The contingent consideration is primarily based on achievement by the acquired businesses of certain negotiated goals, which generally include targeted revenues. Our estimated maximum obligations for the contingent cash payments were $6 million at the dates of acquisition. As of December 31, 2014, we had paid $4 million of this contingent consideration. In 2014, we also paid $5 million of contingent consideration associated with acquisitions completed prior to 2014.

The allocation of purchase price for 2014 acquisitions was primarily to "Property and equipment," which had an estimated fair value of $6 million; "Other intangible assets," which had an estimated fair value of $9 million; and "Goodwill" of $17 million. Other intangible assets included $7 million of customer and supplier relationships and $2 million of covenants not-to-compete. Goodwill is primarily a result of expected synergies from combining the acquired businesses with our existing operations and is tax deductible.

Prior Year Acquisitions

During the year ended December 31, 2013, we acquired Greenstar and substantially all of the assets of RCI, which are discussed further below. Additionally, we acquired 14 other businesses primarily related to our Solid

Waste business and energy services operations. Total consideration, inclusive of $7 million for estimated working capital, for all acquisitions was $772 million, which included $714 million in cash paid in 2013, debt of $22 million and a liability for contingent consideration with an estimated fair value of $29 million. The contingent consideration is primarily based on changes in certain recycling commodity indexes and, to a lesser extent, contingent upon achievement by the acquired businesses of certain negotiated goals, which generally include targeted revenues. Our estimated maximum obligations for the contingent cash payments were $33 million at the dates of acquisition. As of December 31, 2013, we had paid $4 million of this contingent consideration. In 2013, we also paid $6 million of contingent consideration associated with acquisitions completed prior to 2013.

The allocation of purchase price for 2013 acquisitions was primarily to "Property and equipment," which had an estimated fair value of $195 million; "Other intangible assets," which had an estimated fair value of $232 million; and "Goodwill" of $327 million. Other intangible assets included $218 million of customer and supplier relationships, $5 million of covenants not-to-compete and $9 million of other intangible assets. Goodwill is primarily a result of expected synergies from combining the acquired businesses with our existing operations and is generally tax deductible.

Acquisition of Greenstar, LLC

On January 31, 2013, we paid $170 million inclusive of certain adjustments, to acquire Greenstar. Pursuant to the sale and purchase agreement, up to an additional $40 million is payable to the sellers during the period from 2014 to 2018, of which $20 million is guaranteed. The remaining $20 million of this consideration is contingent based on changes in certain recyclable commodity indexes and had an estimated fair value at closing of $16 million. Greenstar was an operator of recycling and resource recovery facilities. This acquisition provides the Company's customers with greater access to recycling solutions, having supplemented our extensive nationwide recycling network with the operations of one of the nation's largest private recyclers.

Goodwill of $122 million was calculated as the excess of the consideration paid over the net assets recognized and represents the future economic benefits expected to arise from other assets acquired that could not be individually identified and separately recognized. Goodwill has been assigned predominantly to our Areas and, to a lesser extent, our recycling brokerage services, as they are expected to benefit from the synergies of the combination. Goodwill related to this acquisition is deductible for income tax purposes. There have been no material adjustments to the purchase price allocation since the date of acquisition.

Acquisition of RCI Environnement, Inc.

On July 5, 2013, we paid C$509 million, or $481 million, to acquire substantially all of the assets of RCI, the largest waste management company in Quebec, and certain related entities. Total consideration, inclusive of amounts for estimated working capital, was C$515 million, or $487 million. RCI provides collection, transfer, recycling and disposal operations throughout the Greater Montreal area. The acquired RCI operations complement and expand the Company's existing assets and operations in Quebec.

Goodwill of $191 million was calculated as the excess of the consideration paid over the net assets recognized and represents the future economic benefits expected to arise from other assets acquired that could not be individually identified and separately recognized. Goodwill has been assigned to our Eastern Canada Area as it is expected to benefit from the synergies of the combination. A portion of goodwill related to this acquisition is deductible for income tax purposes in accordance with Canadian tax law. There have been no material adjustments to the purchase price allocation since the date of acquisition.

The following table presents the final allocations of the purchase price for the Greenstar and RCI acquisitions (in millions):

	Greenstar	RCI
Accounts and other receivables	$ 30	$ 32
Parts and supplies	4	—
Other current assets	2	—
Property and equipment	58	117
Goodwill	122	191
Other intangible assets	32	169
Accounts payable	(17)	—
Accrued liabilities	(12)	—
Deferred revenues	—	(4)
Landfill and environmental remediation liabilities	(2)	(1)
Current portion of long-term debt	(4)	—
Long-term debt, less current portion	(2)	(3)
Deferred income taxes, net	—	(14)
Other liabilities	(5)	—
Total purchase price	$206	$487

The following table presents the final allocations of the purchase price to intangible assets (amounts in millions, except for amortization periods):

	Greenstar		RCI	
	Amount	Weighted Average Amortization Periods (in Years)	Amount	Weighted Average Amortization Periods (in Years)
Supplier relationships	$ 31	10.0	$—	—
Lease agreements	1	8.4	—	—
Customer relationships	—	—	162	15.0
Trade name	—	—	7	5.0
Total intangible assets subject to amortization	$ 32	10.0	$169	14.6

Pro Forma Consolidated Results of Operations

The following pro forma consolidated results of operations have been prepared as if the acquisitions of RCI and Greenstar occurred at January 1, 2012 (in millions, except per share amounts):

	Years Ended December 31,	
	2013	2012
Operating revenues	$14,085	$14,009
Net income attributable to Waste Management, Inc.	112	803
Basic earnings per common share	0.24	1.73
Diluted earnings per common share	0.24	1.73

In 2012, we paid $94 million for interests in oil and gas producing properties through two transactions. The purchase price was allocated primarily to "Property and equipment." Additionally, we acquired 32 other businesses related to our Solid Waste business. Total consideration, net of cash acquired, for all acquisitions was $244 million, which included $207 million in cash paid in 2012, deposits paid during 2011 for acquisitions completed in 2012 of $7 million, a liability for additional cash payments with a preliminary estimated fair value of $22 million, and assumed liabilities of $8 million. The additional cash payments are contingent upon achievement by the acquired businesses of certain negotiated goals, which generally include targeted revenues. At the dates of acquisition, our estimated maximum obligations for the contingent cash payments were $57 million. As of December 31, 2012, we had paid $9 million of this contingent consideration. In 2012, we also paid $34 million of contingent consideration associated with acquisitions completed prior to 2012.

The allocation of purchase price for 2012 acquisitions was primarily to "Property and equipment," which had an estimated fair value of $126 million; "Other intangible assets," which had an estimated fair value of $43 million; and "Goodwill" of $69 million. Other intangible assets included $34 million of customer contracts and customer relationships and $9 million of covenants not-to-compete. Goodwill is primarily a result of expected synergies from combining the acquired businesses with our existing operations and is tax deductible.

Current Year Divestitures

The aggregate sales price for divestitures of operations was $2.09 billion in 2014, primarily related to (i) the sale of our Wheelabrator business in December 2014; (ii) the sale of certain landfill and collection operations in our Eastern Canada Area in the third quarter of 2014 and (iii) the sale of our Puerto Rico operations and certain other collection and landfill assets in the second quarter of 2014, as discussed further below. We recognized net gains on these divestitures of $515 million in 2014. These divestitures were made as part of our initiative to improve or divest certain non-strategic or underperforming operations. The remaining amounts reported in the Consolidated Statement of Cash Flows generally relate to the sale of fixed assets.

Divestiture of Wheelabrator Business

On December 19, 2014, we sold our Wheelabrator business to an affiliate of Energy Capital Partners and received cash proceeds of $1.95 billion, net of cash divested, subject to certain post-closing adjustments. We recognized a gain of $519 million on this sale which is included within "(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items" in the Consolidated Statement of Operations. In conjunction with the sale, the Company entered into several agreements to dispose of a minimum number of tons of waste at certain Wheelabrator facilities. These agreements generally provide for fixed volume commitments, with certain market price resets, for up to seven years.

Our Wheelabrator business met the criteria to be classified as held-for-sale and was classified as "Businesses held-for-sale" within our Condensed Consolidated Balance Sheet at September 30, 2014.

Wheelabrator provides waste-to-energy services and manages waste-to-energy facilities and independent power production plants. Wheelabrator owns or operates 16 waste-to-energy facilities and four independent power production plants. Prior to the sale, our Wheelabrator business constituted a reportable segment, as discussed in Note 21. We concluded that the sale of our Wheelabrator business did not qualify for discontinued operations accounting under current authoritative guidance based on our significant continuing obligations under the long-term waste supply agreements referred to above and in Note 11.

The following table presents the carrying amounts of our Wheelabrator business as of December 19, 2014 (in millions):

Accounts and other receivables	$ 90
Parts and supplies	65
Deferred income taxes	1
Other assets	12
Total current assets	168
Property and equipment	1,155
Goodwill	305
Other intangible assets	3
Other assets	215
Total assets	$1,846
Accounts payable	$ 23
Accrued liabilities	20
Deferred revenues	1
Current portion of long-term debt	1
Total current liabilities	45
Long-term debt, less current portion	14
Deferred income taxes	344
Landfill and environmental remediation liabilities	18
Other liabilities	19
Total liabilities	$ 440
Noncontrolling interests	$ 31

Other Divestitures

In the second quarter of 2014, we sold our Puerto Rico operations and certain other collection and landfill assets which were included in Tier 3 and Tier 1, respectively, of our Solid Waste business. We received proceeds from the sale of $80 million, consisting of $65 million of cash and $15 million of preferred stock and recognized a loss on the sale of $25 million.

In the third quarter of 2014, we sold certain landfill and collection operations in our Eastern Canada Area, which were included in Tier 3. We received cash proceeds from the sale of $39 million and recognized a gain of $18 million.

The gain or loss on these divestitures is included within "(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items" in the Consolidated Statement of Operations. The remaining proceeds from divestitures in 2014 were comprised substantially of cash.

Prior Year Divestitures

The aggregate sales price for divestitures of operations was $70 million in 2013 and $7 million in 2012 and proceeds from these divestitures were comprised substantially of cash. We recognized net gains on these divestitures of $8 million and less than $1 million in 2013, and 2012, respectively. These divestitures were made

as part of our initiative to improve or divest certain non-strategic or underperforming operations. The remaining amounts reported in the Consolidated Statement of Cash Flows generally relate to the sale of fixed assets.

20. Variable Interest Entities

Following is a description of our financial interests in variable interest entities that we consider significant, including (i) those for which we have determined that we are the primary beneficiary of the entity and, therefore, have consolidated the entities into our financial statements; (ii) those that represent a significant interest in an unconsolidated entity and (iii) trusts for final capping, closure, post-closure or environmental remediation obligations for both consolidated and unconsolidated variable interest entities.

Consolidated Variable Interest Entities

Waste-to-Energy LLCs — In June 2000, two limited liability companies were established to purchase interests in existing leveraged lease financings at three waste-to-energy facilities that we leased, operated and maintained. Prior to the acquisitions of the noncontrolling interests, we owned a 0.5% interest in one of the LLCs ("LLC I") and a 0.25% interest in the second LLC ("LLC II"). John Hancock Life Insurance Company ("Hancock") owned 99.5% of LLC I and 99.75% of LLC II was owned by LLC I and the CIT Group ("CIT").

In December 2014, we purchased the noncontrolling interests in the LLCs from Hancock and CIT in anticipation of our sale of our Wheelabrator business. The LLCs were then subsequently sold as part of the divestment. See Note 19 for further discussion of the sale of our Wheelabrator business.

Prior to the acquisitions of the noncontrolling interests, we had determined that we were the primary beneficiary of the LLCs and consolidated these entities in our Consolidated Financial Statements because (i) all of the equity owners of the LLCs were considered related parties for purposes of applying this accounting guidance; (ii) the equity owners shared power over the significant activities of the LLCs and (iii) we were the entity within the related party group whose activities were most closely associated with the LLCs.

As of December 31, 2013, our Consolidated Balance Sheets included $284 million of net property and equipment associated with the LLCs' waste-to-energy facilities and $239 million in noncontrolling interests associated with Hancock's and CIT's interests in the LLCs. During the years ended December 31, 2014, 2013 and 2012, we recognized reductions in earnings of $39 million, $43 million and $45 million, respectively, for Hancock's and CIT's noncontrolling interests in the LLCs' earnings, which are included in our consolidated net income. The LLCs' earnings related to the rental income generated from leasing the facilities to our subsidiaries, reduced by depreciation expense. The LLCs' rental income is eliminated in WM's consolidation.

Significant Unconsolidated Variable Interest Entities

Investment in U.K. Waste-to-Energy and Recycling Entity — In the first quarter of 2012, we formed a U.K. joint venture (the "JV"), together with a commercial waste management company ("Partner"), to develop, construct, operate and maintain a waste-to-energy and recycling facility in England. We owned a 50% interest in the JV. We determined that we were not the primary beneficiary of the JV, as all major decisions of the JV require either majority vote or unanimous consent of the directors (who were appointed in equal numbers by us and our Partner) or unanimous consent of the two shareholders of the JV. As such, our Partner shared equally in the power to direct the activities of the JV that most significantly impacted its economic performance. Accordingly, we accounted for this investment under the equity method of accounting and did not consolidate this entity.

Following delays in obtaining planning approval, the Norfolk County Council (the "Council"), which had awarded the project to the JV, held a special meeting on April 7, 2014 and voted to terminate the project agreement with the JV. The JV then exercised its right to accelerate the effective date of the project agreement's termination to May 16, 2014. The Council subsequently reimbursed project development costs and losses incurred on certain foreign currency and interest rate derivatives as determined under the project agreement. Our portion of the loss recognized by the JV for unreimbursed costs was not material and was reflected in our "Equity in net losses of unconsolidated entities."

Investment in Refined Coal Facility — In 2011, we acquired a noncontrolling interest in a limited liability company established to invest in and manage a refined coal facility. Along with the other equity investor, we support the operations of the entity in exchange for a pro-rata share of the tax credits it generates. Our initial consideration for this investment consisted of a cash payment of $48 million. At December 31, 2014 and 2013, our investment balance was $32 million and $27 million, respectively, representing our current maximum pre-tax exposure to loss. Under the terms and conditions of the transaction, we do not believe that we have any material exposure to loss. Required capital contributions commenced in the first quarter of 2013 and will continue through the expiration of the tax credits under Section 45 of the Internal Revenue Code, which occurs at the end of 2019. We are only obligated to make future contributions to the extent tax credits are generated. We determined that we are not the primary beneficiary of this entity as we do not have the power to individually direct the entity's activities. Accordingly, we account for this investment under the equity method of accounting and do not consolidate the entity. Additional information related to this investment is discussed in Note 9.

Investment in Low-Income Housing Properties — In 2010, we acquired a noncontrolling interest in a limited liability company established to invest in and manage low-income housing properties. We support the operations of the entity in exchange for a pro-rata share of the tax credits it generates. Our target return on the investment is guaranteed and, therefore, we do not believe that we have any material exposure to loss. Our consideration for this investment totaled $221 million, which was comprised of a $215 million note payable and an initial cash payment of $6 million. At December 31, 2014 and 2013, our investment balance was $104 million and $129 million, respectively, and our debt balance was $104 million and $128 million, respectively. We determined that we are not the primary beneficiary of this entity as we do not have the power to individually direct the entity's activities. Accordingly, we account for this investment under the equity method of accounting and do not consolidate the entity. Additional information related to this investment is discussed in Note 9.

Trusts for Final Capping, Closure, Post-Closure or Environmental Remediation Obligations — We have significant financial interests in trust funds that were created to settle certain of our final capping, closure, post-closure or environmental remediation obligations. Generally, we are the sole beneficiary of these restricted balances; however, certain of the funds have been established for the benefit of both the Company and the host community in which we operate. We have determined that these trust funds are variable interest entities; however, we are not the primary beneficiary of certain of these entities because either (i) we do not have the power to direct the significant activities of the trusts or (ii) power over the trusts' significant activities is shared.

We account for the trusts for which we are the sole beneficiary as long-term "Other assets" in our Consolidated Balance Sheet. We reflect our interests in the unrealized gains and losses on available-for-sale securities held by these trusts as a component of "Accumulated other comprehensive income." These trusts had a fair value of $129 million at December 31, 2014 and $125 million at December 31, 2013. Our interests in the trusts that have been established for the benefit of both the Company and the host community in which we operate are accounted for as investments in unconsolidated entities and receivables. These amounts are recorded in "Other receivables," "Investments in unconsolidated entities" and long-term "Other assets" in our Consolidated Balance Sheet, as appropriate. Our investments and receivables related to these trusts had an aggregate carrying value of $113 million and $110 million as of December 31, 2014 and December 31, 2013, respectively.

As the party with primary responsibility to fund the related final capping, closure, post-closure or environmental remediation activities, we are exposed to risk of loss as a result of potential changes in the fair value of the assets of the trust. The fair value of trust assets can fluctuate due to (i) changes in the market value of the investments held by the trusts and (ii) credit risk associated with trust receivables. Although we are exposed to changes in the fair value of the trust assets, we currently expect the trust funds to continue to meet the statutory requirements for which they were established.

21. Segment and Related Information

We evaluate, oversee and manage the financial performance of our Solid Waste subsidiaries through our 17 Areas. The 17 Areas constitute our operating segments and none of the Areas individually meet the quantitative criteria to be a separate reportable segment. We have evaluated the aggregation criteria and concluded that, based on the similarities between our Areas, including the fact that our Solid Waste business is homogenous across geography with the same services offered across the Areas, aggregation of our Areas is appropriate for purposes of presenting our reportable segments. Accordingly, we have aggregated our 17 Areas into three tiers that we believe have similar economic characteristics and future prospects based in large part on a review of the Areas' income from operations margins. The economic variations experienced by our Areas is attributable to a variety of factors, including regulatory environment of the Area; economic environment of the Area, including level of commercial and industrial activity; population density; service offering mix and disposal logistics, with no one factor being singularly determinative of an Area's current or future economic performance. As a result of our consideration of economic and other similarities, we have established the following three reportable segments for our Solid Waste business: Tier 1, which is comprised almost exclusively of Areas in the Southern United States; Tier 2, which is comprised predominately of Areas located in the Midwest and Northeast United States; and Tier 3, which encompasses all remaining Areas, including the Northwest and Mid-Atlantic regions of the United States and Eastern Canada.

Our Wheelabrator business, which managed waste-to-energy facilities and independent power production plants, continued to be a separate reportable segment until the sale of the business in the fourth quarter of 2014 as it met the quantitative disclosure thresholds.

The operating segments not evaluated and overseen through the 17 Areas are presented herein as "Other" as these operating segments do not meet the criteria to be aggregated with other operating segments and do not meet the quantitative criteria to be separately reported.

Summarized financial information concerning our reportable segments for the respective years ended December 31 is shown in the following table (in millions):

	Gross Operating Revenues	Intercompany Operating Revenues(c)	Net Operating Revenues	Income from Operations (d),(e)	Depreciation and Amortization	Capital Expenditures (f)	Total Assets (g),(h)
2014							
Solid Waste:							
Tier 1	$ 3,495	$ (537)	$ 2,958	$ 893	$ 271	$ 266	$ 3,661
Tier 2	6,416	(1,173)	5,243	1,318	510	428	8,556
Tier 3	3,538	(573)	2,965	588	275	268	5,030
Wheelabrator	817	(102)	715	669	37	11	—
Other(a)	2,191	(76)	2,115	(400)	128	134	1,791
	16,457	(2,461)	13,996	3,068	1,221	1,107	19,038
Corporate and Other(b)	—	—	—	(769)	71	74	2,965
Total	$16,457	$(2,461)	$13,996	$2,299	$1,292	$1,181	$22,003

	Gross Operating Revenues	Intercompany Operating Revenues(c)	Net Operating Revenues	Income from Operations (d),(e)	Depreciation and Amortization	Capital Expenditures (f)	Total Assets (g),(h)
2013							
Solid Waste:							
Tier 1	$ 3,487	$ (553)	$ 2,934	$ 852	$ 277	$ 217	$ 3,682
Tier 2	6,438	(1,202)	5,236	1,291	522	526	8,572
Tier 3	3,552	(569)	2,983	291	279	258	5,288
Wheelabrator	845	(112)	733	(517)	61	17	2,037
Other(a)	2,185	(88)	2,097	(171)	122	126	2,177
	16,507	(2,524)	13,983	1,746	1,261	1,144	21,756
Corporate and Other(b)	—	—	—	(667)	72	123	1,459
Total	$16,507	$(2,524)	$13,983	$1,079	$1,333	$1,267	$23,215
2012							
Solid Waste:							
Tier 1	$ 3,370	$ (521)	$ 2,849	$ 851	$ 273	$ 242	$ 3,664
Tier 2	6,273	(1,096)	5,177	1,270	512	511	8,394
Tier 3	3,413	(523)	2,890	504	259	271	5,088
Wheelabrator	846	(123)	723	113	69	36	2,605
Other(a)	2,106	(96)	2,010	(242)	111	239	2,495
	16,008	(2,359)	13,649	2,496	1,224	1,299	22,246
Corporate and Other(b)	—	—	—	(645)	73	139	1,551
Total	$16,008	$(2,359)	$13,649	$1,851	$1,297	$1,438	$23,797

(a) Our "Other" net operating revenues and "Other" income from operations include (i) the effects of those elements of our landfill gas-to-energy operations and third-party subcontract and administration revenues managed by our Energy and Environmental Services and Renewable Energy organizations, that are not included with the operations of our reportable segments; (ii) our recycling brokerage and electronic recycling services; and (iii) the impacts of investments in expanded service offerings, such as portable self-storage, fluorescent lamp recycling and oil and gas producing properties. In addition, our "Other" income from operations reflects the impacts of non-operating entities that provide financial assurance and self-insurance support for the segments or financing for our Canadian operations.

(b) Corporate operating results reflect the costs incurred for various support services that are not allocated to our reportable segments. These support services include, among other things, treasury, legal, information technology, tax, insurance, centralized service center processes, other administrative functions and the maintenance of our closed landfills. Income from operations for "Corporate and other" also includes costs associated with our long-term incentive program and any administrative expenses or revisions to our estimated obligations associated with divested operations.

(c) Intercompany operating revenues reflect each segment's total intercompany sales, including intercompany sales within a segment and between segments. Transactions within and between segments are generally made on a basis intended to reflect the market value of the service.

(d) For those items included in the determination of income from operations, the accounting policies of the segments are the same as those described in Note 3.

(e) The income from operations provided by our Solid Waste business is generally indicative of the margins provided by our collection, landfill, transfer and recycling businesses. From time to time the operating results of our reportable segments are significantly affected by certain transactions or events that

management believes are not indicative or representative of our results. In 2014, we recognized a $519 million gain on the sale of our Wheelabrator business during the fourth quarter. In 2013, we recognized $981 million of impairment charges, the most significant of which impacted our Tier 3 and Wheelabrator segments by $253 million and $627 million, respectively. Refer to Note 12 and Note 13 for an explanation of certain other transactions and events affecting our operating results.

(f) Includes non-cash items. Capital expenditures are reported in our reportable segments at the time they are recorded within the segments' property, plant and equipment balances and, therefore, may include amounts that have been accrued but not yet paid.

(g) The reconciliation of total assets reported above to "Total assets" in the Consolidated Balance Sheet is as follows (in millions):

	December 31,		
	2014	2013	2012
Total assets, as reported above	$22,003	$23,215	$23,797
Elimination of intercompany investments and advances	(591)	(612)	(700)
Total assets, per Consolidated Balance Sheet	$21,412	$22,603	$23,097

(h) Goodwill is included within each segment's total assets. For segment reporting purposes, our material recovery facilities and secondary processing facilities are included as a component of their respective Areas and our recycling brokerage business and electronics recycling services are included as part of our "Other" operations. As discussed in Note 19, the goodwill associated with our acquisition of Greenstar, has been assigned to our Areas and to a lesser extent "Other". Our acquisition of RCI has been assigned to our Eastern Canada Area, which is included in Tier 3. The following table presents changes in goodwill during 2013 and 2014 by reportable segment (in millions):

	Solid Waste					
	Tier 1	Tier 2	Tier 3	Wheelabrator	Other	Total
Balance, December 31, 2012	$1,186	$2,828	$1,374	$ 788	$115	$6,291
Acquired goodwill	41	56	210	—	20	327
Divested goodwill, net of assets held-for-sale	(1)	(2)	(9)	—	—	(12)
Impairments	—	—	(10)	(483)	(16)	(509)
Translation and other adjustments	(5)	—	(18)	—	(4)	(27)
Balance, December 31, 2013	$1,221	$2,882	$1,547	$ 305	$115	$6,070
Acquired goodwill	4	13	14	—	—	31
Divested goodwill, net of assets held-for-sale	—	—	(3)	(305)	—	(308)
Impairments	—	—	—	—	(10)	(10)
Translation and other adjustments	(9)	—	(34)	—	—	(43)
Balance, December 31, 2014	$1,216	$2,895	$1,524	$ —	$105	$5,740

The mix of operating revenues from our major lines of business is reflected in the table below (in millions):

	Years Ended December 31,		
	2014	2013	2012
Commercial	$ 3,393	$ 3,423	$ 3,417
Residential	2,543	2,608	2,584
Industrial	2,231	2,209	2,129
Other	340	273	275
Total collection	8,507	8,513	8,405
Landfill	2,849	2,790	2,685
Transfer	1,353	1,329	1,296
Wheelabrator	817	845	846
Recycling	1,370	1,447	1,360
Other(a)	1,561	1,583	1,416
Intercompany(b)	(2,461)	(2,524)	(2,359)
Operating revenues	$13,996	$13,983	$13,649

(a) The "Other" line of business includes Strategic Business Solutions, landfill gas-to-energy operations, Port-O-Let® services, portable self-storage, fluorescent lamp recycling, and oil and gas producing properties.

(b) Intercompany revenues between lines of business are eliminated within the Consolidated Financial Statements included herein.

Net operating revenues relating to operations in the United States and Puerto Rico, as well as Canada are as follows (in millions):

	Years Ended December 31,		
	2014	2013	2012
United States and Puerto Rico(a)	$13,064	$13,054	$12,812
Canada	932	929	837
Total	$13,996	$13,983	$13,649

(a) We sold our Puerto Rico operations in the second quarter of 2014. Refer to Note 19 for additional information.

Property and equipment (net) relating to operations in the United States and Puerto Rico, as well as Canada are as follows (in millions):

	December 31,		
	2014	2013	2012
United States and Puerto Rico(a)	$ 9,586	$11,198	$11,293
Canada	1,071	1,146	1,358
Total	$10,657	$12,344	$12,651

(a) We sold our Puerto Rico operations in the second quarter of 2014. Refer to Note 19 for additional information.

22. Quarterly Financial Data (Unaudited)

The following table summarizes the unaudited quarterly results of operations for 2014 and 2013 (in millions, except per share amounts):

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2014				
Operating revenues	$3,396	$3,561	$3,602	$3,437
Income from operations	469	532	546	752
Consolidated net income	237	222	281	598
Net income attributable to Waste Management, Inc.	228	210	270	590
Basic earnings per common share	0.49	0.45	0.59	1.29
Diluted earnings per common share	0.49	0.45	0.58	1.28
2013				
Operating revenues	$3,336	$3,526	$3,621	$3,500
Income (loss) from operations	402	510	577	(410)
Consolidated net income (loss)	176	256	297	(599)
Net income (loss) attributable to Waste Management, Inc.	168	244	291	(605)
Basic earnings (loss) common share	0.36	0.52	0.62	(1.29)
Diluted earnings (loss) common share	0.36	0.52	0.62	(1.29)

Basic and diluted earnings per common share for each of the quarters presented above is based on the respective weighted average number of common and dilutive potential common shares outstanding for each quarter and the sum of the quarters may not necessarily be equal to the full year basic and diluted earnings per common share amounts.

Our operating revenues normally tend to be somewhat higher in the summer months, primarily due to the higher volume of construction and demolition waste. The volumes of industrial and residential waste in certain regions where we operate also tend to increase during the summer months. Our second and third quarter revenues and results of operations typically reflect these seasonal trends. Through 2014, the operating results of our first quarter also often reflected higher repair and maintenance expenses because, prior to the sale of our Wheelabrator business, we relied on the slower winter months, when waste flows are generally lower, to perform scheduled maintenance at our waste-to-energy facilities. Additionally, from time to time, our operating results are significantly affected by certain transactions or events that management believes are not indicative or representative of our results. The following significant items have affected the comparison of our operating results during the periods indicated:

First Quarter 2014

- During the first quarter of 2014, we experienced significantly higher revenues in our Wheelabrator business and the renewable energy operations in Solid Waste from temporarily higher electricity prices driven by weather-related demand. This increase in revenues offset reduced revenues in our collection and disposal operations due to inclement weather.

Second Quarter 2014

- The recognition of a pre-tax loss of $25 million on the divestiture of our Puerto Rico operations and certain other collection and landfill assets. No tax benefit was recorded in connection with the loss. In

addition, we incurred $32 million of tax charges to repatriate accumulated cash prior to the divestment. These charges had a negative impact of $0.12 on our diluted earnings per share.

- The recognition of other net pre-tax charges of $16 million, primarily as a result of a $12 million impairment charge due to the decision to close a waste processing facility. These charges had a negative impact of $0.03 on our diluted earnings per share.

Third Quarter 2014

- The recognition of $67 million of pre-tax restructuring charges primarily related to our August 2014 restructuring. These items had a negative impact of $0.09 on our diluted earnings per share.
- The recognition of pre-tax charges aggregating $20 million comprised of (i) litigation reserves and (ii) the write down of an investment in a waste diversion technology company, partially offset by a gain on the sale of certain landfill and collection operations in our Eastern Canada Area. These items had a negative impact of $0.05 on our diluted earnings per share.

Fourth Quarter 2014

- The recognition of a pre-tax gain of $519 million on the sale of our Wheelabrator business, which positively affected our diluted earnings per share by $1.12.
- Net income was negatively impacted by the recognition of net pre-tax charges aggregating $364 million comprised of (i) $270 million of charges to impair our oil and gas producing properties; (ii) $25 million of charges to write down assets related to waste diversion technology companies; (iii) $20 million of other-than-temporary declines in the value of investments in waste diversion technology companies accounted for under the cost method; (iv) $10 million of goodwill impairment charges associated with our recycling operations and (v) other charges to write down the carrying value of assets to their estimated fair values related to certain of our operations. These items had a negative impact of $0.49 on our diluted earnings per share.
- Income from operations was negatively impacted by pre-tax restructuring charges of $13 million, which negatively affected our diluted earnings per share by $0.02.

First Quarter 2013

- Net income was negatively impacted by pre-tax impairment charges aggregating $15 million attributable to investments in waste diversion technology companies and goodwill related to certain of our operations. These items had a negative impact of $0.03 on our diluted earnings per share.
- Income from operations was negatively impacted by $8 million of pre-tax restructuring charges related to our acquisition of Greenstar and our July 2012 restructuring. These items had a negative impact of $0.01 on our diluted earnings per share.
- Income from operations was negatively impacted by bad debt expense associated with collection issues in our Puerto Rico operations, which negatively affected our diluted earnings per share by $0.01.

Second Quarter 2013

- Income from operations was negatively impacted by the recognition of pre-tax impairment and restructuring charges primarily related to an impairment of a waste-to-energy facility as result of

projected operating losses partially offset by gains on divestitures. These items had a negative impact of $0.02 on our diluted earnings per share.

- Income from operations was impacted by a favorable adjustment to "Operating" expenses due to an increase in the risk-free discount rate used to measure our environmental remediation liabilities and recovery assets, which positively affected our diluted earnings per share by $0.01.

Third Quarter 2013

- Net income was negatively impacted by the recognition of pre-tax charges aggregating $23 million comprised of (i) $18 million related to impairments, primarily attributable to an investment in a majority-owned waste diversion technology company and (ii) $5 million of losses on divestitures, primarily related to oil and gas producing properties. These items had a negative impact of $0.02 on our diluted earnings per share.
- Income from operations was negatively impacted by the recognition of pre-tax charges aggregating $8 million primarily associated with the partial withdrawal from an underfunded multiemployer pension plan and, to a lesser extent, other restructuring charges. These items had a negative impact of $0.01 on our diluted earnings per share.
- Income from operations was positively impacted as a result of the collection of certain fully reserved receivables related to our Puerto Rico operations, which positively affected our diluted earnings per share by $0.01.

Fourth Quarter 2013

- Net income was negatively impacted by the recognition of net pre-tax charges aggregating $1 billion comprised of (i) a $483 million charge to impair goodwill associated with our Wheelabrator business; (ii) $262 million of charges to impair certain landfills, primarily in our Eastern Canada Area; (iii) $130 million of charges to write down the carrying value of three waste-to-energy facilities; (iv) $61 million of charges attributable to investments in waste diversion technology companies; (v) $31 million of charges to impair various recycling assets; (vi) a $15 million charge to write down the carrying value of an oil and gas property to its estimated fair value and (vii) other charges to impair goodwill and write down the carrying value of assets to their estimated fair values related to certain of our operations, partially offset by gains on divestitures. These items had a negative impact of $1.84 on our diluted earnings per share.
- Income from operations was negatively impacted by pre-tax restructuring charges of $5 million which negatively affected our diluted earnings per share by $0.01.
- Income from operations was positively impacted by net adjustments associated with changes in our expectations for the timing and cost of future final capping, closure and post-closure of fully utilized airspace, and by an increase in the risk-free discount rate used to measure environmental remediation liabilities and recovery assets. These items positively affected our diluted earnings per share by $0.02.

23. Condensed Consolidating Financial Statements

WM Holdings has fully and unconditionally guaranteed all of WM's senior indebtedness. WM has fully and unconditionally guaranteed all of WM Holdings' senior indebtedness. None of WM's other subsidiaries have guaranteed any of WM's or WM Holdings' debt. As a result of these guarantee arrangements, we are required to present the following condensed consolidating financial information (in millions):

WASTE MANAGEMENT, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

CONDENSED CONSOLIDATING BALANCE SHEETS

December 31, 2014

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
ASSETS					
Current assets:					
Cash and cash equivalents	$ 1,235	$ —	$ 72	$ —	$ 1,307
Other current assets	5	6	2,323	—	2,334
	1,240	6	2,395	—	3,641
Property and equipment, net	—	—	10,657	—	10,657
Investments in and advances to affiliates	17,312	17,782	6,745	(41,839)	—
Other assets	50	28	7,036	—	7,114
Total assets	$18,602	$17,816	$26,833	$(41,839)	$21,412
LIABILITIES AND EQUITY					
Current liabilities:					
Current portion of long-term debt	$ 957	$ —	$ 133	$ —	$ 1,090
Accounts payable and other current liabilities	86	13	2,296	—	2,395
	1,043	13	2,429	—	3,485
Long-term debt, less current portion	4,958	449	2,938	—	8,345
Due to affiliates	6,703	42	—	(6,745)	—
Other liabilities	32	—	3,661	—	3,693
Total liabilities	12,736	504	9,028	(6,745)	15,523
Equity:					
Stockholders' equity	5,866	17,312	17,782	(35,094)	5,866
Noncontrolling interests	—	—	23	—	23
	5,866	17,312	17,805	(35,094)	5,889
Total liabilities and equity	$18,602	$17,816	$26,833	$(41,839)	$21,412

WASTE MANAGEMENT, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

CONDENSED CONSOLIDATING BALANCE SHEETS (Continued)

December 31, 2013

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
ASSETS					
Current assets:					
Cash and cash equivalents	$ —	$ —	$ 58	$ —	$ 58
Other current assets	—	6	2,435	—	2,441
	—	6	2,493	—	2,499
Property and equipment, net	—	—	12,344	—	12,344
Investments in and advances to affiliates(a)	15,802	16,845	4,268	(36,915)	—
Other assets	42	12	7,706	—	7,760
Total assets	$15,844	$16,863	$26,811	$(36,915)	$22,603
LIABILITIES AND EQUITY					
Current liabilities:					
Current portion of long-term debt	$ 587	$ —	$ 139	$ —	$ 726
Accounts payable and other current liabilities	109	13	2,166	—	2,288
	696	13	2,305	—	3,014
Long-term debt, less current portion	5,772	449	3,279	—	9,500
Due to affiliates(a)	3,669	599	—	(4,268)	—
Other liabilities	—	—	4,087	—	4,087
Total liabilities	10,137	1,061	9,671	(4,268)	16,601
Equity:					
Stockholders' equity	5,707	15,802	16,845	(32,647)	5,707
Noncontrolling interests	—	—	295	—	295
	5,707	15,802	17,140	(32,647)	6,002
Total liabilities and equity	$15,844	$16,863	$26,811	$(36,915)	$22,603

(a) In conjunction with the preparation of our September 30, 2014 Condensed Consolidating Financial Statements, we identified corrections associated with the presentation of affiliate obligations previously reported in WM and WM Holdings' "Investments in and advances to affiliates." Accordingly, the 2013 Condensed Consolidating Balance Sheet included herein has been revised.

WASTE MANAGEMENT, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

CONDENSED CONSOLIDATING STATEMENTS OF OPERATIONS

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Year Ended December 31, 2014					
Operating revenues	$ —	$ —	$13,996	$ —	$13,996
Costs and expenses(b)	—	(459)	12,156	—	11,697
Income from operations	—	459	1,840	—	2,299
Other income (expense):					
Interest expense, net	(351)	(31)	(84)	—	(466)
Equity in earnings of subsidiaries, net of taxes	1,510	1,070	—	(2,580)	—
Other, net	—	—	(82)	—	(82)
	1,159	1,039	(166)	(2,580)	(548)
Income before income taxes	1,159	1,498	1,674	(2,580)	1,751
Provision for (benefit from) income taxes	(139)	(12)	564	—	413
Consolidated net income	1,298	1,510	1,110	(2,580)	1,338
Less: Net income attributable to noncontrolling interests	—	—	40	—	40
Net income attributable to Waste Management, Inc.	$1,298	$1,510	$ 1,070	$(2,580)	$ 1,298
Year Ended December 31, 2013					
Operating revenues	$ —	$ —	$13,983	$ —	$13,983
Costs and expenses(b)	—	—	12,904	—	12,904
Income from operations	—	—	1,079	—	1,079
Other income (expense):					
Interest expense, net	(355)	(32)	(90)	—	(477)
Equity in earnings of subsidiaries, net of taxes	313	332	—	(645)	—
Other, net	—	—	(108)	—	(108)
	(42)	300	(198)	(645)	(585)
Income before income taxes	(42)	300	881	(645)	494
Provision for (benefit from) income taxes	(140)	(13)	517	—	364
Consolidated net income	98	313	364	(645)	130
Less: Net income attributable to noncontrolling interests	—	—	32	—	32
Net income attributable to Waste Management, Inc.	$ 98	$ 313	$ 332	$ (645)	$ 98
Year Ended December 31, 2012					
Operating revenues	$ —	$ —	$13,649	$ —	$13,649
Costs and expenses(b)	—	(7)	11,805	—	11,798
Income from operations	—	7	1,844	—	1,851
Other income (expense):					
Interest expense, net	(358)	(32)	(94)	—	(484)
Equity in earnings of subsidiaries, net of taxes	1,034	1,046	—	(2,080)	—
Other, net	—	—	(64)	—	(64)
	676	1,014	(158)	(2,080)	(548)
Income before income taxes	676	1,021	1,686	(2,080)	1,303
Provision for (benefit from) income taxes	(141)	(13)	597	—	443
Consolidated net income	817	1,034	1,089	(2,080)	860
Less: Net income attributable to noncontrolling interests	—	—	43	—	43
Net income attributable to Waste Management, Inc.	$ 817	$1,034	$ 1,046	$(2,080)	$ 817

(b) Includes "Goodwill impairments" and "(Income) expense from divestitures, asset impairments (other than goodwill) and unusual items" as reported in our Consolidated Statements of Operations.

WASTE MANAGEMENT, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Year Ended December 31, 2014					
Comprehensive income	$1,300	$1,510	$ 977	$(2,580)	$1,207
Less: Comprehensive income attributable to noncontrolling interests	—	—	40	—	40
Comprehensive income attributable to Waste Management, Inc.	$1,300	$1,510	$ 937	$(2,580)	$1,167
Year Ended December 31, 2013					
Comprehensive income	$ 112	$ 313	$ 311	$ (645)	$ 91
Less: Comprehensive income attributable to noncontrolling interests	—	—	32	—	32
Comprehensive income attributable to Waste Management, Inc.	$ 112	$ 313	$ 279	$ (645)	$ 59
Year Ended December 31, 2012					
Comprehensive income	$ 807	$1,034	$1,120	$(2,080)	$ 881
Less: Comprehensive income attributable to noncontrolling interests	—	—	43	—	43
Comprehensive income attributable to Waste Management, Inc.	$ 807	$1,034	$1,077	$(2,080)	$ 838

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Year Ended December 31, 2014					
Cash flows from operating activities:					
Consolidated net income	$ 1,298	$ 1,510	$ 1,110	$(2,580)	$ 1,338
Equity in earnings of subsidiaries, net of taxes	(1,510)	(1,070)	—	2,580	—
Other adjustments	(36)	(1)	1,030	—	993
Net cash provided by (used in) operating activities	(248)	439	2,140	—	2,331
Cash flows from investing activities:					
Acquisitions of businesses, net of cash acquired	—	—	(35)	—	(35)
Capital expenditures	—	—	(1,151)	—	(1,151)
Proceeds from divestitures of businesses and other assets (net of cash divested)	—	1,618	635	—	2,253
Net receipts from restricted trust and escrow accounts and other, net	—	—	(72)	—	(72)
Net cash provided by (used in) investing activities	—	1,618	(623)	—	995
Cash flows from financing activities:					
New borrowings	2,572	—	245	—	2,817
Debt repayments	(3,005)		(563)	—	(3,568)
Common stock repurchases	(600)	—	—	—	(600)
Cash dividends	(693)	—	—	—	(693)
Exercise of common stock options	93	—	—	—	93
Acquisitions of and distributions paid to noncontrolling interests and other	5	—	(126)	—	(121)
(Increase) decrease in intercompany and investments, net	3,111	(2,057)	(1,054)	—	—
Net cash provided by (used in) financing activities	1,483	(2,057)	(1,498)	—	(2,072)
Effect of exchange rate changes on cash and cash equivalents	—	—	(5)	—	(5)
Increase (decrease) in cash and cash equivalents	1,235	—	14	—	1,249
Cash and cash equivalents at beginning of year	—	—	58	—	58
Cash and cash equivalents at end of year	$ 1,235	$ —	$ 72	$ —	$ 1,307

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS (Continued)

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Year Ended December 31, 2013					
Cash flows from operating activities:					
Consolidated net income	$ 98	$ 313	$ 364	$(645)	$ 130
Equity in earnings of subsidiaries, net of taxes	(313)	(332)	—	645	—
Other adjustments	(2)	—	2,327	—	2,325
Net cash provided by (used in) operating activities	(217)	(19)	2,691	—	2,455
Cash flows from investing activities:					
Acquisitions of businesses, net of cash acquired	—	—	(724)	—	(724)
Capital expenditures	—	—	(1,271)	—	(1,271)
Proceeds from divestitures of businesses and other assets (net of cash divested)	—	—	138	—	138
Net receipts from restricted trust and escrow accounts and other, net	—	—	(43)	—	(43)
Net cash provided by (used in) investing activities	—	—	(1,900)	—	(1,900)
Cash flows from financing activities:					
New borrowings	1,140	—	1,092	—	2,232
Debt repayments	(1,120)	—	(957)	—	(2,077)
Common stock repurchases	(239)	—	—	—	(239)
Cash dividends	(683)	—	—	—	(683)
Exercise of common stock options	132	—	—	—	132
Acquisitions of and distributions paid to noncontrolling interests and other	14	—	(66)	—	(52)
(Increase) decrease in intercompany and investments, net	913	19	(932)	—	—
Net cash provided by (used in) financing activities	157	19	(863)	—	(687)
Effect of exchange rate changes on cash and cash equivalents	—	—	(4)	—	(4)
Increase (decrease) in cash and cash equivalents	(60)	—	(76)	—	(136)
Cash and cash equivalents at beginning of year	60	—	134	—	194
Cash and cash equivalents at end of year	$ —	$ —	$ 58	$ —	$ 58

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS (Continued)

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Year Ended December 31, 2012					
Cash flows from operating activities:					
Consolidated net income	$ 817	$ 1,034	$ 1,089	$(2,080)	$ 860
Equity in earnings of subsidiaries, net of taxes	(1,034)	(1,046)	—	2,080	—
Other adjustments	81	—	1,354	—	1,435
Net cash provided by (used in) operating activities	(136)	(12)	2,443	—	2,295
Cash flows from investing activities:					
Acquisitions of businesses, net of cash acquired	—	—	(250)	—	(250)
Capital expenditures	—	—	(1,510)	—	(1,510)
Proceeds from divestitures of businesses and other assets (net of cash divested)	—	—	44	—	44
Net receipts from restricted trust and escrow accounts and other, net	—	—	(114)	—	(114)
Net cash provided by (used in) investing activities	—	—	(1,830)	—	(1,830)
Cash flows from financing activities:					
New borrowings	1,145	—	475	—	1,620
Debt repayments	(835)	—	(663)	—	(1,498)
Common stock repurchases	—	—	—	—	—
Cash dividends	(658)	—	—	—	(658)
Exercise of common stock options	43	—	—	—	43
Acquisitions of and distributions paid to noncontrolling interests and other	15	—	(52)	—	(37)
(Increase) decrease in intercompany and investments, net	367	12	(379)	—	—
Net cash provided by (used in) financing activities	77	12	(619)	—	(530)
Effect of exchange rate changes on cash and cash equivalents	—	—	1	—	1
Increase (decrease) in cash and cash equivalents	(59)	—	(5)	—	(64)
Cash and cash equivalents at beginning of year	119	—	139	—	258
Cash and cash equivalents at end of year	$ 60	$ —	$ 134	$ —	$ 194

24. New Accounting Standard Pending Adoption (Unaudited)

In May 2014, the FASB amended authoritative guidance associated with revenue recognition. The amended guidance requires companies to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Additionally, the amendments will require enhanced qualitative and quantitative disclosures regarding customer contracts. The amended authoritative guidance associated with revenue recognition is effective for the Company on January 1, 2017. The amended guidance may be applied retrospectively for all periods presented or retrospectively with the cumulative effect of initially applying the amended guidance recognized at the date of initial application. We are in the process of assessing the provisions of the amended guidance and have not determined whether the adoption will have a material impact on our consolidated financial statements.

Item 9. ***Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.***

None.

Item 9A. ***Controls and Procedures.***

Effectiveness of Controls and Procedures

Our management, with the participation of our principal executive and financial officers, has evaluated the effectiveness of our disclosure controls and procedures in ensuring that the information required to be disclosed in reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, including ensuring that such information is accumulated and communicated to management (including the principal executive and financial officers) as appropriate to allow timely decisions regarding required disclosure. Based on such evaluation, our principal executive and financial officers have concluded that such disclosure controls and procedures were effective as of December 31, 2014 (the end of the period covered by this Annual Report on Form 10-K).

Management's Report on Internal Control Over Financial Reporting

Management's report on our internal control over financial reporting can be found in Item 8, *Financial Statements and Supplementary Data,* of this report. Ernst & Young LLP, an independent registered public accounting firm, has audited the effectiveness of our internal control over financial reporting as of December 31, 2014 as stated in their report, which appears in Item 8 of this report.

Changes in Internal Control over Financial Reporting

Management, together with our CEO and CFO, evaluated the changes in our internal control over financial reporting during the quarter ended December 31, 2014. We determined that there were no changes in our internal control over financial reporting during the quarter ended December 31, 2014 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. ***Other Information.***

None.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance.***

The information required by this Item is incorporated by reference to the sections entitled "Board of Directors," "Section 16(a) Beneficial Ownership Reporting Compliance," and "Executive Officers," in the Company's definitive Proxy Statement for its 2014 Annual Meeting of Stockholders (the "Proxy Statement"), to be held May 12, 2015. The Proxy Statement will be filed with the SEC within 120 days of the end of our fiscal year.

We have adopted a code of ethics that applies to our CEO, CFO and Chief Accounting Officer, as well as other officers, directors and employees of the Company. The code of ethics, entitled "Code of Conduct," is posted on our website at www.wm.com under the section "Corporate Governance" within the "Investor Relations" tab.

Item 11. ***Executive Compensation.***

The information required by this Item is incorporated herein by reference to the sections entitled "Board of Directors — Non-Employee Director Compensation," "— Compensation Committee Report," "— Compensation

Committee Interlocks and Insider Participation," "Executive Compensation — Compensation Discussion and Analysis" and "— Executive Compensation Tables" in the Proxy Statement.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.***

The information required by this Item is incorporated herein by reference to the sections entitled "Equity Compensation Plan Table," "Director Nominee and Officer Stock Ownership," and "Persons Owning More than 5% of Waste Management Common Stock" in the Proxy Statement.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence.***

The information required by this Item is incorporated herein by reference to the sections entitled "Board of Directors — Related Party Transactions" and "— Independence of Board Members" in the Proxy Statement.

Item 14. ***Principal Accounting Fees and Services.***

The information required by this Item is incorporated herein by reference to the section entitled "Ratification of Independent Registered Public Accounting Firm — Independent Registered Public Accounting Firm Fee Information" in the Proxy Statement.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules***

(a) (1) Consolidated Financial Statements:

Reports of Independent Registered Public Accounting Firm
Consolidated Balance Sheets as of December 31, 2014 and 2013
Consolidated Statements of Operations for the years ended December 31, 2014, 2013 and 2012
Consolidated Statements of Comprehensive Income for the years ended December 31, 2014, 2013 and 2012
Consolidated Statements of Cash Flows for the years ended December 31, 2014, 2013 and 2012
Consolidated Statements of Changes in Equity for the years ended December 31, 2014, 2013 and 2012
Notes to Consolidated Financial Statements

(a) (2) *Consolidated Financial Statement Schedules:*

Schedule II — Valuation and Qualifying Accounts

All other schedules have been omitted because the required information is not significant or is included in the financial statements or notes thereto, or is not applicable.

(b) *Exhibits:*

The exhibit list required by this Item is incorporated by reference to the Exhibit Index filed as part of this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

WASTE MANAGEMENT, INC.

By: /s/ DAVID P. STEINER
David P. Steiner
President, Chief Executive Officer and Director

Date: February 17, 2015

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ DAVID P. STEINER David P. Steiner	President, Chief Executive Officer and Director (Principal Executive Officer)	February 17, 2015
/s/ JAMES C. FISH, JR. James C. Fish, Jr.	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 17, 2015
/s/ DON P. CARPENTER Don P. Carpenter	Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 17, 2015
/s/ BRADBURY H. ANDERSON Bradbury H. Anderson	Director	February 17, 2015
/s/ FRANK M. CLARK Frank M. Clark	Director	February 17, 2015
/s/ ANDRÉS R. GLUSKI Andrés R. Gluski	Director	February 17, 2015
/s/ PARTICK W. GROSS Patrick W. Gross	Director	February 17, 2015
/s/ VICTORIA M. HOLT Victoria M. Holt	Director	February 17, 2015
/s/ JOHN C. POPE John C. Pope	Director	February 17, 2015
/s/ W. ROBERT REUM W. Robert Reum	Chairman of the Board and Director	February 17, 2015
/s/ THOMAS H. WEIDEMEYER Thomas H. Weidemeyer	Director	February 17, 2015

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders of Waste Management, Inc.

We have audited the consolidated financial statements of Waste Management, Inc. as of December 31, 2014 and 2013, and for each of the three years in the period ended December 31, 2014, and have issued our report thereon dated February 17, 2015 (included elsewhere in this Form 10-K). Our audits also included the financial statement schedule listed in Item 15(a)(2) of this Form 10-K. This schedule is the responsibility of the Company's management. Our responsibility is to express an opinion on this schedule based on our audits.

In our opinion, the financial statement schedule referred to above, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ ERNST & YOUNG LLP

Houston, Texas
February 17, 2015

WASTE MANAGEMENT, INC.

SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS
(In Millions)

	Balance Beginning of Year	Charged (Credited) to Income	Accounts Written Off/Use of Reserve	Balance End of Year
2012 — Reserves for doubtful accounts(a)	$29	$57	$(41)	$45
2013 — Reserves for doubtful accounts(a)	$45	$39	$(50)	$34
2014 — Reserves for doubtful accounts(a)	$34	$42	$(45)	$31
2012 — Merger and restructuring accruals(b)	$ 9	$67	$(44)	$32
2013 — Merger and restructuring accruals(b)	$32	$18	$(36)	$14
2014 — Merger and restructuring accruals(b)	$14	$82	$(51)	$45

(a) Includes reserves for doubtful accounts receivable and notes receivable.

(b) Included in accrued liabilities in our Consolidated Balance Sheets. These accruals represent employee severance and benefit costs and transitional costs.

INDEX TO EXHIBITS

Exhibit No.		Description
2.1	—	Stock Purchase Agreement dated July 25, 2014 by and among Granite Acquisition, Inc. and Waste Management Holdings, Inc., National Guaranty Insurance Company of Vermont, Mountain Indemnity Insurance Company, Chemical Waste Management, Inc. and Wheelabrator Technologies Inc. [incorporated by reference to Exhibit 2.1 to Form 8-K dated July 29, 2014].
3.1	—	Third Restated Certificate of Incorporation of Waste Management, Inc. [incorporated by reference to Exhibit 3.1 to Form 10-Q for the quarter ended June 30, 2010].
3.2	—	Amended and Restated By-laws of Waste Management, Inc. [incorporated by reference to Exhibit 3.2 to Form 8-K dated December 6, 2012].
4.1	—	Specimen Stock Certificate [incorporated by reference to Exhibit 4.1 to Form 10-K for the year ended December 31, 1998].
4.2*	—	Third Restated Certificate of Incorporation of Waste Management Holdings, Inc.
4.3	—	Amended and Restated By-laws of Waste Management Holdings, Inc. [incorporated by reference to Exhibit 4.3 to Form 10-Q for the period ended June 30, 2014].
4.4	—	Indenture for Subordinated Debt Securities dated February 3, 1997, among the Registrant and The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee [incorporated by reference to Exhibit 4.1 to Form 8-K dated February 7, 1997].
4.5	—	Indenture for Senior Debt Securities dated September 10, 1997, among the Registrant and The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee [incorporated by reference to Exhibit 4.1 to Form 8-K dated September 10, 1997].
4.6	—	Officers' Certificate delivered pursuant to Section 301 of the Indenture dated September 10, 1997 by and between Waste Management, Inc. and The Bank of New York Mellon Trust Company, N.A., as Trustee, establishing the terms and form of Waste Management, Inc.'s 3.50% Senior Notes due 2024 [incorporated by reference to Exhibit 4.2 to Form 8-K dated May 5, 2014].
4.7	—	Guarantee Agreement by Waste Management Holdings, Inc. in favor of The Bank of New York Mellon Trust Company, N.A., as Trustee for the holders of Waste Management, Inc.'s 3.50% Senior Notes due 2024 [incorporated by reference to Exhibit 4.4 to Form 8-K dated May 5, 2014].
4.8*	—	Schedule of Officers' Certificates delivered pursuant to Section 301 of the Indenture dated September 10, 1997 establishing the terms and form of Waste Management, Inc.'s Senior Notes. Waste Management and its subsidiaries are parties to debt instruments that have not been filed with the SEC under which the total amount of securities authorized under any single instrument does not exceed 10% of the total assets of Waste Management and its subsidiaries on a consolidated basis. Pursuant to paragraph 4(iii)(A) of Item 601(b) of Regulation S-K, Waste Management agrees to furnish a copy of such instruments to the SEC upon request.
10.1†	—	2014 Stock Incentive Plan [incorporated by reference to Exhibit 10.1 to Form 8-K dated May 13, 2014].
10.2†	—	2009 Stock Incentive Plan [incorporated by reference to Appendix B to the Proxy Statement on Schedule 14A filed March 25, 2009].

10.3† — 2005 Annual Incentive Plan [incorporated by reference to Appendix D to the Proxy Statement on Schedule 14A filed April 8, 2004].

10.4† — Employee Stock Purchase Plan [incorporated by reference to Appendix A to the Proxy Statement on Schedule 14A filed March 28, 2012].

10.5† — Waste Management, Inc. 409A Deferral Savings Plan as Amended and Restated effective January 1, 2014 [incorporated by reference to Exhibit 10.2 to Form 10-Q for the period ended March 31, 2014].

10.6† — 2000 Stock Incentive Plan [incorporated by reference to Appendix B to the Proxy Statement on Schedule 14A filed April 6, 2000].

10.7† — 2004 Stock Incentive Plan [incorporated by reference to Appendix C to Proxy Statement on Schedule 14A filed April 8, 2004].

10.8 — $2.25 Billion Second Amended and Restated Revolving Credit Agreement by and among Waste Management, Inc. and Waste Management Holdings, Inc. and certain banks party thereto, Bank of America, N.A., as Administrative Agent, JPMorgan Chase Bank, N.A. and Barclays Bank PLC, as syndication agents, BNP Paribas, Citibank, N.A., Deutsche Bank AG New York Branch, The Bank of Tokyo-Mitsubishi UFJ, Ltd., The Royal Bank of Scotland plc, U.S. Bank National Association and Wells Fargo Bank, National Association, as co-documentation agents and J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated, and Barclays Bank PLC, as lead arrangers and joint bookrunners. [incorporated by reference to Exhibit 10.1 to Form 8-K filed July 30, 2013].

10.9 — CDN$650 Million Credit Facilities Credit Agreement by and among Waste Management of Canada Corporation and WM Quebec Inc., as borrowers, Waste Management, Inc. and Waste Management Holdings, Inc., as guarantors, The Bank of Nova Scotia, as administrative agent, JP Morgan Chase Bank, N.A., Bank of America, N.A. and PNC Bank, National Association, as co-syndication agents, the Bank of Nova Scotia, J.P. Morgan Securities LLC, Merrill, Lynch, Pierce, Fenner & Smith Incorporated and PNC Capital Markets LLC, as joint lead arrangers and joint bookrunners and the Lenders from time to time party thereto [incorporated by reference to Exhibit 10.2 to Form 10-Q for the quarter ended September 30, 2013].

10.10 — First Amendment Agreement to CDN$650 Credit Facilities Credit Agreement by and among Waste Management of Canada Corporation and WM Quebec Inc., as borrowers, Waste Management, Inc. and Waste Management Holdings, Inc., as guarantors, the Lenders from time to time party thereto, and The Bank of Nova Scotia, as administrative agent [incorporated by reference to Exhibit 10.3 to Form 10-Q for the quarter ended September 30, 2013].

10.11† — Employment Agreement between the Company and David Steiner dated May 6, 2002 [incorporated by reference to Exhibit 10.1 to Form 10-Q for the quarter ended March 31, 2002].

10.12† — Employment Agreement between the Company and James E. Trevathan dated June 1, 2000 [incorporated by reference to Exhibit 10.20 to Form 10-K for the year ended December 31, 2000].

10.13† — Amendment to Employment Agreement between the Company and James E. Trevathan [incorporated by reference to Exhibit 10.3 to Form 8-K dated March 9, 2011].

10.14† — Employment Agreement between the Company and James C. Fish, Jr. dated August 15, 2011 [incorporated by reference to Exhibit 10.2 to Form 10-Q for the quarter ended September 30, 2011].

10.15† — First Amendment to Employment Agreement between the Company and James C. Fish, Jr. dated July 20, 2012 [incorporated by reference to Exhibit 10.3 to Form 10-Q for the quarter ended June 30, 2012].

10.16† — Employment Agreement between the Company and Jeff Harris dated December 1, 2006 [incorporated by reference to Exhibit 10.1 to Form 8-K dated December 1, 2006].

10.17† — Amendment to Employment Agreement by and between the Company and Jeff Harris [incorporated by reference to Exhibit 10.6 to Form 10-Q for the quarter ended March 30, 2011].

10.18† — Employment Agreement between the Company and John Morris dated June 18, 2012 [incorporated by reference to Exhibit 10.4 to Form 10-Q for the quarter ended June 30, 2012].

10.19† — Employment Agreement between the Company and Barry H. Caldwell dated September 23, 2002 [incorporated by reference to Exhibit 10.24 to Form 10-K for the year ended December 31, 2002].

10.20† — Employment Agreement between the Company and David Aardsma dated June 16, 2005 [incorporated by reference to Exhibit 10.1 to Form 8-K dated June 16, 2005].

10.21†* — Separation and Release Agreement between USA Waste-Management Resources, LLC and David Aardsma dated October 31, 2014.

10.22† — Employment Agreement between the Company and Rick L Wittenbraker dated November 10, 2003 [incorporated by reference to Exhibit 10.30 to Form 10-K for the year ended December 31, 2003].

10.23† — Employment Agreement between the Company and William K. Caesar dated August 23, 2011 [incorporated by reference to Exhibit 10.3 to Form 10-Q for the quarter ended September 30, 2011].

10.24† — Separation and Release Agreement between WM Recycle America, LLC and William K. Caesar dated September 15, 2014 [incorporated by reference to Exhibit 10.1 to Form 10-Q for the period ended September 30, 2014].

10.25† — Employment Agreement between the Company and Puneet Bhasin dated December 7, 2009 [incorporated by reference to Exhibit 10.12 to Form 10-K for the year ended December 31, 2009].

10.26† — Employment Agreement between the Company and Mark Schwartz dated July 5, 2012 [incorporated by reference to Exhibit 10.5 to Form 10-Q for the quarter ended June 30, 2012].

10.27† — Employment Agreement between the Company and Don P. Carpenter dated July 31, 2000, as amended by First Amendment to Employment Agreement between USA Waste-Management Resources, LLC and Don P. Carpenter effective as of August 24, 2012 [incorporated by reference to Exhibit 10.23 to Form 10-K for the year ended December 31, 2012].

10.28† — Employment Agreement between Wheelabrator Technologies Inc. and Mark A. Weidman dated May 11, 2006 [incorporated by reference to Exhibit 10.1 to Form 8-K dated May 11, 2006].

10.29†* — Second Amendment to Employment Agreement between Wheelabrator Technologies Inc. and Mark A. Weidman dated December 23, 2013.

10.30†* — Third Amendment to Employment Agreement between Wheelabrator Technologies Inc. and Mark A. Weidman dated December 23, 2013.

10.31†* — Fourth Amendment to Employment Agreement between Wheelabrator Technologies Inc. and Mark A. Weidman dated December 23, 2013.

10.32†	—	Form of Director and Executive Officer Indemnity Agreement [incorporated by reference to Exhibit 10.43 to Form 10-K for the year ended December 31, 2012].
10.33†	—	Form of 2014 Senior Leadership Team Award Agreement for Long Term Incentive Compensation under the Waste Management, Inc. 2009 Stock Incentive Plan [incorporated by reference to Exhibit 10.1 to Form 8-K dated March 7, 2014].
10.34†	—	Form of 2013 PSU Award Agreement with ROIC Performance Measure [incorporated by reference to Exhibit 10.1 to Form 8-K dated March 7, 2013].
10.35†	—	Form of 2013 PSU Award Agreement with TSR Performance Measure [incorporated by reference to Exhibit 10.2 to Form 8-K dated March 7, 2013].
10.36†	—	Form of 2013 Stock Option Award Agreement [incorporated by reference to Exhibit 10.3 to Form 8-K dated March 7, 2013].
10.37†	—	Form of 2012 Restricted Stock Unit Award Agreement [incorporated by reference to Exhibit 10.2 to Form 8-K dated July 3, 2012].
10.38†	—	Form of 2012 Performance Share Unit Award Agreement with ROIC Performance Measure [incorporated by reference to Exhibit 10.1 to Form 8-K dated March 9, 2012].
10.39†	—	Form of 2012 Performance Share Unit Award Agreement with TSR Performance Measure [incorporated by reference to Exhibit 10.2 to Form 8-K dated March 9, 2012].
10.40†	—	Form of 2012 Stock Option Award Agreement [incorporated by reference to Exhibit 10.2 to Form 8-K dated March 9, 2012].
12.1*	—	Computation of Ratio of Earnings to Fixed Charges.
21.1*	—	Subsidiaries of the Registrant.
23.1*	—	Consent of Independent Registered Public Accounting Firm.
31.1*	—	Certification Pursuant to Rule 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended, of David P. Steiner, President and Chief Executive Officer.
31.2*	—	Certification Pursuant to Rule 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended, of James C. Fish, Jr., Executive Vice President and Chief Financial Officer.
32.1*	—	Certification Pursuant to 18 U.S.C. §1350 of David P. Steiner, President and Chief Executive Officer.
32.2*	—	Certification Pursuant to 18 U.S.C. §1350 of James C. Fish, Jr., Executive Vice President and Chief Financial Officer.
95*	—	Mine Safety Disclosures.
101.INS*	—	XBRL Instance Document.
101.SCH*	—	XBRL Taxonomy Extension Schema Document.
101.CAL*	—	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	—	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	—	XBRL Taxonomy Extension Labels Linkbase Document.
101.PRE*	—	XBRL Taxonomy Extension Presentation Linkbase Document.

* Filed herewith.

† Denotes management contract or compensatory plan or arrangement.

Corporate Information

BOARD OF DIRECTORS

BRADBURY H. ANDERSON (C, N)
Retired Vice Chairman
and Chief Executive Officer
Best Buy Co., Inc.

FRANK M. CLARK, JR. (A, C)
Retired Chairman
and Chief Executive Officer
ComEd

ANDRÉS R. GLUSKI (A, C)
President and Chief Executive Officer
The AES Corporation

PATRICK W. GROSS (A, N)
Chairman
The Lovell Group

VICTORIA M. HOLT (A, C)
President and Chief Executive Officer
Proto Labs, Inc.

JOHN C. POPE (C, N)
Chairman – PFI Group
Chairman – R.R. Donnelley & Sons

W. ROBERT REUM (A, C, N)
Non-Executive Chairman of the Board
Waste Management, Inc.
Chairman, President,
and Chief Executive Officer
Amsted Industries Incorporated

DAVID P. STEINER
President and Chief Executive Officer
Waste Management, Inc.

THOMAS H. WEIDEMEYER (A, N)
Retired Senior Vice President
and Chief Operating Officer
United Parcel Service, Inc.

(A) Audit Committee
(C) Management Development and Compensation Committee
(N) Nominating and Governance Committee

OFFICERS

DAVID P. STEINER
President and Chief Executive Officer

PUNEET BHASIN
Senior Vice President,
Corporate Operations

BARRY H. CALDWELL
Senior Vice President,
Corporate Affairs and
Chief Legal Officer

JAMES C. FISH, JR.
Executive Vice President and
Chief Financial Officer

JEFF M. HARRIS
Senior Vice President,
Operations

JOHN J. MORRIS, JR.
Senior Vice President,
Operations

MARK E. SCHWARTZ
Senior Vice President,
Human Resources

JAMES E. TREVATHAN, JR.
Executive Vice President and
Chief Operating Officer

DON P. CARPENTER
Vice President and
Chief Accounting Officer

STEVEN M. MORGAN
Chief Compliance Officer

DEVINA A. RANKIN
Vice President and Treasurer

COURTNEY A. TIPPY
Corporate Secretary

CORPORATE HEADQUARTERS

Waste Management, Inc.
1001 Fannin, Suite 4000
Houston, Texas 77002
Telephone: (713) 512-6200
Facsimile: (713) 512-6299

INDEPENDENT AUDITORS

Ernst & Young LLP
5 Houston Center, Suite 1200
1401 McKinney Street
Houston, Texas 77010
(713) 750-1500

COMPANY STOCK

The Company's common stock is traded on the New York Stock Exchange (NYSE) under the symbol "WM." The number of holders of record of common stock based on the transfer records of the company at March 1, 2015 was approximately 11,800. Based on security position listings, the company believes it had at that date approximately 405,000 beneficial owners.

TRANSFER AGENT AND REGISTRAR

Computershare
211 Quality Circle, Suite 210
College Station, TX 77845
(800) 969-1190

INVESTOR RELATIONS

Security analysts, investment professionals, and shareholders should direct inquiries to Investor Relations at the corporate address or call (713) 512-6574

ANNUAL MEETING

The annual meeting of the stockholders of the Company is scheduled to be held at 11:00 a.m. on May 12, 2015 at:
The Maury Myers Conference Center
Waste Management, Inc.
1021 Main Street
Houston, Texas 77002

WEB SITE

www.wm.com

WASTE MANAGEMENT

1001 Fannin, Suite 4000 - Houston, Texas 77002
www.wm.com

APPENDIX A-2

MARCH 2015 WASTE MANAGEMENT, INC. QUARTERLY REPORT

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

(Mark One)

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Quarterly Period Ended March 31, 2015

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to

Commission file number 1-12154

Waste Management, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**73-1309529**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

1001 Fannin
Suite 4000
Houston, Texas 77002
(Address of principal executive offices)

(713) 512-6200
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐
(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

The number of shares of Common Stock, $0.01 par value, of the registrant outstanding at April 21, 2015 was 457,822,145 (excluding treasury shares of 172,460,316).

PART I.

Item 1. ***Financial Statements.***

WASTE MANAGEMENT, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS
(In Millions, Except Share and Par Value Amounts)

	March 31, 2015 (Unaudited)	December 31, 2014
ASSETS		
Current assets:		
Cash and cash equivalents	$ 277	$ 1,307
Accounts receivable, net of allowance for doubtful accounts of $31 and $30, respectively	1,489	1,587
Other receivables	519	350
Parts and supplies	109	106
Deferred income taxes	70	115
Other assets	153	176
Total current assets	2,617	3,641
Property and equipment, net of accumulated depreciation and amortization of $16,030 and $15,968, respectively	10,679	10,657
Goodwill	5,855	5,740
Other intangible assets, net	564	440
Investments in unconsolidated entities	397	408
Other assets	579	526
Total assets	$ 20,691	$ 21,412
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$ 634	$ 740
Accrued liabilities	1,008	1,180
Deferred revenues	463	475
Current portion of long-term debt	168	1,090
Total current liabilities	2,273	3,485
Long-term debt, less current portion	9,039	8,345
Deferred income taxes	1,491	1,453
Landfill and environmental remediation liabilities	1,568	1,531
Other liabilities	745	709
Total liabilities	15,116	15,523
Commitments and contingencies		
Equity:		
Waste Management, Inc. stockholders' equity:		
Common stock, $0.01 par value; 1,500,000,000 shares authorized; 630,282,461 shares issued	6	6
Additional paid-in capital	4,766	4,585
Retained earnings	6,582	6,888
Accumulated other comprehensive income (loss)	(50)	23
Treasury stock at cost, 172,523,615 and 171,745,077 shares, respectively	(5,750)	(5,636)
Total Waste Management, Inc. stockholders' equity	5,554	5,866
Noncontrolling interests	21	23
Total equity	5,575	5,889
Total liabilities and equity	$ 20,691	$ 21,412

See notes to Condensed Consolidated Financial Statements.

WASTE MANAGEMENT, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In Millions, Except per Share Amounts)
(Unaudited)

	Three Months Ended March 31, 2015	Three Months Ended March 31, 2014
Operating revenues	$ 3,040	$ 3,396
Costs and expenses:		
Operating	1,946	2,232
Selling, general and administrative	348	375
Depreciation and amortization	292	317
Restructuring	1	1
(Income) expense from divestitures, asset impairments and unusual items	13	2
	2,600	2,927
Income from operations	440	469
Other income (expense):		
Interest expense, net	(104)	(121)
Loss on early extinguishment of debt	(550)	—
Equity in net losses of unconsolidated entities	(8)	(9)
Other, net	—	(3)
	(662)	(133)
Income (loss) before income taxes	(222)	336
Provision for (benefit from) income taxes	(91)	99
Consolidated net income (loss)	(131)	237
Less: Net income (loss) attributable to noncontrolling interests	(2)	9
Net income (loss) attributable to Waste Management, Inc.	$ (129)	$ 228
Basic earnings (loss) per common share	$ (0.28)	$ 0.49
Diluted earnings (loss) per common share	$ (0.28)	$ 0.49
Cash dividends declared per common share	$ 0.385	$ 0.375

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In Millions)
(Unaudited)

	Three Months Ended March 31, 2015	Three Months Ended March 31, 2014
Consolidated net income (loss)	$ (131)	$ 237
Other comprehensive income (loss), net of taxes:		
Derivative instruments, net	3	(6)
Foreign currency translation adjustments	(76)	(59)
Other comprehensive income (loss), net of taxes	(73)	(65)
Comprehensive income (loss)	(204)	172
Less: Comprehensive income (loss) attributable to noncontrolling interests	(2)	9
Comprehensive income (loss) attributable to Waste Management, Inc.	$ (202)	$ 163

See notes to Condensed Consolidated Financial Statements.

WASTE MANAGEMENT, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In Millions)
(Unaudited)

	Three Months Ended March 31,	
	2015	2014
Cash flows from operating activities:		
Consolidated net income (loss)	$ (131)	$ 237
Adjustments to reconcile consolidated net income (loss) to net cash provided by operating activities:		
Depreciation and amortization	292	317
Deferred income tax (benefit) provision	38	(15)
Interest accretion on landfill liabilities	21	21
Interest accretion on and discount rate adjustments to environmental remediation liabilities and recovery assets	1	1
Provision for bad debts	12	13
Equity-based compensation expense	20	15
Excess tax benefits associated with equity-based transactions	(7)	(1)
Net gain from disposal of assets	(7)	(4)
Effect of (income) expense from divestitures, asset impairments and unusual items and other	13	2
Equity in net losses of unconsolidated entities, net of dividends	8	9
Loss on early extinguishment of debt	550	—
Change in operating assets and liabilities, net of effects of acquisitions and divestitures:		
Receivables	(59)	41
Other current assets	(4)	(10)
Other assets	(19)	2
Accounts payable and accrued liabilities	(195)	(19)
Deferred revenues and other liabilities	(34)	(25)
Net cash provided by operating activities	499	584
Cash flows from investing activities:		
Acquisitions of businesses, net of cash acquired	(445)	(11)
Capital expenditures	(233)	(266)
Proceeds from divestitures of businesses and other assets (net of cash divested)	19	166
Net receipts from restricted trust and escrow accounts	34	11
Investments in unconsolidated entities	(5)	(4)
Other	2	(18)
Net cash used in investing activities	(628)	(122)
Cash flows from financing activities:		
New borrowings	1,817	913
Debt repayments	(2,029)	(928)
Premiums paid on early extinguishment of debt	(554)	—
Cash dividends	(176)	(174)
Exercise of common stock options	39	14
Excess tax benefits associated with equity-based transactions	7	1
Distributions paid to noncontrolling interests	—	(2)
Other	(2)	(3)
Net cash used in financing activities	(898)	(179)
Effect of exchange rate changes on cash and cash equivalents	(3)	(2)
Increase (decrease) in cash and cash equivalents	(1,030)	281
Cash and cash equivalents at beginning of period	1,307	58
Cash and cash equivalents at end of period	$ 277	$ 339

See notes to Condensed Consolidated Financial Statements.

WASTE MANAGEMENT, INC.

CONDENSED CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
(In Millions, Except Shares in Thousands)
(Unaudited)

		Waste Management, Inc. Stockholders' Equity							
		Common Stock					Treasury Stock		
	Total	Shares	Amounts	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Shares	Amounts	Noncontrolling Interests
Balance, December 31, 2014	$5,889	630,282	$ 6	$ 4,585	$ 6,888	$ 23	(171,745)	$ (5,636)	$ 23
Consolidated net income (loss)	(131)	—	—	—	(129)	—	—	—	(2)
Other comprehensive income (loss), net of taxes	(73)	—	—	—	—	(73)	—	—	—
Cash dividends declared	(176)	—	—	—	(176)	—	—	—	—
Equity-based compensation transactions, including dividend equivalents, net of taxes	66	—	—	1	(1)	—	2,001	66	—
Common stock repurchases	—	—	—	180	—	—	(2,781)	(180)	—
Other	—	—	—	—	—	—	1	—	—
Balance, March 31, 2015	$5,575	630,282	$ 6	$ 4,766	$ 6,582	$ (50)	(172,524)	$ (5,750)	$ 21

See notes to Condensed Consolidated Financial Statements.

1. Basis of Presentation

The financial statements presented in this report represent the consolidation of Waste Management, Inc., a Delaware corporation; Waste Management's wholly-owned and majority-owned subsidiaries; and certain variable interest entities for which Waste Management or its subsidiaries are the primary beneficiaries as described in Note 14. Waste Management is a holding company and all operations are conducted by its subsidiaries. When the terms "the Company," "we," "us" or "our" are used in this document, those terms refer to Waste Management, Inc., its consolidated subsidiaries and consolidated variable interest entities. When we use the term "WM," we are referring only to Waste Management, Inc., the parent holding company.

We are North America's leading provider of comprehensive waste management environmental services. We partner with our residential, commercial, industrial and municipal customers and the communities we serve to manage and reduce waste at each stage from collection to disposal, while recovering valuable resources and creating clean, renewable energy. Our "Solid Waste" business is operated and managed locally by our subsidiaries that focus on distinct geographic areas and provides collection, transfer, recycling and resource recovery, and disposal services. Through our subsidiaries, we are also a leading developer, operator and owner of landfill gas-to-energy facilities in the United States. In December 2014, we completed the sale of our Wheelabrator business, which provides waste-to-energy services and manages waste-to-energy facilities and independent power production plants. Refer to Note 9 for additional information related to our divestitures.

We evaluate, oversee and manage the financial performance of our Solid Waste business subsidiaries through our 17 geographic Areas. We also provide additional services that are not managed through our Solid Waste business, which are presented in this report as "Other." Additional information related to our segments can be found in Note 8.

The Condensed Consolidated Financial Statements as of March 31, 2015 and for the three months ended March 31, 2015 and 2014 are unaudited. In the opinion of management, these financial statements include all adjustments, which, unless otherwise disclosed, are of a normal recurring nature, necessary for a fair presentation of the financial position, results of operations, comprehensive income, cash flows, and changes in equity for the periods presented. The results for interim periods are not necessarily indicative of results for the entire year. The financial statements presented herein should be read in connection with the financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2014.

In preparing our financial statements, we make numerous estimates and assumptions that affect the accounting for and recognition and disclosure of assets, liabilities, equity, revenues and expenses. We must make these estimates and assumptions because certain information that we use is dependent on future events, cannot be calculated with precision from available data or simply cannot be calculated. In some cases, these estimates are difficult to determine, and we must exercise significant judgment. In preparing our financial statements, the most difficult, subjective and complex estimates and the assumptions that present the greatest amount of uncertainty relate to our accounting for landfills, environmental remediation liabilities, asset impairments, deferred income taxes and reserves associated with our insured and self-insured claims. Actual results could differ materially from the estimates and assumptions that we use in the preparation of our financial statements.

Reclassifications

When necessary, reclassifications have been made to our prior period consolidated financial information in order to conform to the current year presentation.

2. Landfill and Environmental Remediation Liabilities

Liabilities for landfill and environmental remediation costs are presented in the table below (in millions):

	March 31, 2015			December 31, 2014		
	Landfill	Environmental Remediation	Total	Landfill	Environmental Remediation	Total
Current (in accrued liabilities)	$ 105	$ 42	$ 147	$ 104	$ 43	$ 147
Long-term	1,380	188	1,568	1,339	192	1,531
	$1,485	$ 230	$1,715	$1,443	$ 235	$1,678

The changes to landfill and environmental remediation liabilities for the year ended December 31, 2014 and the three months ended March 31, 2015 are reflected in the table below (in millions):

	Landfill	Environmental Remediation
December 31, 2013	$1,421	$ 227
Obligations incurred and capitalized	54	—
Obligations settled	(69)	(21)
Interest accretion	88	5
Revisions in estimates and interest rate assumptions	(9)	25
Acquisitions, divestitures and other adjustments(a)	(42)	(1)
December 31, 2014	1,443	235
Obligations incurred and capitalized	13	—
Obligations settled	(8)	(5)
Interest accretion	21	1
Revisions in estimates and interest rate assumptions	1	(1)
Acquisitions, divestitures and other adjustments(b)	15	—
March 31, 2015	$1,485	$ 230

(a) The amounts reported for our 2014 landfill liabilities include reductions of $25 million for divestitures, including the divestiture of our Wheelabrator business. See Note 9 for discussion of our divestitures.

(b) The amounts reported for our 2015 landfill liabilities include an increase of $21 million associated with the acquisition of Deffenbaugh Disposal, Inc. ("Deffenbaugh"). See Note 9 for discussion of our acquisition.

At several of our landfills, we provide financial assurance by depositing cash into restricted trust funds or escrow accounts for purposes of settling final capping, closure, post-closure and environmental remediation obligations. Generally, these trust funds are established to comply with statutory requirements and operating agreements. See Note 14 for additional information related to these trusts.

3. Debt

The following table summarizes the major components of debt at each balance sheet date (in millions) and provides the maturities and interest rate ranges of each major category as of March 31, 2015:

	March 31, 2015	December 31, 2014
U.S. revolving credit facility, maturing July 2018	$ —	$ —
Letter of credit facilities, maturing through December 2018	—	—
Canadian credit facility and term loan, maturing November 2017 (weighted average effective interest rate of 2.3% at March 31, 2015 and 2.6% at December 31, 2014)	205	232
Senior notes maturing through 2045, interest rates ranging from 2.60% to 7.75% (weighted average interest rate of 4.7% at March 31, 2015 and 5.7% at December 31, 2014)	6,092	6,273
Tax-exempt bonds, maturing through 2045, fixed and variable interest rates ranging from 0.04% to 5.7% (weighted average interest rate of 2.2% at March 31, 2015 and December 31, 2014)	2,526	2,541
Capital leases and other, maturing through 2055, interest rates up to 12%	384	389
	9,207	9,435
Current portion of long-term debt	168	1,090
	$ 9,039	$ 8,345

Debt Classification

As of March 31, 2015, our current debt balances include $168 million of debt with scheduled maturities within the next 12 months, including $79 million of tax-exempt bonds.

As of March 31, 2015, we also have $621 million of tax-exempt bonds with term interest rate periods that expire within 12 months and an additional $491 million of variable-rate tax-exempt bonds that are supported by letters of credit. The interest rates on these bonds are reset on either a daily or weekly basis through a remarketing process. All recent remarketings have successfully placed Company bonds with investors at reasonable, market-driven rates and we currently expect future remarketings to be successful. However, if the remarketing agent is unable to remarket our bonds, the remarketing agent can put the bonds to us. In the event of a failed remarketing, we have the intent and ability to use availability under our long-term U.S. revolving credit facility ("$2.25 billion revolving credit facility") to fund the debt obligation until it can be remarketed successfully. Accordingly, we classified these borrowings as long-term in our Condensed Consolidated Balance Sheet at March 31, 2015.

Revolving Credit and Letter of Credit Facilities

As of March 31, 2015, we had an aggregate committed capacity of $2.65 billion for letters of credit under various U.S. credit facilities. Our $2.25 billion revolving credit facility expires in July 2018 and is our primary source of letter of credit capacity. Our remaining committed letter of credit capacity is provided under facilities with terms ending through December 2018. As of March 31, 2015, we had an aggregate of $1.1 billion of letters of credit outstanding under various credit facilities. As of March 31, 2015, we had no outstanding borrowings under our $2.25 billion revolving credit facility and $746 million of letters of credit issued and supported by the facility, leaving $1,504 million of unused and available capacity.

We also have a Canadian credit agreement that matures in November 2017 and provides for C$150 million of revolving credit capacity. We have the ability to issue up to C$50 million of letters of credit under the Canadian revolving credit facility, which if utilized, reduces the amount of credit capacity available for borrowings. As of March 31, 2015, we had no letters of credit or borrowings outstanding under the credit facility.

Debt Borrowings and Repayments

Canadian Credit Facility and Term Loan — We repaid C$10 million, or $8 million, of net advances under our Canadian term loan during the quarter ended March 31, 2015 with available cash. The remaining decline in the carrying value of borrowings outstanding under our Canadian term loan is due to the strengthening of the U.S. dollar, which caused a continued decline in the Canadian currency translation rate.

Senior Notes — During the first quarter of 2015, we refinanced a significant portion of our high-coupon senior notes. Details related to each component of the refinancing follow:

Make-Whole Redemption — In January 2015, we repaid $947 million of WM senior notes, which comprised all of the outstanding senior notes maturing in 2015, 2017 and 2019. The repayment of these debt balances was achieved by exercising the optional redemption provisions of the notes, which required that we pay the outstanding principal plus a make-whole premium. "Loss on early extinguishment of debt" in our Condensed Consolidated Statement of Operations for the current quarter includes charges of $122 million related to these redemptions.

Tender Offer — In February 2015, WM and WM Holdings made a cash tender offer to purchase any and all of certain outstanding senior notes. The series of notes targeted in the tender and the amount tendered of each series are summarized below:

- $449 million of WM Holdings 7.10% senior notes due 2026, of which $145 million were tendered;
- $577 million of WM 7.00% senior notes due 2028, of which $179 million were tendered;
- $223 million of WM 7.375% senior notes due 2029, of which $84 million were tendered;
- $496 million of WM 7.75% senior notes due 2032, of which $283 million were tendered; and
- $600 million of WM 6.125% senior notes due 2039, of which $326 million were tendered.

"Loss on early extinguishment of debt" in our Condensed Consolidated Statement of Operations for the current quarter includes charges of $428 million related to this tender offer.

New Issuance — In February 2015, WM issued $1.8 billion of new senior notes consisting of:

- $600 million of 3.125% senior notes due March 1, 2025;
- $450 million of 3.90% senior notes due March 1, 2035; and
- $750 million of 4.10% senior notes due March 1, 2045.

The net proceeds from these debt issuances were $1.78 billion. The Company used the proceeds from the 2025 notes for general corporate purposes. The proceeds from the 2035 notes and the 2045 notes were used to pay the purchase price and accrued interest for the notes redeemed through the tender offer discussed above and for general corporate purposes.

4. Derivative Instruments and Hedging Activities

Cash Flow Hedges

Foreign Currency Derivatives

We use foreign currency exchange rate derivatives to hedge our exposure to fluctuations in exchange rates for anticipated intercompany cash transactions between WM Holdings and its Canadian subsidiaries. As of March 31, 2015, we had foreign exchange cross currency swaps outstanding for all of the anticipated cash flows associated with intercompany loans from WM Holdings to the wholly-owned Canadian subsidiaries. Our Condensed Consolidated Balance Sheets include $53 million and $28 million in long-term other assets at March 31, 2015 and December 31, 2014, respectively, and $1 million in current accrued liabilities at March 31, 2015, for these foreign exchange cross currency swaps. We designated these cross currency swaps as cash flow hedges. The hedged cash flows as of March 31, 2015 include C$370 million of total notional value. The scheduled principal payments of the loan and the related swaps are as follows: C$70 million due on October 31, 2016, C$150 million due on October 31, 2017 and C$150 million due on October 31, 2018.

Gains or losses resulting from the remeasurement of the underlying non-functional currency intercompany loan are recognized in current earnings in the same financial statement line item as offsetting gains or losses on the related cross currency swaps. We have not offset fair value amounts recognized for these derivative instruments. For information related to the inputs used to measure these derivative assets and liabilities at fair value, refer to Note 13.

Forward-Starting Interest Rate Swaps

During the first quarter of 2014, forward-starting interest rate swaps with a notional value of $175 million matured and we paid cash of $36 million to settle the associated liabilities. These swaps were designated as cash flow hedges and had been executed in prior years to hedge the risk of changes in semi-annual interest payments due to fluctuations in the forward ten-year LIBOR swap rate for a debt issuance initially forecasted for March 2014, that occurred in May 2014. Accordingly, the loss associated with the matured forward-starting swaps was deferred as a component of "Accumulated other comprehensive income" and is being amortized to interest expense over the debt term of the May 2014 issuance. Ineffectiveness associated with the change in timing of the debt issuance was not material.

At March 31, 2015 and December 31, 2014, our "Accumulated other comprehensive income" included $48 million and $50 million, respectively, of after-tax deferred losses related to all previously terminated swaps, which are being amortized as an increase to interest expense over the ten-year term of the related senior note issuances using the effective interest method. As of March 31, 2015, $11 million of the deferred losses for these previously terminated swaps (on a pre-tax basis) is scheduled to be reclassified as an increase to interest expense over the next 12 months.

As discussed in Note 3, during the first quarter of 2015, the Company elected to redeem certain senior notes. As a result of this redemption, $3 million of deferred losses for previously terminated swaps was recorded as interest expense in the Condensed Consolidated Statement of Operations.

There was no significant ineffectiveness associated with our cash flow hedges during the three months ended March 31, 2015 or 2014. Refer to Note 11 for information regarding the impacts of our cash flow derivatives on our comprehensive income and results of operations.

Fair Value Hedges

Interest Rate Swaps

We did not have any fixed-to-floating interest rates swaps outstanding during the reported periods. However, in prior years, we entered into interest rate swaps to maintain a portion of our debt obligations at

variable market interest rates and designated these interest rate swaps as fair value hedges of our fixed-rate senior notes. Fair value hedge accounting for interest rate swap contracts increased the carrying value of our debt instruments by $29 million and $45 million as of March 31, 2015 and December 31, 2014, respectively. The significant decrease in the fair value adjustment during the first quarter of 2015 is primarily due to accounting for the impact of our senior note redemption discussed in Note 3. The redemption of certain senior notes prior to their scheduled maturity dates resulted in the write-off of related fair value adjustments for terminated interest rate swaps as a $14 million credit to "Loss on early extinguishment of debt" within our Condensed Consolidated Statement of Operations. The remaining fair value adjustments to long-term debt are being amortized as a reduction to interest expense using the effective interest method over the remaining term of the related senior notes, which extend through 2028. We recognized benefits to interest expense associated with the amortization of our terminated interest rate swaps of $2 million and $5 million for the three months ended March 31, 2015 and 2014, respectively.

5. Income Taxes

Our effective income tax rate for the three months ended March 31, 2015 and 2014 was 41.0% of the loss before income taxes and 29.6% of income before income taxes, respectively. We evaluate our effective income tax rate at each interim period and adjust it as facts and circumstances warrant. The difference between federal income taxes computed at the federal statutory rate and reported income taxes for the three months ended March 31, 2015 was primarily due to the impact of loss on early extinguishment of debt and federal tax credits. The difference between federal income taxes computed at the federal statutory rate and reported income taxes for the three months ended March 31, 2014 was primarily due to the favorable impact of revaluation of our deferred taxes and utilization of state net operating losses resulting from a change in state law, and federal tax credits. These benefits were partially offset by the unfavorable impact of state and local income taxes.

Investment in Refined Coal Facility — In 2011, we acquired a noncontrolling interest in a limited liability company established to invest in and manage a refined coal facility in North Dakota. The facility's refinement processes qualify for federal tax credits that are expected to be realized through 2019 in accordance with Section 45 of the Internal Revenue Code.

We account for our investment in this entity using the equity method of accounting, recognizing our share of the entity's results of operations and other reductions in the value of our investment in "Equity in net losses of unconsolidated entities," within our Condensed Consolidated Statement of Operations. We recognized $1 million and less than $1 million of net losses resulting from our share of the entity's operating losses during the three months ended March 31, 2015 and 2014, respectively. Our tax provision was reduced by $4 million and $3 million for the three months ended March 31, 2015 and 2014, respectively, primarily as a result of tax credits realized from this investment. See Note 14 for additional information related to this investment.

Investment in Low-Income Housing Properties — In 2010, we acquired a noncontrolling interest in a limited liability company established to invest in and manage low-income housing properties. The entity's low-income housing investments qualify for federal tax credits that are expected to be realized through 2020 in accordance with Section 42 of the Internal Revenue Code.

We account for our investment in this entity using the equity method of accounting, recognizing our share of the entity's results of operations and other reductions in the value of our investment in "Equity in net losses of unconsolidated entities," within our Condensed Consolidated Statement of Operations. The value of our investment decreases as the tax credits are generated and utilized. During each of the three months ended March 31, 2015 and 2014, we recognized $6 million of net losses relating to our equity investment in this entity and $1 million of interest expense. During the three months ended March 31, 2015 and 2014 we recognized a reduction in our tax provision of $7 million (including $4 million of tax credits) and $8 million (including $5 million of tax credits), respectively. See Note 14 for additional information related to this investment.

Bonus Depreciation — The Tax Increase Prevention Act of 2014 was signed into law on December 19, 2014 and included an extension for one year of the bonus depreciation allowance. As a result, 50% of qualifying capital expenditures on property placed in service before January 1, 2015 were depreciated immediately. The acceleration of deductions on 2014 qualifying capital expenditures resulting from the bonus depreciation provisions had no impact on our effective income tax rate for 2014 although it will reduce our cash taxes. This reduction will be offset by increased cash taxes in subsequent periods when the deductions related to the capital expenditures would have otherwise been taken.

6. Earnings Per Share

Basic and diluted earnings per share were computed using the following common share data (shares in millions):

	Three Months Ended March 31,	
	2015	2014
Number of common shares outstanding at end of period	457.8	465.3
Effect of using weighted average common shares outstanding	0.7	(0.1)
Weighted average basic common shares outstanding	458.5	465.2
Dilutive effect of equity-based compensation awards and other contingently issuable shares	—	1.7
Weighted average diluted common shares outstanding	458.5	466.9
Potentially issuable shares	11.5	14.4
Number of anti-dilutive potentially issuable shares excluded from diluted common shares outstanding	11.5	2.8

7. Commitments and Contingencies

Financial Instruments — We have obtained letters of credit, surety bonds and insurance policies and have established trust funds and issued financial guarantees to support tax-exempt bonds, contracts, performance of landfill final capping, closure and post-closure requirements, environmental remediation, and other obligations. Letters of credit generally are supported by our $2.25 billion revolving credit facility and other credit facilities established for that purpose. These facilities are discussed further in Note 3. Surety bonds and insurance policies are supported by (i) a diverse group of third-party surety and insurance companies; (ii) an entity in which we have a noncontrolling financial interest or (iii) wholly-owned insurance companies, the sole business of which is to issue surety bonds and/or insurance policies on our behalf.

Management does not expect that any claims against or draws on these instruments would have a material adverse effect on our consolidated financial statements. We have not experienced any unmanageable difficulty in obtaining the required financial assurance instruments for our current operations. In an ongoing effort to mitigate risks of future cost increases and reductions in available capacity, we continue to evaluate various options to access cost-effective sources of financial assurance.

Insurance — We carry insurance coverage for protection of our assets and operations from certain risks including automobile liability, general liability, real and personal property, workers' compensation, directors' and officers' liability, pollution legal liability and other coverages we believe are customary to the industry. Our exposure to loss for insurance claims is generally limited to the per incident deductible under the related insurance policy. Our exposure, however, could increase if our insurers are unable to meet their commitments on a timely basis.

We have retained a significant portion of the risks related to our automobile, general liability and workers' compensation claims programs. "General liability" refers to the self-insured portion of specific third party claims made against us that may be covered under our commercial General Liability Insurance Policy. For our self-insured retentions, the exposure for unpaid claims and associated expenses, including incurred but not reported losses, is based on an actuarial valuation and internal estimates. The accruals for these liabilities could be revised if future occurrences or loss development significantly differ from our assumptions used. We do not expect the impact of any known casualty, property, environmental or other contingency to have a material impact on our financial condition, results of operations or cash flows.

Guarantees — In the ordinary course of our business, WM and WM Holdings enter into guarantee agreements associated with their subsidiaries' operations. Additionally, WM and WM Holdings have each guaranteed all of the senior debt of the other entity. No additional liabilities have been recorded for these intercompany guarantees because all of the underlying obligations are reflected in our Condensed Consolidated Balance Sheets.

We also have guaranteed the obligations and certain performance requirements of, and provided indemnification to, third parties in connection with both consolidated and unconsolidated entities. Guarantee agreements outstanding as of March 31, 2015 (excluding those of Wheelabrator obligations that are discussed below) include (i) guarantees of unconsolidated entities' financial obligations maturing through 2020 for maximum future payments of $8 million and (ii) agreements guaranteeing certain market value losses for approximately 800 homeowners' properties adjacent to or near 20 of our landfills. Our indemnification obligations generally arise from divestitures and provide that we will be responsible for liabilities associated with our operations for events that occurred prior to the sale of the operations. Additionally, under certain of our acquisition agreements, we have provided for additional consideration to be paid to the sellers if established financial targets or other market conditions are achieved post-closing and we have recognized liabilities for these contingent obligations based on an estimate of the fair value of these contingencies at the time of acquisition. We do not currently believe that contingent obligations to provide indemnification or pay additional post-closing consideration in connection with our divestitures or acquisitions will have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

Before the divestiture of our Wheelabrator business, WM had guaranteed certain performance and financial obligations of Wheelabrator and its subsidiaries in the ordinary course of business. In conjunction with the divestiture, certain WM guarantees of Wheelabrator obligations were terminated, but others continued and are now guarantees of third-party obligations. Wheelabrator is working with the various third-party beneficiaries to release WM from these guarantees, but until they are successful, WM has agreed to retain the guarantees and, in exchange, receive a credit support fee. The most significant of these guarantees specifically define WM's maximum financial obligation over the course of the relevant agreements, and as of December 31, 2014, WM's maximum future payments associated with those guarantees was $176 million. WM's exposure under certain of the performance guarantees is variable and a maximum exposure is not defined. The estimated fair value of WM's potential obligation associated with guarantees of Wheelabrator obligations at March 31, 2015 and December 31, 2014 is $19 million (net of the credit support fee) and $18 million (net of the credit support fee), respectively. We have recorded the fair value of the financial and performance guarantees, some of which could extend through 2041 if not terminated, in our Condensed Consolidated Balance Sheets. We currently do not expect the financial impact of such performance and financial guarantees to materially exceed the recorded fair value.

Environmental Matters — A significant portion of our operating costs and capital expenditures could be characterized as costs of environmental protection as we are subject to an array of laws and regulations relating to the protection of the environment. Under current laws and regulations, we may have liabilities for environmental damage caused by our operations, or for damage caused by conditions that existed before we acquired a site. In addition to remediation activity required by state or local authorities, such liabilities include

potentially responsible party, or PRP, investigations. The costs associated with these liabilities can include settlements, certain legal and consultant fees, as well as incremental internal and external costs directly associated with site investigation and clean-up.

Estimating our degree of responsibility for remediation is inherently difficult. We recognize and accrue for an estimated remediation liability when we determine that such liability is both probable and reasonably estimable. Determining the method and ultimate cost of remediation requires that a number of assumptions be made. There can sometimes be a range of reasonable estimates of the costs associated with the likely site remediation alternatives identified in the investigation of the extent of environmental impact. In these cases, we use the amount within the range that constitutes our best estimate. If no amount within a range appears to be a better estimate than any other, we use the amount that is the low end of such range. If we used the high ends of such ranges, our aggregate potential liability would be approximately $190 million higher than the $230 million recorded in the Condensed Consolidated Financial Statements as of March 31, 2015. Our ultimate responsibility may differ materially from current estimates. It is possible that technological, regulatory or enforcement developments, the results of environmental studies, the inability to identify other PRPs, the inability of other PRPs to contribute to the settlements of such liabilities, or other factors could require us to record additional liabilities. Our ongoing review of our remediation liabilities, in light of relevant internal and external facts and circumstances, could result in revisions to our accruals that could cause upward or downward adjustments to income from operations. These adjustments could be material in any given period.

As of March 31, 2015, we had been notified by the government that we are a PRP in connection with 75 locations listed on the EPA's Superfund National Priorities List, or NPL. Of the 75 sites at which claims have been made against us, 14 are sites we own. Each of the NPL sites we own was initially developed by others as a landfill disposal facility. At each of these facilities, we are working in conjunction with the government to evaluate or remediate identified site problems, and we have either agreed with other legally liable parties on an arrangement for sharing the costs of remediation or are working toward a cost-sharing agreement. We generally expect to receive any amounts due from other participating parties at or near the time that we make the remedial expenditures. The other 61 NPL sites, which we do not own, are at various procedural stages under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, known as CERCLA or Superfund.

The majority of proceedings involving NPL sites that we do not own are based on allegations that certain of our subsidiaries (or their predecessors) transported hazardous substances to the sites, often prior to our acquisition of these subsidiaries. CERCLA generally provides for liability for those parties owning, operating, transporting to or disposing at the sites. Proceedings arising under Superfund typically involve numerous waste generators and other waste transportation and disposal companies and seek to allocate or recover costs associated with site investigation and remediation, which costs could be substantial and could have a material adverse effect on our consolidated financial statements. At some of the sites at which we have been identified as a PRP, our liability is well defined as a consequence of a governmental decision and an agreement among liable parties as to the share each will pay for implementing that remedy. At other sites, where no remedy has been selected or the liable parties have been unable to agree on an appropriate allocation, our future costs are uncertain.

On December 22, 2011, the Harris County Attorney in Houston, Texas filed suit against McGinnes Industrial Maintenance Corporation ("MIMC"), WM and Waste Management of Texas, Inc., et al., seeking civil penalties and attorneys' fees for alleged violations of the Texas Water Code and the Texas Health and Safety Code. The County's Original Petition filed with the District Court of Harris County, Texas (the "District Court") alleges the mismanagement of certain waste pits that were operated from 1965 to 1966 by MIMC. In 1998, a predecessor of WM acquired the stock of the parent entity of MIMC. On October 9, 2014, the District Court granted a motion for summary judgment that resulted in the dismissal of WM from the case. On November 12, 2014, the parties agreed to resolve this case with a $29.2 million settlement payment by MIMC and dismissal of the claims against Waste Management of Texas, Inc. On March 31, 2015, the Final Order was signed by the

District Court and the settlement was paid in full shortly thereafter. We remain focused on the remediation of the site and maintain our active participation in the EPA process established to evaluate and determine the appropriate remedy.

Additionally, on April 30, 2014, the United States District Court for the District of Hawaii issued an indictment against Waste Management of Hawaii, Inc. ("WMHI") and two employees of WMHI. The United States Attorney's Office for the District of Hawaii had been investigating water discharges at the Waimanalo Gulch Sanitary Landfill, which WMHI operates for the city and county of Honolulu, in connection with three major rainstorms in December 2010 and January 2011. The indictment alleges violations of the federal Clean Water Act, conspiracy and making false statements to the Hawaii Department of Health and the EPA. We are vigorously defending against this action. Given the early stage of this case and significant issues in dispute, we cannot currently predict an outcome or estimate a range of loss, but we could potentially be subject to sanctions, including requirements to pay monetary penalties.

Litigation — In October 2011 and January 2012, we were named as a defendant in a purported class action in the Circuit Court of Sarasota County, Florida and the Circuit Court of Lawrence County, Alabama, respectively. These cases primarily pertain to our fuel and environmental charges included on our invoices, generally alleging that such charges were not properly disclosed, were unfair and were contrary to the customer service contracts. We have agreed on settlement terms for both the pending Florida and Alabama cases, and we are currently in the process of seeking court approvals. The anticipated settlements will not have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

Additionally, on March 26, 2015, the Company acquired Deffenbaugh. In May 2012 and December 2013, Deffenbaugh was named as a defendant in purported class actions filed in the United States District Court for the District of Kansas. These cases also pertain to fuel, environmental and base rate charges included on invoices. In February 2015, the Kansas Court certified a class of plaintiffs with respect to the fuel surcharge only. This ruling is currently on appeal and is not a final adjudication. We do not anticipate that the outcome of these cases will have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

From time to time, we are also named as defendants in personal injury and property damage lawsuits, including purported class actions, on the basis of having owned, operated or transported waste to a disposal facility that is alleged to have contaminated the environment or, in certain cases, on the basis of having conducted environmental remediation activities at sites. Some of the lawsuits may seek to have us pay the costs of monitoring of allegedly affected sites and health care examinations of allegedly affected persons for a substantial period of time even where no actual damage is proven. While we believe we have meritorious defenses to these lawsuits, the ultimate resolution is often substantially uncertain due to the difficulty of determining the cause, extent and impact of alleged contamination (which may have occurred over a long period of time), the potential for successive groups of complainants to emerge, the diversity of the individual plaintiffs' circumstances, and the potential contribution or indemnification obligations of co-defendants or other third parties, among other factors. Additionally, we often enter into agreements with landowners imposing obligations on us to meet certain regulatory or contractual conditions upon site closure or upon termination of the agreements. Compliance with these agreements inherently involves subjective determinations and may result in disputes, including litigation.

As a large company with operations across the United States and Canada, we are subject to various proceedings, lawsuits, disputes and claims arising in the ordinary course of our business. Many of these actions raise complex factual and legal issues and are subject to uncertainties. Actions filed against us include commercial, customer, and employment-related claims, including purported class action lawsuits related to our sales and marketing practices and our customer service agreements and purported class actions involving federal and state wage and hour and other laws. The plaintiffs in some actions seek unspecified damages or injunctive relief, or both. These actions are in various procedural stages, and some are covered, in part, by insurance. We

currently do not believe that the eventual outcome of any such actions could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

WM's charter and bylaws provide that WM shall indemnify any person against all liabilities and expenses, and upon request shall advance expenses to, any person who is subject to a pending or threatened proceeding because such person is a director or officer of the Company. Such indemnification is required to the maximum extent permitted under Delaware law. Accordingly, the director or officer must execute an undertaking to reimburse the Company for any fees advanced if it is later determined that the director or officer was not entitled to have such fees advanced under Delaware law. Additionally, WM has entered into separate indemnification agreements with each of the members of its Board of Directors, its Chief Executive Officer and each of its executive vice presidents. Additionally, the employment agreements between WM and its Chief Executive Officer and other executive and senior vice presidents contain a direct contractual obligation of the Company to provide indemnification to the executive. The Company may incur substantial expenses in connection with the fulfillment of its advancement of costs and indemnification obligations in connection with actions or proceedings that may be brought against its former or current officers, directors and employees.

Multiemployer Defined Benefit Pension Plans — About 20% of our workforce is covered by collective bargaining agreements with various union locals across the United States and Canada. As a result of some of these agreements, certain of our subsidiaries are participating employers in a number of trustee-managed multiemployer defined benefit pension plans for the covered employees. In connection with our ongoing renegotiation of various collective bargaining agreements, we may discuss and negotiate for the complete or partial withdrawal from one or more of these pension plans. A complete or partial withdrawal from a multiemployer pension plan may also occur if employees covered by a collective bargaining agreement vote to decertify a union from continuing to represent them. Any other circumstance resulting in a decline in Company contributions to a multiemployer defined benefit pension plan through a reduction in the labor force, whether through attrition over time or through a business event (such as the discontinuation or nonrenewal of a customer contract, the decertification of a union, or relocation, reduction or discontinuance of certain operations) may also trigger a complete or partial withdrawal from one or more of these pension plans.

One of the most significant multiemployer pension plans in which we have participated is the Central States, Southeast and Southwest Areas Pension Plan ("Central States Pension Plan"). The Central States Pension Plan is in "critical status," as defined by the Pension Protection Act of 2006. Since 2008, certain of our affiliates have bargained to remove covered employees from the Central States Pension Plan, resulting in a series of withdrawals, and we have recognized charges to "Operating" expenses associated with the withdrawal of certain bargaining units from the Central States Pension Plan and other underfunded multiemployer pension plans. In October 2011, employees at the last of our affiliates with active participants in the Central States Pension Plan voted to decertify the union that represented them, withdrawing themselves from the Central States Pension Plan. The Company believes there are no collective bargaining agreements remaining that require continuing contributions to this plan; however, this point is the subject of pending litigation with the trustees for the Central States Pension Plan.

We are still negotiating and litigating final resolutions of our withdrawal liability for certain previous withdrawals. Except in the case of our withdrawals from the Central States Pension Plan, we do not believe any additional liability above the charges we have already recognized for such previous withdrawals could be material to the Company's business, financial condition, liquidity, results of operations or cash flows. In addition to charges recognized in prior years, we currently estimate that we could incur up to approximately $40 million in future charges based on demands from representatives of the Central States Pension Plan. As a result, we do not anticipate that the final resolution of the Central States Pension Plan matter could be material to the Company's business, financial condition or liquidity; however, such loss could have a material adverse effect on our cash flows and, to a lesser extent, our results of operations, for a particular reporting period. Similarly, we also do not believe that any future withdrawals, individually or in the aggregate, from the multiemployer pension

plans to which we contribute, could have a material adverse effect on our business, financial condition or liquidity. However, such withdrawals could have a material adverse effect on our results of operations or cash flows for a particular reporting period, depending on the number of employees withdrawn in any future period and the financial condition of the multiemployer pension plan(s) at the time of such withdrawal(s).

Tax Matters — We participate in the IRS's Compliance Assurance Process, which means we work with the IRS throughout the year in order to resolve any material issues prior to the filing of our annual tax return. We are currently in the examination phase of IRS audits for the tax years 2014 and 2015 and expect these audits to be completed within the next 12 and 24 months, respectively. We are also currently undergoing audits by various state and local jurisdictions for tax years that date back to 2009, with the exception of affirmative claims in a limited number of jurisdictions that date back to 2000. We are also under audit in Canada for the tax years 2012 and 2013. In 2011, we acquired Oakleaf Global Holdings ("Oakleaf"), which is subject to potential IRS examination for the year 2011. Pursuant to the terms of our acquisition of Oakleaf, we are entitled to indemnification for Oakleaf's pre-acquisition period tax liabilities. In addition, on March 26, 2015, we acquired Deffenbaugh, which is subject to potential IRS examination for the years 2011 through 2015. We maintain a liability for uncertain tax positions, the balance of which management believes is adequate. Results of audit assessments by taxing authorities are not currently expected to have a material adverse impact on our results of operations or cash flows.

8. Segment and Related Information

We evaluate, oversee and manage the financial performance of our Solid Waste subsidiaries through our 17 Areas. The 17 Areas constitute our operating segments and none of the Areas individually meet the quantitative criteria to be a separate reportable segment. We have evaluated the aggregation criteria and concluded that, based on the similarities between our Areas, including the fact that our Solid Waste business is homogenous across geography with the same services offered across the Areas, aggregation of our Areas is appropriate for purposes of presenting our reportable segments. Accordingly, we have aggregated our 17 Areas into three tiers that we believe have similar economic characteristics and future prospects based in large part on a review of the Areas' income from operations margins. The economic variations experienced by our Areas is attributable to a variety of factors, including regulatory environment of the Area; economic environment of the Area, including level of commercial and industrial activity; population density; service offering mix and disposal logistics, with no one factor being singularly determinative of an Area's current or future economic performance. As a result of our consideration of economic and other similarities, we have established the following three reportable segments for our Solid Waste business: Tier 1, which is comprised almost exclusively of Areas in the Southern United States; Tier 2, which is comprised predominately of Areas located in the Midwest and Northeast United States; and Tier 3, which encompasses all remaining Areas, including the Northwest and Mid-Atlantic regions of the United States and Eastern Canada.

Our Wheelabrator business, which managed waste-to-energy facilities and independent power production plants, was a separate reportable segment until the sale of the business in the fourth quarter of 2014 as it met the quantitative disclosure thresholds.

The operating segments not evaluated and overseen through the 17 Areas are presented herein as "Other" as these operating segments do not meet the criteria to be aggregated with other operating segments and do not meet the quantitative criteria to be separately reported.

Summarized financial information concerning our reportable segments is shown in the following table (in millions):

	Gross Operating Revenues	Intercompany Operating Revenues	Net Operating Revenues	Income from Operations
Three Months Ended:				
March 31, 2015				
Solid Waste:				
Tier 1	$ 831	$ (128)	$ 703	$ 211
Tier 2	1,468	(259)	1,209	276
Tier 3	798	(126)	672	126
Solid Waste	3,097	(513)	2,584	613
Wheelabrator	—	—	—	(7)
Other	478	(22)	456	(23)
	3,575	(535)	3,040	583
Corporate and Other	—	—	—	(143)
Total	$ 3,575	$ (535)	$ 3,040	$ 440
March 31, 2014				
Solid Waste:				
Tier 1	$ 850	$ (129)	$ 721	$ 218
Tier 2	1,502	(268)	1,234	284
Tier 3	847	(135)	712	124
Solid Waste	3,199	(532)	2,667	626
Wheelabrator	230	(27)	203	34
Other	547	(21)	526	(18)
	3,976	(580)	3,396	642
Corporate and Other	—	—	—	(173)
Total	$ 3,976	$ (580)	$ 3,396	$ 469

Fluctuations in our operating results may be caused by many factors, including period-to-period changes in the relative contribution of revenue by each line of business, changes in commodity prices and by general economic conditions. In addition, our revenues and income from operations typically reflect seasonal patterns. Our operating revenues tend to be somewhat higher in the summer months, primarily due to the higher volume of construction and demolition waste. The volumes of industrial and residential waste in certain regions where we operate also tend to increase during the summer months. Our second and third quarter revenues and results of operations typically reflect these seasonal trends.

Service disruptions caused by severe storms, extended periods of inclement weather or climate extremes can significantly affect the operating results of the affected Areas. On the other hand, certain destructive weather conditions that tend to occur during the second half of the year, such as the hurricanes that most often impact our operations in the Southern and Eastern U.S., can actually increase our revenues in the areas affected. While weather-related and other "one-time" occurrences can boost revenues through additional work for a limited time span, as a result of significant start-up costs and other factors, such revenue sometimes generates earnings at comparatively lower margins.

9. Acquisitions and Divestitures

Acquisitions

Deffenbaugh Disposal, Inc. — On March 26, 2015, we acquired Deffenbaugh, one of the largest privately owned collection and disposal firms in the Midwest, for total consideration of $416 million ($413 million cash), inclusive of amounts for estimated working capital. Deffenbaugh's assets include five collection operations, seven transfer stations, two recycling facilities, one subtitle-D landfill, and one construction and demolition landfill. Revenues and the impact on income recognized by Deffenbaugh for the time period after the acquisition in the three-month period ended March 31, 2015 are immaterial.

Goodwill of $140 million was calculated as the excess of the consideration paid over the net assets recognized and represents the future economic benefits expected to arise from other assets acquired that could not be individually identified and separately recognized. Goodwill has been assigned to our Areas that will be integrating these operations as they are expected to benefit from the synergies of the combination. Goodwill related to this acquisition is not deductible for income tax purposes.

The allocation of the purchase price for the Deffenbaugh acquisition is preliminary and subject to change based on the finalization of our detailed valuations. The preliminary purchase price allocation, as of the date acquired, is as follows (in millions):

Cash and cash equivalents	$ 15
Accounts and other receivables	18
Parts and supplies	2
Deferred income tax asset	9
Other current assets	12
Property and equipment	212
Goodwill	140
Other intangible assets	134
Other assets	1
Accounts payable	(4)
Accrued liabilities	(12)
Deferred revenues	(5)
Landfill and environmental remediation liabilities	(21)
Deferred income tax liability	(65)
Other liabilities	(20)
Total purchase price	$416

The preliminary allocation of $134 million for other intangibles includes $128 million for customer relationships and $6 million for a trade name, each with a weighted average amortization period of 15 years.

The following pro forma consolidated results of operations have been prepared as if the acquisition of Deffenbaugh occurred at January 1, 2014 (in millions, except per share amounts):

	Three Months Ended March 31,	
	2015	2014
Operating revenues	$ 3,080	$ 3,436
Net income (loss) attributable to Waste Management, Inc.	(129)	227
Basic earnings (loss) per common share	(0.28)	0.49
Diluted earnings (loss) per common share	(0.28)	0.49

Divestitures

On December 19, 2014, we sold our Wheelabrator business to an affiliate of Energy Capital Partners and received cash proceeds of $1.95 billion, net of cash divested, subject to certain post-closing adjustments. We recognized a gain of $519 million on this sale in the fourth quarter of 2014. In the first quarter of 2015, we recognized charges of $7 million for adjustments to this gain. In conjunction with the sale, the Company entered into several agreements to dispose of a minimum number of tons of waste at certain Wheelabrator facilities. These agreements generally provide for fixed volume commitments, with certain market price resets, for up to seven years.

Prior to the sale, our Wheelabrator business constituted a reportable segment, as discussed in Note 8. We concluded that the sale of our Wheelabrator business did not qualify for discontinued operations accounting under applicable authoritative guidance based on our significant continuing obligations under the long-term waste supply agreements referred to above and in Note 7.

10. Asset Impairments and Unusual Items

(Income) expense from divestitures, assets impairments and unusual items

In the first quarter of 2015, we recognized net charges of $13 million, including $7 million of net losses associated with the sale of our Wheelabrator business in December 2014. In addition, we recognized a $5 million impairment of a landfill in our Western Canada Area due to revised post-closure cost estimates.

Other income (expense)

In the first quarter of 2014, we sold our investment in Shanghai Environment Group, which was part of our Wheelabrator business. We received cash proceeds from the sale of $155 million, which have been included in "Proceeds from divestitures of businesses and other assets (net of cash divested)" within "Net cash used in investing activities" in the Condensed Consolidated Statement of Cash Flows. The losses recognized related to the sale were not material and are recorded in "Other, net" in our Condensed Consolidated Statement of Operations.

11. Accumulated Other Comprehensive Income

The changes in the balances of each component of accumulated other comprehensive income, net of tax, which is included as a component of Waste Management, Inc. stockholders' equity, are as follows (in millions, with amounts in parentheses representing decreases to accumulated other comprehensive income):

	Derivative Instruments	Available-for-Sale Securities	Foreign Currency Translation Adjustments	Post-Retirement Benefit Plans	Total
Balance, December 31, 2014	$ (61)	$ 10	$ 84	$ (10)	$ 23
Other comprehensive income (loss) before reclassifications, net of tax expense (benefit) of $9, $0, $0 and $0, respectively	15	—	(81)	—	(66)
Amounts reclassified from accumulated other comprehensive income, net of tax (expense) benefit of $(8), $0, $0 and $0, respectively	(12)	—	5	—	(7)
Net current period other comprehensive income (loss)	3	—	(76)	—	(73)
Balance, March 31, 2015	$ (58)	$ 10	$ 8	$ (10)	$(50)

The amounts of other comprehensive income (loss) before reclassifications associated with our cash flow derivative instruments are as follows (in millions):

	Amount of Derivative Gain (Loss) Recognized in OCI (Effective Portion) Three Months Ended March 31,	
Derivatives Designated as Cash Flow Hedges	2015	2014
Forward-starting interest rate swaps	$ —	$ (8)
Foreign currency derivatives	24	10
Electricity commodity derivatives	—	(10)
Total before tax	24	(8)
Tax (expense) benefit	(9)	3
Net of tax	$ 15	$ (5)

The amounts reclassified out of accumulated other comprehensive income associated with our cash flow derivative instruments are as follows (in millions, with amounts in parentheses representing debits to the statement of operations classification):

	Amount Reclassified from Accumulated Other Comprehensive Income Three Months Ended March 31,		
Detail About Accumulated Other Comprehensive Income Components	2015	2014	Statement of Operations Classification
Gains and losses on cash flow hedges:			
Forward-starting interest rate swaps	$ (3)	$ (1)	Interest expense
Treasury rate locks	(3)	(1)	Interest expense
Foreign currency derivatives	26	13	Other, net
Electricity commodity derivatives	—	(9)	Operating revenues
	20	2	Total before tax
	(8)	(1)	Tax (expense) benefit
Total reclassifications for the period	$ 12	$ 1	Net of tax

12. Share Repurchases

Our share repurchases have been made in accordance with financial plans approved by our Board of Directors. We announced in February 2015 that the Board of Directors has authorized up to $1 billion in future share repurchases. Any future share repurchases pursuant to this authorization will be made at the discretion of management.

In February 2014, the Board of Directors authorized up to $600 million in share repurchases. During the third quarter of 2014, we entered into accelerated share repurchase ("ASR") agreements with two financial institutions to repurchase an aggregate of $600 million of our common stock. At the beginning of the ASR repurchase periods, we delivered $600 million in cash and received 9.6 million shares, which represented 70% of the shares expected to be repurchased based on then-current market prices. These agreements were completed in February 2015 and we received 2.8 million additional shares. The final weighted average per share price for the completed ASR agreements was $48.58.

The ASR agreements were accounted for as two separate transactions: (i) as shares of reacquired common stock for the shares delivered to us upon effectiveness of the ASR agreements and (ii) as a forward contract indexed to our own common stock for the undelivered shares. The initial delivery of shares is included in treasury stock at a cost of $420 million and resulted in an immediate reduction of the outstanding shares used to calculate the weighted-average common shares outstanding for basic and diluted earnings per share. The $180 million forward contract indexed to our own stock met the criteria for equity classification and this amount was initially recorded in additional paid-in capital and reclassified to treasury stock in the first quarter of 2015 upon completion of the ASR agreements.

13. Fair Value Measurements

Assets and Liabilities Accounted for at Fair Value

Our assets and liabilities that are measured at fair value on a recurring basis include the following (in millions):

		Fair Value Measurements at March 31, 2015 Using		
	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)(a)
Assets:				
Money market funds	$242	$ 242	$ —	$ —
Fixed-income securities	37	—	37	—
Redeemable preferred stock	45	—	—	45
Foreign currency derivatives	53	—	53	—
Total assets	$377	$ 242	$ 90	$ 45
Liabilities:				
Foreign currency derivatives	$ 1	$ —	$ 1	$ —
Total liabilities	$ 1	$ —	$ 1	$ —

		Fair Value Measurements at December 31, 2014 Using		
	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)(a)
Assets:				
Money market funds	$1,335	$1,335	$ —	$ —
Fixed-income securities	38	—	38	—
Redeemable preferred stock	44	—	—	44
Foreign currency derivatives	28	—	28	—
Total assets	$1,445	$1,335	$ 66	$ 44

(a) Level 3 investments have been measured based on third-party investors' recent or pending transactions in these securities, which are considered the best evidence of fair value currently available. When this evidence is not available, we use other valuation techniques as appropriate and available. These valuation

methodologies may include transactions in similar instruments, discounted cash flow analysis, third-party appraisals or industry multiples and public comparables. There has not been any significant change in the fair value of the redeemable preferred stock since our assessment at December 31, 2014.

Fair Value of Debt

At March 31, 2015 and December 31, 2014, the carrying value of our debt was approximately $9.2 billion and $9.4 billion, respectively. The carrying value of our debt includes adjustments associated with fair value hedge accounting related to our interest rate swaps as discussed in Note 4.

The estimated fair value of our debt was approximately $10.0 billion and $10.6 billion at March 31, 2015 and December 31, 2014, respectively. The estimated fair value of our senior notes is based on quoted market prices. The carrying value of remarketable debt and borrowings under our revolving credit facilities approximates fair value due to the short-term nature of the interest rates. The fair value of our other debt is estimated using discounted cash flow analysis, based on current market rates for similar types of instruments. The decrease in the fair value of our debt when comparing March 31, 2015 with December 31, 2014 is primarily related to the net repayment of $212 million of our debt, a substantial portion of which was related to our debt refinancing as further discussed in Note 3. This refinancing resulted in a reduction of high-coupon debt and the payment of related market premiums on these notes, and the replacement of this debt with new notes with a fair value that closely approximates book value.

Although we have determined the estimated fair value amounts using available market information and commonly accepted valuation methodologies, considerable judgment is required in interpreting market data to develop the estimates of fair value. Accordingly, our estimates are not necessarily indicative of the amounts that we, or holders of the instruments, could realize in a current market exchange. The use of different assumptions and/or estimation methodologies could have a material effect on the estimated fair values. The fair value estimates are based on Level 2 inputs of the fair value hierarchy available as of March 31, 2015 and December 31, 2014. These amounts have not been revalued since those dates, and current estimates of fair value could differ significantly from the amounts presented.

14. Variable Interest Entities

Following is a description of our financial interests in variable interest entities that we consider significant, including (i) those for which we have determined that we are the primary beneficiary of the entity and, therefore, have consolidated the entities into our financial statements; (ii) those that represent a significant interest in an unconsolidated entity and (iii) trusts for final capping, closure, post-closure or environmental remediation obligations for both consolidated and unconsolidated variable interest entities.

Consolidated Variable Interest Entities

Waste-to-Energy LLCs — In June 2000, two limited liability companies were established to purchase interests in existing leveraged lease financings at three waste-to-energy facilities that we leased, operated and maintained. Prior to the acquisitions of the noncontrolling interests, we owned a 0.5% interest in one of the LLCs ("LLC I") and a 0.25% interest in the second LLC ("LLC II"). John Hancock Life Insurance Company ("Hancock") owned 99.5% of LLC I and 99.75% of LLC II was owned by LLC I and the CIT Group ("CIT").

In December 2014, we purchased the noncontrolling interests in the LLCs from Hancock and CIT in anticipation of our sale of our Wheelabrator business. The LLCs were then subsequently sold as part of the divestment. See Note 9 for further discussion of the sale of our Wheelabrator business.

Prior to the acquisitions of the noncontrolling interests, we had determined that we were the primary beneficiary of the LLCs and consolidated these entities in our Condensed Consolidated Financial Statements because (i) all of the equity owners of the LLCs were considered related parties for purposes of applying this

accounting guidance; (ii) the equity owners shared power over the significant activities of the LLCs and (iii) we were the entity within the related party group whose activities were most closely associated with the LLCs.

During the three months ended March 31, 2014, we recognized reductions in earnings of $11 million for Hancock's and CIT's noncontrolling interests in the LLCs' earnings which are included in our consolidated net income. The LLCs' earnings related to the rental income generated from leasing the facilities to our subsidiaries, reduced by depreciation expense. The LLCs' rental income was eliminated in WM's consolidation.

Significant Unconsolidated Variable Interest Entities

Investment in Refined Coal Facility — In 2011, we acquired a noncontrolling interest in a limited liability company established to invest in and manage a refined coal facility. Along with the other equity investor, we support the operations of the entity in exchange for a pro-rata share of the tax credits it generates. Our initial consideration for this investment consisted of a cash payment of $48 million. As of March 31, 2015 and December 31, 2014, our investment balance was $36 million and $32 million, respectively, representing our current maximum pre-tax exposure to loss. Under the terms and conditions of the transaction, we do not believe that we have any material exposure to loss. Required capital contributions commenced in 2013 and will continue through the expiration of the tax credits under Section 45 of the Internal Revenue Code, which occurs at the end of 2019. We are only obligated to make future contributions to the extent tax credits are generated. We determined that we are not the primary beneficiary of this entity as we do not have the power to individually direct the entity's activities. Accordingly, we account for this investment under the equity method of accounting and do not consolidate the entity. Additional information related to this investment is discussed in Note 5.

Investment in Low-Income Housing Properties — In 2010, we acquired a noncontrolling interest in a limited liability company established to invest in and manage low-income housing properties. We support the operations of the entity in exchange for a pro-rata share of the tax credits it generates. Our target return on the investment is guaranteed and, therefore, we do not believe that we have any material exposure to loss. Our consideration for this investment totaled $221 million, which was comprised of a $215 million note payable and an initial cash payment of $6 million. At March 31, 2015 and December 31, 2014, our investment balance was $98 million and $104 million, respectively, and our debt balance was $98 million and $104 million, respectively. We determined that we are not the primary beneficiary of this entity as we do not have the power to individually direct the entity's activities. Accordingly, we account for this investment under the equity method of accounting and do not consolidate the entity. Additional information related to this investment is discussed in Note 5.

Trusts for Final Capping, Closure, Post-Closure or Environmental Remediation Obligations

We have significant financial interests in trust funds that were created to settle certain of our final capping, closure, post-closure or environmental remediation obligations. Generally, we are the sole beneficiary of these restricted balances; however, certain of the funds have been established for the benefit of both the Company and the host community in which we operate. We have determined that these trust funds are variable interest entities; however, we are not the primary beneficiary of certain of these entities because either (i) we do not have the power to direct the significant activities of the trusts or (ii) power over the trusts' significant activities is shared.

We account for the trusts for which we are the sole beneficiary as long-term "Other assets" in our Condensed Consolidated Balance Sheet. We reflect our interests in the unrealized gains and losses on available-for-sale securities held by these trusts as a component of "Accumulated other comprehensive income." These trusts had a fair value of $93 million and $129 million at March 31, 2015 and December 31, 2014, respectively. Our interests in the trusts that have been established for the benefit of both the Company and the host community in which we operate are accounted for as investments in unconsolidated entities and receivables. These amounts are recorded in "Other receivables," "Investments in unconsolidated entities" and long-term "Other assets" in our Condensed Consolidated Balance Sheets, as appropriate. Our investments and receivables related to these trusts had an aggregate carrying value of $115 million and $113 million as of March 31, 2015 and December 31, 2014, respectively.

As the party with primary responsibility to fund the related final capping, closure, post-closure or environmental remediation activities, we are exposed to risk of loss as a result of potential changes in the fair value of the assets of the trust. The fair value of trust assets can fluctuate due to (i) changes in the market value of the investments held by the trusts or (ii) credit risk associated with trust receivables. Although we are exposed to changes in the fair value of the trust assets, we currently expect the trust funds to continue to meet the statutory requirements for which they were established.

15. Condensed Consolidating Financial Statements

WM Holdings has fully and unconditionally guaranteed all of WM's senior indebtedness. WM has fully and unconditionally guaranteed all of WM Holdings' senior indebtedness. None of WM's other subsidiaries have guaranteed any of WM's or WM Holdings' debt. As a result of these guarantee arrangements, we are required to present the following condensed consolidating financial information (in millions):

CONDENSED CONSOLIDATING BALANCE SHEETS

March 31, 2015
(Unaudited)

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
ASSETS					
Current assets:					
Cash and cash equivalents	$ 168	$ —	$ 109	$ —	$ 277
Other current assets	4	6	2,330	—	2,340
	172	6	2,439	—	2,617
Property and equipment, net	—	—	10,679	—	10,679
Investments in and advances to affiliates	17,543	17,976	6,412	(41,931)	—
Other assets	59	28	7,308	—	7,395
Total assets	$17,774	$18,010	$ 26,838	$ (41,931)	$ 20,691
LIABILITIES AND EQUITY					
Current liabilities:					
Current portion of long-term debt	$ —	$ —	$ 168	$ —	$ 168
Accounts payable and other current liabilities	58	4	2,043	—	2,105
	58	4	2,211	—	2,273
Long-term debt, less current portion	5,879	304	2,856	—	9,039
Due to affiliates	6,253	159	—	(6,412)	—
Other liabilities	30	—	3,774	—	3,804
Total liabilities	12,220	467	8,841	(6,412)	15,116
Equity:					
Stockholders' equity	5,554	17,543	17,976	(35,519)	5,554
Noncontrolling interests	—	—	21	—	21
	5,554	17,543	17,997	(35,519)	5,575
Total liabilities and equity	$17,774	$18,010	$ 26,838	$ (41,931)	$ 20,691

CONDENSED CONSOLIDATING BALANCE SHEETS (Continued)

December 31, 2014

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
ASSETS					
Current assets:					
Cash and cash equivalents	$ 1,235	$ —	$ 72	$ —	$ 1,307
Other current assets	5	6	2,323	—	2,334
	1,240	6	2,395	—	3,641
Property and equipment, net	—	—	10,657	—	10,657
Investments in and advances to affiliates	17,312	17,782	6,745	(41,839)	—
Other assets	50	28	7,036	—	7,114
Total assets	$18,602	$17,816	$ 26,833	$ (41,839)	$ 21,412
LIABILITIES AND EQUITY					
Current liabilities:					
Current portion of long-term debt	$ 957	$ —	$ 133	$ —	$ 1,090
Accounts payable and other current liabilities	86	13	2,296	—	2,395
	1,043	13	2,429	—	3,485
Long-term debt, less current portion	4,958	449	2,938	—	8,345
Due to affiliates	6,703	42	—	(6,745)	—
Other liabilities	32	—	3,661	—	3,693
Total liabilities	12,736	504	9,028	(6,745)	15,523
Equity:					
Stockholders' equity	5,866	17,312	17,782	(35,094)	5,866
Noncontrolling interests	—	—	23	—	23
	5,866	17,312	17,805	(35,094)	5,889
Total liabilities and equity	$18,602	$17,816	$ 26,833	$ (41,839)	$ 21,412

CONDENSED CONSOLIDATING STATEMENTS OF OPERATIONS

Three Months Ended March 31, 2015
(Unaudited)

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Operating revenues	$ —	$ —	$ 3,040	$ —	$ 3,040
Costs and expenses	—	6	2,594	—	2,600
Income from operations	—	(6)	446	—	440
Other income (expense):					
Interest expense, net	(79)	(7)	(18)	—	(104)
Loss on early extinguishment of debt	(498)	(52)	—	—	(550)
Equity in earnings of subsidiaries, net of taxes	231	273	—	(504)	—
Other, net	—	—	(8)	—	(8)
	(346)	214	(26)	(504)	(662)
Income (loss) before income taxes	(346)	208	420	(504)	(222)
Provision for (benefit from) income taxes	(217)	(23)	149	—	(91)
Consolidated net income (loss)	(129)	231	271	(504)	(131)
Less: Net income (loss) attributable to noncontrolling interests	—	—	(2)	—	(2)
Net income (loss) attributable to Waste Management, Inc.	$(129)	$ 231	$ 273	$ (504)	$ (129)

Three Months Ended March 31, 2014
(Unaudited)

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Operating revenues	$ —	$ —	$ 3,396	$ —	$ 3,396
Costs and expenses	—	—	2,927	—	2,927
Income from operations	—	—	469	—	469
Other income (expense):					
Interest expense, net	(87)	(8)	(26)	—	(121)
Equity in earnings of subsidiaries, net of taxes	281	286	—	(567)	—
Other, net	—	—	(12)	—	(12)
	194	278	(38)	(567)	(133)
Income (loss) before income taxes	194	278	431	(567)	336
Provision for (benefit from) income taxes	(34)	(3)	136	—	99
Consolidated net income (loss)	228	281	295	(567)	237
Less: Net income (loss) attributable to noncontrolling interests	—	—	9	—	9
Net income (loss) attributable to Waste Management, Inc.	$228	$ 281	$ 286	$ (567)	$ 228

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Three Months Ended March 31, 2015					
Comprehensive income (loss)	$(125)	$ 231	$ 194	$ (504)	$ (204)
Less: Comprehensive income (loss) attributable to noncontrolling interests	—	—	(2)	—	(2)
Comprehensive income (loss) attributable to Waste Management, Inc.	$(125)	$ 231	$ 196	$ (504)	$ (202)
Three Months Ended March 31, 2014					
Comprehensive income (loss)	$ 224	$ 281	$ 234	$ (567)	$ 172
Less: Comprehensive income (loss) attributable to noncontrolling interests	—	—	9	—	9
Comprehensive income (loss) attributable to Waste Management, Inc.	$ 224	$ 281	$ 225	$ (567)	$ 163

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

Three Months Ended March 31, 2015
(Unaudited)

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows from operating activities:					
Consolidated net income (loss)	$ (129)	$ 231	$ 271	$ (504)	$ (131)
Equity in earnings of subsidiaries, net of taxes	(231)	(273)	—	504	—
Other adjustments	(23)	(10)	663	—	630
Net cash provided by (used in) operating activities	(383)	(52)	934	—	499
Cash flows from investing activities:					
Acquisitions of businesses, net of cash acquired	—	—	(445)	—	(445)
Capital expenditures	—	—	(233)	—	(233)
Proceeds from divestitures of businesses and other assets (net of cash divested)	—	—	19	—	19
Net receipts from restricted trust and escrow accounts and other, net	—	—	31	—	31
Net cash provided by (used in) investing activities	—	—	(628)	—	(628)
Cash flows from financing activities:					
New borrowings	1,781	—	36	—	1,817
Debt repayments	(1,820)	(144)	(65)	—	(2,029)
Premiums paid on early extinguishment of debt	(502)	(52)	—	—	(554)
Cash dividends	(176)	—	—	—	(176)
Exercise of common stock options	39	—	—	—	39
Distributions paid to noncontrolling interests and other	5	—	—	—	5
(Increase) decrease in intercompany and investments, net	(11)	248	(237)	—	—
Net cash provided by (used in) financing activities	(684)	52	(266)	—	(898)
Effect of exchange rate changes on cash and cash equivalents	—	—	(3)	—	(3)
Increase (decrease) in cash and cash equivalents	(1,067)	—	37	—	(1,030)
Cash and cash equivalents at beginning of period	1,235	—	72	—	1,307
Cash and cash equivalents at end of period	$ 168	$ —	$ 109	$ —	$ 277

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS (Continued)

Three Months Ended March 31, 2014
(Unaudited)

	WM	WM Holdings	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows from operating activities:					
Consolidated net income (loss)	$ 228	$ 281	$ 295	$ (567)	$ 237
Equity in earnings of subsidiaries, net of taxes	(281)	(286)	—	567	—
Other adjustments	(54)	(8)	409	—	347
Net cash provided by (used in) operating activities	(107)	(13)	704	—	584
Cash flows from investing activities:					
Acquisitions of businesses, net of cash acquired	—	—	(11)	—	(11)
Capital expenditures	—	—	(266)	—	(266)
Proceeds from divestitures of businesses and other assets (net of cash divested)	—	—	166	—	166
Net receipts from restricted trust and escrow accounts and other, net	—	—	(11)	—	(11)
Net cash provided by (used in) investing activities	—	—	(122)	—	(122)
Cash flows from financing activities:					
New borrowings	870	—	43	—	913
Debt repayments	(850)	—	(78)	—	(928)
Cash dividends	(174)	—	—	—	(174)
Exercise of common stock options	14	—	—	—	14
Distributions paid to noncontrolling interests and other	1	—	(5)	—	(4)
(Increase) decrease in intercompany and investments, net	246	13	(259)	—	—
Net cash provided by (used in) financing activities	107	13	(299)	—	(179)
Effect of exchange rate changes on cash and cash equivalents	—	—	(2)	—	(2)
Increase (decrease) in cash and cash equivalents	—	—	281	—	281
Cash and cash equivalents at beginning of period	—	—	58	—	58
Cash and cash equivalents at end of period	$ —	$ —	$ 339	$ —	$ 339

16. New Accounting Standard Pending Adoption (Unaudited)

In May 2014, the Financial Accounting Standards Board ("FASB") amended authoritative guidance associated with revenue recognition. The amended guidance requires companies to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Additionally, the amendments will require

enhanced qualitative and quantitative disclosures regarding customer contracts. The amended authoritative guidance associated with revenue recognition is effective for the Company on January 1, 2017. The amended guidance may be applied retrospectively for all periods presented or retrospectively with the cumulative effect of initially applying the amended guidance recognized at the date of initial application. We are in the process of assessing the provisions of the amended guidance and have not determined whether the adoption will have a material impact on our consolidated financial statements.

On April 1, 2015, the FASB voted to propose to defer the effective date of the new revenue recognition standard by one year; although early adoption will be permitted after January 1, 2017. The FASB expects to issue an Accounting Standards Update for public comment during the second quarter of 2015.

Item 2. ***Management'sDiscussion and Analysis of Financial Condition and Results of Operations.***

The following discussion should be read in conjunction with the Condensed Consolidated Financial Statements and notes thereto included under Item 1 and our Consolidated Financial Statements and notes thereto and related Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2014.

In an effort to keep our stockholders and the public informed about our business, we may make "forward-looking statements." Forward-looking statements usually relate to future events and anticipated revenues, earnings, cash flows or other aspects of our operations or operating results. Forward-looking statements are often identified by the words, "will," "may," "should," "continue," "anticipate," "believe," "expect," "plan," "forecast," "project," "estimate," "intend," and words of a similar nature and generally include statements containing:

- projections about accounting and finances;
- plans and objectives for the future;
- projections or estimates about assumptions relating to our performance; or
- our opinions, views or beliefs about the effects of current or future events, circumstances or performance.

You should view these statements with caution. These statements are not guarantees of future performance, circumstances or events. They are based on the facts and circumstances known to us as of the date the statements are made. All aspects of our business are subject to uncertainties, risks and other influences, many of which we do not control. Any of these factors, either alone or taken together, could have a material adverse effect on us and could change whether any forward-looking statement ultimately turns out to be true. Additionally, we assume no obligation to update any forward-looking statement as a result of future events, circumstances or developments.

Some of the risks that we believe could affect our business and financial statements for 2015 and beyond and that could cause actual results to be materially different from those that may be set forth in forward-looking statements made by the Company include the following:

- competition may negatively affect our profitability or cash flows, our pricing strategy may have negative effects on volumes, and inability to execute our pricing strategy while retaining and attracting customers may negatively affect our average yield on collection and disposal business;
- we may fail in implementing our cost saving, optimization and growth initiatives and overall business strategy, which could adversely impact our financial performance and growth, and implementation of our initiatives and strategy may have associated negative consequences, such as fragmentation of efforts, increased indebtedness, asset impairments, business disruption, employee distraction, and regulatory issues;
- we may be unable to identify desirable acquisition targets, negotiate advantageous transactions or realize the benefits expected from such transactions, which could adversely impact our growth strategy, earnings and cash flow;
- compliance with existing or future regulations may impact our business by, among other things, restricting our operations, increasing costs of operations or requiring additional capital expenditures;
- possible changes in our estimates of costs for site remediation requirements, final capping, closure and post-closure obligations, compliance and regulatory developments may increase our expenses;
- certain materials processed by our recycling operations are subject to significant commodity price fluctuations, as are methane gas and other energy-related products marketed and sold by our landfill gas recovery operations; fluctuations in commodity prices may have negative effects on our operating results;
- changes in oil and gas prices and drilling activity, and changes in applicable regulations, could adversely affect our Energy Services business;

- increasing customer preference for alternatives to traditional disposal, government mandates requiring recycling and prohibiting disposal of certain types of waste, and overall reduction of waste generated could continue to have a negative effect on volumes of waste going to our landfills;
- developments in technology could trigger a fundamental change in the waste management industry, as waste streams are increasingly viewed as a resource, which may adversely impact volumes at our landfills and our profitability;
- our existing and proposed service offerings to customers may require that we develop or license, and protect, new technologies; and our inability to obtain or protect new technologies could impact our services to customers and development of new revenue sources;
- we are investing in emerging technologies to provide disposal alternatives; such emerging technologies may not perform as intended or may experience other difficulties or delays that prevent us from realizing a return on our investment;
- adverse publicity (whether or not justified) relating to activities by our operations, employees or agents could tarnish our reputation and reduce the value of our brand;
- there is a risk of incurring significant environmental liabilities in the use, treatment, storage, transfer and disposal of waste materials; any substantial liability for environmental damage could have a material adverse effect on our financial condition and cash flows;
- weak economic conditions may negatively affect the volumes of waste generated;
- some of our customers, including governmental entities, have suffered financial difficulties that could affect our business and operating results, due to their credit risk and the impact of the municipal debt market on remarketing of our tax-exempt bonds;
- if we are unable to obtain and maintain permits needed to open, operate, and/or expand our facilities, our results of operations will be negatively impacted;
- diesel fuel price increases or diesel fuel supply shortages may increase our expenses and restrict our ability to operate;
- we are increasingly dependent on the availability of compressed natural gas ("CNG") and CNG fueling infrastructure and vulnerable to CNG prices; difficulty obtaining CNG and increases in CNG prices could increase our operating costs;
- problems with the operation of current information technology or the development and deployment of new information systems could decrease our efficiencies and increase our costs;
- a cybersecurity incident could negatively impact our business and our relationships with customers;
- efforts by labor unions to organize our employees may increase operating expenses and we may be unable to negotiate acceptable collective bargaining agreements with those who have chosen to be represented by unions, which could lead to labor disruptions, including strikes and lock-outs, which could adversely affect our results of operations and cash flows;
- we could face significant liability for withdrawal from multiemployer pension plans;
- we are subject to operational and safety risks, including the risk of personal injury to employees and others;
- increased costs for financial assurance or the inadequacy of our insurance coverage could negatively impact our liquidity and increase our liabilities;
- possible charges as a result of shut-down operations, uncompleted development or expansion projects or other events may negatively affect earnings;
- we may reduce or suspend capital expenditures, acquisition activity, dividend declarations or share repurchases if we suffer a significant reduction in cash flows;

- we may be unable to incur future indebtedness to support our growth and development plans or to refinance our debt obligations, including near-term maturities, on terms consistent with current borrowings, and higher interest rates and market conditions may increase our expense;
- climate change legislation, including possible limits on carbon emissions, may negatively impact our results of operations by increasing expenses;
- weather conditions and one-time special projects cause our results to fluctuate, and harsh weather or natural disasters may cause us to temporarily suspend operations; our stock price may be negatively impacted by interim variations in our results;
- we could be subject to significant fines and penalties, and our reputation could be adversely affected, if our business, or third parties with whom we have relationships, were to fail to comply with United States or foreign laws or regulations;
- negative outcomes of litigation or threatened litigation or governmental proceedings may increase our costs, limit our ability to conduct or expand our operations, or limit our ability to execute our business plans and strategies; and
- the adoption of new accounting standards or interpretations may cause fluctuations in reported quarterly results of operations or adversely impact our reported results of operations.

General

Our principal executive offices are located at 1001 Fannin Street, Suite 4000, Houston, Texas 77002. Our telephone number at that address is (713) 512-6200. Our website address is www.wm.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K are all available, free of charge, on our website as soon as practicable after we file the reports with the SEC. Our stock is traded on the New York Stock Exchange under the symbol "WM."

We are North America's leading provider of comprehensive waste management environmental services. We partner with our residential, commercial, industrial and municipal customers and the communities we serve to manage and reduce waste at each stage from collection to disposal, while recovering valuable resources and creating clean, renewable energy. Our "Solid Waste" business is operated and managed locally by our subsidiaries that focus on distinct geographic areas and provides collection, transfer, recycling and resource recovery, and disposal services. Through our subsidiaries, we are also a leading developer, operator and owner of landfill gas-to-energy facilities in the United States. In December 2014, we completed the sale of our Wheelabrator business, which provides waste-to-energy services and manages waste-to-energy facilities and independent power production plants.

Overview

Our Company's goals are targeted at serving our customers, our employees, the environment, the communities in which we work and our stockholders, and achievement of our goals is intended to meet the needs of a changing industry. Our Company and others have recognized the value of the traditional waste stream as a potential resource. Increasingly, customers want more of their waste materials recovered, while waste streams are becoming more complex, and our aim is to address, and anticipate, the current, expanding and evolving needs of our customers. Accomplishment of our goals will grow our Company and allow us to meet the needs of our customers and communities as they, too, Think Green®.

We believe we are uniquely equipped to meet the challenges of the changing waste industry and our customers' waste management needs, both today and as we work together to envision and create a more sustainable future. As the waste industry leader, we have the expertise necessary to collect and handle our customers' waste efficiently and responsibly by delivering environmental performance — maximizing resource value, while minimizing environmental impact — so that both our economy and our environment can thrive. Drawing on our resources and experience, we also pursue projects and initiatives that benefit the waste industry, the customers and communities we serve and the environment.

We remain dedicated to providing long-term value to our stockholders by successfully executing our strategy: to know and service our customers better than anyone in our industry, to extract more value from the materials we manage, and to innovate and optimize our business. We plan to accomplish our strategic goals through competitive advantages derived from a "best cost" structure achieved through operational improvements and differentiation in our industry, driven by capitalizing on our extensive, well-placed network of assets. While we will continue to monitor emerging diversion technologies that may generate additional value, our current attention will be on improving existing diversion technologies, such as recycling operations.

In pursuit of these long-term goals, we recognize that we must grow the business, and do so as efficiently and cost effectively as possible. Accordingly, we are focusing on the following five key company priorities:

- Customers: provide the best possible service to our customers;
- Traditional Waste Business: continuously improve our operational performance;
- Growth: take advantage of opportunities in our current business, as well as considering attractive acquisition opportunities;
- Yield Management: remain focused on price leadership while considering competitive dynamics; and
- Costs: minimize both operating costs and selling, general & administrative expenses.

We believe that execution of our strategy through these key priorities will drive continued financial performance and leadership in a dynamic industry.

Key items of our financial results for the current quarter include:

- Revenues of $3,040 million compared with $3,396 million in the first quarter of 2014, a decrease of $356 million, or 10.5%. This decrease in revenues is primarily attributable to (i) divestitures which lowered revenues by $220 million, primarily the sale of our Wheelabrator business in December 2014; (ii) lower volumes which decreased our revenues by $95 million; (iii) year-over-year commodity price declines which lowered revenues by $42 million; (iv) lower fuel surcharges and mandated fees of $36 million due primarily to lower year-over-year average fuel prices and (v) foreign currency translation of $25 million related to our Canadian operations. These decreases were partially offset by positive revenue growth from yield on our collection and disposal operations of $54 million, or 2.0%;
- Operating expenses of $1,946 million, or 64.0% of revenues, compared with $2,232 million, or 65.7% of revenues, in the first quarter of 2014. This decrease of $286 million is attributable to (i) reduced operating costs of $155 million associated with divestitures, primarily the sale of our Wheelabrator business; (ii) lower fuel costs of $51 million due to lower year-over-year average fuel prices; (iii) lower subcontractor expenses of $34 million primarily associated with lower volumes and (iv) lower cost of goods sold of $32 million primarily associated with lower commodity prices;
- Selling, general and administrative expenses decreased by $27 million, or 7.2%, from $375 million in the first quarter of 2014 to $348 million in the first quarter of 2015, driven primarily by restructuring savings associated with our August 2014 restructuring and selling, general and administrative expenses associated with divestitures;
- Income from operations of $440 million, or 14.5% of revenues, compared with $469 million, or 13.8% of revenues, in the first quarter of 2014;
- Interest expense, net decreased by $17 million, or 14.0%, from $121 million in the first quarter of 2014 to $104 million in the first quarter of 2015, driven primarily by the debt refinancing activities discussed below; and
- Net loss attributable to Waste Management, Inc. of $129 million, or $0.28 per diluted share, as compared with net income of $228 million, or $0.49 per diluted share in the first quarter of 2014. The year-over-year comparison has been negatively affected by the loss on early extinguishment of debt discussed below.

Our first quarter of 2015 results were affected by the following:

- The recognition of a pre-tax loss of $550 million associated with the early extinguishment of almost $2 billion of our high-coupon senior notes through a make-whole redemption and cash tender offer. We replaced substantially all of the debt extinguished with new senior notes at significantly lower coupon interest rates, which will reduce future interest expense and extend the average maturity of our debt obligations. These charges incurred for the redemption had a negative impact of $0.74 on our diluted loss per share; and
- The recognition of pre-tax charges of $14 million associated with divestitures, impairments and restructuring, which include a $7 million net loss associated with the sale of our Wheelabrator business in December 2014 and a $5 million impairment charge related to a landfill in our Western Canada Area. Combined, these charges had a negative impact of $0.03 on our diluted loss per share.

Free Cash Flow

As is our practice, we are presenting free cash flow, which is a non-GAAP measure of liquidity, in our disclosures because we use this measure in the evaluation and management of our business. We define free cash flow as net cash provided by operating activities, less capital expenditures, plus proceeds from divestitures of businesses and other assets (net of cash divested). We believe it is indicative of our ability to pay our quarterly dividends, repurchase common stock, fund acquisitions and other investments and, in the absence of refinancings, to repay our debt obligations. Free cash flow is not intended to replace "Net cash provided by operating activities," which is the most comparable GAAP measure. However, we believe free cash flow gives investors useful insight into how we view our liquidity. Nevertheless, the use of free cash flow as a liquidity measure has material limitations because it excludes certain expenditures that are required or that we have committed to, such as declared dividend payments and debt service requirements.

Our calculation of free cash flow and reconciliation to "Net cash provided by operating activities," is shown in the table below (in millions), and may not be calculated the same as similarly-titled measures presented by other companies:

	Three Months Ended March 31,	
	2015	2014
Net cash provided by operating activities	$ 499	$ 584
Capital expenditures	(233)	(266)
Proceeds from divestitures of businesses and other assets (net of cash divested)	19	166
Free cash flow	$ 285	$ 484

When comparing our cash flows from operating activities for the reported periods, the decrease of $85 million was primarily related to (i) lower cash earnings, primarily attributable to the sale our Wheelabrator business in the fourth quarter of 2014 and (ii) approximately $65 million of incremental incentive plan payments in the first quarter of 2015 when compared to the first quarter of 2014, offset by the payment of $36 million to terminate our forward starting swaps in March 2014.

The decrease in proceeds from divestitures of businesses and other assets (net of cash divested) is largely driven by the sale of our investment in Shanghai Environment Group ("SEG"), which was part of our Wheelabrator business, in the first quarter of 2014 for $155 million.

Acquisitions and Divestitures

Acquisition of Deffenbaugh Disposal, Inc. — On March 26, 2015, we acquired Deffenbaugh Disposal, Inc. ("Deffenbaugh"), one of the largest privately owned collection and disposal firms in the Midwest, for total consideration of $416 million ($413 million cash), inclusive of amounts for estimated working capital. Deffenbaugh's assets include five collection operations, seven transfer stations, two recycling facilities, one subtitle-D landfill, and one construction and demolition landfill. Revenues and the impact on income recognized by Deffenbaugh for the time period after acquisition in the three-month period ended March 31, 2015 are immaterial.

Divestiture of Wheelabrator Business — On December 19, 2014, we sold our Wheelabrator business to an affiliate of Energy Capital Partners and received cash proceeds of $1.95 billion, net of cash divested, subject to certain post-closing adjustments. We recognized a gain of $519 million on this sale in the fourth quarter of 2014. In the first quarter of 2015, we recognized charges of $7 million for adjustments to this gain. In conjunction with the sale, the Company entered into several agreements to dispose of a minimum number of tons of waste at certain Wheelabrator facilities. These agreements generally provide for fixed volume commitments, with certain market price resets, for up to seven years.

In addition to the divestiture of our Wheelabrator business in 2014, we also divested our Puerto Rico operations and certain other collection and landfill assets in the second quarter of 2014, as well as certain landfill and collection operations in our Eastern Canada Area in the third quarter of 2014. In total, these divested businesses and assets provided $0.04 of earnings per diluted share in the first quarter of 2014.

Critical Accounting Estimates and Assumptions

In preparing our financial statements, we make numerous estimates and assumptions that affect the accounting for and recognition and disclosure of assets, liabilities, equity, revenues and expenses. We must make these estimates and assumptions because certain information that we use is dependent on future events, cannot be calculated with precision from available data or simply cannot be calculated. In some cases, these estimates are difficult to determine and we must exercise significant judgment. In preparing our financial statements, the most difficult, subjective and complex estimates and the assumptions that present the greatest amount of uncertainty relate to our accounting for landfills, environmental remediation liabilities, asset impairments, deferred income taxes and reserves associated with our insured and self-insured claims, as described in Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2014. Actual results could differ materially from the estimates and assumptions that we use in the preparation of our financial statements.

Results of Operations

Operating Revenues

We evaluate, oversee and manage the financial performance of our Solid Waste business subsidiaries through our 17 geographic Areas. Our prior year data includes results of our Wheelabrator segment, which we divested in December 2014. We also provide additional services that are not managed through our Solid Waste business, including Strategic Business Solutions ("WMSBS"), Energy and Environmental Services, recycling brokerage and electronic recycling services, landfill gas-to-energy services and expanded service offerings and solutions. In addition, we offer portable self-storage services through a joint venture; fluorescent bulb and universal waste mail-back through our LampTracker® program; portable restroom servicing under the name Port-o-Let® and street and parking lot sweeping services. In addition, we hold interests in oil and gas producing properties. These operations are presented as "Other" in the table below. The following table summarizes revenues during each period (in millions):

	Three Months Ended March 31,	
	2015	2014
Solid Waste:		
Tier 1	$ 831	$ 850
Tier 2	1,468	1,502
Tier 3	798	847
Solid Waste	3,097	3,199
Wheelabrator	—	230
Other	478	547
Intercompany	(535)	(580)
Total	$3,040	$3,396

The mix of operating revenues from our major lines of business is reflected in the table below (in millions):

	Three Months Ended March 31,	
	2015	2014
Commercial	$ 820	$ 846
Residential	612	635
Industrial	509	516
Other	76	77
Total collection	2,017	2,074
Landfill	635	632
Transfer	308	306
Wheelabrator	—	230
Recycling	282	347
Other	333	387
Intercompany	(535)	(580)
Total	$3,040	$3,396

The following table provides details associated with the period-to-period change in revenues (dollars in millions) along with an explanation of the significant components of the current period changes:

	Period-to-Period Change for the Three Months Ended March 31, 2015 vs. 2014	
	Amount	As a % of Total Company(a)
Average yield(b)	$ (24)	(0.7)%
Volume	(95)	(3.0)
Internal revenue growth	(119)	(3.7)
Acquisitions	8	0.2
Foreign currency translation	(25)	(0.8)
Subtotal (excluding Divestitures)	(136)	(4.3)%
Divestitures	(220)	
Total	$ (356)	

(a) Calculated by dividing the amount of current period increase or decrease by the prior period's total Company revenue adjusted to exclude the impacts of divestitures for the current period ($3,176 million).

(b) The amounts reported herein represent the changes in our revenue attributable to average yield for the total Company. We also analyze the changes in average yield in terms of related-business revenues in order to differentiate the changes in yield attributable to our pricing strategies from the changes that are caused by market-driven price changes in commodities. The following table summarizes changes in revenues from average yield on a related-business basis (dollars in millions):

	Period-to-Period Change for the Three Months Ended March 31, 2015 vs. 2014	
	Amount	As a % of Related Business(i)
Average yield:		
Collection and disposal	$ 54	2.0%
Recycling commodities	(42)	(12.2)
Fuel surcharges and mandated fees	(36)	(21.3)
Total	$ (24)	(0.7)%

(i) Calculated by dividing the increase or decrease for the current period by the prior period's related business revenue, adjusted to exclude the impacts of divestitures for the current period. The table below summarizes the related business revenues for the three months ended March 31, 2014 adjusted to exclude the impacts of divestitures (in millions):

	Denominator Three Months Ended March 31
Related business revenues:	
Collection and disposal	$ 2,664
Recycling commodities	343
Fuel surcharges and mandated fees	169
Total Company	$ 3,176

Our revenues decreased $356 million, or 10.5%, as compared with prior year. The $356 million revenue decline in our current period is primarily driven by (i) $220 million on account of divestitures, principally our Wheelabrator business in December 2014, our Puerto Rico operations in the second quarter of 2014, and certain landfill and collection operations in our Eastern Canada Area in the third quarter of 2014; (ii) lower volumes; (iii) lower recyclable commodity prices; (iv) lower revenues from our fuel surcharge program and (v) foreign currency translation, which affects revenues from our Canadian operations. Partially offsetting these revenue declines were (i) revenue growth from yield on our collection and disposal operations and (ii) revenue from acquired operations.

The following provides further details associated with our period-to-period change in revenues.

Average yield

Collection and disposal average yield — This measure reflects the effect on our revenue from the pricing activities of our collection, transfer, and landfill operations, exclusive of volume changes. Revenue growth from collection and disposal average yield includes not only base rate changes and environmental and service fee increases, but also (i) certain average price changes related to the overall mix of services, which are due to both the types of services provided and the geographic locations where our services are provided; (ii) changes in average price from new and lost business and (iii) price decreases to retain customers. Revenue growth from collection and disposal average yield was $54 million, or 2.0%, for the quarter ended March 31, 2015.

We experienced growth in all three of our principal collection lines of business in the current quarter. The details are as follows (dollars in millions):

	Period-to-Period Change for the Three Months Ended March 31, 2015 vs. 2014	
	Amount	As a % of Related Business
Commercial	$ 27	3.6%
Industrial	13	2.9
Residential	10	1.6
	$ 50	

Our year-over-year yield growth continues to benefit from our pricing strategy that focuses on price increases with lower rollbacks. Conversely, our revenue growth due to volume has been negatively affected by our pricing strategy. However, we have seen volume declines in the collection line of business lessen in recent quarters. Our pricing strategy and our focus on controlling variable costs have consistently provided margin improvements in our collection line of business. In fact, we saw positive margin improvements in all three of our principal collection lines of business for the quarter ended March 31, 2015. Other drivers affecting the current period average yield include:

- A fee instituted to help us recover a portion of the significant regulatory costs and fees, such as host fees and disposal taxes, which have not been recouped by our pricing programs. This fee contributed

approximately $11 million to our revenue growth for the three months ended March 31, 2015, principally in our collection business, with the most significant impact in our commercial line of business.

- Revenue growth from yield in our industrial line of business was aided partially by our Energy Services business, which typically has higher average rates due to extended transportation distances, special waste handling costs and higher disposal costs as compared with our typical industrial business.
- In our residential line of business, we continue to focus on bidding on contracts that improve our yield performance and increase our overall returns.
- Our landfill and transfer station operations also contributed to our year-over-year yield growth for the three months ended March 31, 2015.

Recycling commodities — Decreases in the prices of the recycling commodities we sell resulted in revenue declines of $42 million for the three months ended March 31, 2015, compared with the same prior year period. Our year-over-year average commodity prices declined approximately 14% as compared with the same prior year period.

Fuel surcharges and mandated fees — These revenues, which are predominantly generated by our fuel surcharge program, decreased $36 million for the three months ended March 31, 2015. These revenues fluctuate in response to changes in the national average prices for diesel fuel on which our surcharge is based. We experienced fuel price declines of approximately 26% for the three months ended March 31, 2015, as compared with the prior year period, which caused a decline in our fuel surcharge revenues. The mandated fees included in this line item are primarily related to pass-through fees and taxes assessed by various state, county and municipal government agencies at our landfills and transfer stations.

Volume — Declines in our volumes caused our revenue to decrease $95 million, or 3.0%, for the three months ended March 31, 2015, as compared with the prior year period.

Drivers affecting the comparability of volumes for the period presented are as follows:

- The collection business is the main driver of our volume decline. Our volume fluctuations are generally attributable to economic conditions, pricing changes, competition and diversion of waste by customers. Our revenue growth due to volume has been negatively affected by our pricing strategy. As a result of both the very competitive environment and our focus on reasonable returns, we continue to face challenges to keep existing contracts and to win new contracts.
- We experienced revenue declines associated with the loss of certain large accounts in our WMSBS organization.
- We experienced revenue declines due to lower volumes in our material recovery facilities primarily driven by the rationalization of our underperforming assets, and our inability to successfully negotiate contract renewals with certain municipal customers that reflect current market conditions.
- We experienced revenue declines due to lower volumes in our ancillary services, primarily driven by declines in our WM Renewable Energy Program and our oil and gas producing properties.
- We experienced higher landfill volumes primarily driven by our municipal solid waste business. In addition, higher transfer station volumes in the Southern U.S. helped offset our total volume decline for the three months ended March 31, 2015.

Divestitures — Revenues decreased $220 million due to divestitures for the three months ended March 31, 2015, primarily due to (i) the divestiture of our Wheelabrator business in December 2014; (ii) the divestiture of our Puerto Rico operations and certain other collection and landfill assets in the second quarter of 2014 and (iii) the divestiture of certain landfill and collection operations in our Eastern Canada Area in the third quarter of 2014.

Operating Expenses

Our operating expenses decreased by $286 million, or 12.8%, for the three months ended March 31, 2015 as compared with the three months ended March 31, 2014. Our operating expenses as a percentage of revenues decreased to 64.0% in the current period from 65.7% in the prior year period.

The following table summarizes the major components of our operating expenses, including the impact of foreign currency translation, for the three-month periods ended March 31 (dollars in millions), with significant changes in our operating expenses discussed below:

	2015	2014	Period-to-Period Change	
Labor and related benefits	$ 564	$ 606	$ (42)	(6.9)%
Transfer and disposal costs	217	217	—	—
Maintenance and repairs	241	303	(62)	(20.5)
Subcontractor costs	262	300	(38)	(12.7)
Cost of goods sold	185	237	(52)	(21.9)
Fuel	97	150	(53)	(35.3)
Disposal and franchise fees and taxes	149	154	(5)	(3.2)
Landfill operating costs	61	60	1	1.7
Risk management	53	56	(3)	(5.4)
Other	117	149	(32)	(21.5)
	$1,946	$2,232	$(286)	(12.8)%

Divestitures — During 2014, we divested our Wheelabrator business, our Puerto Rico operations, and certain landfill and collection operations in our Eastern Canada Area. Divestitures reduced our operating expenses by $155 million. Commensurately, our revenues decreased by $220 million due to divestitures when compared to the prior year period, as mentioned above. Although these divestitures decreased costs in all operating expense categories, the most material reductions were (i) $61 million in maintenance and repairs; (ii) $25 million in labor and related benefits; (iii) $21 million in other and (iv) $20 million in cost of goods sold.

In addition to the impact of divestitures noted above, other significant items by category of expense include:

Labor and related benefits — The decrease in labor and related benefits costs is due primarily to the following:

- Lower headcount and contract labor due to lower volumes in our collection and recycling lines of business;
- Decreased health and welfare costs, partially offset by;
- Higher wages due to merit increases effective in the second quarter of 2014.

Subcontractor costs — The decrease in subcontractor costs compared to the prior period was primarily driven by (i) volume declines related to the loss of certain large accounts in our WMSBS organization and (ii) lower recycling volumes.

Cost of goods sold — The decrease in cost of goods sold is due to the following conditions in our recycling business:

- Lower commodity prices;
- Increased efforts to reduce controllable recycling rebates paid to customers;
- Better alignment of rebate structures to commodity prices for new recycling contracts; and
- Ongoing recycling business improvement efforts around inbound quality control.

Fuel — The decrease in fuel expense in the current period when compared to the prior period was driven by (i) lower fuel prices; (ii) lower fuel purchases due to reduced collection volumes and (iii) lower costs resulting from the conversion of our fleet to CNG vehicles.

Selling, General and Administrative

Our selling, general and administrative expenses decreased by $27 million, or 7.2%, when comparing the three months ended March 31, 2015 with the same period of 2014. Our selling, general and administrative expenses as a percentage of revenues increased to 11.4% in the current period from 11.0% in the prior year period.

The following table summarizes the major components of our selling, general and administrative expenses for the three-month periods ended March 31 (dollars in millions):

	2015	2014	Period-to-Period Change	
Labor and related benefits	$223	$243	$(20)	(8.2)%
Professional fees	28	26	2	7.7
Provision for bad debts	12	13	(1)	(7.7)
Other	85	93	(8)	(8.6)
	$348	$375	$(27)	(7.2)%

As a result of our August 2014 reorganization, selling, general and administrative costs decreased approximately $20 million, predominately in labor and related benefits. Further, our continued focus on controlling costs resulted in year-over-year declines in our other expense category, particularly our (i) building and equipment; (ii) telecommunications; (iii) travel and entertainment and (iv) dues and subscription costs. In addition, our 2014 divestiture of our Wheelabrator business, our Puerto Rico operations, and certain landfill and collection operations in our Eastern Canada Area decreased costs by $12 million and affected all of our expense categories. These cost declines were partially offset by increased fees related to acquisitions, which are included in professional fees.

Depreciation and Amortization

The following table summarizes the components of our depreciation and amortization expense for the three-month periods ended March 31 (dollars in millions):

	2015	2014	Period-to-Period Change	
Depreciation of tangible property and equipment	$186	$213	$(27)	(12.7)%
Amortization of landfill airspace	89	84	5	6.0
Amortization of intangible assets	17	20	(3)	(15.0)
	$292	$317	$(25)	(7.9)%

The decrease in depreciation and amortization expense for the first quarter of 2015 compared to the first quarter of 2014 is primarily due to the December 2014 sale of our Wheelabrator business as discussed further in Note 9 to the Condensed Consolidated Financial Statements.

(Income) Expense from Divestitures, Assets Impairments and Unusual Items

In the first quarter of 2015, we recognized net charges of $13 million, including $7 million of net losses associated with the sale of our Wheelabrator business in December 2014. In addition, we recognized a $5 million impairment of a landfill in our Western Canada Area due to revised post-closure cost estimates.

Income from Operations

The following table summarizes income from operations for the three-month periods ended March 31 (dollars in millions):

	2015	2014	Period-to-Period Change	
Solid Waste:				
Tier 1	$ 211	$ 218	(7)	(3.2)%
Tier 2	276	284	(8)	(2.8)
Tier 3	126	124	2	1.6
Solid Waste	613	626	(13)	(2.1)
Wheelabrator	(7)	34	(41)	*
Other	(23)	(18)	(5)	27.8
Corporate and Other	(143)	(173)	30	(17.3)
Total	$ 440	$ 469	$(29)	(6.2)%

* Percentage change does not provide a meaningful comparison.

Solid Waste — The most significant items affecting the results of operations of our Solid Waste business during the three months ended March 31, 2015 as compared with the prior year period are summarized below:

- Results from our recycling business were unfavorable compared to the prior year period principally due to (i) lower market prices for recyclable commodities and (ii) lower volumes. These unfavorable variances were partially offset by reduced costs driven, in part, by (i) increased efforts to reduce controllable recycling rebates paid to customers; (ii) better alignment of rebate structures to commodity prices for new recycling contracts and (iii) ongoing business improvement efforts around inbound quality control;
- Our base business, excluding recycling, benefited from (i) internal revenue growth, principally in our collection business and (ii) the impact of lower fuel prices; offset, in part, by
- Merit increases effective in the second quarter of 2014;
- The transfer of certain sales employees included in our Corporate and Other segment in the prior year period;
- The impairment to a landfill in the current period, located in Tier 1; and
- The unfavorable impact of foreign currency fluctuations, which affects our Canadian operations.

Significant items affecting the comparability of the remaining components of our results of operations for the three months ended March 31, 2015 are summarized below:

Wheelabrator — We divested of our Wheelabrator business in the fourth quarter of 2014. In the first quarter of 2015, we incurred charges for adjustments to the gain on sale of the business.

Other — Lower year-over-year earnings in our renewable energy business resulting from favorable weather related prices in the prior year period.

Corporate and Other — The most significant items affecting the comparability of expenses for the periods presented include:

- Restructuring savings benefits related to our reorganization in the third quarter of 2014;
- The transfer of certain sales employees to our Solid Waste segment that were included in this segment in the prior year period; and
- Lower group insurance costs in the current period.

Interest Expense, net

Our interest expense, net was $104 million and $121 million during the three months ended March 31, 2015 and March 31, 2014, respectively. The decrease of $17 million is primarily attributable to the decision to refinance a significant portion of our high-coupon senior notes during the first quarter of 2015. As a result of the combination of a make-whole redemption of certain senior notes, a cash tender offer to purchase certain senior notes and the issuance of $1.8 billion of new senior notes, we reduced the weighted average interest rate of our senior note portfolio by 1%.

Loss on Early Extinguishment of Debt

During the first quarter of 2015, we decided to refinance a significant portion of our high-coupon senior notes. As a result of the combination of a make-whole redemption of certain senior notes, a cash tender offer to purchase certain senior notes and the issuance of $1.8 billion of new senior notes, we reduced the weighted average interest rate of our senior note portfolio by 1% and extended the weighted average duration of these debt obligations by three years. Additional details related to each component of the refinancing follow:

Make-Whole Redemption – In January 2015, we repaid $947 million of WM senior notes, which comprised all of the outstanding senior notes maturing in 2015, 2017 and 2019. The repayment of these debt balances was achieved by exercising the optional redemption provisions of the notes, which required that we pay the outstanding principal plus a make-whole premium. "Loss on early extinguishment of debt" in our Condensed Consolidated Statement of Operations for the current quarter includes charges of $122 million related to these redemptions.

Tender Offer – In February 2015, WM and WM Holdings made a cash tender offer to purchase any and all of certain outstanding senior notes. The series of notes targeted in the tender and the amount tendered of each series are summarized below:

- $449 million of WM Holdings 7.10% senior notes due 2026, of which $145 million were tendered;
- $577 million of WM 7.00% senior notes due 2028, of which $179 million were tendered;
- $223 million of WM 7.375% senior notes due 2029, of which $84 million were tendered;
- $496 million of WM 7.75% senior notes due 2032, of which $283 million were tendered; and
- $600 million of WM 6.125% senior notes due 2039, of which $326 million were tendered.

"Loss on early extinguishment of debt" in our Condensed Consolidated Statement of Operations for the current quarter includes charges of $428 million related to this tender offer.

Equity in Net Losses of Unconsolidated Entities

We recognized "Equity in net losses of unconsolidated entities" of $8 million and $9 million for the three months ended March 31, 2015 and 2014, respectively. These losses are primarily related to our noncontrolling interests in two limited liability companies established to invest in and manage low-income housing properties and a refined coal facility, as well as (i) noncontrolling investments made to support our strategic initiatives and (ii) unconsolidated trusts for final capping, closure, post-closure or environmental obligations. The tax impacts realized as a result of our investments in low-income housing properties and the refined coal facility are discussed below in *Provision for Income Taxes*. Refer to Notes 5 and 14 to the Condensed Consolidated Financial Statements for more information related to these investments.

Provision for Income Taxes

We recorded a benefit from income taxes of $91 million during the first quarter of 2015, representing an effective income tax rate of 41.0%, compared with a provision for income taxes of $99 million during the first quarter of 2014, representing an effective income tax rate of 29.6%.

Our benefit from income taxes for the three months ended March 31, 2015 was primarily due to the impact of loss on early extinguishment of debt. Our provision for income taxes for the three months ended March 31, 2014 benefited from a revaluation of deferred taxes and utilization of state net operating losses due to a state law change.

Our investments in low-income housing properties and the refined coal facility reduced our provision for income taxes by $11 million for each of the three months ended March 31, 2015 and 2014. Refer to Note 5 to the Condensed Consolidated Financial Statements for more information related to these investments.

Noncontrolling Interests

Net income (loss) attributable to noncontrolling interests was $(2) million and $9 million for the three months ended March 31, 2015 and 2014, respectively. The income for the three months ended March 31, 2014 was principally related to third parties' equity interests in two limited liability companies ("LLCs") that owned three waste-to-energy facilities operated by our Wheelabrator business. In December 2014, we purchased the noncontrolling interests in the LLCs from the third parties in anticipation of our sale of the Wheelabrator business. The LLCs were then subsequently sold as part of the divestment of our Wheelabrator business. Refer to Notes 9 and 14 to the Condensed Consolidated Financial Statements for information related to the sale of our Wheelabrator business and the consolidation of these variable interest entities, respectively.

Liquidity and Capital Resources

Summary of Cash and Cash Equivalents, Restricted Trust and Escrow Accounts and Debt Obligations

The following is a summary of our cash and cash equivalents, restricted trust and escrow accounts and debt balances as of March 31, 2015 and December 31, 2014 (dollars in millions):

	March 31, 2015	December 31, 2014
Cash and cash equivalents	$ 277	$ 1,307
Restricted trust and escrow accounts:		
Final capping, closure, post-closure and environmental remediation funds	$ 93	$ 129
Tax-exempt bond funds	1	1
Other	39	41
Total restricted trust and escrow accounts	$ 133	$ 171
Debt:		
Current portion	$ 168	$ 1,090
Long-term portion	9,039	8,345
Total debt	$ 9,207	$ 9,435
Increase in carrying value of debt due to hedge accounting for interest rate swaps	$ 29	$ 45

Cash and cash equivalents — Cash and cash equivalents at December 31, 2014, included a portion of the $1.95 billion of proceeds from the divestiture of our Wheelabrator business on December 19, 2014. The decrease from December 31, 2014 to March 31, 2015 is primarily related to the use of available cash to pay premiums on the early extinguishment of debt and the acquisition of Deffenbaugh, discussed further in Notes 3 and 9, respectively, to the Condensed Consolidated Financial Statements.

Restricted trust and escrow accounts — Restricted trust and escrow accounts at both December 31, 2014 and March 31, 2015 include the $29.2 million funding of a legal settlement pending final court approval for disbursement. On March 31, 2015, the Final Order was signed by the District Court and the settlement was paid in full shortly thereafter. See Note 7 to the Condensed Consolidated Financial Statements for additional

information related to this settlement. The decrease in final capping, closure, post-closure and environmental remediation funds from December 31, 2014 to March 31, 2015 is primarily due to the closure of certain trust and escrow accounts which were converted to other forms of financial assurance.

Debt — During the first quarter of 2015, we elected to refinance a significant portion of our high-coupon senior notes in order to reduce the weighted average interest rate and extend the weighted average duration of our debt balances. We achieved this with a combination of a make-whole redemption of certain senior notes, a cash tender offer to purchase certain senior notes and the issuance of $1.8 billion of new senior notes consisting of:

- $600 million of 3.125% senior notes due March 1, 2025;
- $450 million of 3.90% senior notes due March 1, 2035; and
- $750 million of 4.10% senior notes due March 1, 2045.

The net proceeds from these debt issuances were $1.78 billion. The Company used the proceeds from the 2025 notes for general corporate purposes. The proceeds from the 2035 notes and the 2045 notes were used to pay the purchase price and accrued interest for the notes redeemed through the tender offer discussed above and for general corporate purposes.

See Note 3 to the Condensed Consolidated Financial Statements for more information related to the debt transactions.

Summary of Cash Flow Activity

The following is a summary of our cash flows for the three-month periods ended March 31 (in millions):

	Three Months Ended March 31,	
	2015	2014
Net cash provided by operating activities	$ 499	$ 584
Net cash used in investing activities	$(628)	$(122)
Net cash used in financing activities	$(898)	$(179)

Net Cash Provided by Operating Activities — The most significant items affecting the comparison of our operating cash flows in the first quarter of 2015 as compared with the first quarter of 2014 are summarized below:

- *Decrease in earnings* — Our income from operations, excluding depreciation and amortization, decreased by $54 million, on a year-over-year basis, predominantly driven by the sale of our Wheelabrator business in the fourth quarter of 2014.
- *Increase in bonus payments* — Payments for our annual incentive plans are typically paid in the first quarter of the year for the prior year. Our cash flow from operations was unfavorably impacted by approximately $65 million on a year-over-year basis, as the annual incentive plan payments made in the first quarter of 2015 were significantly higher than the payments made in the first quarter of 2014.
- *Forward-starting swaps* — During the first quarter of 2014, the forward-starting interest rate swaps associated with the anticipated issuance of senior notes in 2014 matured, and we paid cash of $36 million to settle the liabilities related to the swaps. This cash payment has been classified as a change in "Accounts payable and accrued liabilities" within "Net cash provided by operating activities" in the Condensed Consolidated Statement of Cash Flows.
- *Changes in assets and liabilities, net of effects from business acquisitions and divestitures* — On a year-over-year basis the net changes in our working capital accounts were essentially flat. Although our working capital changes may vary from year to year, they are typically driven by changes in accounts receivable, which are affected by both revenue changes and timing of payments received, and accounts payable changes, which are affected by both cost changes and timing of payments.

Net Cash Used in Investing Activities — The most significant items included in our investing cash flows for the three months period ended March 31, 2015 and 2014 are summarized below:

- *Capital expenditures* — We used $233 million and $266 million during the first quarters of 2015 and 2014, respectively, for capital expenditures.
- *Acquisitions* — Our spending on acquisitions was $445 million in the first quarter of 2015 compared with $11 million in the first quarter of 2014. In 2015, our acquisitions consisted primarily of the collection and disposal operations of Deffenbaugh, which is discussed in Note 9 to the Condensed Consolidated Financial Statements.
- *Divestitures* — In the first quarter of 2014, we sold our investment in SEG and received cash proceeds of $155 million.

Net Cash Used in Financing Activities — During the first quarter of 2015, net cash used in financing activities was $898 million, compared with $179 million during the comparable prior year period. The most significant items affecting the comparison of our financing cash flows for the three months ended March 31, 2015 and 2014 are summarized below:

- *Debt borrowings (repayments)* — The following summarizes our cash borrowings and debt repayments during each period (in millions):

	Three Months Ended March 31,	
	2015	2014
Borrowings:		
U.S. revolving credit facility	$ —	$ 870
Canadian credit facility and term loan	—	19
Senior notes	1,781	—
Capital leases and other debt	36	24
	$ 1,817	$ 913
Repayments:		
U.S. revolving credit facility	$ —	$(500)
Canadian credit facility and term loan	(8)	(44)
Senior notes	(1,964)	(350)
Tax-exempt bonds	(15)	—
Capital leases and other debt	(42)	(34)
	$(2,029)	$(928)
Net repayments	$ (212)	$ (15)

Refer to Note 3 to the Condensed Consolidated Financial Statements for additional information related to our debt borrowings and repayments.

- *Premiums paid on early extinguishment of debt* — Premiums paid on early extinguishment of debt of $554 million during the first quarter of 2015 relate to (i) charges for make-whole premiums on certain senior notes that the Company decided to redeem in advance of their scheduled maturities and (ii) charges related to the tender offer for certain senior notes of WM and WM Holdings. See Note 3 to the Condensed Consolidated Financial Statements for further discussion of debt transactions in the first quarter of 2015.
- *Dividend payments* — We paid $176 million in cash dividends in the first quarter of 2015 compared with $174 million in the first quarter of 2014. The increase in dividend payments is primarily due to our quarterly per share dividend declared increasing from $0.375 in 2014 to $0.385 in 2015.

- *Share repurchases* — We announced in February 2015 that the Board of Directors has authorized up to $1 billion in future share repurchases. No shares were repurchased in the first quarter of 2015 under this authorization.

Liquidity Impacts of Income Tax Items

Bonus Depreciation — The Tax Increase Prevention Act of 2014 was signed into law on December 19, 2014 and included an extension for one year of the bonus depreciation allowance. As a result, 50% of qualifying capital expenditures on property placed in service before January 1, 2015 were depreciated immediately. The acceleration of deductions on 2014 qualifying capital expenditures resulting from the bonus depreciation provisions had no impact on our effective income tax rate for 2014 although it will reduce our cash taxes by approximately $60 million.

Taking accelerated deductions results in increased cash taxes in subsequent periods when the deductions related to the capital expenditures would have otherwise been taken. Overall, the effect of all applicable years' bonus depreciation programs results in increased cash taxes of $90 million in 2015. Separately, our tax payments in 2015 are expected to be approximately $425 million lower than the tax payments made in 2014 primarily due to (i) lower pre-tax earnings due to loss on early extinguishment of debt and (ii) an anticipated overpayment of taxes in 2014.

Uncertain Tax Positions — We have liabilities associated with unrecognized tax benefits and related interest. These liabilities are included as a component of long-term "Other liabilities" in our Condensed Consolidated Balance Sheets because the Company does not anticipate that settlement of the liabilities will require payment of cash within the next 12 months. We are not able to reasonably estimate when we would make any cash payments required to settle these liabilities, but we do not believe that the ultimate settlement of our obligations will materially affect our liquidity. We anticipate that approximately $10 million of liabilities for unrecognized tax benefits, including accrued interest, and $3 million of related tax assets may be reversed within the next 12 months. The anticipated reversals are primarily related to state tax items, none of which are material, and are expected to result from audit settlements or the expiration of the applicable statute of limitations period.

Off-Balance Sheet Arrangements

We have financial interests in unconsolidated variable interest entities as discussed in Note 14 to the Condensed Consolidated Financial Statements. Additionally, we are party to guarantee arrangements with unconsolidated entities as discussed in the *Guarantees* section of Note 7 to the Condensed Consolidated Financial Statements. These arrangements have not materially affected our financial position, results of operations or liquidity during the three months ended March 31, 2015, nor are they expected to have a material impact on our future financial position, results of operations or liquidity.

New Accounting Standard Pending Adoption

In May 2014, the Financial Accounting Standards Board ("FASB") amended authoritative guidance associated with revenue recognition. The amended guidance requires companies to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Additionally, the amendments will require enhanced qualitative and quantitative disclosures regarding customer contracts. The amended authoritative guidance associated with revenue recognition is effective for the Company on January 1, 2017. The amended guidance may be applied retrospectively for all periods presented or retrospectively with the cumulative effect of initially applying the amended guidance recognized at the date of initial application. We are in the process of assessing the provisions of the amended guidance and have not determined whether the adoption will have a material impact on our consolidated financial statements.

On April 1, 2015, the FASB voted to propose to defer the effective date of the new revenue recognition standard by one year; although early adoption will be permitted after January 1, 2017. The FASB expects to issue an Accounting Standards Update for public comment during the second quarter of 2015.

Seasonal Trends

Our operating revenues tend to be somewhat higher in summer months, primarily due to the higher volume of construction and demolition waste. The volumes of industrial and residential waste in certain regions where we operate also tend to increase during the summer months. Our second and third quarter revenues and results of operations typically reflect these seasonal trends.

Service disruptions caused by severe storms, extended periods of inclement weather or climate extremes can significantly affect the operating results of the affected Areas. On the other hand, certain destructive weather conditions that tend to occur during the second half of the year, such as the hurricanes that most often impact our operations in the Southern and Eastern U.S., can actually increase our revenues in the areas affected. While weather-related and other "one-time" occurrences can boost revenues through additional work for a limited time span, as a result of significant start-up costs and other factors, such revenue sometimes generates earnings at comparatively lower margins.

Inflation

While inflationary increases in costs, including the cost of diesel fuel, have affected our income from operations margins in recent years, we believe that inflation generally has not had, and in the near future is not expected to have, any material adverse effect on our results of operations. However, a portion of our collection revenues are generated under long-term agreements with price adjustments based on various indices intended to measure inflation. Additionally, management's estimates associated with inflation have had, and will continue to have, an impact on our accounting for landfill and environmental remediation liabilities.

Item 3. ***Quantitativeand Qualitative Disclosures About Market Risk.***

Information about market risks as of March 31, 2015, does not differ materially from that discussed under Item 7A in our Annual Report on Form 10-K for the year ended December 31, 2014.

Item 4. ***Controlsand Procedures.***

Effectiveness of Controls and Procedures

Our management, with the participation of our principal executive and financial officers, has evaluated the effectiveness of our disclosure controls and procedures in ensuring that the information required to be disclosed in reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, including ensuring that such information is accumulated and communicated to management (including the principal executive and financial officers) as appropriate to allow timely decisions regarding required disclosure. Based on such evaluation, our principal executive and financial officers have concluded that such disclosure controls and procedures were effective as of March 31, 2015 (the end of the period covered by this Quarterly Report on Form 10-Q).

Changes in Internal Control over Financial Reporting

Management, together with our CEO and CFO, evaluated the changes in our internal control over financial reporting during the quarter ended March 31, 2015. We determined that there were no changes in our internal control over financial reporting during the quarter ended March 31, 2015 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II.

Item 1. ***Legal Proceedings.***

Information regarding our legal proceedings can be found under the "Environmental Matters" and "Litigation" sections of Note 7, *Commitments and Contingencies*, to the Condensed Consolidated Financial Statements.

Item 1A. ***Risk Factors.***

There have been no material changes from risk factors previously disclosed in our Annual Report on Form 10-K for the year ended December 31, 2014 in response to Item 1A to Part I of Form 10-K.

Item 2. ***Unregistered Sales of Equity Securities and Use of Proceeds***

The following table summarizes common stock repurchases made during the first quarter of 2015 (shares in millions):

Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Maximum Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs
January 1 — 31	—	$ —	—	$ 1 billion(a)
February 1 — 28	2.8(b)	$ —(b)	2.8	$ 1 billion(c)
March 1 — 31	—	$ —	—	$ 1 billion
Total	2.8	$ —	2.8	

(a) We announced in February 2015 that the Board of Directors has authorized up to $1 billion in future share repurchases.

(b) In February 2014, the Board of Directors authorized up to $600 million in share repurchases. During the third quarter of 2014, the Company entered into accelerated share repurchase ("ASR") agreements with two financial institutions to repurchase an aggregate of $600 million of our common stock. At the beginning of the ASR repurchase periods, we delivered the $600 million in cash and received 9.6 million shares, which represented 70% of the shares expected to be repurchased based on then-current market prices. These agreements were completed in February 2015 and we received 2.8 million additional shares. The final weighted average per share purchase price for the completed ASR agreements was $48.58.

(c) The Company delivered $600 million in cash to the counterparties of the ASR agreements at the beginning of the repurchase periods pursuant to the Board of Directors' authorization for $600 million of share repurchases in 2014. As a result, the Company's receipt of 2.8 million additional shares when the ASR agreements were completed in February 2015 had no impact on the $1 billion authorization by the Board of Directors announced in February 2015.

Item 4. ***Mine Safety Disclosures.***

Information concerning mine safety and other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K is included in Exhibit 95 to this quarterly report.

Item 6. ***Exhibits.***

Exhibit No.		Description
4.1	—	Officers' Certificate delivered pursuant to Section 3.01 of the Indenture establishing the terms and form of the 3.125% Senior Notes due 2025.
4.2	—	Officers' Certificate delivered pursuant to Section 3.01 of the Indenture establishing the terms and form of the 3.900% Senior Notes due 2035.
4.3	—	Officers' Certificate delivered pursuant to Section 3.01 of the Indenture establishing the terms and form of the 4.100% Senior Notes due 2045.
4.4	—	Guarantee Agreement by WM Holdings in favor of the holders of Waste Management, Inc.'s 3.125% Senior Notes due 2025.
4.5	—	Guarantee Agreement by WM Holdings in favor of the holders of Waste Management, Inc.'s 3.900% Senior Notes due 2035.
4.6	—	Guarantee Agreement by WM Holdings in favor of the holders of Waste Management, Inc.'s 4.100% Senior Notes due 2045.
10.1	—	Form of 2015 Senior Leadership Team Award Agreement [incorporated by reference to Exhibit 10.1 to Current Report on Form 8-K dated March 3, 2015].
10.2	—	Separation and Release Agreement between USA Waste Management Resources, LLC and Rick L Wittenbraker dated January 30, 2015.
31.1	—	Certification Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended, of David P. Steiner, President and Chief Executive Officer.
31.2	—	Certification Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as amended, of James C. Fish, Jr., Executive Vice President and Chief Financial Officer.
32.1	—	Certification Pursuant to 18 U.S.C. §1350 of David P. Steiner, President and Chief Executive Officer.
32.2	—	Certification Pursuant to 18 U.S.C. §1350 of James C. Fish, Jr., Executive Vice President and Chief Financial Officer.
95	—	Mine Safety Disclosures.
101.INS	—	XBRL Instance Document.
101.SCH	—	XBRL Taxonomy Extension Schema Document.
101.CAL	—	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	—	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	—	XBRL Taxonomy Extension Labels Linkbase Document.
101.PRE	—	XBRL Taxonomy Extension Presentation Linkbase Document.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

WASTE MANAGEMENT, INC.

By: /s/ JAMES C. FISH, JR.
James C. Fish, Jr.
Executive Vice President and
Chief Financial Officer
(Principal Financial Officer)

WASTE MANAGEMENT, INC.

By: /s/ DON P. CARPENTER
Don P. Carpenter
Vice President and
Chief Accounting Officer
(Principal Accounting Officer)

Date: April 29, 2015

EXHIBIT 4.1

WASTE MANAGEMENT, INC.
Officers' Certificate Delivered Pursuant to
Section 301 of the Indenture dated as of September 10, 1997

The undersigned, the Vice President and Treasurer, and the Corporate Secretary of Waste Management, Inc. (the "Company"), hereby certify that:

1. This Certificate is delivered to The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee"), pursuant to Sections 102 and 301 of the Indenture dated as of September 10, 1997 between the Company, formerly known as USA Waste Services, Inc., and the Trustee in connection with the Company Order dated February 26, 2015 (the "Order") for the authentication and delivery by the Trustee of $600,000,000 aggregate principal amount of 3.125% Senior Notes due 2025 (the "Notes").

2. The undersigned have read Sections 102, 103, 301 and 303 of the Indenture and the definitions in the Indenture relating thereto.

3. The statements made herein are based either upon the personal knowledge of the persons making this Certificate or on information, data and reports furnished to such persons by the officers, counsel, department heads or employees of the Company who have knowledge of the facts involved.

4. The undersigned have examined the Order, and they have read the covenants, conditions and provisions of the Indenture relating thereto.

5. In the opinion of the persons making this Certificate, they have made such examination or investigation as is necessary to enable them to express an informed opinion as to whether or not all covenants and conditions provided for in the Indenture with respect to the Order have been complied with.

6. All covenants and conditions (including all conditions precedent) provided in the Indenture to the authentication and delivery by the Trustee of $600,000,000 aggregate principal amount of the Notes have been complied with, and such Notes may be delivered in accordance with the Order as provided in the Indenture.

7. The terms of the Notes (including the Form of Note) as set forth in Annex A to this Officers' Certificate have been approved by officers of the Company as duly authorized by resolutions of the Board of Directors of the Company as of August 24, 2012 and such resolutions, copies of which are attached hereto as Annex B, are in full force and effect as of the date hereof.

[*signature page follows*]

IN WITNESS WHEREOF, the undersigned has hereunto executed as of the date first written above.

/s/ Devina A. Rankin
Devina A. Rankin
Vice President and Treasurer

/s/ Courtney A. Tippy
Courtney A. Tippy
Corporate Secretary

Annex A
Terms of the Notes

Pursuant to authority granted by the Board of Directors of the Company on August 24, 2012 and the Sole Director of Waste Management Holdings, Inc. on September 24, 2012 and February 5, 2015, the Company has approved the establishment, issuance, execution and delivery of a new series of Securities (as defined in the Indenture) to be issued under the Indenture dated as of September 10, 1997 (the "Indenture"), between the Company, formerly known as USA Waste Services, Inc., and The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee"), the terms of which are set forth below. Capitalized terms used but not defined herein are used herein as defined in the Indenture.

(1) The title of the series of Securities shall be "3.125% Senior Notes due 2025" (the "Notes").

(2) The Notes shall be general unsecured, senior obligations of the Company.

(3) The initial aggregate principal amount of the Notes that may be authenticated and delivered under the Indenture shall be $600,000,000 (except for Notes authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Notes pursuant to Section 304, 305, 306, 906 or 1107 of the Indenture); provided, however, that the authorized aggregate principal amount of such series may be increased before or after the issuance of any Notes of such series by a Board Resolution (or action pursuant to a Board Resolution) to such effect.

(4) The principal amount of each Note shall be payable on March 1, 2025.

(5) Each Note shall bear interest from February 26, 2015 at the fixed rate of 3.125% per annum; the Interest Payment Dates on which such interest shall be payable shall be March 1 and September 1, of each year, commencing September 1, 2015, until maturity unless such date falls on a day that is not a Business Day, in which case, such payment shall be made on the next day that is a Business Day. The Regular Record Date for the determination of Holders to whom interest is payable shall be February 15 or August 15, respectively, immediately preceding such date, as the case may be.

(6) If a "Change of Control Triggering Event" (as defined in the Notes) occurs, each Holder of the Notes may require the Company to purchase all or a portion of such Holder's Notes at a price equal to 101% of the principal amount, plus accrued interest, if any, to the date of purchase, on the terms and subject to the conditions set forth in the Notes.

(7) The Notes are to be issued as Registered Securities only. Each Note is to be issued as a book-entry note ("Book-Entry Note") but in certain circumstances may be represented by Notes in definitive form. The Book-Entry Notes shall be issued, in whole or in part, in the form of one or more Notes in global form as contemplated by Section 203 of the Indenture. The Depositary with respect to the Book-Entry Notes shall be The Depository Trust Company, New York, New York.

(8) Payments of principal of, premium, if any, and interest due on the Notes representing Book-Entry Notes on any Interest Payment Date or at maturity will be made available to the Trustee by 11:00 a.m., New York City time, on such date, unless such date falls on a day which is not a Business Day, in which case such payments will be made available to the Trustee by 11:00 a.m., New York City time, on the next Business Day. As soon as possible thereafter, the Trustee will make such payments to the Depositary.

(9) Before the Par Call Date, the Notes will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to the greater of (i) 100% of the principal amount of the Notes to be redeemed or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon that would be due if the Notes matured on the Par Call Date (exclusive of interest accrued to the Redemption Date (as defined in the Notes) discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the applicable Treasury Yield (as defined in the Notes) plus 20 basis points; plus, in either case, accrued interest to the Redemption Date. On or after the Par Call Date, the Notes will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to 100% of the principal amount of the Notes to be redeemed plus accrued interest on the Notes to be redeemed to the Redemption Date. "Par Call Date" means December 1, 2024.

(10) The Company shall have no obligation to redeem, purchase or repay the Notes pursuant to any mandatory redemption, sinking fund or analogous provisions or at the option of a Holder thereof.

(11) The Notes will be subject to defeasance and discharge as contemplated by Section 1302 of the Indenture and to covenant defeasance under Section 1303 of the Indenture.

(12) The Notes shall be entitled to the benefit of the covenants contained in Sections 1008 and 1009 of the Indenture.

(13) The Bank of New York Mellon Trust Company, N.A. shall serve initially as Security Registrar for the Notes.

(14) The Notes shall be substantially in the form of Exhibit A hereto.

(15) The Notes will be fully and unconditionally guaranteed on a senior basis by the Company's wholly owned subsidiary, Waste Management Holdings, Inc., pursuant to the terms and conditions of a Guarantee Agreement dated February 26, 2015 (the "Guarantee"). The amount of the Guarantee will be limited to the extent required under applicable fraudulent conveyance laws to cause the Guarantee to be enforceable. The terms and conditions of the Guarantee shall continue in full force and effect for the benefit of holders of the Notes until release thereof as set forth in Section 6 of the Guarantee.

BOOK-ENTRY SECURITY

THIS SECURITY IS A BOOK-ENTRY SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITORY OR A NOMINEE OF A DEPOSITORY. THIS SECURITY IS EXCHANGEABLE FOR SECURITIES REGISTERED IN THE NAME OF A PERSON OTHER THAN THE DEPOSITORY OR ITS NOMINEE ONLY IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE, AND NO TRANSFER OF THIS SECURITY (OTHER THAN A TRANSFER OF THIS SECURITY AS A WHOLE BY THE DEPOSITORY TO A NOMINEE OF THE DEPOSITORY OR BY A NOMINEE OF THE DEPOSITORY TO THE DEPOSITORY OR ANOTHER NOMINEE OF THE DEPOSITORY) MAY BE REGISTERED EXCEPT IN SUCH LIMITED CIRCUMSTANCES.

UNLESS THIS CERTIFICATE IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY, A NEW YORK CORPORATION ("DTC"), TO THE COMPANY (AS DEFINED BELOW) OR ITS AGENT FOR REGISTRATION FOR TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO CEDE & CO. OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.

RGN

Principal Amount

U.S. $,
which may be decreased
by the Schedule of
Exchanges of Definitive
Security attached hereto

WASTE MANAGEMENT, INC.

3.125% SENIOR NOTES DUE 2025

CUSIP 94106LBA6

WASTE MANAGEMENT, INC., a Delaware corporation (the "Company," which term includes any successors under the Indenture hereinafter referred to), for value received, hereby promises to pay to CEDE & CO. or registered assigns, at the office or agency of the Company, the principal sum of Million ($) U.S. dollars, or such lesser principal sum as is shown on the attached Schedule of Exchanges of Definitive Security, on March 1, 2025 in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest at an annual rate of 3.125% payable on March 1 and September 1 of each year, to the person in whose name this Security is registered at the close of business on the record date for such interest, which shall be the preceding February 15 or August 15, respectively, payable commencing September 1, 2015, with interest consisting of interest accrued from February 26, 2015.

Reference is made to the further provisions of this Security set forth on the reverse hereof. Such further provisions shall for all purposes have the same effect as though fully set forth at this place.

The statements in the legends set forth above are an integral part of the terms of this Security and by acceptance hereof the Holder of this Security agrees to be subject to, and bound by, the terms and provisions set forth in each such legend.

This Security is issued in respect of a series of Securities of an initial aggregate of U.S. $600,000,000 in principal amount designated as the 3.125% Senior Notes due 2025 of the Company and is governed by the Indenture dated as of September 10, 1997, duly executed and delivered by the Company, formerly known as USA Waste Services, Inc., to The Bank of New York Mellon Trust Company N.A. (the current successor to Texas Commerce Bank National Association) as trustee (the "Trustee"), as supplemented by Board Resolutions (as defined in the Indenture) (such Indenture and Board Resolutions, collectively, the "Indenture"). The terms of the Indenture are incorporated herein by reference. This Security shall in all respects be entitled to the same benefits as definitive Securities under the Indenture.

If and to the extent that any provision of the Indenture limits, qualifies or conflicts with any other provision of the Indenture that is required to be included in the Indenture or is deemed applicable to the Indenture by virtue of the provisions of the Trust Indenture Act of 1939, as amended, such required provision shall control.

The Company hereby irrevocably undertakes to the Holder hereof to exchange this Security in accordance with the terms of the Indenture without charge.

This Security shall not be valid or become obligatory for any purpose until the Certificate of Authentication hereon shall have been manually signed by the Trustee under the Indenture.

IN WITNESS WHEREOF, the Company has caused this instrument to be duly executed under its corporate seal.

Dated: February 26, 2015

WASTE MANAGEMENT, INC.,
a Delaware corporation

By: _____
Devina A. Rankin
Vice President and Treasurer

Attest:

By: _____
Courtney A. Tippy
Corporate Secretary

CERTIFICATE OF AUTHENTICATION

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

Date of Authentication: February 26, 2015

The Bank of New York Mellon Trust Company N.A., as Trustee

By: _____
Lawrence M. Kusch
Vice President

REVERSE OF BOOK-ENTRY SECURITY

WASTE MANAGEMENT, INC.

3.125% SENIOR NOTES DUE 2025

This Security is one of a duly authorized issue of unsecured debentures, notes or other evidences of indebtedness of the Company (the "Debt Securities") of the series hereinafter specified, all issued or to be issued under and pursuant to the Indenture, to which Indenture reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Company and the Holders of the Debt Securities. The Debt Securities may be issued in one or more series, which different series may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different sinking, purchase or analogous funds (if any) and may otherwise vary as provided in the Indenture. This Security is one of a series designated as the 3.125% Senior Notes due 2025 of the Company, in initial aggregate principal amount of $600,000,000 (the "Securities").

1. *Interest.*

The Company promises to pay interest on the principal amount of this Security at the rate of 3.125% per annum.

The Company will pay interest semi-annually on March 1 and September 1 of each year (each an "Interest Payment Date"), commencing September 1, 2015. Interest on the Securities will accrue from the most recent date to which interest has been paid or, if no interest has been paid on the Securities, from February 26, 2015. Interest will be computed on the basis of a 360-day year consisting of twelve 30-day months. The Company shall pay interest (including post-petition interest in any proceeding under any applicable bankruptcy laws) on overdue installments of interest (without regard to any applicable grace period) and on overdue principal and premium, if any, from time to time on demand at the rate of 3.125% per annum, in each case to the extent lawful.

2. *Method of Payment.*

The Company shall pay interest on the Securities (except Defaulted Interest) to the persons who are the registered Holders at the close of business on the Regular Record Date immediately preceding the Interest Payment Date. Any such interest not so punctually paid or duly provided for ("Defaulted Interest") may be paid to the persons who are registered Holders at the close of business on a Special Record Date for the payment of such Defaulted Interest, or in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Securities may then be listed if such manner of payment shall be deemed practicable by the Trustee, as more fully provided in the Indenture. Except as provided below, the Company shall pay principal and interest in such coin or currency of the United States of America as at the time of payment shall be legal tender for payment of public and private debts ("U.S. Legal Tender"). Payments in respect of a Book-Entry Security (including principal, premium, if any, and interest) will be made by wire transfer of immediately available funds to the accounts

specified by the Depository. Payments in respect of Securities in definitive form (including principal, premium, if any, and interest) will be made at the office or agency of the Company maintained for such purpose within the Borough of Manhattan, the City of New York, which initially will be at the corporate trust office of The Bank of New York Mellon, located at 101 Barclay Street, Floor 21W, New York, New York, 10286 or at the option of the Company, payment of interest may be made by check mailed to the Holders on the Regular Record Date or on the Special Record Date at their addresses set forth in the Security Register of Holders.

3. *Paying Agent and Registrar.*

Initially, The Bank of New York Mellon Trust Company, N.A. will act as Paying Agent and Registrar. The Company may change any Paying Agent, Registrar or co-Registrar at any time upon notice to the Trustee and the Holders. The Company or any of its Subsidiaries may, subject to certain exceptions, act as Paying Agent, Registrar or co-Registrar.

4. *Indenture.*

This Security is one of a duly authorized issue of Debt Securities of the Company issued and to be issued in one or more series under the Indenture.

Capitalized terms herein are used as defined in the Indenture unless otherwise defined herein. The terms of the Securities include those stated in the Indenture and all indentures supplemental thereto, those made part of the Indenture by reference to the Trust Indenture Act of 1939, as amended, as in effect on the date of the Indenture, and those terms stated in the Officers' Certificate to the Trustee, duly authorized by resolutions of the Board of Directors of the Company on August 24, 2012 (the "Resolutions") and the written consents of the Sole Director of Waste Management Holdings, Inc. on September 24, 2012 and February 5, 2015 (the "Consents"). The Securities are subject to all such terms, and Holders of Securities are referred to the Indenture, all indentures supplemental thereto, said Act, said Resolutions and said Consents and Officers' Certificate for a statement of them. The Securities of this series are general unsecured obligations of the Company limited with an initial aggregate principal amount of $600,000,000.

5. *Redemption.*

Before the Par Call Date, the Securities will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price (the "Make-Whole Price") equal to the greater of: (i) 100% of the principal amount of the Securities to be redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest on the Securities that would be due if such Securities matured on the Par Call Date (exclusive of interest accrued to the Redemption Date) discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the applicable Treasury Yield plus 20 basis points; plus, in either case, accrued interest to the Redemption Date.

On or after the Par Call Date, the Securities will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to 100% of the principal amount of the Securities to be redeemed plus accrued interest on the Securities to be redeemed to the Redemption Date.

Securities called for redemption become due on the Redemption Date. Notices of redemption will be mailed at least 30 but not more than 60 days before the Redemption Date to each holder of record of the Securities to be redeemed at its registered address. The notice of redemption for the Securities will state, among other things, the amount of Securities to be redeemed, the Redemption Date, the Redemption Price or, if not ascertainable, the manner of determining the Make-Whole Price and the place(s) that payment will be made upon presentation and surrender of Securities to be redeemed. Unless the Company defaults in payment of the Make-Whole Price, interest will cease to accrue on any Securities that have been called for redemption at the Redemption Date. If less than all the Securities are redeemed at any time, the Trustee will select the Securities to be redeemed on a pro rata basis or by any other method the Trustee deems fair and appropriate.

For purposes of determining the Make-Whole Price, the following definitions are applicable:

"Treasury Yield" means, with respect to any Redemption Date applicable to the Securities, the rate per annum equal to the semi-annual equivalent yield to maturity (computed as of the third Business Day immediately preceding such Redemption Date) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the applicable Comparable Treasury Price for such Redemption Date.

"Comparable Treasury Issue" means the United States Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Securities, calculated as if the maturity date of such notes were the Par Call Date (the "Remaining Life"), that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the Remaining Life of the Securities.

"Independent Investment Banker" means any of Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., Goldman, Sachs & Co. and J.P. Morgan Securities LLC (and their respective successors), or, if all such firms are unwilling or unable to select the applicable Comparable Treasury Issue, an independent investment banking institution of national standing appointed by the Trustee and reasonably acceptable to the Company.

"Comparable Treasury Price" means, with respect to any Redemption Date, (i) the average of the Reference Treasury Dealer Quotations obtained by the Trustee for the Redemption Date, after excluding the highest and lowest of all Reference Treasury Dealer Quotations obtained, or (ii) if the Trustee obtains fewer than four such Reference Treasury Dealer Quotations, the average of all Reference Treasury Dealer Quotations obtained by the Trustee.

"Par Call Date" means December 1, 2024.

"Reference Treasury Dealer" means (i) each of Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., Goldman, Sachs & Co. and J.P. Morgan Securities LLC (and their respective successors), unless any of them ceases to be a primary U.S. government securities dealer in New York City (a "Primary Treasury Dealer"), in which case the Company will substitute therefor another Primary Treasury Dealer, and (ii) any other Primary Treasury Dealer selected by the Company.

"Reference Treasury Dealer Quotations" means, with respect to each Reference Treasury Dealer and any Redemption Date for the Securities, an average, as determined by the Trustee, of the bid and asked prices for the Comparable Treasury Issue for the Securities (expressed in each case as a percentage of its principal amount) quoted in writing to the Trustee by such Reference Treasury Dealer at 5:00 p.m., New York City time, on the third Business Day preceding such Redemption Date.

Except as set forth above, the Securities will not be redeemable prior to their Stated Maturity and will not be entitled to the benefit of any sinking fund.

The Securities may be redeemed in part in a minimum principal amount of $2,000, or any integral multiple of $1,000 in excess thereof.

Any such redemption will also comply with Article Eleven of the Indenture.

6. *Change of Control Offer.*

If a Change of Control Triggering Event occurs, unless the Company has exercised its option to redeem the Securities as described in Section 5, the Company shall make an offer (a "Change of Control Offer") to each Holder of the Securities to repurchase all or any part (equal to $2,000 or an integral multiple of $1,000 in excess thereof) of that Holder's Securities on the terms set forth herein. In a Change of Control Offer, the Company shall offer payment in cash equal to 101% of the aggregate principal amount of Securities repurchased (a "Change of Control Payment"), plus accrued and unpaid interest, if any, on the Securities repurchased to the date of repurchase, subject to the right of holders of record on the applicable record date to receive interest due on the next Interest Payment Date.

Within 30 days following any Change of Control Triggering Event or, at the Company's option, prior to any Change of Control, but after public announcement of the transaction that constitutes or may constitute the Change of Control, the Company shall mail a notice to Holders of the Securities describing the transaction that constitutes or may constitute the Change of Control Triggering Event and offer to repurchase such Securities on the date specified in the applicable notice, which date shall be no earlier than 30 days and no later than 60 days from the date such notice is mailed (a "Change of Control Payment Date"). The notice may, if mailed prior to the date of consummation of the Change of Control, state that the Change of Control Offer is conditioned on the Change of Control Triggering Event occurring on or prior to the applicable Change of Control Payment Date.

Upon the Change of Control Payment Date, the Company shall, to the extent lawful:

- accept for payment all Securities or portions of Securities properly tendered and not withdrawn pursuant to the Change of Control Offer;
- deposit with the Paying Agent an amount equal to the Change of Control Payment in respect of all Securities or portions of Securities properly tendered; and
- deliver or cause to be delivered to the Trustee the Securities properly accepted together with an Officers' Certificate stating the aggregate principal amount of Securities or portions of Securities being repurchased.

The Company need not make a Change of Control Offer upon the occurrence of a Change of Control Triggering Event if a third party makes such an offer in the manner, at the times and otherwise in compliance with the requirements for an offer made by the Company and the third party repurchases all Securities properly tendered and not withdrawn under its offer. In addition, the Company shall not repurchase any Securities if there has occurred and is continuing on the Change of Control Payment Date an Event of Default under the Indenture, other than a default in the payment of the Change of Control Payment upon a Change of Control Triggering Event.

The Company will comply with the applicable requirements of Rule 14e-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Securities as a result of a Change of Control Triggering Event. To the extent that the provisions of any securities laws or regulations conflict with the Change of Control Offer provisions of this Security, the Company may comply with those securities laws and regulations and, if so, will not be deemed to have breached its obligations under the Change of Control Offer provisions of this Security by virtue of any such conflict.

For purposes of the Change of Control Offer provisions of the Securities, the following terms are applicable:

"Change of Control" means the occurrence of any of the following: (1) the direct or indirect sale, lease, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or more series of related transactions, of all or substantially all of the Company's assets and the assets of its Subsidiaries, taken as a whole, to any person, other than the Company or one of its Subsidiaries; (2) the consummation of any transaction (including, without limitation, any merger or consolidation) the result of which is that any person becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the outstanding Voting Stock of the Company or other Voting Stock into which the Company's Voting Stock is reclassified, consolidated, exchanged or changed, measured by voting power rather than number of shares; (3) the Company consolidates with, or merges with or into, any person, or any person consolidates with, or merges with or into, the Company, in any such event pursuant to a transaction in which any of the outstanding Voting Stock of the Company or the Voting Stock of such other person is converted into or exchanged for cash, securities or other property, other than any such transaction where the shares of the Voting Stock of the Company outstanding immediately prior to such transaction constitute, or are converted into or exchanged for, a majority of the Voting Stock of the surviving person or

any direct or indirect parent company of the surviving person, measured by voting power rather than number of shares, immediately after giving effect to such transaction; (4) the first day on which a majority of the members of the Board of Directors of the Company are not Continuing Directors; or (5) the adoption of a plan relating to the liquidation or dissolution of the Company.

Notwithstanding the preceding, a transaction will not be deemed to involve a Change of Control under clause (2) above if (i) the Company becomes a direct or indirect wholly-owned subsidiary of a holding company and (ii)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of Voting Stock of the Company immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company. The term "person," as used in this definition, has the meaning given thereto in Section 13(d)(3) of the Exchange Act.

"Change of Control Triggering Event" means the occurrence of both a Change of Control and a Rating Event.

"Continuing Directors" means, as of any date of determination, any member of the Board of Directors of the Company who (1) was a member of such Board of Directors on the date the Securities were issued or (2) was nominated for election, elected or appointed to such Board of Directors with the approval of a majority of the Continuing Directors who were members of such Board of Directors at the time of such nomination, election or appointment (either by a specific vote or by approval of the Company's proxy statement in which such member was named as a nominee for election as a director, without objection to such nomination).

"Fitch" means Fitch Inc. and its successors.

"Investment Grade Rating" means a rating equal to or higher than BBB- (or the equivalent) by Fitch, Baa3 (or the equivalent) by Moody's and BBB- (or the equivalent) by S&P, and the equivalent investment grade credit rating from any replacement Rating Agency or Rating Agencies selected by the Company.

"Moody's" means Moody's Investors Service, Inc. and its successors.

"Rating Agencies" means (1) each of Fitch, Moody's and S&P and (2) if any of Fitch, Moody's or S&P ceases to rate the Securities or fails to make a rating of the Securities publicly available for reasons outside of the Company's control, a "nationally recognized statistical rating organization" within the meaning of Section 3(a)(62) of the Exchange Act selected by the Company (as certified by a resolution of our Board of Directors) as a replacement agency for Fitch, Moody's or S&P, or all of them, as the case may be.

"Rating Event" means the rating on the Securities is lowered by at least two of the three Rating Agencies and the Securities are rated below an Investment Grade Rating by at least two of the three Rating Agencies, in any case on any day during the period (which period will be extended so long as the rating of the Securities is under publicly announced consideration for a possible downgrade by any of the rating agencies) commencing 60 days prior to the first public notice of the occurrence of a Change of Control or the Company's intention to effect a Change of Control and ending 60 days following consummation of such Change of Control.

"S&P" means Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc., and its successors.

"Voting Stock" means, with respect to any specified "person" (as that term is used in Section 13(d)(3) of the Exchange Act) as of any date, the capital stock of such person that is at the time entitled to vote generally in the election of the board of directors of such person.

7. *Denominations; Transfer; Exchange.*

The Securities are issued in registered form, without coupons, in a minimum denomination of $2,000 and integral multiples of $1,000 in excess thereof. A Holder may register the transfer of, or exchange, Securities in accordance with the Indenture. The Securities Registrar may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and to pay any taxes and fees required by law or permitted by the Indenture.

8. *Person Deemed Owners.*

The registered Holder of a Security may be treated as the owner of it for all purposes.

9. *Amendment; Supplement; Waiver.*

Subject to certain exceptions, the Indenture may be amended or supplemented, and any existing Event of Default or compliance with any provision may be waived, with the consent of the Holders of a majority in principal amount of the Outstanding Securities of each series affected. Without consent of any Holder, the parties thereto may amend or supplement the Indenture or the Securities to, among other things, cure any ambiguity, defect or inconsistency, or make any other change that does not adversely affect the interests of any Holder of a Security. Any such consent or waiver by the Holder of this Security (unless revoked as provided in the Indenture) shall be conclusive and binding upon such Holder and upon all future Holders and owners of this Security and any Securities which may be issued in exchange or substitution herefor, irrespective of whether or not any notation thereof is made upon this Security or such other Securities.

10. *Defaults and Remedies.*

If an Event of Default with respect to the Securities occurs and is continuing, then in every such case the Trustee or the Holders of not less than 25% in principal amount of the Securities then Outstanding may declare the principal amount of all the Securities to be due and payable immediately in the manner and with the effect provided in the Indenture. Notwithstanding the preceding sentence, however, if at any time after such a declaration of acceleration has been made and before judgment or decree for payment of the money due has been obtained by the Trustee as provided in the Indenture, the Holders of a majority in principal amount of the Outstanding Securities, by written notice to the Company and to the Trustee, may rescind and annul such declaration and its consequences if (1) the Company has paid or deposited with the Trustee a sum sufficient to pay (A) all overdue interest on all Securities, (B)

the principal of (and premium, if any, on) any Securities which has become due otherwise than by such declaration of acceleration and any interest thereon at the rate prescribed therefor herein, (C) to the extent that payment of such interest is lawful, interest upon overdue interest at the rate prescribed therefor herein, and (D) all sums paid or advanced by the Trustee and the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel and (2) all Events of Default under the Indenture with respect to the Securities, other than the nonpayment of the principal of Securities which has become due solely by such declaration acceleration, shall have been cured or shall have been waived. No such rescission shall affect any subsequent Event of Default or shall impair any right consequent thereon. Holders of Securities may not enforce the Indenture or the Securities except as provided in the Indenture. The Trustee may require indemnity satisfactory to it before it enforces the Indenture or the Securities. Subject to certain limitations, Holders of a majority in aggregate principal amount of the Securities then outstanding may direct the Trustee in its exercise of any trust or power.

11. *Trustee Dealings with Company.*

The Trustee under the Indenture, in its individual or any other capacity, may make loans to, accept deposits from, and perform services for the Company and its Affiliates and any subsidiary of the Company's Affiliates, and may otherwise deal with the Company and its Affiliates as if it were not the Trustee.

12. *Authentication.*

This Security shall not be valid until the Trustee or authenticating agent signs the certificate of authentication on the other side of this Security.

13. *Abbreviations and Defined Terms.*

Customary abbreviations may be used in the name of a Holder of a Security or an assignee, such as: TEN COM (tenant in common), TEN ENT (tenants by the entireties), JT TEN (joint tenants with right of survivorship and not as tenants in common), CUST (Custodian), and U/G/M/A (Uniform Gifts to Minors Act).

14. *CUSIP Numbers.*

Pursuant to a recommendation promulgated by the Committee on Uniform Note Identification Procedures, the Company has caused CUSIP numbers to be printed on the Securities as a convenience to the Holders of the Securities. No representation is made as to the accuracy of such number as printed on the Securities and reliance may be placed only on the other identification numbers printed hereon.

15. *Absolute Obligation.*

No reference herein to the Indenture and no provision of this Security or the Indenture shall alter or impair the obligation of the Company, which is absolute and unconditional, to pay the principal of, premium, if any, and interest on this Security in the manner, at the respective times, at the rate and in the coin or currency herein prescribed.

16. *No Recourse.*

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Security, or because of any indebtedness evidenced thereby, shall be had against any incorporator, past, present or future stockholder, officer or director, as such of the Company or of any successor, either directly or through the Company or of any successor, either directly or through the Company or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance of the Security by the Holder and as part of the consideration for the issue of the Security.

17. *Governing Law.*

This Security shall be construed in accordance with and governed by the laws of the State of New York.

18. *Guarantee.*

The Securities will be fully and unconditionally guaranteed on a senior basis by the Company's wholly owned subsidiary, Waste Management Holdings, Inc., pursuant to the terms and conditions of a Guarantee Agreement dated February 26, 2015 (the "Guarantee"). The amount of the Guarantee will be limited to the extent required under applicable fraudulent conveyance laws to cause the Guarantee to be enforceable. The terms and conditions of the Guarantee shall continue in full force and effect for the benefit of holders of the Securities until release thereof as set forth in Section 6 of the Guarantee.

SCHEDULE OF EXCHANGES OF DEFINITIVE SECURITY

The following exchanges of a part of this Book-Entry Security for definitive Securities have been made:

Date of Exchange	Amount of decrease in Principal Amount of this Book-Entry Security	Amount of increase in Principal Amount of this Book-Entry Security	Principal Amount of this Book-Entry Security following such decrease (or increase)	Signature of authorized officer of Trustee or Security Custodian

Annex B

Resolutions of the Board of Directors of Waste Management, Inc.

WHEREAS, on September 22, 2009, Waste Management, Inc. (the "Company") filed with the Securities Exchange Commission (the "SEC") an automatic shelf registration statement on Form S-3, File No. 333-162059 (the "Automatic Shelf Registration Statement"), which registered the offer and sale by the Company from time to time of common stock; senior and subordinated debt securities; preferred stock; warrants; units; and guarantees by Waste Management Holdings, Inc., a wholly-owned subsidiary of the Company ("WMHI"), with respect to debt securities, in one or more classes or series in amounts as may be determined at the time of any offering; and

WHEREAS, pursuant to rules and regulations promulgated by the SEC, the Automatic Shelf Registration Statement will expire, by its terms, on September 22, 2012, three years after the effective date of the Automatic Shelf Registration Statement; and

WHEREAS, at the time of the Board of Directors' approval of the Automatic Shelf Registration Statement, the Board of Directors also authorized the Company to offer and sell up to an aggregate of $3,000,000,000 of Securities (the "2009 Issuance Authorization"); and

WHEREAS, the Company desires, and finds it in the best interests of the Company, to file a new automatic shelf registration statement on Form S-3 in order to facilitate any future offerings of securities by the Company or any selling security holders.

NOW, THEREFORE, BE IT RESOLVED, that the Company is hereby authorized to prepare and file with the SEC an automatic shelf registration statement on Form S-3 (the "New Registration Statement"), pursuant to the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (the "Securities Act"), which New Registration Statement may cover, among other things, unsecured senior or subordinated debentures, notes or other evidences of indebtedness of the Company (collectively "Debt Securities"); shares of common stock, par value $0.01 per share, of the Company (the "Common Stock"); warrants to purchase shares of Common Stock; shares of preferred stock in such series with such designations, powers, preferences and relative and other special rights and qualifications, limitations and restrictions as the Board of Directors may from time to time authorize; guarantees of securities by WMHI; and any units consisting of one or more of the foregoing (the Debt Securities, Common Stock, warrants, preferred stock, guarantees and units collectively referred to herein as the "Securities"), to be issued from time to time;

RESOLVED FURTHER, that the proper officers (as established pursuant to these resolutions) be, and they hereby are, authorized, in their sole and absolute discretion, subject to any limitations set forth in these resolutions, to cause the Company to offer and sell up to an aggregate of $3,000,000,000 of Securities without further approval of the Board of Directors;

RESOLVED FURTHER, that upon the filing date of the New Registration Statement, authority to make new issuances of Securities pursuant to the 2009 Issuance Authorization shall be deemed rescinded;

RESOLVED FURTHER, that the proper officers and the authorized employees (as established pursuant to these resolutions) be, and each of them hereby is, authorized, in the name and on behalf of the Company, to execute and cause to be filed with the SEC any and all amendments (including, without limitation, post-effective amendments) or supplements to the New Registration Statement and any prospectus included therein and any additional documents which such officer or employee may deem necessary or desirable with respect to the registration and offering of the Securities, and such amendments, supplements, registration statements and documents to be in such form as the officer or employee executing the same may approve, as conclusively evidenced by his execution thereof;

RESOLVED FURTHER, that the General Counsel of the Company be, and he hereby is, designated and appointed the agent for service of process on the Company under the Securities Act in connection with the New Registration Statement and any and all amendments and supplements thereto, with all powers incident to such appointment;

RESOLVED FURTHER, that the proper officers and authorized employees be and hereby are authorized and directed in the name and on behalf of the Company to take any and all action which they may deem necessary or advisable in order to effect the registration or qualification of all or part of the Securities to be registered under the Securities Act, for offer and sale under the securities or Blue Sky laws of the states of the United States of America, and in connection therewith, to execute, acknowledge, verify, deliver, file and publish all such applications, reports, issuer's covenants, resolutions, consents to service of process, or appointments of governmental officials for the purpose of receiving and accepting service of process on the laws, and to take any and all further action which they may deem necessary or advisable in order to maintain any such registration or qualification for as long as they deem the same to be in the best interest of the Company;

RESOLVED FURTHER, that the form of any additional resolutions required in connection with the appropriate qualification or registration of the Securities for offer and sale under such securities or Blue Sky laws, be and hereby is approved and adopted, provided the appropriate officers of the Company, on the advice of counsel, consider the adoption thereof necessary or advisable, in which case the Secretary or any Assistant Secretary of the Company is hereby directed to insert as an appendix hereto a copy of such resolutions, which shall thereupon be deemed to have been adopted by this Board of Directors with the same force and effect as if set out verbatim herein;

RESOLVED FURTHER, that any of the proper officers or authorized employees be, and each of them hereby is, authorized to approve at any time and from time to time, one or more forms of underwriting agreements (and related terms agreement) and agency agreement (and related purchase agreement) and any other agreement or agreements any of such persons may deem necessary or appropriate in connection with the arrangements for the purchase of any of the Securities, and that such persons be, and each of them hereby is, authorized to execute and deliver, in the name and on behalf of the Company, any such agreement or agreements in substantially the form approved by any of them, with such changes therein as the person executing the same may approve, as conclusively evidenced by the execution and delivery thereof, it being understood that, in the case of any terms agreement or purchase agreement referred to above, it shall not be necessary for any of the proper officers to approve any individual agreement pursuant to which Securities are to be sold if the form thereof has previously been approved as provided in this resolution;

RESOLVED FURTHER, that any of the proper officers be, and each of them hereby is, authorized, at any time and from time to time, on behalf of the Company, (i) to determine, within any limits that may be set by the Board of Directors, the number of shares of Common Stock, preferred stock or other equity securities to be offered and sold by the Company pursuant to the New Registration Statement, including any shares underlying warrants or convertible Debt Securities, (ii) to authorize the reserve and issuance of such shares and (iii) to take any and all action and to do or cause to be done any and all things which may appear to any of the proper officers to be necessary or advisable in order to authorize, offer, issue, and sell such shares of Common Stock, pursuant to the New Registration Statement and the applicable purchase agreement, which action could be taken or which things could be done by the Board of Directors of the Company;

RESOLVED FURTHER, that any of the proper officers may, at any time and from time to time, on behalf of the Company, authorize the issuance of one or more series of Securities under the Company's indentures, within any limits that may be set by the Board of Directors, and in connection therewith establish, or, if all of the Securities of such series may not be originally issued at one time, to the extent deemed appropriate, prescribe the manner of determining, within any limitations established by any of the proper officers and subject in either case to the limitations set forth in these resolutions, all of the terms of such Securities;

RESOLVED FURTHER, that, in connection with any such series of Securities (but without limiting the authority hereinafter in these resolutions conferred with respect to the issuance of Securities of a series which may not all be originally issued at one time), any of the proper officers is authorized at any time or from time to time to determine the price or prices to be received by the Company in any offering or sale of Securities of such series, any public offering price or prices thereof, any discounts to be allowed or commissions to be paid to any agent, dealer or underwriter and any other terms of offering or sale of Securities of such series and to sell Securities of such series in accordance with any applicable purchase agreement or other agreement(s);

RESOLVED FURTHER, that, in connection with the issuance of Securities of any series which may not be originally issued at one time (except as may be inconsistent with any action taken by any of the proper officers, as hereinabove provided, in connection with such series), any of the proper officers may delegate any of its authority pursuant to these resolutions to any officer of the Company, including authority to fix the terms of such Securities;

RESOLVED FURTHER, that, in connection with any such series of Securities, any of the proper officers is authorized to approve any amendment, modification or supplement to the Company's indentures and that any proper officer be, and each of them hereby is, authorized to execute and deliver, in the name and on behalf of the Company, any such amendment, modification or supplement, substantially in the form approved by any proper officer;

RESOLVED FURTHER, that the proper officers and authorized employees be, and each of them hereby is, authorized, in the name and on behalf of the Company, to execute and deliver such other agreements (including indemnity agreements), documents, certificates, orders, requests and instruments as may be contemplated by the Company's indentures or required by the trustee thereunder, the security registrar or any other agent of the Company under such indentures in connection therewith or as may be necessary or appropriate in connection with the issuance and sale of Securities thereunder;

RESOLVED FURTHER, that the proper officers be, and each of them hereby is, authorized, subject to and in accordance with the Company's indentures and any action taken by any of the proper officers in connection therewith, from time to time to appoint or designate on behalf of the Company one or more security registrars, paying agents and transfer agents for each series of Securities, to rescind on behalf of the Company any such appointment or designation and to approve on behalf of the Company any change in the location of any office through which any such security registrar, paying agent or transfer agent acts, and in connection therewith to take such action and to make, execute and deliver, or cause to be made, executed and delivered, such agreements, instruments and other documents as any such officer may deem necessary or appropriate;

RESOLVED FURTHER, that the proper officers and authorized employees be, and each of them hereby is, authorized, in the name and on behalf of the Company, to make application to such securities exchange or exchanges as the persons acting shall deem necessary or appropriate for the listing thereof of any of the Securities (including any Common Stock or preferred stock underlying any convertible Securities) and in connection therewith to appoint one or more listing agents and to prepare, or cause to be prepared, execute and file, or cause to be filed, an application or applications for such listing and any and all amendments thereto and any additional certificates, documents, letters and other instruments which any such officer may deem necessary or desirable; that such officers, or such other person as any such officer may designate in writing, be, and each of them hereby is, authorized to appear before any official or officials or before any body of any such exchange, with authority to make such changes in such application, amendments, certificates, documents, letters and other instruments and to execute and deliver such agreements relative thereto, including, without limitation, listing agreements, fee agreements and indemnity agreements relating to the use of facsimile signatures as they, or any one of them, may deem necessary or appropriate in order to comply with the requirements of any such exchange or to effect such listing;

RESOLVED FURTHER, that the proper officers be, and each of them hereby is, authorized, in the name and on behalf of the Company, to make application to the SEC for registration of any series of the Securities under Section 12 or other applicable section of the Securities Exchange Act of 1934, and the proper officers and authorized employees are hereby authorized to prepare or cause to be prepared, and to execute and file, or cause to be filed, with the SEC and any securities exchange an application or applications for such registration and any and all amendments thereto and any additional certificates, documents, letters and other instruments which any such officer may deem necessary or desirable;

RESOLVED FURTHER, that the officers and authorized employees of the Company be, and each of them hereby is, authorized to take, or cause to be taken, any and all action which any such officer may deem necessary or desirable in order to carry out the purpose and intent of the foregoing resolutions or in order to perform, or cause to be performed, the obligations of the Company under the Securities, the New Registration Statement and any indenture, purchase agreement, or other agreement referred to herein, and, in connection therewith, to make, execute and deliver, or cause to be made, executed and delivered, all agreements, undertakings, documents, certificates, orders, requests or instruments in the name and on behalf of the Company as each such officer or authorized employee may deem necessary or appropriate;

RESOLVED FURTHER, that for purposes of these resolutions, the term "proper officer" shall mean any or all of the Chief Executive Officer, the Chief Financial Officer, the General Counsel, the Chief Accounting Officer and the Treasurer of the Company and the term "authorized employees" shall mean either or both of the Vice President and Assistant General Counsel – Corporate and Securities and the Senior Legal Counsel – Corporate & Securities of the Company;

RESOLVED FURTHER, that the form of any additional resolutions required in connection with the foregoing resolutions be and hereby is approved and adopted, provided the proper officers of the Company, on the advice of counsel, consider the adoption thereof necessary or advisable, in which case the Secretary or any Assistant Secretary of the Company is hereby directed to insert as an appendix hereto a copy of such resolutions, which shall, upon execution, be deemed to have been adopted by this Board of Directors with the same force and effect as if set out verbatim herein; and

RESOLVED FURTHER, that any officer of the Company is hereby authorized and directed to make, provide, execute, and deliver any and all statements, applications, certificates, representations, payments, notices, receipts, and other instruments and documents and take any and all other actions which in the opinion of such officer is or may be necessary or appropriate in connection with or to consummate any of the matters covered by the foregoing resolutions.

EXHIBIT 4.2

WASTE MANAGEMENT, INC.
Officers' Certificate Delivered Pursuant to
Section 301 of the Indenture dated as of September 10, 1997

The undersigned, the Vice President and Treasurer, and the Corporate Secretary of Waste Management, Inc. (the "Company"), hereby certify that:

1. This Certificate is delivered to The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee"), pursuant to Sections 102 and 301 of the Indenture dated as of September 10, 1997 between the Company, formerly known as USA Waste Services, Inc., and the Trustee in connection with the Company Order dated February 26, 2015 (the "Order") for the authentication and delivery by the Trustee of $450,000,000 aggregate principal amount of 3.900% Senior Notes due 2035 (the "Notes").

2. The undersigned have read Sections 102, 103, 301 and 303 of the Indenture and the definitions in the Indenture relating thereto.

3. The statements made herein are based either upon the personal knowledge of the persons making this Certificate or on information, data and reports furnished to such persons by the officers, counsel, department heads or employees of the Company who have knowledge of the facts involved.

4. The undersigned have examined the Order, and they have read the covenants, conditions and provisions of the Indenture relating thereto.

5. In the opinion of the persons making this Certificate, they have made such examination or investigation as is necessary to enable them to express an informed opinion as to whether or not all covenants and conditions provided for in the Indenture with respect to the Order have been complied with.

6. All covenants and conditions (including all conditions precedent) provided in the Indenture to the authentication and delivery by the Trustee of $450,000,000 aggregate principal amount of the Notes have been complied with, and such Notes may be delivered in accordance with the Order as provided in the Indenture.

7. The terms of the Notes (including the Form of Note) as set forth in Annex A to this Officers' Certificate have been approved by officers of the Company as duly authorized by resolutions of the Board of Directors of the Company as of August 24, 2012 and such resolutions, copies of which are attached hereto as Annex B, are in full force and effect as of the date hereof.

[*signature page follows*]

IN WITNESS WHEREOF, the undersigned has hereunto executed as of the date first written above.

/s/ Devina A. Rankin
Devina A. Rankin
Vice President and Treasurer

/s/ Courtney A. Tippy
Courtney A. Tippy
Corporate Secretary

Annex A

Terms of the Notes

Pursuant to authority granted by the Board of Directors of the Company on August 24, 2012 and the Sole Director of Waste Management Holdings, Inc. on September 24, 2012 and February 5, 2015, the Company has approved the establishment, issuance, execution and delivery of a new series of Securities (as defined in the Indenture) to be issued under the Indenture dated as of September 10, 1997 (the "Indenture"), between the Company, formerly known as USA Waste Services, Inc., and The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee"), the terms of which are set forth below. Capitalized terms used but not defined herein are used herein as defined in the Indenture.

(1) The title of the series of Securities shall be "3.900% Senior Notes due 2035" (the "Notes").

(2) The Notes shall be general unsecured, senior obligations of the Company.

(3) The initial aggregate principal amount of the Notes that may be authenticated and delivered under the Indenture shall be $450,000,000 (except for Notes authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Notes pursuant to Section 304, 305, 306, 906 or 1107 of the Indenture); provided, however, that the authorized aggregate principal amount of such series may be increased before or after the issuance of any Notes of such series by a Board Resolution (or action pursuant to a Board Resolution) to such effect.

(4) The principal amount of each Note shall be payable on March 1, 2035.

(5) Each Note shall bear interest from February 26, 2015 at the fixed rate of 3.900% per annum; the Interest Payment Dates on which such interest shall be payable shall be March 1 and September 1, of each year, commencing September 1, 2015, until maturity unless such date falls on a day that is not a Business Day, in which case, such payment shall be made on the next day that is a Business Day. The Regular Record Date for the determination of Holders to whom interest is payable shall be February 15 or August 15, respectively, immediately preceding such date, as the case may be.

(6) If a "Change of Control Triggering Event" (as defined in the Notes) occurs, each Holder of the Notes may require the Company to purchase all or a portion of such Holder's Notes at a price equal to 101% of the principal amount, plus accrued interest, if any, to the date of purchase, on the terms and subject to the conditions set forth in the Notes.

(7) The Notes are to be issued as Registered Securities only. Each Note is to be issued as a book-entry note ("Book-Entry Note") but in certain circumstances may be represented by Notes in definitive form. The Book-Entry Notes shall be issued, in whole or in part, in the form of one or more Notes in global form as contemplated by Section 203 of the Indenture. The Depositary with respect to the Book-Entry Notes shall be The Depository Trust Company, New York, New York.

(8) Payments of principal of, premium, if any, and interest due on the Notes representing Book-Entry Notes on any Interest Payment Date or at maturity will be made available to the Trustee by 11:00 a.m., New York City time, on such date, unless such date falls on a day which is not a Business Day, in which case such payments will be made available to the Trustee by 11:00 a.m., New York City time, on the next Business Day. As soon as possible thereafter, the Trustee will make such payments to the Depositary.

(9) Before the Par Call Date, the Notes will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to the greater of (i) 100% of the principal amount of the Notes to be redeemed or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon that would be due if the Notes matured on the Par Call Date (exclusive of interest accrued to the Redemption Date (as defined in the Notes) discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the applicable Treasury Yield (as defined in the Notes) plus 20 basis points; plus, in either case, accrued interest to the Redemption Date. On or after the Par Call Date, the Notes will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to 100% of the principal amount of the Notes to be redeemed plus accrued interest on the Notes to be redeemed to the Redemption Date. "Par Call Date" means September 1, 2034.

(10) The Company shall have no obligation to redeem, purchase or repay the Notes pursuant to any mandatory redemption, sinking fund or analogous provisions or at the option of a Holder thereof.

(11) The Notes will be subject to defeasance and discharge as contemplated by Section 1302 of the Indenture and to covenant defeasance under Section 1303 of the Indenture.

(12) The Notes shall be entitled to the benefit of the covenants contained in Sections 1008 and 1009 of the Indenture.

(13) The Bank of New York Mellon Trust Company, N.A. shall serve initially as Security Registrar for the Notes.

(14) The Notes shall be substantially in the form of Exhibit A hereto.

(15) The Notes will be fully and unconditionally guaranteed on a senior basis by the Company's wholly owned subsidiary, Waste Management Holdings, Inc., pursuant to the terms and conditions of a Guarantee Agreement dated February 26, 2015 (the "Guarantee"). The amount of the Guarantee will be limited to the extent required under applicable fraudulent conveyance laws to cause the Guarantee to be enforceable. The terms and conditions of the Guarantee shall continue in full force and effect for the benefit of holders of the Notes until release thereof as set forth in Section 6 of the Guarantee.

BOOK-ENTRY SECURITY

THIS SECURITY IS A BOOK-ENTRY SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITORY OR A NOMINEE OF A DEPOSITORY. THIS SECURITY IS EXCHANGEABLE FOR SECURITIES REGISTERED IN THE NAME OF A PERSON OTHER THAN THE DEPOSITORY OR ITS NOMINEE ONLY IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE, AND NO TRANSFER OF THIS SECURITY (OTHER THAN A TRANSFER OF THIS SECURITY AS A WHOLE BY THE DEPOSITORY TO A NOMINEE OF THE DEPOSITORY OR BY A NOMINEE OF THE DEPOSITORY TO THE DEPOSITORY OR ANOTHER NOMINEE OF THE DEPOSITORY) MAY BE REGISTERED EXCEPT IN SUCH LIMITED CIRCUMSTANCES.

UNLESS THIS CERTIFICATE IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY, A NEW YORK CORPORATION ("DTC"), TO THE COMPANY (AS DEFINED BELOW) OR ITS AGENT FOR REGISTRATION FOR TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO CEDE & CO. OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.

RGN

Principal Amount

U.S. $450,000,000, which may be decreased by the Schedule of Exchanges of Definitive Security attached hereto

WASTE MANAGEMENT, INC.

3.900% SENIOR NOTES DUE 2035

CUSIP 94106LBB4

WASTE MANAGEMENT, INC., a Delaware corporation (the "Company," which term includes any successors under the Indenture hereinafter referred to), for value received, hereby promises to pay to CEDE & CO. or registered assigns, at the office or agency of the Company, the principal sum of Four Hundred Fifty Million ($450,000,000) U.S. dollars, or such lesser principal sum as is shown on the attached Schedule of Exchanges of Definitive Security, on March 1, 2035 in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest at an annual rate of 3.900% payable on March 1 and September 1 of each year, to the person in whose name this Security is registered at the close of business on the record date for such interest, which shall be the preceding February 15 or August 15, respectively, payable commencing September 1, 2015, with interest consisting of interest accrued from February 26, 2015.

Reference is made to the further provisions of this Security set forth on the reverse hereof. Such further provisions shall for all purposes have the same effect as though fully set forth at this place.

The statements in the legends set forth above are an integral part of the terms of this Security and by acceptance hereof the Holder of this Security agrees to be subject to, and bound by, the terms and provisions set forth in each such legend.

This Security is issued in respect of a series of Securities of an initial aggregate of U.S. $450,000,000 in principal amount designated as the 3.900% Senior Notes due 2035 of the Company and is governed by the Indenture dated as of September 10, 1997, duly executed and delivered by the Company, formerly known as USA Waste Services, Inc., to The Bank of New York Mellon Trust Company N.A. (the current successor to Texas Commerce Bank National Association) as trustee (the "Trustee"), as supplemented by Board Resolutions (as defined in the Indenture) (such Indenture and Board Resolutions, collectively, the "Indenture"). The terms of the Indenture are incorporated herein by reference. This Security shall in all respects be entitled to the same benefits as definitive Securities under the Indenture.

If and to the extent that any provision of the Indenture limits, qualifies or conflicts with any other provision of the Indenture that is required to be included in the Indenture or is deemed applicable to the Indenture by virtue of the provisions of the Trust Indenture Act of 1939, as amended, such required provision shall control.

The Company hereby irrevocably undertakes to the Holder hereof to exchange this Security in accordance with the terms of the Indenture without charge.

This Security shall not be valid or become obligatory for any purpose until the Certificate of Authentication hereon shall have been manually signed by the Trustee under the Indenture.

IN WITNESS WHEREOF, the Company has caused this instrument to be duly executed under its corporate seal.

Dated: February 26, 2015

WASTE MANAGEMENT, INC.,
a Delaware corporation

By: _____
Devina A. Rankin
Vice President and Treasurer

Attest:

By: _____
Courtney A. Tippy
Corporate Secretary

CERTIFICATE OF AUTHENTICATION

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

Date of Authentication: February 26, 2015

The Bank of New York Mellon Trust Company N.A., as Trustee

By: _____
Lawrence M. Kusch
Vice President

REVERSE OF BOOK-ENTRY SECURITY

WASTE MANAGEMENT, INC.

3.900% SENIOR NOTES DUE 2035

This Security is one of a duly authorized issue of unsecured debentures, notes or other evidences of indebtedness of the Company (the "Debt Securities") of the series hereinafter specified, all issued or to be issued under and pursuant to the Indenture, to which Indenture reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Company and the Holders of the Debt Securities. The Debt Securities may be issued in one or more series, which different series may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different sinking, purchase or analogous funds (if any) and may otherwise vary as provided in the Indenture. This Security is one of a series designated as the 3.900% Senior Notes due 2035 of the Company, in initial aggregate principal amount of $450,000,000 (the "Securities").

1. *Interest.*

The Company promises to pay interest on the principal amount of this Security at the rate of 3.900% per annum.

The Company will pay interest semi-annually on March 1 and September 1 of each year (each an "Interest Payment Date"), commencing September 1, 2015. Interest on the Securities will accrue from the most recent date to which interest has been paid or, if no interest has been paid on the Securities, from February 26, 2015. Interest will be computed on the basis of a 360-day year consisting of twelve 30-day months. The Company shall pay interest (including post-petition interest in any proceeding under any applicable bankruptcy laws) on overdue installments of interest (without regard to any applicable grace period) and on overdue principal and premium, if any, from time to time on demand at the rate of 3.900% per annum, in each case to the extent lawful.

2. *Method of Payment.*

The Company shall pay interest on the Securities (except Defaulted Interest) to the persons who are the registered Holders at the close of business on the Regular Record Date immediately preceding the Interest Payment Date. Any such interest not so punctually paid or duly provided for ("Defaulted Interest") may be paid to the persons who are registered Holders at the close of business on a Special Record Date for the payment of such Defaulted Interest, or in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Securities may then be listed if such manner of payment shall be deemed practicable by the Trustee, as more fully provided in the Indenture. Except as provided below, the Company shall pay principal and interest in such coin or currency of the United States of America as at the time of payment shall be legal tender for payment of public and private debts ("U.S. Legal Tender"). Payments in respect of a Book-Entry Security (including principal, premium, if any, and interest) will be made by wire transfer of immediately available funds to the accounts

specified by the Depository. Payments in respect of Securities in definitive form (including principal, premium, if any, and interest) will be made at the office or agency of the Company maintained for such purpose within the Borough of Manhattan, the City of New York, which initially will be at the corporate trust office of The Bank of New York Mellon, located at 101 Barclay Street, Floor 21W, New York, New York, 10286 or at the option of the Company, payment of interest may be made by check mailed to the Holders on the Regular Record Date or on the Special Record Date at their addresses set forth in the Security Register of Holders.

3. *Paying Agent and Registrar.*

Initially, The Bank of New York Mellon Trust Company, N.A. will act as Paying Agent and Registrar. The Company may change any Paying Agent, Registrar or co-Registrar at any time upon notice to the Trustee and the Holders. The Company or any of its Subsidiaries may, subject to certain exceptions, act as Paying Agent, Registrar or co-Registrar.

4. *Indenture.*

This Security is one of a duly authorized issue of Debt Securities of the Company issued and to be issued in one or more series under the Indenture.

Capitalized terms herein are used as defined in the Indenture unless otherwise defined herein. The terms of the Securities include those stated in the Indenture and all indentures supplemental thereto, those made part of the Indenture by reference to the Trust Indenture Act of 1939, as amended, as in effect on the date of the Indenture, and those terms stated in the Officers' Certificate to the Trustee, duly authorized by resolutions of the Board of Directors of the Company on August 24, 2012 (the "Resolutions") and the written consents of the Sole Director of Waste Management Holdings, Inc. on September 24, 2012 and February 5, 2015 (the "Consents"). The Securities are subject to all such terms, and Holders of Securities are referred to the Indenture, all indentures supplemental thereto, said Act, said Resolutions and said Consents and Officers' Certificate for a statement of them. The Securities of this series are general unsecured obligations of the Company limited with an initial aggregate principal amount of $450,000,000.

5. *Redemption.*

Before the Par Call Date, the Securities will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price (the "Make-Whole Price") equal to the greater of: (i) 100% of the principal amount of the Securities to be redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest on the Securities that would be due if such Securities matured on the Par Call Date (exclusive of interest accrued to the Redemption Date) discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the applicable Treasury Yield plus 20 basis points; plus, in either case, accrued interest to the Redemption Date.

On or after the Par Call Date, the Securities will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to 100% of the principal amount of the Securities to be redeemed plus accrued interest on the Securities to be redeemed to the Redemption Date.

Securities called for redemption become due on the Redemption Date. Notices of redemption will be mailed at least 30 but not more than 60 days before the Redemption Date to each holder of record of the Securities to be redeemed at its registered address. The notice of redemption for the Securities will state, among other things, the amount of Securities to be redeemed, the Redemption Date, the Redemption Price or, if not ascertainable, the manner of determining the Make-Whole Price and the place(s) that payment will be made upon presentation and surrender of Securities to be redeemed. Unless the Company defaults in payment of the Make-Whole Price, interest will cease to accrue on any Securities that have been called for redemption at the Redemption Date. If less than all the Securities are redeemed at any time, the Trustee will select the Securities to be redeemed on a pro rata basis or by any other method the Trustee deems fair and appropriate.

For purposes of determining the Make-Whole Price, the following definitions are applicable:

"Treasury Yield" means, with respect to any Redemption Date applicable to the Securities, the rate per annum equal to the semi-annual equivalent yield to maturity (computed as of the third Business Day immediately preceding such Redemption Date) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the applicable Comparable Treasury Price for such Redemption Date.

"Comparable Treasury Issue" means the United States Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Securities, calculated as if the maturity date of such notes were the Par Call Date (the "Remaining Life"), that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the Remaining Life of the Securities.

"Independent Investment Banker" means any of Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., Goldman, Sachs & Co. and J.P. Morgan Securities LLC (and their respective successors), or, if all such firms are unwilling or unable to select the applicable Comparable Treasury Issue, an independent investment banking institution of national standing appointed by the Trustee and reasonably acceptable to the Company.

"Comparable Treasury Price" means, with respect to any Redemption Date, (i) the average of the Reference Treasury Dealer Quotations obtained by the Trustee for the Redemption Date, after excluding the highest and lowest of all Reference Treasury Dealer Quotations obtained, or (ii) if the Trustee obtains fewer than four such Reference Treasury Dealer Quotations, the average of all Reference Treasury Dealer Quotations obtained by the Trustee.

"Par Call Date" means September 1, 2034.

"Reference Treasury Dealer" means (i) each of Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., Goldman, Sachs & Co. and J.P. Morgan Securities LLC (and their respective successors), unless any of them ceases to be a primary U.S. government securities dealer in New York City (a "Primary Treasury Dealer"), in which case the Company will substitute therefor another Primary Treasury Dealer, and (ii) any other Primary Treasury Dealer selected by the Company.

"Reference Treasury Dealer Quotations" means, with respect to each Reference Treasury Dealer and any Redemption Date for the Securities, an average, as determined by the Trustee, of the bid and asked prices for the Comparable Treasury Issue for the Securities (expressed in each case as a percentage of its principal amount) quoted in writing to the Trustee by such Reference Treasury Dealer at 5:00 p.m., New York City time, on the third Business Day preceding such Redemption Date.

Except as set forth above, the Securities will not be redeemable prior to their Stated Maturity and will not be entitled to the benefit of any sinking fund.

The Securities may be redeemed in part in a minimum principal amount of $2,000, or any integral multiple of $1,000 in excess thereof.

Any such redemption will also comply with Article Eleven of the Indenture.

6. *Change of Control Offer.*

If a Change of Control Triggering Event occurs, unless the Company has exercised its option to redeem the Securities as described in Section 5, the Company shall make an offer (a "Change of Control Offer") to each Holder of the Securities to repurchase all or any part (equal to $2,000 or an integral multiple of $1,000 in excess thereof) of that Holder's Securities on the terms set forth herein. In a Change of Control Offer, the Company shall offer payment in cash equal to 101% of the aggregate principal amount of Securities repurchased (a "Change of Control Payment"), plus accrued and unpaid interest, if any, on the Securities repurchased to the date of repurchase, subject to the right of holders of record on the applicable record date to receive interest due on the next Interest Payment Date.

Within 30 days following any Change of Control Triggering Event or, at the Company's option, prior to any Change of Control, but after public announcement of the transaction that constitutes or may constitute the Change of Control, the Company shall mail a notice to Holders of the Securities describing the transaction that constitutes or may constitute the Change of Control Triggering Event and offer to repurchase such Securities on the date specified in the applicable notice, which date shall be no earlier than 30 days and no later than 60 days from the date such notice is mailed (a "Change of Control Payment Date"). The notice may, if mailed prior to the date of consummation of the Change of Control, state that the Change of Control Offer is conditioned on the Change of Control Triggering Event occurring on or prior to the applicable Change of Control Payment Date.

Upon the Change of Control Payment Date, the Company shall, to the extent lawful:

- accept for payment all Securities or portions of Securities properly tendered and not withdrawn pursuant to the Change of Control Offer;
- deposit with the Paying Agent an amount equal to the Change of Control Payment in respect of all Securities or portions of Securities properly tendered; and
- deliver or cause to be delivered to the Trustee the Securities properly accepted together with an Officers' Certificate stating the aggregate principal amount of Securities or portions of Securities being repurchased.

The Company need not make a Change of Control Offer upon the occurrence of a Change of Control Triggering Event if a third party makes such an offer in the manner, at the times and otherwise in compliance with the requirements for an offer made by the Company and the third party repurchases all Securities properly tendered and not withdrawn under its offer. In addition, the Company shall not repurchase any Securities if there has occurred and is continuing on the Change of Control Payment Date an Event of Default under the Indenture, other than a default in the payment of the Change of Control Payment upon a Change of Control Triggering Event.

The Company will comply with the applicable requirements of Rule 14e-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Securities as a result of a Change of Control Triggering Event. To the extent that the provisions of any securities laws or regulations conflict with the Change of Control Offer provisions of this Security, the Company may comply with those securities laws and regulations and, if so, will not be deemed to have breached its obligations under the Change of Control Offer provisions of this Security by virtue of any such conflict.

For purposes of the Change of Control Offer provisions of the Securities, the following terms are applicable:

"Change of Control" means the occurrence of any of the following: (1) the direct or indirect sale, lease, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or more series of related transactions, of all or substantially all of the Company's assets and the assets of its Subsidiaries, taken as a whole, to any person, other than the Company or one of its Subsidiaries; (2) the consummation of any transaction (including, without limitation, any merger or consolidation) the result of which is that any person becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the outstanding Voting Stock of the Company or other Voting Stock into which the Company's Voting Stock is reclassified, consolidated, exchanged or changed, measured by voting power rather than number of shares; (3) the Company consolidates with, or merges with or into, any person, or any person consolidates with, or merges with or into, the Company, in any such event pursuant to a transaction in which any of the outstanding Voting Stock of the Company or the Voting Stock of such other person is converted into or exchanged for cash, securities or other property, other than any such transaction where the shares of the Voting Stock of the Company outstanding immediately prior to such transaction constitute, or are converted into or exchanged for, a majority of the Voting Stock of the surviving person or

any direct or indirect parent company of the surviving person, measured by voting power rather than number of shares, immediately after giving effect to such transaction; (4) the first day on which a majority of the members of the Board of Directors of the Company are not Continuing Directors; or (5) the adoption of a plan relating to the liquidation or dissolution of the Company.

Notwithstanding the preceding, a transaction will not be deemed to involve a Change of Control under clause (2) above if (i) the Company becomes a direct or indirect wholly-owned subsidiary of a holding company and (ii)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of Voting Stock of the Company immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company. The term "person," as used in this definition, has the meaning given thereto in Section 13(d)(3) of the Exchange Act.

"Change of Control Triggering Event" means the occurrence of both a Change of Control and a Rating Event.

"Continuing Directors" means, as of any date of determination, any member of the Board of Directors of the Company who (1) was a member of such Board of Directors on the date the Securities were issued or (2) was nominated for election, elected or appointed to such Board of Directors with the approval of a majority of the Continuing Directors who were members of such Board of Directors at the time of such nomination, election or appointment (either by a specific vote or by approval of the Company's proxy statement in which such member was named as a nominee for election as a director, without objection to such nomination).

"Fitch" means Fitch Inc. and its successors.

"Investment Grade Rating" means a rating equal to or higher than BBB- (or the equivalent) by Fitch, Baa3 (or the equivalent) by Moody's and BBB- (or the equivalent) by S&P, and the equivalent investment grade credit rating from any replacement Rating Agency or Rating Agencies selected by the Company.

"Moody's" means Moody's Investors Service, Inc. and its successors.

"Rating Agencies" means (1) each of Fitch, Moody's and S&P and (2) if any of Fitch, Moody's or S&P ceases to rate the Securities or fails to make a rating of the Securities publicly available for reasons outside of the Company's control, a "nationally recognized statistical rating organization" within the meaning of Section 3(a)(62) of the Exchange Act selected by the Company (as certified by a resolution of our Board of Directors) as a replacement agency for Fitch, Moody's or S&P, or all of them, as the case may be.

"Rating Event" means the rating on the Securities is lowered by at least two of the three Rating Agencies and the Securities are rated below an Investment Grade Rating by at least two of the three Rating Agencies, in any case on any day during the period (which period will be extended so long as the rating of the Securities is under publicly announced consideration for a possible downgrade by any of the rating agencies) commencing 60 days prior to the first public notice of the occurrence of a Change of Control or the Company's intention to effect a Change of Control and ending 60 days following consummation of such Change of Control.

"S&P" means Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc., and its successors.

"Voting Stock" means, with respect to any specified "person" (as that term is used in Section 13(d)(3) of the Exchange Act) as of any date, the capital stock of such person that is at the time entitled to vote generally in the election of the board of directors of such person.

7. *Denominations; Transfer; Exchange.*

The Securities are issued in registered form, without coupons, in a minimum denomination of $2,000 and integral multiples of $1,000 in excess thereof. A Holder may register the transfer of, or exchange, Securities in accordance with the Indenture. The Securities Registrar may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and to pay any taxes and fees required by law or permitted by the Indenture.

8. *Person Deemed Owners.*

The registered Holder of a Security may be treated as the owner of it for all purposes.

9. *Amendment; Supplement; Waiver.*

Subject to certain exceptions, the Indenture may be amended or supplemented, and any existing Event of Default or compliance with any provision may be waived, with the consent of the Holders of a majority in principal amount of the Outstanding Securities of each series affected. Without consent of any Holder, the parties thereto may amend or supplement the Indenture or the Securities to, among other things, cure any ambiguity, defect or inconsistency, or make any other change that does not adversely affect the interests of any Holder of a Security. Any such consent or waiver by the Holder of this Security (unless revoked as provided in the Indenture) shall be conclusive and binding upon such Holder and upon all future Holders and owners of this Security and any Securities which may be issued in exchange or substitution herefor, irrespective of whether or not any notation thereof is made upon this Security or such other Securities.

10. *Defaults and Remedies.*

If an Event of Default with respect to the Securities occurs and is continuing, then in every such case the Trustee or the Holders of not less than 25% in principal amount of the Securities then Outstanding may declare the principal amount of all the Securities to be due and payable immediately in the manner and with the effect provided in the Indenture. Notwithstanding the preceding sentence, however, if at any time after such a declaration of acceleration has been made and before judgment or decree for payment of the money due has been obtained by the Trustee as provided in the Indenture, the Holders of a majority in principal amount of the Outstanding Securities, by written notice to the Company and to the Trustee, may rescind and annul such declaration and its consequences if (1) the Company has paid or deposited with the Trustee a sum sufficient to pay (A) all overdue interest on all Securities, (B)

the principal of (and premium, if any, on) any Securities which has become due otherwise than by such declaration of acceleration and any interest thereon at the rate prescribed therefor herein, (C) to the extent that payment of such interest is lawful, interest upon overdue interest at the rate prescribed therefor herein, and (D) all sums paid or advanced by the Trustee and the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel and (2) all Events of Default under the Indenture with respect to the Securities, other than the nonpayment of the principal of Securities which has become due solely by such declaration acceleration, shall have been cured or shall have been waived. No such rescission shall affect any subsequent Event of Default or shall impair any right consequent thereon. Holders of Securities may not enforce the Indenture or the Securities except as provided in the Indenture. The Trustee may require indemnity satisfactory to it before it enforces the Indenture or the Securities. Subject to certain limitations, Holders of a majority in aggregate principal amount of the Securities then outstanding may direct the Trustee in its exercise of any trust or power.

11. *Trustee Dealings with Company.*

The Trustee under the Indenture, in its individual or any other capacity, may make loans to, accept deposits from, and perform services for the Company and its Affiliates and any subsidiary of the Company's Affiliates, and may otherwise deal with the Company and its Affiliates as if it were not the Trustee.

12. *Authentication.*

This Security shall not be valid until the Trustee or authenticating agent signs the certificate of authentication on the other side of this Security.

13. *Abbreviations and Defined Terms.*

Customary abbreviations may be used in the name of a Holder of a Security or an assignee, such as: TEN COM (tenant in common), TEN ENT (tenants by the entireties), JT TEN (joint tenants with right of survivorship and not as tenants in common), CUST (Custodian), and U/G/M/A (Uniform Gifts to Minors Act).

14. *CUSIP Numbers.*

Pursuant to a recommendation promulgated by the Committee on Uniform Note Identification Procedures, the Company has caused CUSIP numbers to be printed on the Securities as a convenience to the Holders of the Securities. No representation is made as to the accuracy of such number as printed on the Securities and reliance may be placed only on the other identification numbers printed hereon.

15. *Absolute Obligation.*

No reference herein to the Indenture and no provision of this Security or the Indenture shall alter or impair the obligation of the Company, which is absolute and unconditional, to pay the principal of, premium, if any, and interest on this Security in the manner, at the respective times, at the rate and in the coin or currency herein prescribed.

16. *No Recourse.*

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Security, or because of any indebtedness evidenced thereby, shall be had against any incorporator, past, present or future stockholder, officer or director, as such of the Company or of any successor, either directly or through the Company or of any successor, either directly or through the Company or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance of the Security by the Holder and as part of the consideration for the issue of the Security.

17. *Governing Law.*

This Security shall be construed in accordance with and governed by the laws of the State of New York.

18. *Guarantee.*

The Securities will be fully and unconditionally guaranteed on a senior basis by the Company's wholly owned subsidiary, Waste Management Holdings, Inc., pursuant to the terms and conditions of a Guarantee Agreement dated February 26, 2015 (the "Guarantee"). The amount of the Guarantee will be limited to the extent required under applicable fraudulent conveyance laws to cause the Guarantee to be enforceable. The terms and conditions of the Guarantee shall continue in full force and effect for the benefit of holders of the Securities until release thereof as set forth in Section 6 of the Guarantee.

SCHEDULE OF EXCHANGES OF DEFINITIVE SECURITY

The following exchanges of a part of this Book-Entry Security for definitive Securities have been made:

Date of Exchange	Amount of decrease in Principal Amount of this Book-Entry Security	Amount of increase in Principal Amount of this Book-Entry Security	Principal Amount of this Book-Entry Security following such decrease (or increase)	Signature of authorized officer of Trustee or Security Custodian

Annex B

Resolutions of the Board of Directors of Waste Management, Inc.

WHEREAS, on September 22, 2009, Waste Management, Inc. (the "Company") filed with the Securities Exchange Commission (the "SEC") an automatic shelf registration statement on Form S-3, File No. 333-162059 (the "Automatic Shelf Registration Statement"), which registered the offer and sale by the Company from time to time of common stock; senior and subordinated debt securities; preferred stock; warrants; units; and guarantees by Waste Management Holdings, Inc., a wholly-owned subsidiary of the Company ("WMHI"), with respect to debt securities, in one or more classes or series in amounts as may be determined at the time of any offering; and

WHEREAS, pursuant to rules and regulations promulgated by the SEC, the Automatic Shelf Registration Statement will expire, by its terms, on September 22, 2012, three years after the effective date of the Automatic Shelf Registration Statement; and

WHEREAS, at the time of the Board of Directors' approval of the Automatic Shelf Registration Statement, the Board of Directors also authorized the Company to offer and sell up to an aggregate of $3,000,000,000 of Securities (the "2009 Issuance Authorization"); and

WHEREAS, the Company desires, and finds it in the best interests of the Company, to file a new automatic shelf registration statement on Form S-3 in order to facilitate any future offerings of securities by the Company or any selling security holders.

NOW, THEREFORE, BE IT RESOLVED, that the Company is hereby authorized to prepare and file with the SEC an automatic shelf registration statement on Form S-3 (the "New Registration Statement"), pursuant to the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (the "Securities Act"), which New Registration Statement may cover, among other things, unsecured senior or subordinated debentures, notes or other evidences of indebtedness of the Company (collectively "Debt Securities"); shares of common stock, par value $0.01 per share, of the Company (the "Common Stock"); warrants to purchase shares of Common Stock; shares of preferred stock in such series with such designations, powers, preferences and relative and other special rights and qualifications, limitations and restrictions as the Board of Directors may from time to time authorize; guarantees of securities by WMHI; and any units consisting of one or more of the foregoing (the Debt Securities, Common Stock, warrants, preferred stock, guarantees and units collectively referred to herein as the "Securities"), to be issued from time to time;

RESOLVED FURTHER, that the proper officers (as established pursuant to these resolutions) be, and they hereby are, authorized, in their sole and absolute discretion, subject to any limitations set forth in these resolutions, to cause the Company to offer and sell up to an aggregate of $3,000,000,000 of Securities without further approval of the Board of Directors;

RESOLVED FURTHER, that upon the filing date of the New Registration Statement, authority to make new issuances of Securities pursuant to the 2009 Issuance Authorization shall be deemed rescinded;

RESOLVED FURTHER, that the proper officers and the authorized employees (as established pursuant to these resolutions) be, and each of them hereby is, authorized, in the name and on behalf of the Company, to execute and cause to be filed with the SEC any and all amendments (including, without limitation, post-effective amendments) or supplements to the New Registration Statement and any prospectus included therein and any additional documents which such officer or employee may deem necessary or desirable with respect to the registration and offering of the Securities, and such amendments, supplements, registration statements and documents to be in such form as the officer or employee executing the same may approve, as conclusively evidenced by his execution thereof;

RESOLVED FURTHER, that the General Counsel of the Company be, and he hereby is, designated and appointed the agent for service of process on the Company under the Securities Act in connection with the New Registration Statement and any and all amendments and supplements thereto, with all powers incident to such appointment;

RESOLVED FURTHER, that the proper officers and authorized employees be and hereby are authorized and directed in the name and on behalf of the Company to take any and all action which they may deem necessary or advisable in order to effect the registration or qualification of all or part of the Securities to be registered under the Securities Act, for offer and sale under the securities or Blue Sky laws of the states of the United States of America, and in connection therewith, to execute, acknowledge, verify, deliver, file and publish all such applications, reports, issuer's covenants, resolutions, consents to service of process, or appointments of governmental officials for the purpose of receiving and accepting service of process on the laws, and to take any and all further action which they may deem necessary or advisable in order to maintain any such registration or qualification for as long as they deem the same to be in the best interest of the Company;

RESOLVED FURTHER, that the form of any additional resolutions required in connection with the appropriate qualification or registration of the Securities for offer and sale under such securities or Blue Sky laws, be and hereby is approved and adopted, provided the appropriate officers of the Company, on the advice of counsel, consider the adoption thereof necessary or advisable, in which case the Secretary or any Assistant Secretary of the Company is hereby directed to insert as an appendix hereto a copy of such resolutions, which shall thereupon be deemed to have been adopted by this Board of Directors with the same force and effect as if set out verbatim herein;

RESOLVED FURTHER, that any of the proper officers or authorized employees be, and each of them hereby is, authorized to approve at any time and from time to time, one or more forms of underwriting agreements (and related terms agreement) and agency agreement (and related purchase agreement) and any other agreement or agreements any of such persons may deem necessary or appropriate in connection with the arrangements for the purchase of any of the Securities, and that such persons be, and each of them hereby is, authorized to execute and deliver, in the name and on behalf of the Company, any such agreement or agreements in substantially the form approved by any of them, with such changes therein as the person executing the same may approve, as conclusively evidenced by the execution and delivery thereof, it being understood that, in the case of any terms agreement or purchase agreement referred to above, it shall not be necessary for any of the proper officers to approve any individual agreement pursuant to which Securities are to be sold if the form thereof has previously been approved as provided in this resolution;

RESOLVED FURTHER, that any of the proper officers be, and each of them hereby is, authorized, at any time and from time to time, on behalf of the Company, (i) to determine, within any limits that may be set by the Board of Directors, the number of shares of Common Stock, preferred stock or other equity securities to be offered and sold by the Company pursuant to the New Registration Statement, including any shares underlying warrants or convertible Debt Securities, (ii) to authorize the reserve and issuance of such shares and (iii) to take any and all action and to do or cause to be done any and all things which may appear to any of the proper officers to be necessary or advisable in order to authorize, offer, issue, and sell such shares of Common Stock, pursuant to the New Registration Statement and the applicable purchase agreement, which action could be taken or which things could be done by the Board of Directors of the Company;

RESOLVED FURTHER, that any of the proper officers may, at any time and from time to time, on behalf of the Company, authorize the issuance of one or more series of Securities under the Company's indentures, within any limits that may be set by the Board of Directors, and in connection therewith establish, or, if all of the Securities of such series may not be originally issued at one time, to the extent deemed appropriate, prescribe the manner of determining, within any limitations established by any of the proper officers and subject in either case to the limitations set forth in these resolutions, all of the terms of such Securities;

RESOLVED FURTHER, that, in connection with any such series of Securities (but without limiting the authority hereinafter in these resolutions conferred with respect to the issuance of Securities of a series which may not all be originally issued at one time), any of the proper officers is authorized at any time or from time to time to determine the price or prices to be received by the Company in any offering or sale of Securities of such series, any public offering price or prices thereof, any discounts to be allowed or commissions to be paid to any agent, dealer or underwriter and any other terms of offering or sale of Securities of such series and to sell Securities of such series in accordance with any applicable purchase agreement or other agreement(s);

RESOLVED FURTHER, that, in connection with the issuance of Securities of any series which may not be originally issued at one time (except as may be inconsistent with any action taken by any of the proper officers, as hereinabove provided, in connection with such series), any of the proper officers may delegate any of its authority pursuant to these resolutions to any officer of the Company, including authority to fix the terms of such Securities;

RESOLVED FURTHER, that, in connection with any such series of Securities, any of the proper officers is authorized to approve any amendment, modification or supplement to the Company's indentures and that any proper officer be, and each of them hereby is, authorized to execute and deliver, in the name and on behalf of the Company, any such amendment, modification or supplement, substantially in the form approved by any proper officer;

RESOLVED FURTHER, that the proper officers and authorized employees be, and each of them hereby is, authorized, in the name and on behalf of the Company, to execute and deliver such other agreements (including indemnity agreements), documents, certificates, orders, requests and instruments as may be contemplated by the Company's indentures or required by the trustee thereunder, the security registrar or any other agent of the Company under such indentures in connection therewith or as may be necessary or appropriate in connection with the issuance and sale of Securities thereunder;

RESOLVED FURTHER, that the proper officers be, and each of them hereby is, authorized, subject to and in accordance with the Company's indentures and any action taken by any of the proper officers in connection therewith, from time to time to appoint or designate on behalf of the Company one or more security registrars, paying agents and transfer agents for each series of Securities, to rescind on behalf of the Company any such appointment or designation and to approve on behalf of the Company any change in the location of any office through which any such security registrar, paying agent or transfer agent acts, and in connection therewith to take such action and to make, execute and deliver, or cause to be made, executed and delivered, such agreements, instruments and other documents as any such officer may deem necessary or appropriate;

RESOLVED FURTHER, that the proper officers and authorized employees be, and each of them hereby is, authorized, in the name and on behalf of the Company, to make application to such securities exchange or exchanges as the persons acting shall deem necessary or appropriate for the listing thereof of any of the Securities (including any Common Stock or preferred stock underlying any convertible Securities) and in connection therewith to appoint one or more listing agents and to prepare, or cause to be prepared, execute and file, or cause to be filed, an application or applications for such listing and any and all amendments thereto and any additional certificates, documents, letters and other instruments which any such officer may deem necessary or desirable; that such officers, or such other person as any such officer may designate in writing, be, and each of them hereby is, authorized to appear before any official or officials or before any body of any such exchange, with authority to make such changes in such application, amendments, certificates, documents, letters and other instruments and to execute and deliver such agreements relative thereto, including, without limitation, listing agreements, fee agreements and indemnity agreements relating to the use of facsimile signatures as they, or any one of them, may deem necessary or appropriate in order to comply with the requirements of any such exchange or to effect such listing;

RESOLVED FURTHER, that the proper officers be, and each of them hereby is, authorized, in the name and on behalf of the Company, to make application to the SEC for registration of any series of the Securities under Section 12 or other applicable section of the Securities Exchange Act of 1934, and the proper officers and authorized employees are hereby authorized to prepare or cause to be prepared, and to execute and file, or cause to be filed, with the SEC and any securities exchange an application or applications for such registration and any and all amendments thereto and any additional certificates, documents, letters and other instruments which any such officer may deem necessary or desirable;

RESOLVED FURTHER, that the officers and authorized employees of the Company be, and each of them hereby is, authorized to take, or cause to be taken, any and all action which any such officer may deem necessary or desirable in order to carry out the purpose and intent of the foregoing resolutions or in order to perform, or cause to be performed, the obligations of the Company under the Securities, the New Registration Statement and any indenture, purchase agreement, or other agreement referred to herein, and, in connection therewith, to make, execute and deliver, or cause to be made, executed and delivered, all agreements, undertakings, documents, certificates, orders, requests or instruments in the name and on behalf of the Company as each such officer or authorized employee may deem necessary or appropriate;

RESOLVED FURTHER, that for purposes of these resolutions, the term "proper officer" shall mean any or all of the Chief Executive Officer, the Chief Financial Officer, the General Counsel, the Chief Accounting Officer and the Treasurer of the Company and the term "authorized employees" shall mean either or both of the Vice President and Assistant General Counsel – Corporate and Securities and the Senior Legal Counsel – Corporate & Securities of the Company;

RESOLVED FURTHER, that the form of any additional resolutions required in connection with the foregoing resolutions be and hereby is approved and adopted, provided the proper officers of the Company, on the advice of counsel, consider the adoption thereof necessary or advisable, in which case the Secretary or any Assistant Secretary of the Company is hereby directed to insert as an appendix hereto a copy of such resolutions, which shall, upon execution, be deemed to have been adopted by this Board of Directors with the same force and effect as if set out verbatim herein; and

RESOLVED FURTHER, that any officer of the Company is hereby authorized and directed to make, provide, execute, and deliver any and all statements, applications, certificates, representations, payments, notices, receipts, and other instruments and documents and take any and all other actions which in the opinion of such officer is or may be necessary or appropriate in connection with or to consummate any of the matters covered by the foregoing resolutions.

EXHIBIT 4.3

WASTE MANAGEMENT, INC.
Officers' Certificate Delivered Pursuant to
Section 301 of the Indenture dated as of September 10, 1997

The undersigned, the Vice President and Treasurer, and the Corporate Secretary of Waste Management, Inc. (the "Company"), hereby certify that:

1. This Certificate is delivered to The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee"), pursuant to Sections 102 and 301 of the Indenture dated as of September 10, 1997 between the Company, formerly known as USA Waste Services, Inc., and the Trustee in connection with the Company Order dated February 26, 2015 (the "Order") for the authentication and delivery by the Trustee of $750,000,000 aggregate principal amount of 4.100% Senior Notes due 2045 (the "Notes").

2. The undersigned have read Sections 102, 103, 301 and 303 of the Indenture and the definitions in the Indenture relating thereto.

3. The statements made herein are based either upon the personal knowledge of the persons making this Certificate or on information, data and reports furnished to such persons by the officers, counsel, department heads or employees of the Company who have knowledge of the facts involved.

4. The undersigned have examined the Order, and they have read the covenants, conditions and provisions of the Indenture relating thereto.

5. In the opinion of the persons making this Certificate, they have made such examination or investigation as is necessary to enable them to express an informed opinion as to whether or not all covenants and conditions provided for in the Indenture with respect to the Order have been complied with.

6. All covenants and conditions (including all conditions precedent) provided in the Indenture to the authentication and delivery by the Trustee of $750,000,000 aggregate principal amount of the Notes have been complied with, and such Notes may be delivered in accordance with the Order as provided in the Indenture.

7. The terms of the Notes (including the Form of Note) as set forth in Annex A to this Officers' Certificate have been approved by officers of the Company as duly authorized by resolutions of the Board of Directors of the Company as of August 24, 2012 and such resolutions, copies of which are attached hereto as Annex B, are in full force and effect as of the date hereof.

[*signature page follows*]

IN WITNESS WHEREOF, the undersigned has hereunto executed as of the date first written above.

/s/ Devina A. Rankin
Devina A. Rankin
Vice President and Treasurer

/s/ Courtney A. Tippy
Courtney A. Tippy
Corporate Secretary

Annex A
Terms of the Notes

Pursuant to authority granted by the Board of Directors of the Company on August 24, 2012 and the Sole Director of Waste Management Holdings, Inc. on September 24, 2012 and February 5, 2015, the Company has approved the establishment, issuance, execution and delivery of a new series of Securities (as defined in the Indenture) to be issued under the Indenture dated as of September 10, 1997 (the "Indenture"), between the Company, formerly known as USA Waste Services, Inc., and The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee"), the terms of which are set forth below. Capitalized terms used but not defined herein are used herein as defined in the Indenture.

(1) The title of the series of Securities shall be "4.100% Senior Notes due 2045" (the "Notes").

(2) The Notes shall be general unsecured, senior obligations of the Company.

(3) The initial aggregate principal amount of the Notes that may be authenticated and delivered under the Indenture shall be $750,000,000 (except for Notes authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Notes pursuant to Section 304, 305, 306, 906 or 1107 of the Indenture); provided, however, that the authorized aggregate principal amount of such series may be increased before or after the issuance of any Notes of such series by a Board Resolution (or action pursuant to a Board Resolution) to such effect.

(4) The principal amount of each Note shall be payable on March 1, 2045.

(5) Each Note shall bear interest from February 26, 2015 at the fixed rate of 4.100% per annum; the Interest Payment Dates on which such interest shall be payable shall be March 1 and September 1, of each year, commencing September 1, 2015, until maturity unless such date falls on a day that is not a Business Day, in which case, such payment shall be made on the next day that is a Business Day. The Regular Record Date for the determination of Holders to whom interest is payable shall be February 15 or August 15, respectively, immediately preceding such date, as the case may be.

(6) If a "Change of Control Triggering Event" (as defined in the Notes) occurs, each Holder of the Notes may require the Company to purchase all or a portion of such Holder's Notes at a price equal to 101% of the principal amount, plus accrued interest, if any, to the date of purchase, on the terms and subject to the conditions set forth in the Notes.

(7) The Notes are to be issued as Registered Securities only. Each Note is to be issued as a book-entry note ("Book-Entry Note") but in certain circumstances may be represented by Notes in definitive form. The Book-Entry Notes shall be issued, in whole or in part, in the form of one or more Notes in global form as contemplated by Section 203 of the Indenture. The Depositary with respect to the Book-Entry Notes shall be The Depository Trust Company, New York, New York.

(8) Payments of principal of, premium, if any, and interest due on the Notes representing Book-Entry Notes on any Interest Payment Date or at maturity will be made available to the Trustee by 11:00 a.m., New York City time, on such date, unless such date falls on a day which is not a Business Day, in which case such payments will be made available to the Trustee by 11:00 a.m., New York City time, on the next Business Day. As soon as possible thereafter, the Trustee will make such payments to the Depositary.

(9) Before the Par Call Date, the Notes will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to the greater of (i) 100% of the principal amount of the Notes to be redeemed or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon that would be due if the Notes matured on the Par Call Date (exclusive of interest accrued to the Redemption Date (as defined in the Notes) discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the applicable Treasury Yield (as defined in the Notes) plus 25 basis points; plus, in either case, accrued interest to the Redemption Date. On or after the Par Call Date, the Notes will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to 100% of the principal amount of the Notes to be redeemed plus accrued interest on the Notes to be redeemed to the Redemption Date. "Par Call Date" means September 1, 2044.

(10) The Company shall have no obligation to redeem, purchase or repay the Notes pursuant to any mandatory redemption, sinking fund or analogous provisions or at the option of a Holder thereof.

(11) The Notes will be subject to defeasance and discharge as contemplated by Section 1302 of the Indenture and to covenant defeasance under Section 1303 of the Indenture.

(12) The Notes shall be entitled to the benefit of the covenants contained in Sections 1008 and 1009 of the Indenture.

(13) The Bank of New York Mellon Trust Company, N.A. shall serve initially as Security Registrar for the Notes.

(14) The Notes shall be substantially in the form of Exhibit A hereto.

(15) The Notes will be fully and unconditionally guaranteed on a senior basis by the Company's wholly owned subsidiary, Waste Management Holdings, Inc., pursuant to the terms and conditions of a Guarantee Agreement dated February 26, 2015 (the "Guarantee"). The amount of the Guarantee will be limited to the extent required under applicable fraudulent conveyance laws to cause the Guarantee to be enforceable. The terms and conditions of the Guarantee shall continue in full force and effect for the benefit of holders of the Notes until release thereof as set forth in Section 6 of the Guarantee.

BOOK-ENTRY SECURITY

THIS SECURITY IS A BOOK-ENTRY SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITORY OR A NOMINEE OF A DEPOSITORY. THIS SECURITY IS EXCHANGEABLE FOR SECURITIES REGISTERED IN THE NAME OF A PERSON OTHER THAN THE DEPOSITORY OR ITS NOMINEE ONLY IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE, AND NO TRANSFER OF THIS SECURITY (OTHER THAN A TRANSFER OF THIS SECURITY AS A WHOLE BY THE DEPOSITORY TO A NOMINEE OF THE DEPOSITORY OR BY A NOMINEE OF THE DEPOSITORY TO THE DEPOSITORY OR ANOTHER NOMINEE OF THE DEPOSITORY) MAY BE REGISTERED EXCEPT IN SUCH LIMITED CIRCUMSTANCES.

UNLESS THIS CERTIFICATE IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY, A NEW YORK CORPORATION ("DTC"), TO THE COMPANY (AS DEFINED BELOW) OR ITS AGENT FOR REGISTRATION FOR TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO CEDE & CO. OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.

RGN

Principal Amount

U.S. $,
which may be decreased
by the Schedule of
Exchanges of Definitive
Security attached hereto

WASTE MANAGEMENT, INC.

4.100% SENIOR NOTES DUE 2045

CUSIP 94106LBC2

WASTE MANAGEMENT, INC., a Delaware corporation (the "Company," which term includes any successors under the Indenture hereinafter referred to), for value received, hereby promises to pay to CEDE & CO. or registered assigns, at the office or agency of the Company, the principal sum of Million ($) U.S. dollars, or such lesser principal sum as is shown on the attached Schedule of Exchanges of Definitive Security, on March 1, 2045 in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest at an annual rate of 4.100% payable on March 1 and September 1 of each year, to the person in whose name this Security is registered at the close of business on the record date for such interest, which shall be the preceding February 15 or August 15, respectively, payable commencing September 1, 2015, with interest consisting of interest accrued from February 26, 2015.

Reference is made to the further provisions of this Security set forth on the reverse hereof. Such further provisions shall for all purposes have the same effect as though fully set forth at this place.

The statements in the legends set forth above are an integral part of the terms of this Security and by acceptance hereof the Holder of this Security agrees to be subject to, and bound by, the terms and provisions set forth in each such legend.

This Security is issued in respect of a series of Securities of an initial aggregate of U.S. $750,000,000 in principal amount designated as the 4.100% Senior Notes due 2045 of the Company and is governed by the Indenture dated as of September 10, 1997, duly executed and delivered by the Company, formerly known as USA Waste Services, Inc., to The Bank of New York Mellon Trust Company N.A. (the current successor to Texas Commerce Bank National Association) as trustee (the "Trustee"), as supplemented by Board Resolutions (as defined in the Indenture) (such Indenture and Board Resolutions, collectively, the "Indenture"). The terms of the Indenture are incorporated herein by reference. This Security shall in all respects be entitled to the same benefits as definitive Securities under the Indenture.

If and to the extent that any provision of the Indenture limits, qualifies or conflicts with any other provision of the Indenture that is required to be included in the Indenture or is deemed applicable to the Indenture by virtue of the provisions of the Trust Indenture Act of 1939, as amended, such required provision shall control.

The Company hereby irrevocably undertakes to the Holder hereof to exchange this Security in accordance with the terms of the Indenture without charge.

This Security shall not be valid or become obligatory for any purpose until the Certificate of Authentication hereon shall have been manually signed by the Trustee under the Indenture.

IN WITNESS WHEREOF, the Company has caused this instrument to be duly executed under its corporate seal.

Dated: February 26, 2015

WASTE MANAGEMENT, INC.,
a Delaware corporation

By: _____
Devina A. Rankin
Vice President and Treasurer

Attest:

By: _____
Courtney A. Tippy
Corporate Secretary

CERTIFICATE OF AUTHENTICATION

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

Date of Authentication: February 26, 2015

The Bank of New York Mellon Trust Company N.A., as Trustee

By: _____
Lawrence M. Kusch
Vice President

REVERSE OF BOOK-ENTRY SECURITY

WASTE MANAGEMENT, INC.

4.100% SENIOR NOTES DUE 2045

This Security is one of a duly authorized issue of unsecured debentures, notes or other evidences of indebtedness of the Company (the "Debt Securities") of the series hereinafter specified, all issued or to be issued under and pursuant to the Indenture, to which Indenture reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Company and the Holders of the Debt Securities. The Debt Securities may be issued in one or more series, which different series may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different sinking, purchase or analogous funds (if any) and may otherwise vary as provided in the Indenture. This Security is one of a series designated as the 4.100% Senior Notes due 2045 of the Company, in initial aggregate principal amount of $750,000,000 (the "Securities").

1. *Interest.*

The Company promises to pay interest on the principal amount of this Security at the rate of 4.100% per annum.

The Company will pay interest semi-annually on March 1 and September 1 of each year (each an "Interest Payment Date"), commencing September 1, 2015. Interest on the Securities will accrue from the most recent date to which interest has been paid or, if no interest has been paid on the Securities, from February 26, 2015. Interest will be computed on the basis of a 360-day year consisting of twelve 30-day months. The Company shall pay interest (including post-petition interest in any proceeding under any applicable bankruptcy laws) on overdue installments of interest (without regard to any applicable grace period) and on overdue principal and premium, if any, from time to time on demand at the rate of 4.100% per annum, in each case to the extent lawful.

2. *Method of Payment.*

The Company shall pay interest on the Securities (except Defaulted Interest) to the persons who are the registered Holders at the close of business on the Regular Record Date immediately preceding the Interest Payment Date. Any such interest not so punctually paid or duly provided for ("Defaulted Interest") may be paid to the persons who are registered Holders at the close of business on a Special Record Date for the payment of such Defaulted Interest, or in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Securities may then be listed if such manner of payment shall be deemed practicable by the Trustee, as more fully provided in the Indenture. Except as provided below, the Company shall pay principal and interest in such coin or currency of the United States of America as at the time of payment shall be legal tender for payment of public and private debts ("U.S. Legal Tender"). Payments in respect of a Book-Entry Security (including principal, premium, if any, and interest) will be made by wire transfer of immediately available funds to the accounts

specified by the Depository. Payments in respect of Securities in definitive form (including principal, premium, if any, and interest) will be made at the office or agency of the Company maintained for such purpose within the Borough of Manhattan, the City of New York, which initially will be at the corporate trust office of The Bank of New York Mellon, located at 101 Barclay Street, Floor 21W, New York, New York, 10286 or at the option of the Company, payment of interest may be made by check mailed to the Holders on the Regular Record Date or on the Special Record Date at their addresses set forth in the Security Register of Holders.

3. *Paying Agent and Registrar.*

Initially, The Bank of New York Mellon Trust Company, N.A. will act as Paying Agent and Registrar. The Company may change any Paying Agent, Registrar or co-Registrar at any time upon notice to the Trustee and the Holders. The Company or any of its Subsidiaries may, subject to certain exceptions, act as Paying Agent, Registrar or co-Registrar.

4. *Indenture.*

This Security is one of a duly authorized issue of Debt Securities of the Company issued and to be issued in one or more series under the Indenture.

Capitalized terms herein are used as defined in the Indenture unless otherwise defined herein. The terms of the Securities include those stated in the Indenture and all indentures supplemental thereto, those made part of the Indenture by reference to the Trust Indenture Act of 1939, as amended, as in effect on the date of the Indenture, and those terms stated in the Officers' Certificate to the Trustee, duly authorized by resolutions of the Board of Directors of the Company on August 24, 2012 (the "Resolutions") and the written consents of the Sole Director of Waste Management Holdings, Inc. on September 24, 2012 and February 5, 2015 (the "Consents"). The Securities are subject to all such terms, and Holders of Securities are referred to the Indenture, all indentures supplemental thereto, said Act, said Resolutions and said Consents and Officers' Certificate for a statement of them. The Securities of this series are general unsecured obligations of the Company limited with an initial aggregate principal amount of $750,000,000.

5. *Redemption.*

Before the Par Call Date, the Securities will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price (the "Make-Whole Price") equal to the greater of: (i) 100% of the principal amount of the Securities to be redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest on the Securities that would be due if such Securities matured on the Par Call Date (exclusive of interest accrued to the Redemption Date) discounted to the Redemption Date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the applicable Treasury Yield plus 25 basis points; plus, in either case, accrued interest to the Redemption Date.

On or after the Par Call Date, the Securities will be redeemable and repayable, at the option of the Company, at any time in whole, or from time to time in part, at a Redemption Price equal to 100% of the principal amount of the Securities to be redeemed plus accrued interest on the Securities to be redeemed to the Redemption Date.

Securities called for redemption become due on the Redemption Date. Notices of redemption will be mailed at least 30 but not more than 60 days before the Redemption Date to each holder of record of the Securities to be redeemed at its registered address. The notice of redemption for the Securities will state, among other things, the amount of Securities to be redeemed, the Redemption Date, the Redemption Price or, if not ascertainable, the manner of determining the Make-Whole Price and the place(s) that payment will be made upon presentation and surrender of Securities to be redeemed. Unless the Company defaults in payment of the Make-Whole Price, interest will cease to accrue on any Securities that have been called for redemption at the Redemption Date. If less than all the Securities are redeemed at any time, the Trustee will select the Securities to be redeemed on a pro rata basis or by any other method the Trustee deems fair and appropriate.

For purposes of determining the Make-Whole Price, the following definitions are applicable:

"Treasury Yield" means, with respect to any Redemption Date applicable to the Securities, the rate per annum equal to the semi-annual equivalent yield to maturity (computed as of the third Business Day immediately preceding such Redemption Date) of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the applicable Comparable Treasury Price for such Redemption Date.

"Comparable Treasury Issue" means the United States Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Securities, calculated as if the maturity date of such notes were the Par Call Date (the "Remaining Life"), that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the Remaining Life of the Securities.

"Independent Investment Banker" means any of Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., Goldman, Sachs & Co. and J.P. Morgan Securities LLC (and their respective successors), or, if all such firms are unwilling or unable to select the applicable Comparable Treasury Issue, an independent investment banking institution of national standing appointed by the Trustee and reasonably acceptable to the Company.

"Comparable Treasury Price" means, with respect to any Redemption Date, (i) the average of the Reference Treasury Dealer Quotations obtained by the Trustee for the Redemption Date, after excluding the highest and lowest of all Reference Treasury Dealer Quotations obtained, or (ii) if the Trustee obtains fewer than four such Reference Treasury Dealer Quotations, the average of all Reference Treasury Dealer Quotations obtained by the Trustee.

"Par Call Date" means September 1, 2044.

"Reference Treasury Dealer" means (i) each of Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., Goldman, Sachs & Co. and J.P. Morgan Securities LLC (and their respective successors), unless any of them ceases to be a primary U.S. government securities dealer in New York City (a "Primary Treasury Dealer"), in which case the Company will substitute therefor another Primary Treasury Dealer, and (ii) any other Primary Treasury Dealer selected by the Company.

"Reference Treasury Dealer Quotations" means, with respect to each Reference Treasury Dealer and any Redemption Date for the Securities, an average, as determined by the Trustee, of the bid and asked prices for the Comparable Treasury Issue for the Securities (expressed in each case as a percentage of its principal amount) quoted in writing to the Trustee by such Reference Treasury Dealer at 5:00 p.m., New York City time, on the third Business Day preceding such Redemption Date.

Except as set forth above, the Securities will not be redeemable prior to their Stated Maturity and will not be entitled to the benefit of any sinking fund.

The Securities may be redeemed in part in a minimum principal amount of $2,000, or any integral multiple of $1,000 in excess thereof.

Any such redemption will also comply with Article Eleven of the Indenture.

6. *Change of Control Offer.*

If a Change of Control Triggering Event occurs, unless the Company has exercised its option to redeem the Securities as described in Section 5, the Company shall make an offer (a "Change of Control Offer") to each Holder of the Securities to repurchase all or any part (equal to $2,000 or an integral multiple of $1,000 in excess thereof) of that Holder's Securities on the terms set forth herein. In a Change of Control Offer, the Company shall offer payment in cash equal to 101% of the aggregate principal amount of Securities repurchased (a "Change of Control Payment"), plus accrued and unpaid interest, if any, on the Securities repurchased to the date of repurchase, subject to the right of holders of record on the applicable record date to receive interest due on the next Interest Payment Date.

Within 30 days following any Change of Control Triggering Event or, at the Company's option, prior to any Change of Control, but after public announcement of the transaction that constitutes or may constitute the Change of Control, the Company shall mail a notice to Holders of the Securities describing the transaction that constitutes or may constitute the Change of Control Triggering Event and offer to repurchase such Securities on the date specified in the applicable notice, which date shall be no earlier than 30 days and no later than 60 days from the date such notice is mailed (a "Change of Control Payment Date"). The notice may, if mailed prior to the date of consummation of the Change of Control, state that the Change of Control Offer is conditioned on the Change of Control Triggering Event occurring on or prior to the applicable Change of Control Payment Date.

Upon the Change of Control Payment Date, the Company shall, to the extent lawful:

- accept for payment all Securities or portions of Securities properly tendered and not withdrawn pursuant to the Change of Control Offer;
- deposit with the Paying Agent an amount equal to the Change of Control Payment in respect of all Securities or portions of Securities properly tendered; and
- deliver or cause to be delivered to the Trustee the Securities properly accepted together with an Officers' Certificate stating the aggregate principal amount of Securities or portions of Securities being repurchased.

The Company need not make a Change of Control Offer upon the occurrence of a Change of Control Triggering Event if a third party makes such an offer in the manner, at the times and otherwise in compliance with the requirements for an offer made by the Company and the third party repurchases all Securities properly tendered and not withdrawn under its offer. In addition, the Company shall not repurchase any Securities if there has occurred and is continuing on the Change of Control Payment Date an Event of Default under the Indenture, other than a default in the payment of the Change of Control Payment upon a Change of Control Triggering Event.

The Company will comply with the applicable requirements of Rule 14e-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Securities as a result of a Change of Control Triggering Event. To the extent that the provisions of any securities laws or regulations conflict with the Change of Control Offer provisions of this Security, the Company may comply with those securities laws and regulations and, if so, will not be deemed to have breached its obligations under the Change of Control Offer provisions of this Security by virtue of any such conflict.

For purposes of the Change of Control Offer provisions of the Securities, the following terms are applicable:

"Change of Control" means the occurrence of any of the following: (1) the direct or indirect sale, lease, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or more series of related transactions, of all or substantially all of the Company's assets and the assets of its Subsidiaries, taken as a whole, to any person, other than the Company or one of its Subsidiaries; (2) the consummation of any transaction (including, without limitation, any merger or consolidation) the result of which is that any person becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the outstanding Voting Stock of the Company or other Voting Stock into which the Company's Voting Stock is reclassified, consolidated, exchanged or changed, measured by voting power rather than number of shares; (3) the Company consolidates with, or merges with or into, any person, or any person consolidates with, or merges with or into, the Company, in any such event pursuant to a transaction in which any of the outstanding Voting Stock of the Company or the Voting Stock of such other person is converted into or exchanged for cash, securities or other property, other than any such transaction where the shares of the Voting Stock of the Company outstanding immediately prior to such transaction constitute, or are converted into or exchanged for, a majority of the Voting Stock of the surviving person or

any direct or indirect parent company of the surviving person, measured by voting power rather than number of shares, immediately after giving effect to such transaction; (4) the first day on which a majority of the members of the Board of Directors of the Company are not Continuing Directors; or (5) the adoption of a plan relating to the liquidation or dissolution of the Company.

Notwithstanding the preceding, a transaction will not be deemed to involve a Change of Control under clause (2) above if (i) the Company becomes a direct or indirect wholly-owned subsidiary of a holding company and (ii)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of Voting Stock of the Company immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company. The term "person," as used in this definition, has the meaning given thereto in Section 13(d)(3) of the Exchange Act.

"Change of Control Triggering Event" means the occurrence of both a Change of Control and a Rating Event.

"Continuing Directors" means, as of any date of determination, any member of the Board of Directors of the Company who (1) was a member of such Board of Directors on the date the Securities were issued or (2) was nominated for election, elected or appointed to such Board of Directors with the approval of a majority of the Continuing Directors who were members of such Board of Directors at the time of such nomination, election or appointment (either by a specific vote or by approval of the Company's proxy statement in which such member was named as a nominee for election as a director, without objection to such nomination).

"Fitch" means Fitch Inc. and its successors.

"Investment Grade Rating" means a rating equal to or higher than BBB- (or the equivalent) by Fitch, Baa3 (or the equivalent) by Moody's and BBB- (or the equivalent) by S&P, and the equivalent investment grade credit rating from any replacement Rating Agency or Rating Agencies selected by the Company.

"Moody's" means Moody's Investors Service, Inc. and its successors.

"Rating Agencies" means (1) each of Fitch, Moody's and S&P and (2) if any of Fitch, Moody's or S&P ceases to rate the Securities or fails to make a rating of the Securities publicly available for reasons outside of the Company's control, a "nationally recognized statistical rating organization" within the meaning of Section 3(a)(62) of the Exchange Act selected by the Company (as certified by a resolution of our Board of Directors) as a replacement agency for Fitch, Moody's or S&P, or all of them, as the case may be.

"Rating Event" means the rating on the Securities is lowered by at least two of the three Rating Agencies and the Securities are rated below an Investment Grade Rating by at least two of the three Rating Agencies, in any case on any day during the period (which period will be extended so long as the rating of the Securities is under publicly announced consideration for a possible downgrade by any of the rating agencies) commencing 60 days prior to the first public notice of the occurrence of a Change of Control or the Company's intention to effect a Change of Control and ending 60 days following consummation of such Change of Control.

"S&P" means Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc., and its successors.

"Voting Stock" means, with respect to any specified "person" (as that term is used in Section 13(d)(3) of the Exchange Act) as of any date, the capital stock of such person that is at the time entitled to vote generally in the election of the board of directors of such person.

7. *Denominations; Transfer; Exchange.*

The Securities are issued in registered form, without coupons, in a minimum denomination of $2,000 and integral multiples of $1,000 in excess thereof. A Holder may register the transfer of, or exchange, Securities in accordance with the Indenture. The Securities Registrar may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and to pay any taxes and fees required by law or permitted by the Indenture.

8. *Person Deemed Owners.*

The registered Holder of a Security may be treated as the owner of it for all purposes.

9. *Amendment; Supplement; Waiver.*

Subject to certain exceptions, the Indenture may be amended or supplemented, and any existing Event of Default or compliance with any provision may be waived, with the consent of the Holders of a majority in principal amount of the Outstanding Securities of each series affected. Without consent of any Holder, the parties thereto may amend or supplement the Indenture or the Securities to, among other things, cure any ambiguity, defect or inconsistency, or make any other change that does not adversely affect the interests of any Holder of a Security. Any such consent or waiver by the Holder of this Security (unless revoked as provided in the Indenture) shall be conclusive and binding upon such Holder and upon all future Holders and owners of this Security and any Securities which may be issued in exchange or substitution herefor, irrespective of whether or not any notation thereof is made upon this Security or such other Securities.

10. *Defaults and Remedies.*

If an Event of Default with respect to the Securities occurs and is continuing, then in every such case the Trustee or the Holders of not less than 25% in principal amount of the Securities then Outstanding may declare the principal amount of all the Securities to be due and payable immediately in the manner and with the effect provided in the Indenture. Notwithstanding the preceding sentence, however, if at any time after such a declaration of acceleration has been made and before judgment or decree for payment of the money due has been obtained by the Trustee as provided in the Indenture, the Holders of a majority in principal amount of the Outstanding Securities, by written notice to the Company and to the Trustee, may rescind and annul such declaration and its consequences if (1) the Company has paid or deposited with the Trustee a sum sufficient to pay (A) all overdue interest on all Securities, (B)

the principal of (and premium, if any, on) any Securities which has become due otherwise than by such declaration of acceleration and any interest thereon at the rate prescribed therefor herein, (C) to the extent that payment of such interest is lawful, interest upon overdue interest at the rate prescribed therefor herein, and (D) all sums paid or advanced by the Trustee and the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel and (2) all Events of Default under the Indenture with respect to the Securities, other than the nonpayment of the principal of Securities which has become due solely by such declaration acceleration, shall have been cured or shall have been waived. No such rescission shall affect any subsequent Event of Default or shall impair any right consequent thereon. Holders of Securities may not enforce the Indenture or the Securities except as provided in the Indenture. The Trustee may require indemnity satisfactory to it before it enforces the Indenture or the Securities. Subject to certain limitations, Holders of a majority in aggregate principal amount of the Securities then outstanding may direct the Trustee in its exercise of any trust or power.

11. *Trustee Dealings with Company.*

The Trustee under the Indenture, in its individual or any other capacity, may make loans to, accept deposits from, and perform services for the Company and its Affiliates and any subsidiary of the Company's Affiliates, and may otherwise deal with the Company and its Affiliates as if it were not the Trustee.

12. *Authentication.*

This Security shall not be valid until the Trustee or authenticating agent signs the certificate of authentication on the other side of this Security.

13. *Abbreviations and Defined Terms.*

Customary abbreviations may be used in the name of a Holder of a Security or an assignee, such as: TEN COM (tenant in common), TEN ENT (tenants by the entireties), JT TEN (joint tenants with right of survivorship and not as tenants in common), CUST (Custodian), and U/G/M/A (Uniform Gifts to Minors Act).

14. *CUSIP Numbers.*

Pursuant to a recommendation promulgated by the Committee on Uniform Note Identification Procedures, the Company has caused CUSIP numbers to be printed on the Securities as a convenience to the Holders of the Securities. No representation is made as to the accuracy of such number as printed on the Securities and reliance may be placed only on the other identification numbers printed hereon.

15. *Absolute Obligation.*

No reference herein to the Indenture and no provision of this Security or the Indenture shall alter or impair the obligation of the Company, which is absolute and unconditional, to pay the principal of, premium, if any, and interest on this Security in the manner, at the respective times, at the rate and in the coin or currency herein prescribed.

16. *No Recourse.*

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Security, or because of any indebtedness evidenced thereby, shall be had against any incorporator, past, present or future stockholder, officer or director, as such of the Company or of any successor, either directly or through the Company or of any successor, either directly or through the Company or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance of the Security by the Holder and as part of the consideration for the issue of the Security.

17. *Governing Law.*

This Security shall be construed in accordance with and governed by the laws of the State of New York.

18. *Guarantee.*

The Securities will be fully and unconditionally guaranteed on a senior basis by the Company's wholly owned subsidiary, Waste Management Holdings, Inc., pursuant to the terms and conditions of a Guarantee Agreement dated February 26, 2015 (the "Guarantee"). The amount of the Guarantee will be limited to the extent required under applicable fraudulent conveyance laws to cause the Guarantee to be enforceable. The terms and conditions of the Guarantee shall continue in full force and effect for the benefit of holders of the Securities until release thereof as set forth in Section 6 of the Guarantee.

SCHEDULE OF EXCHANGES OF DEFINITIVE SECURITY

The following exchanges of a part of this Book-Entry Security for definitive Securities have been made:

Date of Exchange	Amount of decrease in Principal Amount of this Book-Entry Security	Amount of increase in Principal Amount of this Book-Entry Security	Principal Amount of this Book-Entry Security following such decrease (or increase)	Signature of authorized officer of Trustee or Security Custodian

Annex B

Resolutions of the Board of Directors of Waste Management, Inc.

WHEREAS, on September 22, 2009, Waste Management, Inc. (the "Company") filed with the Securities Exchange Commission (the "SEC") an automatic shelf registration statement on Form S-3, File No. 333-162059 (the "Automatic Shelf Registration Statement"), which registered the offer and sale by the Company from time to time of common stock; senior and subordinated debt securities; preferred stock; warrants; units; and guarantees by Waste Management Holdings, Inc., a wholly-owned subsidiary of the Company ("WMHI"), with respect to debt securities, in one or more classes or series in amounts as may be determined at the time of any offering; and

WHEREAS, pursuant to rules and regulations promulgated by the SEC, the Automatic Shelf Registration Statement will expire, by its terms, on September 22, 2012, three years after the effective date of the Automatic Shelf Registration Statement; and

WHEREAS, at the time of the Board of Directors' approval of the Automatic Shelf Registration Statement, the Board of Directors also authorized the Company to offer and sell up to an aggregate of $3,000,000,000 of Securities (the "2009 Issuance Authorization"); and

WHEREAS, the Company desires, and finds it in the best interests of the Company, to file a new automatic shelf registration statement on Form S-3 in order to facilitate any future offerings of securities by the Company or any selling security holders.

NOW, THEREFORE, BE IT RESOLVED, that the Company is hereby authorized to prepare and file with the SEC an automatic shelf registration statement on Form S-3 (the "New Registration Statement"), pursuant to the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (the "Securities Act"), which New Registration Statement may cover, among other things, unsecured senior or subordinated debentures, notes or other evidences of indebtedness of the Company (collectively "Debt Securities"); shares of common stock, par value $0.01 per share, of the Company (the "Common Stock"); warrants to purchase shares of Common Stock; shares of preferred stock in such series with such designations, powers, preferences and relative and other special rights and qualifications, limitations and restrictions as the Board of Directors may from time to time authorize; guarantees of securities by WMHI; and any units consisting of one or more of the foregoing (the Debt Securities, Common Stock, warrants, preferred stock, guarantees and units collectively referred to herein as the "Securities"), to be issued from time to time;

RESOLVED FURTHER, that the proper officers (as established pursuant to these resolutions) be, and they hereby are, authorized, in their sole and absolute discretion, subject to any limitations set forth in these resolutions, to cause the Company to offer and sell up to an aggregate of $3,000,000,000 of Securities without further approval of the Board of Directors;

RESOLVED FURTHER, that upon the filing date of the New Registration Statement, authority to make new issuances of Securities pursuant to the 2009 Issuance Authorization shall be deemed rescinded;

RESOLVED FURTHER, that the proper officers and the authorized employees (as established pursuant to these resolutions) be, and each of them hereby is, authorized, in the name and on behalf of the Company, to execute and cause to be filed with the SEC any and all amendments (including, without limitation, post-effective amendments) or supplements to the New Registration Statement and any prospectus included therein and any additional documents which such officer or employee may deem necessary or desirable with respect to the registration and offering of the Securities, and such amendments, supplements, registration statements and documents to be in such form as the officer or employee executing the same may approve, as conclusively evidenced by his execution thereof;

RESOLVED FURTHER, that the General Counsel of the Company be, and he hereby is, designated and appointed the agent for service of process on the Company under the Securities Act in connection with the New Registration Statement and any and all amendments and supplements thereto, with all powers incident to such appointment;

RESOLVED FURTHER, that the proper officers and authorized employees be and hereby are authorized and directed in the name and on behalf of the Company to take any and all action which they may deem necessary or advisable in order to effect the registration or qualification of all or part of the Securities to be registered under the Securities Act, for offer and sale under the securities or Blue Sky laws of the states of the United States of America, and in connection therewith, to execute, acknowledge, verify, deliver, file and publish all such applications, reports, issuer's covenants, resolutions, consents to service of process, or appointments of governmental officials for the purpose of receiving and accepting service of process on the laws, and to take any and all further action which they may deem necessary or advisable in order to maintain any such registration or qualification for as long as they deem the same to be in the best interest of the Company;

RESOLVED FURTHER, that the form of any additional resolutions required in connection with the appropriate qualification or registration of the Securities for offer and sale under such securities or Blue Sky laws, be and hereby is approved and adopted, provided the appropriate officers of the Company, on the advice of counsel, consider the adoption thereof necessary or advisable, in which case the Secretary or any Assistant Secretary of the Company is hereby directed to insert as an appendix hereto a copy of such resolutions, which shall thereupon be deemed to have been adopted by this Board of Directors with the same force and effect as if set out verbatim herein;

RESOLVED FURTHER, that any of the proper officers or authorized employees be, and each of them hereby is, authorized to approve at any time and from time to time, one or more forms of underwriting agreements (and related terms agreement) and agency agreement (and related purchase agreement) and any other agreement or agreements any of such persons may deem necessary or appropriate in connection with the arrangements for the purchase of any of the Securities, and that such persons be, and each of them hereby is, authorized to execute and deliver, in the name and on behalf of the Company, any such agreement or agreements in substantially the form approved by any of them, with such changes therein as the person executing the same may approve, as conclusively evidenced by the execution and delivery thereof, it being understood that, in the case of any terms agreement or purchase agreement referred to above, it shall not be necessary for any of the proper officers to approve any individual agreement pursuant to which Securities are to be sold if the form thereof has previously been approved as provided in this resolution;

RESOLVED FURTHER, that any of the proper officers be, and each of them hereby is, authorized, at any time and from time to time, on behalf of the Company, (i) to determine, within any limits that may be set by the Board of Directors, the number of shares of Common Stock, preferred stock or other equity securities to be offered and sold by the Company pursuant to the New Registration Statement, including any shares underlying warrants or convertible Debt Securities, (ii) to authorize the reserve and issuance of such shares and (iii) to take any and all action and to do or cause to be done any and all things which may appear to any of the proper officers to be necessary or advisable in order to authorize, offer, issue, and sell such shares of Common Stock, pursuant to the New Registration Statement and the applicable purchase agreement, which action could be taken or which things could be done by the Board of Directors of the Company;

RESOLVED FURTHER, that any of the proper officers may, at any time and from time to time, on behalf of the Company, authorize the issuance of one or more series of Securities under the Company's indentures, within any limits that may be set by the Board of Directors, and in connection therewith establish, or, if all of the Securities of such series may not be originally issued at one time, to the extent deemed appropriate, prescribe the manner of determining, within any limitations established by any of the proper officers and subject in either case to the limitations set forth in these resolutions, all of the terms of such Securities;

RESOLVED FURTHER, that, in connection with any such series of Securities (but without limiting the authority hereinafter in these resolutions conferred with respect to the issuance of Securities of a series which may not all be originally issued at one time), any of the proper officers is authorized at any time or from time to time to determine the price or prices to be received by the Company in any offering or sale of Securities of such series, any public offering price or prices thereof, any discounts to be allowed or commissions to be paid to any agent, dealer or underwriter and any other terms of offering or sale of Securities of such series and to sell Securities of such series in accordance with any applicable purchase agreement or other agreement(s);

RESOLVED FURTHER, that, in connection with the issuance of Securities of any series which may not be originally issued at one time (except as may be inconsistent with any action taken by any of the proper officers, as hereinabove provided, in connection with such series), any of the proper officers may delegate any of its authority pursuant to these resolutions to any officer of the Company, including authority to fix the terms of such Securities;

RESOLVED FURTHER, that, in connection with any such series of Securities, any of the proper officers is authorized to approve any amendment, modification or supplement to the Company's indentures and that any proper officer be, and each of them hereby is, authorized to execute and deliver, in the name and on behalf of the Company, any such amendment, modification or supplement, substantially in the form approved by any proper officer;

RESOLVED FURTHER, that the proper officers and authorized employees be, and each of them hereby is, authorized, in the name and on behalf of the Company, to execute and deliver such other agreements (including indemnity agreements), documents, certificates, orders, requests and instruments as may be contemplated by the Company's indentures or required by the trustee thereunder, the security registrar or any other agent of the Company under such indentures in connection therewith or as may be necessary or appropriate in connection with the issuance and sale of Securities thereunder;

RESOLVED FURTHER, that the proper officers be, and each of them hereby is, authorized, subject to and in accordance with the Company's indentures and any action taken by any of the proper officers in connection therewith, from time to time to appoint or designate on behalf of the Company one or more security registrars, paying agents and transfer agents for each series of Securities, to rescind on behalf of the Company any such appointment or designation and to approve on behalf of the Company any change in the location of any office through which any such security registrar, paying agent or transfer agent acts, and in connection therewith to take such action and to make, execute and deliver, or cause to be made, executed and delivered, such agreements, instruments and other documents as any such officer may deem necessary or appropriate;

RESOLVED FURTHER, that the proper officers and authorized employees be, and each of them hereby is, authorized, in the name and on behalf of the Company, to make application to such securities exchange or exchanges as the persons acting shall deem necessary or appropriate for the listing thereof of any of the Securities (including any Common Stock or preferred stock underlying any convertible Securities) and in connection therewith to appoint one or more listing agents and to prepare, or cause to be prepared, execute and file, or cause to be filed, an application or applications for such listing and any and all amendments thereto and any additional certificates, documents, letters and other instruments which any such officer may deem necessary or desirable; that such officers, or such other person as any such officer may designate in writing, be, and each of them hereby is, authorized to appear before any official or officials or before any body of any such exchange, with authority to make such changes in such application, amendments, certificates, documents, letters and other instruments and to execute and deliver such agreements relative thereto, including, without limitation, listing agreements, fee agreements and indemnity agreements relating to the use of facsimile signatures as they, or any one of them, may deem necessary or appropriate in order to comply with the requirements of any such exchange or to effect such listing;

RESOLVED FURTHER, that the proper officers be, and each of them hereby is, authorized, in the name and on behalf of the Company, to make application to the SEC for registration of any series of the Securities under Section 12 or other applicable section of the Securities Exchange Act of 1934, and the proper officers and authorized employees are hereby authorized to prepare or cause to be prepared, and to execute and file, or cause to be filed, with the SEC and any securities exchange an application or applications for such registration and any and all amendments thereto and any additional certificates, documents, letters and other instruments which any such officer may deem necessary or desirable;

RESOLVED FURTHER, that the officers and authorized employees of the Company be, and each of them hereby is, authorized to take, or cause to be taken, any and all action which any such officer may deem necessary or desirable in order to carry out the purpose and intent of the foregoing resolutions or in order to perform, or cause to be performed, the obligations of the Company under the Securities, the New Registration Statement and any indenture, purchase agreement, or other agreement referred to herein, and, in connection therewith, to make, execute and deliver, or cause to be made, executed and delivered, all agreements, undertakings, documents, certificates, orders, requests or instruments in the name and on behalf of the Company as each such officer or authorized employee may deem necessary or appropriate;

RESOLVED FURTHER, that for purposes of these resolutions, the term "proper officer" shall mean any or all of the Chief Executive Officer, the Chief Financial Officer, the General Counsel, the Chief Accounting Officer and the Treasurer of the Company and the term "authorized employees" shall mean either or both of the Vice President and Assistant General Counsel – Corporate and Securities and the Senior Legal Counsel – Corporate & Securities of the Company;

RESOLVED FURTHER, that the form of any additional resolutions required in connection with the foregoing resolutions be and hereby is approved and adopted, provided the proper officers of the Company, on the advice of counsel, consider the adoption thereof necessary or advisable, in which case the Secretary or any Assistant Secretary of the Company is hereby directed to insert as an appendix hereto a copy of such resolutions, which shall, upon execution, be deemed to have been adopted by this Board of Directors with the same force and effect as if set out verbatim herein; and

RESOLVED FURTHER, that any officer of the Company is hereby authorized and directed to make, provide, execute, and deliver any and all statements, applications, certificates, representations, payments, notices, receipts, and other instruments and documents and take any and all other actions which in the opinion of such officer is or may be necessary or appropriate in connection with or to consummate any of the matters covered by the foregoing resolutions.

Exhibit 4.4

GUARANTEE

BY WASTE MANAGEMENT HOLDINGS, INC.

(formerly known as Waste Management, Inc.)

in Favor of The Bank of New York Mellon Trust Company, N.A., as Trustee for the Holders of Certain Debt Securities of

WASTE MANAGEMENT, INC.

$600,000,000
3.125% Senior Notes due 2025

February 26, 2015

GUARANTEE, dated as of February 26, 2015 (as amended from time to time, this "Guarantee"), made by Waste Management Holdings, Inc. (formerly known as Waste Management, Inc.), a Delaware corporation (the "Guarantor"), in favor of The Bank of New York Mellon Trust Company, N.A., as trustee for the holders of the $600 million aggregate principal amount of 3.125% Senior Notes due 2025 (the "Debt Securities") of Waste Management, Inc. (formerly known as USA Waste Services, Inc.), a Delaware corporation (the "Issuer").

WITNESSETH:

SECTION 1. Guarantee

(a) The Guarantor hereby unconditionally guarantees the punctual payment when due, whether at stated maturity, by acceleration or otherwise, of the principal of, premium, if any, and interest on the Debt Securities and any amounts and obligations due and payable with respect to the Debt Securities under Section 607 of the Indenture (as amended, modified or otherwise supplemented from time to time, the "Indenture"), dated as of September 10, 1997, between the Issuer, as successor to USA Waste Services, Inc., and The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee") (the "Obligations"), according to the terms of the Debt Securities and the Indenture, as applicable.

(b) It is the intention of the Guarantor that this Guarantee not constitute a fraudulent transfer or conveyance for purposes of Bankruptcy Law, the Uniform Fraudulent Conveyance Act, the Uniform Fraudulent Transfer Act or any similar federal or state law to the extent applicable to this Guarantee. To effectuate the foregoing intention, the amount guaranteed by the Guarantor under this Guarantee shall be limited to the maximum amount as will, after giving effect to such maximum amount and all other contingent and fixed liabilities of the Guarantor (other than guarantees of the Guarantor in respect of subordinated debt) that are relevant under such laws, result in the Obligations of the Guarantor under this Guarantee not constituting a fraudulent transfer or conveyance. For purposes hereof, "Bankruptcy Law" means Title 11, U.S. Code, or any similar Federal or state law for the relief of debtors.

SECTION 2. Guarantee Absolute. The Guarantor guarantees that the Obligations will be paid strictly in accordance with the terms of the Indenture, regardless of any law, regulation or order now or hereafter in effect in any jurisdiction affecting any of such terms or the rights of holders of the Debt Securities with respect thereto. The liability of the Guarantor under this Guarantee shall be absolute and unconditional irrespective of:

(i) any lack of validity or enforceability of the Indenture, the Debt Securities or any other agreement or instrument relating thereto;

(ii) any change in the time, manner or place of payment of, or in any other term of, all or any of the Obligations, or any other amendment or waiver of or any consent to departure from the Indenture;

(iii) any exchange, release or non-perfection of any collateral, or any release or amendment or waiver of or consent to departure from any other guaranty, for all or any of the Obligations; or

(iv) any other circumstance which might otherwise constitute a defense available to, or a discharge of, the Issuer or a guarantor.

SECTION 3. Subordination. The Guarantor covenants and agrees that its obligation to make payments of the Obligations hereunder constitutes an unsecured obligation of the Guarantor ranking (a) *pari passu* with all existing and future senior indebtedness of the Guarantor and (b) senior in right of payment to all existing and future subordinated indebtedness of the Guarantor.

SECTION 4. Waiver; Subrogation

(a) The Guarantor hereby waives notice of acceptance of this Guarantee, diligence, presentment, demand of payment, filing of claims with a court in the event of merger or bankruptcy of the Issuer, any right to require a proceeding filed first against the Issuer, protest or notice with respect to the Debt Securities or the indebtedness evidenced thereby and all demands whatsoever.

(b) The Guarantor shall be subrogated to all rights of the Trustee or the holders of any Debt Securities against the Issuer in respect of any amounts paid to the Trustee or such holder by the Guarantor pursuant to the provisions of this Guarantee; provided, however, that the Guarantor shall not be entitled to enforce, or to receive any payments arising out of, or based upon, such right of subrogation until all Obligations shall have been paid in full.

SECTION 5. No Waiver, Remedies. No failure on the part of the Trustee or any holder of the Debt Securities to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

SECTION 6. Continuing Guarantee; Transfer of Interest. This Guarantee is a continuing guaranty and shall (i) remain in full force and effect until the earliest to occur of (A) the date, if any, on which the Guarantor shall consolidate with or merge into the Issuer or any successor thereto, (B) the date, if any, on which the Issuer or any successor thereto shall consolidate with or merge into the Guarantor, (C) payment in full of the Obligations and (D) the release by the lenders under the Second Amended and Restated Revolving Credit Agreement dated July 26, 2013, by and among the Issuer, the Guarantor (as guarantor), Bank of America, N.A., as administrative agent, J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated and Barclays Bank PLC, as lead arrangers and joint book runners (or under any replacement or new principal credit facility of the Issuer) of the guarantee of the Guarantor thereunder, (ii) be binding upon the Guarantor, its successors and assigns, and (iii) inure to the benefit of and be enforceable by any holder of Debt Securities, the Trustee, and by their respective successors, transferees, and assigns.

SECTION 7. Reinstatement. This Guarantee shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Obligations is rescinded or must otherwise be returned by any holder of the Debt Securities or the Trustee upon the insolvency, bankruptcy or reorganization of the Issuer or otherwise, all as though such payment had not been made.

SECTION 8. Amendment. The Guarantor may amend this Guarantee at any time for any purpose without the consent of the Trustee or any holder of the Debt Securities; provided, however, that if such amendment adversely affects the rights of the Trustee or any holder of the Debt Securities, the prior written consent of the Trustee shall be required.

SECTION 9. Governing Law. THIS GUARANTEE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO THE PROVISIONS THEREOF RELATING TO CONFLICT OF LAWS.

IN WITNESS WHEREOF, the Guarantor has caused this Guarantee to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

WASTE MANAGEMENT HOLDINGS, INC.

By: /s/ Devina A. Rankin
Devina A. Rankin
Vice President and Treasurer

By: /s/ Ed Egl
Ed Egl
Assistant Treasurer

Signature Page to Guarantee

Exhibit 4.5

GUARANTEE

BY WASTE MANAGEMENT HOLDINGS, INC.

(formerly known as Waste Management, Inc.)

in Favor of The Bank of New York Mellon Trust Company, N.A., as Trustee for the Holders of Certain Debt Securities of

WASTE MANAGEMENT, INC.

$450,000,000
3.900% Senior Notes due 2035

February 26, 2015

GUARANTEE, dated as of February 26, 2015 (as amended from time to time, this "Guarantee"), made by Waste Management Holdings, Inc. (formerly known as Waste Management, Inc.), a Delaware corporation (the "Guarantor"), in favor of The Bank of New York Mellon Trust Company, N.A., as trustee for the holders of the $450 million aggregate principal amount of 3.900% Senior Notes due 2035 (the "Debt Securities") of Waste Management, Inc. (formerly known as USA Waste Services, Inc.), a Delaware corporation (the "Issuer").

WITNESSETH:

SECTION 1. Guarantee

(a) The Guarantor hereby unconditionally guarantees the punctual payment when due, whether at stated maturity, by acceleration or otherwise, of the principal of, premium, if any, and interest on the Debt Securities and any amounts and obligations due and payable with respect to the Debt Securities under Section 607 of the Indenture (as amended, modified or otherwise supplemented from time to time, the "Indenture"), dated as of September 10, 1997, between the Issuer, as successor to USA Waste Services, Inc., and The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee") (the "Obligations"), according to the terms of the Debt Securities and the Indenture, as applicable.

(b) It is the intention of the Guarantor that this Guarantee not constitute a fraudulent transfer or conveyance for purposes of Bankruptcy Law, the Uniform Fraudulent Conveyance Act, the Uniform Fraudulent Transfer Act or any similar federal or state law to the extent applicable to this Guarantee. To effectuate the foregoing intention, the amount guaranteed by the Guarantor under this Guarantee shall be limited to the maximum amount as will, after giving effect to such maximum amount and all other contingent and fixed liabilities of the Guarantor (other than guarantees of the Guarantor in respect of subordinated debt) that are relevant under such laws, result in the Obligations of the Guarantor under this Guarantee not constituting a fraudulent transfer or conveyance. For purposes hereof, "Bankruptcy Law" means Title 11, U.S. Code, or any similar Federal or state law for the relief of debtors.

SECTION 2. Guarantee Absolute. The Guarantor guarantees that the Obligations will be paid strictly in accordance with the terms of the Indenture, regardless of any law, regulation or order now or hereafter in effect in any jurisdiction affecting any of such terms or the rights of holders of the Debt Securities with respect thereto. The liability of the Guarantor under this Guarantee shall be absolute and unconditional irrespective of:

(i) any lack of validity or enforceability of the Indenture, the Debt Securities or any other agreement or instrument relating thereto;

(ii) any change in the time, manner or place of payment of, or in any other term of, all or any of the Obligations, or any other amendment or waiver of or any consent to departure from the Indenture;

(iii) any exchange, release or non-perfection of any collateral, or any release or amendment or waiver of or consent to departure from any other guaranty, for all or any of the Obligations; or

(iv) any other circumstance which might otherwise constitute a defense available to, or a discharge of, the Issuer or a guarantor.

SECTION 3. Subordination. The Guarantor covenants and agrees that its obligation to make payments of the Obligations hereunder constitutes an unsecured obligation of the Guarantor ranking (a) *pari passu* with all existing and future senior indebtedness of the Guarantor and (b) senior in right of payment to all existing and future subordinated indebtedness of the Guarantor.

SECTION 4. Waiver; Subrogation

(a) The Guarantor hereby waives notice of acceptance of this Guarantee, diligence, presentment, demand of payment, filing of claims with a court in the event of merger or bankruptcy of the Issuer, any right to require a proceeding filed first against the Issuer, protest or notice with respect to the Debt Securities or the indebtedness evidenced thereby and all demands whatsoever.

(b) The Guarantor shall be subrogated to all rights of the Trustee or the holders of any Debt Securities against the Issuer in respect of any amounts paid to the Trustee or such holder by the Guarantor pursuant to the provisions of this Guarantee; provided, however, that the Guarantor shall not be entitled to enforce, or to receive any payments arising out of, or based upon, such right of subrogation until all Obligations shall have been paid in full.

SECTION 5. No Waiver, Remedies. No failure on the part of the Trustee or any holder of the Debt Securities to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

SECTION 6. Continuing Guarantee; Transfer of Interest. This Guarantee is a continuing guaranty and shall (i) remain in full force and effect until the earliest to occur of (A) the date, if any, on which the Guarantor shall consolidate with or merge into the Issuer or any successor thereto, (B) the date, if any, on which the Issuer or any successor thereto shall consolidate with or merge into the Guarantor, (C) payment in full of the Obligations and (D) the release by the lenders under the Second Amended and Restated Revolving Credit Agreement dated July 26, 2013, by and among the Issuer, the Guarantor (as guarantor), Bank of America, N.A., as administrative agent, J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated and Barclays Bank PLC, as lead arrangers and joint book runners (or under any replacement or new principal credit facility of the Issuer) of the guarantee of the Guarantor thereunder, (ii) be binding upon the Guarantor, its successors and assigns, and (iii) inure to the benefit of and be enforceable by any holder of Debt Securities, the Trustee, and by their respective successors, transferees, and assigns.

SECTION 7. Reinstatement. This Guarantee shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Obligations is rescinded or must otherwise be returned by any holder of the Debt Securities or the Trustee upon the insolvency, bankruptcy or reorganization of the Issuer or otherwise, all as though such payment had not been made.

SECTION 8. Amendment. The Guarantor may amend this Guarantee at any time for any purpose without the consent of the Trustee or any holder of the Debt Securities; provided, however, that if such amendment adversely affects the rights of the Trustee or any holder of the Debt Securities, the prior written consent of the Trustee shall be required.

SECTION 9. Governing Law. THIS GUARANTEE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO THE PROVISIONS THEREOF RELATING TO CONFLICT OF LAWS.

IN WITNESS WHEREOF, the Guarantor has caused this Guarantee to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

WASTE MANAGEMENT HOLDINGS, INC.

By: /s/ Devina A. Rankin
Devina A. Rankin
Vice President and Treasurer

By: /s/ Ed Egl
Ed Egl
Assistant Treasurer

Signature Page to Guarantee

Exhibit 4.6

GUARANTEE

BY WASTE MANAGEMENT HOLDINGS, INC.

(formerly known as Waste Management, Inc.)

in Favor of The Bank of New York Mellon Trust Company, N.A., as Trustee for the Holders of Certain Debt Securities of

WASTE MANAGEMENT, INC.

$750,000,000
4.100% Senior Notes due 2045

February 26, 2015

GUARANTEE, dated as of February 26, 2015 (as amended from time to time, this "Guarantee"), made by Waste Management Holdings, Inc. (formerly known as Waste Management, Inc.), a Delaware corporation (the "Guarantor"), in favor of The Bank of New York Mellon Trust Company, N.A., as trustee for the holders of the $750 million aggregate principal amount of 4.100% Senior Notes due 2045 (the "Debt Securities") of Waste Management, Inc. (formerly known as USA Waste Services, Inc.), a Delaware corporation (the "Issuer").

WITNESSETH:

SECTION 1. Guarantee

(a) The Guarantor hereby unconditionally guarantees the punctual payment when due, whether at stated maturity, by acceleration or otherwise, of the principal of, premium, if any, and interest on the Debt Securities and any amounts and obligations due and payable with respect to the Debt Securities under Section 607 of the Indenture (as amended, modified or otherwise supplemented from time to time, the "Indenture"), dated as of September 10, 1997, between the Issuer, as successor to USA Waste Services, Inc., and The Bank of New York Mellon Trust Company, N.A. (the current successor to Texas Commerce Bank National Association), as trustee (the "Trustee") (the "Obligations"), according to the terms of the Debt Securities and the Indenture, as applicable.

(b) It is the intention of the Guarantor that this Guarantee not constitute a fraudulent transfer or conveyance for purposes of Bankruptcy Law, the Uniform Fraudulent Conveyance Act, the Uniform Fraudulent Transfer Act or any similar federal or state law to the extent applicable to this Guarantee. To effectuate the foregoing intention, the amount guaranteed by the Guarantor under this Guarantee shall be limited to the maximum amount as will, after giving effect to such maximum amount and all other contingent and fixed liabilities of the Guarantor (other than guarantees of the Guarantor in respect of subordinated debt) that are relevant under such laws, result in the Obligations of the Guarantor under this Guarantee not constituting a fraudulent transfer or conveyance. For purposes hereof, "Bankruptcy Law" means Title 11, U.S. Code, or any similar Federal or state law for the relief of debtors.

SECTION 2. Guarantee Absolute. The Guarantor guarantees that the Obligations will be paid strictly in accordance with the terms of the Indenture, regardless of any law, regulation or order now or hereafter in effect in any jurisdiction affecting any of such terms or the rights of holders of the Debt Securities with respect thereto. The liability of the Guarantor under this Guarantee shall be absolute and unconditional irrespective of:

(i) any lack of validity or enforceability of the Indenture, the Debt Securities or any other agreement or instrument relating thereto;

(ii) any change in the time, manner or place of payment of, or in any other term of, all or any of the Obligations, or any other amendment or waiver of or any consent to departure from the Indenture;

(iii) any exchange, release or non-perfection of any collateral, or any release or amendment or waiver of or consent to departure from any other guaranty, for all or any of the Obligations; or

(iv) any other circumstance which might otherwise constitute a defense available to, or a discharge of, the Issuer or a guarantor.

SECTION 3. Subordination. The Guarantor covenants and agrees that its obligation to make payments of the Obligations hereunder constitutes an unsecured obligation of the Guarantor ranking (a) *pari passu* with all existing and future senior indebtedness of the Guarantor and (b) senior in right of payment to all existing and future subordinated indebtedness of the Guarantor.

SECTION 4. Waiver; Subrogation

(a) The Guarantor hereby waives notice of acceptance of this Guarantee, diligence, presentment, demand of payment, filing of claims with a court in the event of merger or bankruptcy of the Issuer, any right to require a proceeding filed first against the Issuer, protest or notice with respect to the Debt Securities or the indebtedness evidenced thereby and all demands whatsoever.

(b) The Guarantor shall be subrogated to all rights of the Trustee or the holders of any Debt Securities against the Issuer in respect of any amounts paid to the Trustee or such holder by the Guarantor pursuant to the provisions of this Guarantee; provided, however, that the Guarantor shall not be entitled to enforce, or to receive any payments arising out of, or based upon, such right of subrogation until all Obligations shall have been paid in full.

SECTION 5. No Waiver, Remedies. No failure on the part of the Trustee or any holder of the Debt Securities to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof; nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

SECTION 6. Continuing Guarantee; Transfer of Interest. This Guarantee is a continuing guaranty and shall (i) remain in full force and effect until the earliest to occur of (A) the date, if any, on which the Guarantor shall consolidate with or merge into the Issuer or any successor thereto, (B) the date, if any, on which the Issuer or any successor thereto shall consolidate with or merge into the Guarantor, (C) payment in full of the Obligations and (D) the release by the lenders under the Second Amended and Restated Revolving Credit Agreement dated July 26, 2013, by and among the Issuer, the Guarantor (as guarantor), Bank of America, N.A., as administrative agent, J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated and Barclays Bank PLC, as lead arrangers and joint book runners (or under any replacement or new principal credit facility of the Issuer) of the guarantee of the Guarantor thereunder, (ii) be binding upon the Guarantor, its successors and assigns, and (iii) inure to the benefit of and be enforceable by any holder of Debt Securities, the Trustee, and by their respective successors, transferees, and assigns.

SECTION 7. Reinstatement. This Guarantee shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Obligations is rescinded or must otherwise be returned by any holder of the Debt Securities or the Trustee upon the insolvency, bankruptcy or reorganization of the Issuer or otherwise, all as though such payment had not been made.

SECTION 8. Amendment. The Guarantor may amend this Guarantee at any time for any purpose without the consent of the Trustee or any holder of the Debt Securities; provided, however, that if such amendment adversely affects the rights of the Trustee or any holder of the Debt Securities, the prior written consent of the Trustee shall be required.

SECTION 9. Governing Law. THIS GUARANTEE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO THE PROVISIONS THEREOF RELATING TO CONFLICT OF LAWS.

IN WITNESS WHEREOF, the Guarantor has caused this Guarantee to be duly executed and delivered by its officer thereunto duly authorized as of the date first above written.

WASTE MANAGEMENT HOLDINGS, INC.

By: /s/ Devina A. Rankin
Devina A. Rankin
Vice President and Treasurer

By: /s/ Ed Egl
Ed Egl
Assistant Treasurer

Signature Page to Guarantee

EXHIBIT 10.2

SEPARATION AND RELEASE AGREEMENT

THIS SEPARATION AND RELEASE AGREEMENT ("Separation Agreement") is entered into between USA Waste-Management Resources, LLC (the "Company") and Rick L Wittenbraker (the "Executive").

This Separation Agreement is binding upon, and extends to, the parties and their past and present officers, directors, employees, shareholders, parent corporations, subsidiaries, affiliates, partners, agents, representatives, heirs, executors, assigns, administrators, successors, predecessors, family members, d/b/a's, assumed names, and insurers, whether specifically mentioned hereafter or not. A reference to a party in this Separation Agreement necessarily includes those persons and/or entities described in the foregoing sentence.

PREAMBLE

WHEREAS, Waste Management, Inc. (together with any entity that is a direct or indirect majority-owned subsidiary of Waste Management, Inc. "Waste Management") and Executive previously entered into that certain Employment Agreement dated October 31, 2003, as may have been amended from time to time (the "Employment Agreement");

WHEREAS, pursuant to such Employment Agreement, Executive has been continuously employed;

WHEREAS, Executive has elected to participate in the Company's 2014 voluntary early retirement program (the "VERP"), and his resignation is effective January 30, 2015;

WHEREAS, the Parties agree that upon his separation and execution of a waiver and release of claims, Executive will receive certain benefits described in Exhibit B of this Separation Agreement;

WHEREAS, the Company and Executive now jointly desire to enter into this Separation Agreement to supplement the continuing provisions of said Employment Agreement as set forth below; and

NOW, THEREFORE, in consideration of the premises and agreements contained herein, and for other good and valuable consideration, the Company and Executive hereby agree as follows:

1. **Termination of Employment.** The employment of Executive will terminate on January 30, 2015 ("Employment Termination Date"). The parties agree that Executive is entitled to the certain compensation and benefits set forth in Section 6(d) of the Employment Agreement without his execution of a release, as more specifically detailed in Exhibit A to this Separation Agreement. It is expressly agreed to and acknowledged by the parties that Executive is entitled to the compensation and benefits set forth in Exhibit A whether or not he executes this Separation Agreement.

2. **Payment of Additional Consideration.** In consideration of the premises and promises herein contained, and subject to Executive executing and not revoking this Separation Agreement, it is agreed that the Company will provide Executive those certain benefits specifically detailed in Exhibit B to this Separation Agreement. It is expressly agreed to and acknowledged by the parties that Executive is not entitled to the benefits set forth in Exhibit B until such time as he executes and does not revoke this Separation Agreement. The Company shall withhold, or cause to be withheld, from said payments all amounts required to be withheld pursuant to federal, state or local tax laws.

The consideration set forth in this Paragraph 2 is in full, final and complete settlement of any and all claims which Executive could make in any complaint, charge, or civil action, whether for actual, nominal, compensatory, or punitive damages (including attorneys' fees). Executive acknowledges that such consideration is being made as consideration for the releases set forth in Paragraphs 3 and 4. Executive further acknowledges that the items of consideration set forth in this Paragraph 2 are separate and distinct of and from each other, and that payment of each such item is independent valuable consideration for the release and waiver set forth in Paragraphs 3 and 4.

3. **General Release.** In exchange for the first payment made to you pursuant to Paragraph 2, Executive releases and discharge the Company, its past and present parent, subsidiary and affiliated companies, agents, directors, officers, employees, and representatives, and all persons acting by, through, under or in concert with the Company (collectively referred to as the "Released Parties"), from any and all causes of action, claims, liabilities, obligations, promises, agreements, controversies, damages, and expenses, known or unknown, which Executive ever had, or now have, against the Released Parties to the date of this Separation Agreement. The claims Executive releases include, but are not limited to, claims that the Released Parties:

- discriminated against Executive on the basis of Executive's race, color, sex (including sexual harassment), national origin, ancestry, disability, religion, sexual orientation, marital status, parental status, veteran status, source of income, entitlement to benefits, union activities, or any other status protected by local, state or federal laws, constitutions, regulations, ordinances, executive orders, including but not limited to the Massachusetts Fair Employment Practices Act, the New Jersey Conscientious Employee Protection Act, the New Jersey Law Against Discrimination, the New Jersey Whistleblower Act, North Dakota Century Code §9-13-02 and South Dakota Code Laws § 20-7-11; or

- discriminated against Executive on the basis of Executive's age or violated any right Executive may have under the Age Discrimination in Employment Act ("ADEA"); or

- failed to give proper notice of this employment termination under the Workers Adjustment and Retraining Notification Act ("WARN"), or any similar state or local statute or ordinance; or

- violated any other federal, state, or local employment statute, such as the Employee Retirement Income Security Act of 1974, which, among other things, protects employee benefits; the Fair Labor Standards Act, which regulates wage

and hour matters; the Family and Medical Leave Act, which requires employers to provide leaves of absence under certain circumstances; Title VII of the Civil Rights Act of 1964; the Older Workers Benefits Protection Act; the Americans With Disabilities Act; the Rehabilitation Act; OSHA; and any other laws relating to employment; or

- violated its personnel policies, handbooks, any covenant of good faith and fair dealing, or any contract of employment between Executive and any of the Released Parties; or

- violated public policy or common law, including claims for: personal injury, invasion of privacy, retaliatory discharge, negligent hiring, retention or supervision, defamation, intentional or negligent infliction of emotional distress and/or mental anguish, intentional interference with contract, negligence, detrimental reliance, loss of consortium to Executive or any member of Executive's family, and/or promissory estoppel; or

- is in any way obligated for any reason to pay Executive's damages, expenses, litigation costs (including attorneys' fees), bonuses, commissions, disability benefits, compensatory damages, punitive damages, and/or interest, except as provided for in Paragraph 10 of the Employment Agreement, or as otherwise provided by this Separation Agreement, law or Waste Management's bylaws and certificates of incorporation.

Executive understands and agrees that this Separation Agreement includes all claims that Executive may have and that Executive does not now know or suspect to exist in Executive's favor against the Released Parties, and that this Separation Agreement extinguishes those claims. Executive is not prohibited from making or asserting (a) any claim or right under state workers' compensation or unemployment laws; (b) any claim or right, which by law cannot be waived through private agreement; or (c) any claims or rights under the ADEA or any other law that may arise after Executive executes this Separation Agreement.

4. Charges and Administrative Proceedings. Nothing in this Separation Agreement shall affect the U.S. Equal Employment Opportunity Commission's ("EEOC") or a comparable state or local agency's rights and responsibilities to enforce the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1967 ("ADEA"), as amended, or any other applicable law. Further, nothing in this Separation Agreement shall be construed as a basis for interfering with Executive's protected right to challenge the waiver of an ADEA claim under the Older Workers Benefit Protection Act, or to file a charge with, or participate in an investigation or proceeding conducted by, the EEOC, the National Labor Relations Board ("NLRB") or any other state, federal or local government entity; provided, however, if the EEOC, NLRB, or any other state, federal or local government entity commences an investigation on Executive's behalf, Executive specifically waives and releases his right, if any, to recover any monetary or other benefits of any sort whatsoever arising from any such investigation, nor will Executive seek reinstatement to Executive's former position with the Company.

5. Covenant Not to Sue. For the purpose of giving a full and complete release, Executive covenants and agrees that he has no pending claims or charges against the Released

Parties. If Executive has any pending claims in a federal, state or local court, or in an arbitral forum, Executive agrees to promptly file all appropriate papers requesting withdrawal and dismissal of such claims. Executive further agrees not to sue any of the Released Parties or become a party to a lawsuit on the basis of any claims of any type to date that arise out of any aspect of Executive's employment or termination of employment. Executive understands that this is an affirmative promise by Executive not to sue any of the Released Parties, which is in addition to Executive's general release of claims in Paragraph 3 above.

Nothing in this Separation Agreement prevents Executive from bringing an action challenging the validity of this Separation Agreement or taking any action set forth in Paragraph 4 above. If a federal, state or local government agency commences an investigation on your behalf, Executive specifically waives and releases the right, if any, to recover any monetary or other benefits of any sort whatsoever arising from any such investigation, nor will Executive seek reinstatement to Executive's former position with the Company.

If Executive breaches this Separation Agreement by suing any of the Released Parties in violation of this Covenant Not to Sue, Executive understands that (i) the Released Parties will be entitled to apply for and receive an injunction to restrain any violation of this paragraph, and (ii) Executive will be required to pay the Released Parties' legal costs and expenses, including reasonable attorney fees, associated with defending against the lawsuit and enforcing the terms of this Separation Agreement.

6. Protective Covenants and Loss of Benefits. Executive acknowledges and agrees that the protective and restrictive covenants set forth in Section 10 of the Employment Agreement (the "Employment Agreement Protective Covenants") remain in full force and effect and that the benefits payable under Section 2 of this Separation Agreement are subject to forfeiture due to prohibited conduct as set forth in Section 11 of the Employment Agreement.

7. Application to all Forms of Relief. This Separation Agreement applies to any relief no matter how called, including without limitation, wages, back pay, front pay, reinstatement, compensatory damages, liquidated damages, punitive damages for pain or suffering, costs and attorney's fees and expenses.

8. No Admissions, Complaints or Other Claims. The Executive acknowledges and agrees that this Separation Agreement is not to be construed in any way as an admission of any liability whatsoever by any Released Party, any such liability being expressly denied. The Executive also acknowledges and agrees that he has not, with respect to any transaction or state of facts existing prior to the date hereof, filed any Actions against any Released Party with any governmental agency, court or tribunal.

9. Acknowledgments. Executive has fully reviewed the terms of this Separation Agreement, acknowledges that he understands its terms, and states that he is entering into this Separation Agreement knowingly, voluntarily, and in full settlement of all claims which existed in the past or which currently exist, that arise out of his employment with the Company or the termination of his employment.

Executive acknowledges that he has had at least forty-five (45) days to consider this General Release Agreement thoroughly, and Executive understands that he has the right to consult with an attorney, before he signs below and is advised to do so.

If Executive signs and returns this General Release Agreement before the end of the 45-day period, he certifies that his acceptance of a shortened time period is knowing and voluntary, and the Company did not — through fraud, misrepresentation, a threat to withdraw or alter the offer before the 45-day period expires, or by providing different terms to other employees who sign the release before such time period expires — improperly encourage Executive to sign.

Executive understands that he may revoke this General Release Agreement within seven (7) days after he signs it. Executive's revocation must be in writing and submitted within the seven (7) day period to Kimberly Gee Stith, via hand delivery or via electronic delivery at: KStith@wm.com. If Executive does not revoke this General Release Agreement within the seven (7) day period, it becomes irrevocable. Executive further understands that if he revokes this General Release Agreement, he will not be eligible to receive the benefits described in Exhibit B. All benefits described in Exhibit B will be paid on the dates specified herein, but only if this General Release Agreement has been duly executed and not revoked within its revocation period.

Executive also acknowledges that before signing this Separation Agreement, Executive received certain information about the eligibility for the benefits available under this Separation Agreement and the persons affected by this employment termination program, including the job titles and ages of both the persons selected and not selected to receive the benefits available under this Separation Agreement. This information is attached to this Separation Agreement as Exhibit C.

10. **Settlement and Acquisition of Goodwill.** Executive waives and releases any and all claims that restrictive covenants contained in Paragraph 8 of the Employment Agreement (the "Employment Agreement Protective Covenants") are not enforceable or are against public policy. Executive covenants not to file a lawsuit or arbitration proceeding, pursue declaratory relief, or otherwise take any legal action to challenge the enforceability of the Employment Agreement Protective Covenants. The parties agree that the payments and benefits referred to in Exhibit B are, in part, consideration of the settlement of all disputes regarding the enforceability and application of goodwill, trade secrets, and confidential information developed by Executive in the course of his employment with the Company. To help preserve the value of the goodwill, trade secrets, and confidential information acquired herewith, it is agreed that Executive will comply with the Employment Agreement Protective Covenants (incorporated herein by reference) for the periods of time set forth therein. It is specifically agreed that the two-year Restricted Term set forth in Paragraph 10 of the Employment Agreement and the restriction provided for therein shall commence upon Executive's termination of employment with the Company.

11. **Assistance and Cooperation.** Executive agrees that he will cooperate fully with the Company and its counsel, upon their request, with respect to any proceeding (including any litigation, arbitration, regulatory proceeding, investigation or governmental action) that relates to matters with which Executive was involved while he was an employee of the Company or with which he has knowledge. Executive agrees to render such cooperation in a timely fashion and to

provide Company personnel and counsel with the full benefit of his knowledge with respect to any such matter.

The Company, Waste Management and their past and present parents, subsidiaries, and affiliated entities and companies have certain obligations to Executive, his heirs and legal representatives to provide indemnity, to advance expenses, and to provide officers and directors liability insurance. These obligations are provided by law, in Paragraph 10 of the Employment Agreement, in this Separation Agreement, in Article Eighth of the Third Amended and Restated Certificate of Incorporation of Waste Management, Inc. ("WMI"), in Article X of WMI's bylaws, and in similar provisions in the certificates (charters) of incorporation, bylaws and other governing documents of various past and present Waste Management parents, subsidiaries, and affiliated entities and companies. These obligations will continue beyond Executive's termination of employment on the Employment Termination Date, in accordance with and subject to the provisions thereof and applicable Delaware law.

12. **Choice of Laws.** This Separation Agreement is made and entered into in the State of Texas, and shall in all respects be interpreted, enforced and governed under the laws of the State of Texas. The language of all parts of this Separation Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against any of the parties.

13. **Severability.** Should any provision of this Separation Agreement be declared or be determined by any court to be illegal or invalid, the validity of the remaining parts, terms or provisions shall not be affected thereby and said illegal or invalid part, term, or provision shall be deemed not to be a part of this Separation Agreement.

14. **Matters Relating to Section 409A of the Code.** Notwithstanding any provision in this Separation Agreement to the contrary, if any compensation or benefit provided hereunder is subject to Section 409A of the Internal Revenue Code of 1986, as amended ("Section 409A"), as determined by the Company, then the following provisions shall apply:

(a) Notwithstanding anything to the contrary in this Separation Agreement, with respect to any amounts payable to Executive under this Separation Agreement in connection with a termination of Executive's employment that are subject to, and not exempt under, Section 409A, a termination of employment shall not be considered to have occurred under this Separation Agreement unless and until such termination constitutes Executive's "separation from service" as defined in Section 409A.

(b) This Separation Agreement is intended to be written, administered, interpreted and construed in a manner such that no payment or benefit under this Separation Agreement becomes subject to (1) the gross income inclusion under Section 409A or (2) the interest and additional tax under Section 409A (collectively, "Section 409A Penalties"), including, where appropriate, the construction of defined terms to have meanings that would not cause the imposition of the Section 409A Penalties. If any provision of this Separation Agreement would cause Executive to incur the Section 409A Penalties, the Company may, after consulting with Executive, reform such provision to comply with Section 409A or to preclude imposition of the Section 409A Penalties, to the full extent permitted under Section 409A.

(c) The payment of severance benefits set forth in Exhibit B are designated as separate payments for the purpose of the short-term deferral exception under Treasury Regulation Section 1.409A-1(b)(4)(i)(F), and, with respect to such separation payments, the exemption for involuntary separation from service or participation in a window program under Treasury Regulation Section 1.409A-1(b)(9)(iii). As a result, (1) separation payments that are by their terms scheduled to be made before March 15, 2015, and (2) any additional separation payments that are made on or before December 31, 2016, and do not exceed the lesser of two times Base Salary or two times the annual limit under Code Section 401(a)(17) as then in effect, are exempt from the requirements of Code Section 409A

15. **Complete Agreement.** The parties hereto agree that the October 31, 2003, Employment Agreement (including any other amendments thereto) as modified by this Separation Agreement, contains the full and final expression of their agreements with respect to the matters contained therein, and acknowledge that no other promises have been made to or by any of the parties that are not set forth in these Agreements.

The parties agree that neither the offer of, nor the execution of, this Separation Agreement will be construed as an admission of wrongdoing by anyone. Instead, this Separation Agreement is to be construed solely as a reflection of the parties' desire to facilitate a peaceful separation of employment and to make sure there are no unresolved issued between them.

Please review this document carefully as it contains a release of claims.

IN WITNESS WHEREOF, the Executive has entered into this Separation Agreement, and the Company has caused this Separation Agreement to be executed in its name and on its behalf by its duly authorized officer to be effective as of the date that this Separation Agreement is executed by Executive as set forth beneath the signature below (the "Effective Date").

RICK L WITTENBRAKER
("Executive")

/s/ Rick L Wittenbraker
Signature

Date: January 30, 2015
"Effective Date"

USA WASTE-MANAGEMENT RESOURCES, LLC
(The "Company")

By: */s/ John S. Tsai*
Title: VP & Assistant General Counsel

Printed Name: John S. Tsai

Date: January 23, 2015

EXHIBIT A

The employment of Executive is terminated, effective January 30, 2015 (the "Employment Termination Date"). Executive is therefore, entitled to the payments and benefits listed below and detailed in under Section 6(d) of the Employment Agreement whether or not he signs this Separation Agreement. These include

(a) Accrued but unpaid base salary for services rendered to the Employment Termination Date.

(b) Accrued but unpaid expenses required to be reimbursed under the Employment Agreement.

(c) Accrued but unused vacation for the year 2015 to the Employment Termination Date.

(d) A payment under the Company's 2014 Annual Incentive Plan (AIP) payable at the same time, on the same basis and to the same extent payments are made to similar senior executives of the Company. Executive is not entitled to a payout under any other bonus plan.

Further, Executive is also entitled to the following under the terms of outstanding equity awards issued to Executive under the Waste Management's equity incentive plans (including, but not limited to awards issued pursuant to the Waste Management, Inc. 2009 Stock Incentive Plan):

(e) In accordance with the terms of each such award, for a period of three years ending on the third annual anniversary of Executive's Employment Termination Date, outstanding stock option awards shall vest and, once vested, shall remain exercisable (in accordance with the established exercise procedures under each such stock option award) for the three year period following Executive's Employment Termination Date; provided, however, in no event will any such stock option be exercisable beyond the original term of the award.

(f) With respect to Executive's outstanding awards of Performance Share Units ("PSUs") awarded under the Waste Management, Inc. 2009 Stock Incentive Plan on March 9, 2012, March 8, 2013, and March 7, 2014, Executive shall be entitled to receive the PSUs and related dividend equivalents that Executive would have been entitled to receive if he had remained employed until the last day of the Performance Period (as defined in each such applicable award) multiplied by the fraction which has as its numerator the total number of days Executive was employed by the Company during the applicable Performance Period and has as its denominator the total number of days during the applicable Performance Period.

(g) With respect to Executive's outstanding award dated November 6, 2012, of Restricted Stock Units ("RSUs") awarded under the Waste Management, Inc. 2009 Stock Incentive Plan, Executive shall be entitled to have vested the amount of RSUs equivalent to the total RSUs granted under such award multiplied by the fraction which has as its numerator the total number of days that Executive was employed by the Company during the period beginning on November 6, 2012, and ending on the Termination of Employment Date and which has as its

denominator 1,096 (being the number of calendar days in the Restriction Period as defined in such award). Such amount shall be paid as soon as administratively feasible following Executive's Employment Termination Date.

All payments will be subject to applicable withholdings for federal, state and local income and employment taxes.

Executive is entitled to the benefits described above in this Exhibit A whether or not he executes this Separation Agreement.

EXHIBIT B

The employment of Executive is terminated, effective January 30, 2015 (the "Employment Termination Date") under the terms of this Separation Agreement. In consideration of the premises and promises herein contained, it is agreed that, Executive is entitled to the compensation and benefits set forth below only after he executes and does not revoke this Separation Agreement.

The payments and benefits to be provided are as follows:

(a) A severance payment in the gross amount of One Million, Seven Hundred Ninety-Six Thousand, Four Hundred and Sixty-Nine Dollars, and Fifty Cents ($1,796,469.50), approximately equal to two times the sum of Executive's base salary ($513,277) and Target Bonus ($384,957.75). This severance amount will be paid as follows:

(i) Eight Hundred and Ninety-Eight Thousand, Two Hundred and Thirty Four Dollars, and Seventy Five Cents ($898,234.75) shall be paid within 10 days after the seven-day revocation period described in Paragraph 9 of this Separation Agreement.

(ii) Eight Hundred and Ninety-Eight Thousand, Two Hundred and Thirty Four Dollars, and Seventy Five Cents ($898,234.75) shall be paid during the two (2) year period beginning on the Employment Termination Date and continuing at the same time and in the same manner Executive's base salary would have been paid if Executive had remained in active employment until the end of such period.

(b) Twenty-four months of continued group health and/or dental insurance coverage that Executive participated in as of his Employment Termination Date. Executive must timely elect COBRA coverage and the Company will provide COBRA coverage at its own expense for 18 months or, if earlier, until Executive's death or eligibility for coverage by a subsequent employer. Thereafter, Executive will have no additional COBRA coverage, but if Executive has not obtained coverage from a subsequent employer, the Company will provide up to six months additional medical and dental coverage.

(c) The Company will pay you Seventy-Five Thousand Dollars ($75,000) as the approximate value of twenty-four months of continued disability and life insurance coverage that Executive participated in as of his Employment Termination Date.

All payments will be subject to applicable withholdings for federal, state, and local income and employment taxes.

Exhibit C

MANDATORY DISCLOSURES

Waste Management is constantly working to better align its Corporate and Field teams, to help achieve its strategic goals. In order to better achieve these goals, it is necessary to consolidate and realign several corporate functions, and, unfortunately, eliminate certain positions in both the Corporate and Waste Management Recycle America ("WMRA") groups.

The Company offered members of its Senior Leadership Team the opportunity to voluntarily resign in exchange for an enhanced separation package available through the Company's 2014 Voluntary Early Retirement Program ("VERP"). Executive accepted the Company's offer and the benefits available are described in Exhibit B of this Separation Agreement. Please review the information below before signing.

1. **Eligibility for VERP and Severance:** The Company is providing you with specific information showing the employees who are eligible and ineligible for severance benefits under the VERP, by age and job title. Employees indicated as "Selected" are having their employment terminated, and they are eligible for Severance if they sign the Release within the number of days after termination of employment prescribed in the Release, and return the signed Release to which this disclosure is attached. Employees listed as "Not Selected" are ineligible for Severance because they have not been selected for this reorganization.

2. **Decisional Unit and Factors Considered in Selection Decisions:** The employees considered for participation in this group termination program consisted of members of the Company's Senior Leadership Team. The Company considered the alignment of the field and corporate team and the skills and duties of the impacted employees when selecting individuals.

The information given on the below chart is current as of January 8, 2015. This information is subject to change and may be affected by future employment decisions. Any questions about this information should be directed to Laura Naumann via email: LNaumann@wm.com.

Title	Age	Selected	Not Selected
President Recycling Services & OGG	48	X	
Chief Sales & Marketing Officer	57	X	
EVP & Chief Operating Officer	61		X
SVP Human Resources	56		X
SVP Gen Counsel, CCO & Asst Sec	66	X	
SVP Govt Affairs & Communication	54		X
CIO & SVP Tech, Logistics & CS	52		X
EVP & Chief Financial Officer	52		X
VP Field Operations	45, 60		X

EXHIBIT 31.1

CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, David P. Steiner, certify that:

i. I have reviewed this report on Form 10-Q of Waste Management, Inc.;

ii. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

iii. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

iv. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a — 15(e) and 15d — 15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a — 15(f) and 15d — 15(f)) for the registrant and have:

A. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

B. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

C. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

D. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

v. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

A. All significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

B. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ DAVID P. STEINER
David P. Steiner
President and Chief Executive Officer

Date: April 29, 2015

EXHIBIT 31.2

CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a)
UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, James C. Fish, Jr., certify that:

i. I have reviewed this report on Form 10-Q of Waste Management, Inc.;

ii. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

iii. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

iv. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a — 15(e) and 15d — 15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a — 15(f) and 15d — 15(f)) for the registrant and have:

A. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

B. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

C. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

D. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

v. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

A. All significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

B. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ JAMES C. FISH, JR.
James C. Fish, Jr.
Executive Vice President and
Chief Financial Officer

Date: April 29, 2015

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Waste Management, Inc. (the "Company") on Form 10-Q for the period ended March 31, 2015 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, David P. Steiner, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ DAVID P. STEINER
David P. Steiner
President and Chief Executive Officer

April 29, 2015

EXHIBIT 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Waste Management, Inc. (the "Company") on Form 10-Q for the period ended March 31, 2015 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, James C. Fish, Jr., Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

By: /s/ JAMES C. FISH, JR.
James C. Fish, Jr.
Executive Vice President and
Chief Financial Officer

April 29, 2015

EXHIBIT 95

Mine Safety Disclosures

This exhibit contains certain specified disclosures regarding mine safety required by section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K. Certain of our subsidiaries have permits for surface mining operations that are incidental to excavation work for landfill development.

During the quarter ended March 31, 2015, we did not receive any of the following: (a) a citation from the U.S. Mine Safety and Health Administration ("MSHA") for a violation of mandatory health or safety standards that could significantly and substantially contribute to the cause and effect of a coal or other mine safety or health hazard under section 104 of the Federal Mine Safety and Health Act of 1977 (the "Mine Safety Act"); (b) an order issued under section 104(b) of the Mine Safety Act; (c) a citation or order for unwarrantable failure of the mine operator to comply with mandatory health or safety standards under section 104(d) of the Mine Safety Act; (d) a flagrant violation under section 110(b)(2) of the Mine Safety Act; (e) an imminent danger order under section 107(a) of the Mine Safety Act; or (f) a proposed assessment from the MSHA.

In addition, during the quarter ended March 31, 2015, we had no mining-related fatalities, we had no pending legal actions before the Federal Mine Safety and Health Review Commission involving a coal or other mine, and we did not receive any written notice from the MSHA involving a pattern of violations, or the potential to have such a pattern, of mandatory health or safety standards that are of such nature as could have significantly and substantially contributed to the cause and effect of coal or other mine health or safety hazards under section 104(e) of the Mine Safety Act.

EAST OAK RECYCLING AND DISPOSAL FACILITY
OKLAHOMA COUNTY, OKLAHOMA
ODEQ PERMIT NO. 3555036

APPENDIX B

PERMIT, PROOF OF PUBLICATION, LEGAL DESCRIPTION AND VOLUME CALCULATIONS

Prepared for

Waste Management of Oklahoma, Inc.

June 2015

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

Prepared by

Weaver Consultants Group, LLC
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 0086-356-11-40-04

LIST OF APPENDICES

APPENDIX B-1
Existing Permit

APPENDIX B-2
Proof of Publication

APPENDIX B-3
Permit Boundary Legal Description and Deeds

APPENDIX B-4
Volume Calculations

APPENDIX B-1

EXISTING PERMIT

Note: This appendix includes the following:

Mosley Road Landfill Permits

- Engineering Report approved by State of Oklahoma State Department of Health on June 22, 1973 for a 16.12 acre landfill. Engineering report indicates an existing landfill adjacent to the proposed landfill site.
- Permit (Permit Number 3555011) dated March 10, 1975. This permit was issued to construct, operate, and maintain a municipal type sanitary landfill.
- An Oklahoma Public Works Department May 1, 1975 letter noting that a permit was approved to operate a sanitary landfill at 3300 N. Mosley Road.
- An Oklahoma City-County Health Department May 27, 1975 letter noting that a permit was approved to operate a sanitary landfill at 3300 N. Mosley Road.

East Oak RDF Permits

- An ODEQ original December 16, 1986 cover letter noting that a permit was issued to construct, operate, and maintain a Type I-B sanitary landfill.
- The Amended Permit for the Site, which was issued on March 22, 1989. This permit was issued to continue to construct, operate, and maintain a Type I-B sanitary landfill.
- The July 30, 2002 Permit Modification, which approved the expansion of the permitted boundary to incorporate 20 additional acres, increasing the landfill's total acreage to 88 acres.
- The May 15, 2008 Permit Modification, which approved the expansion of the permitted boundary to incorporate 44.6 additional acres.

S A N I T A R Y L A N D F I L L

C U S T O M O P E R A T I O N

E N G I N E E R I N G R E P O R T

STATE OF OKLAHOMA
STATE DEPARTMENT OF HEALTH
APPROVED
LOYD F. PUMMILL, STATE SANITARY ENGINEER
R. LeRoy Carpenter, M.D., State Commissioner of Health
By LeRoy K. Rachel Date 2-22-73
(SJ)

Harry F. Hulett, Jr.
Registered Professional Engineer
106 N.E. 46th Street
524-6443
Oklahoma City, Oklahoma

PC4936

RECOMMENDED FOR APPROVAL

Forest M. Keene, Director of Public Works/ City Engineer

Jeff G. Ray, Assistant City Engineer In Charge of Engineering Division

Dr. John W. Gales, Director of City County Health Department

Pat Painter, Director of Oklahoma City Planning Commission

I N D E X

1.	Legal description of landfill site.
2.	Specific Location Plan
3.	General Location Plan
4.	Location - Zoning
5.	Adjacent property uses - Roadways
6.	Utilities - Access - Facilities for Personnel - Personnel required.
7.	Operating proceedures
8.	Operating proceedures
9.	Soil Strata
10.	Soil Strata
11.	Typical log of soil strata
12.	Typical cross section of Sanitary Landfill
13.	Contour map - Observation points - roadways
14.	Application for Permit to City of Oklahoma City
15.	Application for permit State Health Department

HARRY F. HULETT, JR.
Engineer
106 N. E. 46th St.
Oklahoma City, Oklahoma

January, 1972

LEGAL DESCRIPTION:

Proposed sanitary land fill

A part of the N.E.¼ of Section 21, T-12-N, R-2-W of the I.M. more particularly described as follows:

Commencing at the S.W. corner of the N.E.¼ of Section 21, T-12-N, R-2-W; Thence North along the West line of said N.E.¼ a distance of 1530.80 feet to a point, said point being the point or place of beginning; Thence North along the West line of said N.E.¼ a distance of 295.20 feet to a point; Thence S 82° 37' 00" E a distance of 321.10 feet to a point; Thence S 66° 13' 00" E a distance of 458.10 feet to a point; Thence S 73° 51' 00" E a distance of 651.07 feet to a point; Thence South a distance of 818.48 feet to a point; Thence N 46° 34' 14" W a distance of 563.80 feet to a point; Thence N 60° 21' 00" W a distance of 1097.23 feet to a point, said point being the point or place of beginning.

The above tract contains 16.12 acres, more or less.

Harry F. Hulett

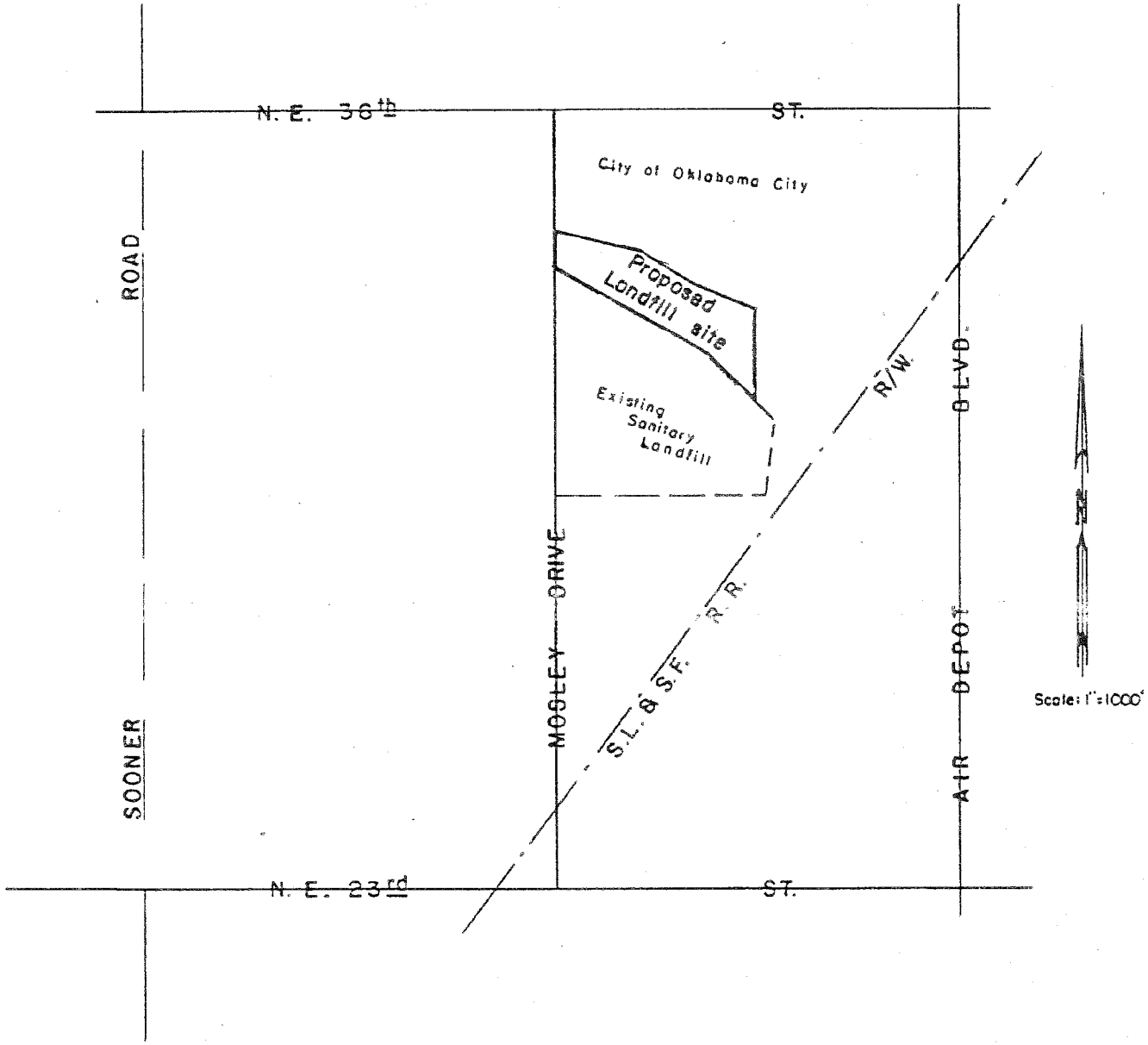
Harry F. Hulett, Jr.
Engineer

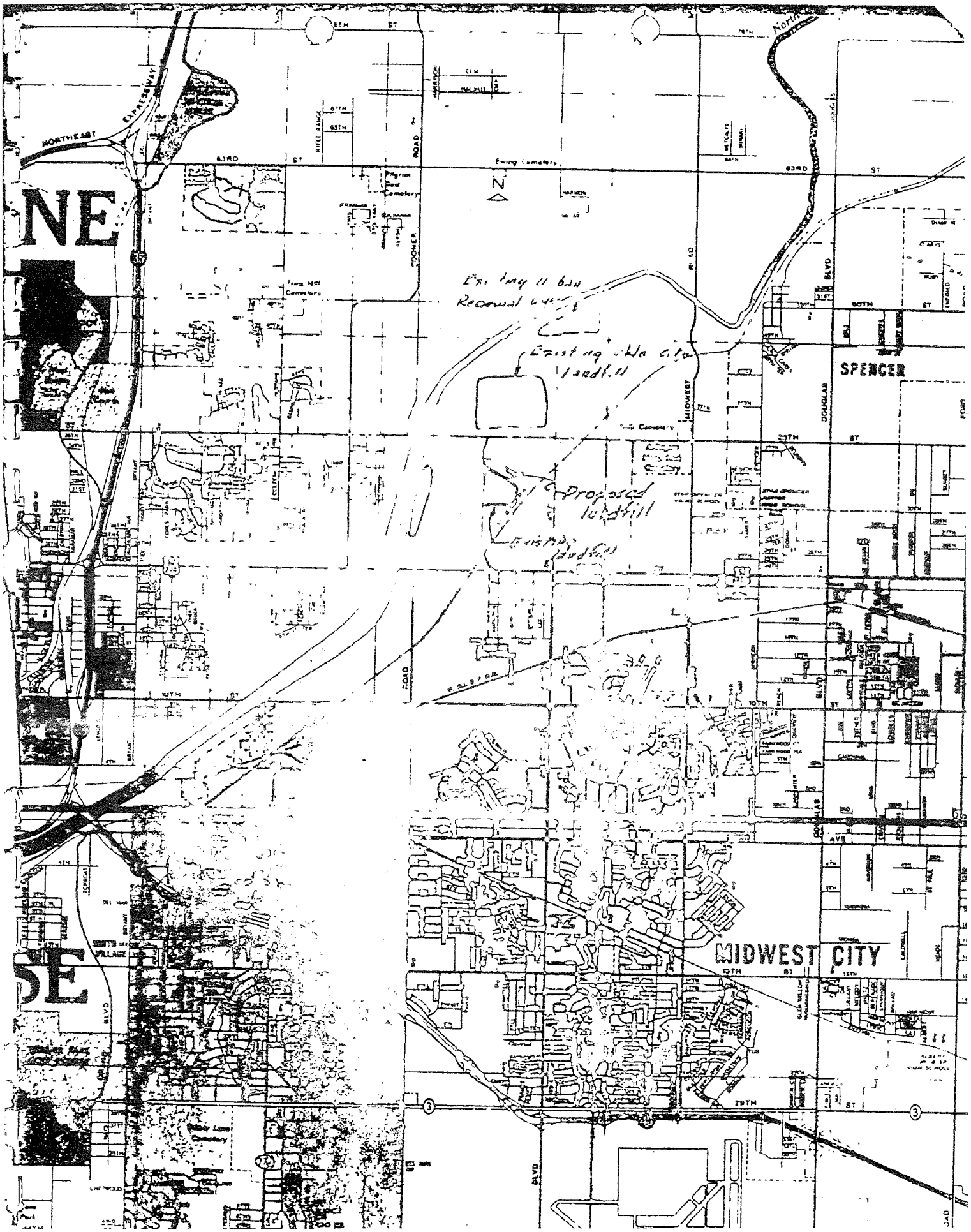
LOCATION PLAN

Proposed Sanitary Landfill

SECTION 21, T-12-N,
R-2-W, I.M.

OKLAHOMA COUNTY, OKLA.




NE
SE
NORTHEAST
EXPRESSWAY
63RD ST
Ewing Cemetery
Pioneer Road
Rifle Range
Midwest
Douglas
Spencer
Blvd
Existing 11 bay Recycling center
Existing Wa City landfill
Proposed landfill
Existing landfill
Bryant
Tinker Road
MIDWEST CITY
29TH ST

SANITARY LANDFILL REPORT

PURPOSE OF REPORT:

This report has been prepared pursuant to The Oklahoma Solid Waste Management Act of 1970 and The City of Oklahoma City Ordinance No. 11,700 in order to secure the necessary permits for operation of a Sanitary Landfill Operation within the corporate limits of the City of Oklahoma City.

LOCATION:

The proposed Sanitary Landfill is to be located in a part of the Northeast Quarter (NE$\frac{1}{4}$) of Section 21, T-12-N, R-2-W of the I.M.

The exact legal description of said property is on page 1 of this report.

Two location plans are attached as a part of this report on the following pages. The first exhibit shows the meets and bounds description and the second shows the general location with respect to surrounding property and uses.

ZONING:

The above tract of land is now zoned for single family residences. However, nor of the adjacent land is now subdivided or being used for residential purposes, and an application for re-districting to AA agriculture is pending with the Oklahoma City, Planning and Zoning Commission.

No residential structure is within 600 feet of the proposed landfill site.

ADJACENT PROPERTY USES:

At the present time all adjacent property is being used as follows:

South - The property is now being used as a Sanitary Landfill, private operation.

Southwest and West - The property is being used for sand pit operation and for stock grazing. 1300 feet West of the proposed site is the former location of the City of Oklahoma City Landfill and the Oklahoma City floodway.

North - The present Oklahoma City Landfill operation.

East - The area is being used for grazing purposes. Adjacent to a part of the proposed site on the East is the railroad right-of-way and across the tracks is additional grazing land.

ROADWAYS:

The Sanitary Landfill will be served by Mosley Road which is an all weather road from N.E. 23rd Street to N.E. 36th Steet.

This road is along the entire West side of the tract.

All weather roads will be constructed within the land fill site to insure that loaded vehicles can negotiate to the unloading areas.

UTILITIES:

The site of the landfill is now served with electric power for lighting and electrical equipment.

Telephone service to the site is presently in use.

A water tank with power pumps (see schedule of equipment) will be available for fire control when needed. However, water will only be used when dirt cannot be used for fire protection.

In addition to the water tank, sufficient water can be made available from well now being used by the nursery to the South of the existing landfill area south of the proposed site.

ACCESS:

The entire area of the landfill will be controlled and only authorized persons shall be permitted to enter. Entry shall be authorized only at the principal gate entering the landfill area. The entry shall contain a gate for closing and locking at the end of the working day.

FACILITIES FOR PERSONNEL:

An adequate office will be furnished having available safe drinking water, toilet facilities, lighting and heating facilities and work room for billing and collection.

PERSONNEL:

The following list of personnel will be used in the operation and control of the landfill:

1.	Landfill foreman	1
2.	Heavy equipment operator	2
3.	Laborer	1
4.	Office personnel	1

Additional personnel will be hired when the landfill operation shows the need for an increase in personnel. The foreman shall be capable of operating the heavy equipment.

OPERATING PROCEEDURES:

1. EQUIPMENT:

The following equipment shall be available on the landfill site at all times:

a. 1 - TD 14 dozer with 200' 7/8" cable mounted on a tulsa wench.

b. 1 - TD 9 Track type 1½ yd. loader.

c. 1 - 371 Unit crane - drag line with ½ yd. bucket.

d. 1 - Corey crane with live boom 1 yd. bucket.

e. 1 - 550 gallon water tank with power pumps mounted with power take off.

2. UNLOADING OF REFUSE:

Unloading of refuse shall be done in an area clearly marked by posted signs, or at the direction of the landfill foreman.

3. SEWAGE SOLIDS:

Sewage solids, liquids and other similar materials or matters, including hazardous materials shall be disposed of in accordance with directions established by the Director of the Health Department.

4. HEAVY OR BULKY ITEMS:

A separate unloading area on the fill site shall be provided for heavy or bulky items which can not be handled adequately with other items.

5. BURNING:

There shall be no permitted burning.

6. SALVAGING AND SCAVENGING:

There shall be no salvaging or scavenging within the limits of the landfill area.

OPERATING PROCEEDURES: (continued)

7. CONSTRUCTION BY CELLS:

The construction of thecells shall be as required in the "Specifications for Sanitary Landfills in Oklahoma City."

Cells will be from one-hundred (100') ft to four-hundred (400) ft in length with average widths from thwenty-five (25') ft to thirty-five (35') ft.

8. DEPOSITING OF REFUSE IN CELLS:

The refuse shall be compacted to an average density of not less than fifty (50) pounds per cubic foot, in layers not to exceed two (2') ft in depth and covered atthe end of each day with a minimum of six (6") inches of sand before starting the next layer.

One (1') foot of sand material shall be placed over the area and compacted upon the reaching of one lift in heighth. One (1) lift shall be a maximum of eight (8') feet.

The top layer (final finish layer) shall be at least two (2') feet in depth and shall be composed of a sandy material compacted and graded to a level smooth grade.

9. FENCING:

The entire area of the landfill shall be fenced and only authorized persons shall be permitted to enter.

10. COVER MATERIAL:

The location of the landfill will produce sufficient cover material, and therefor no additional material will have to be moved onto the site. Visual observation of the existing cuts in the sand pits show the soil to be brown silty topsoil and dark tan sand. Either final cover will support grass for grazing purposes.

SANITARY LANDFILL

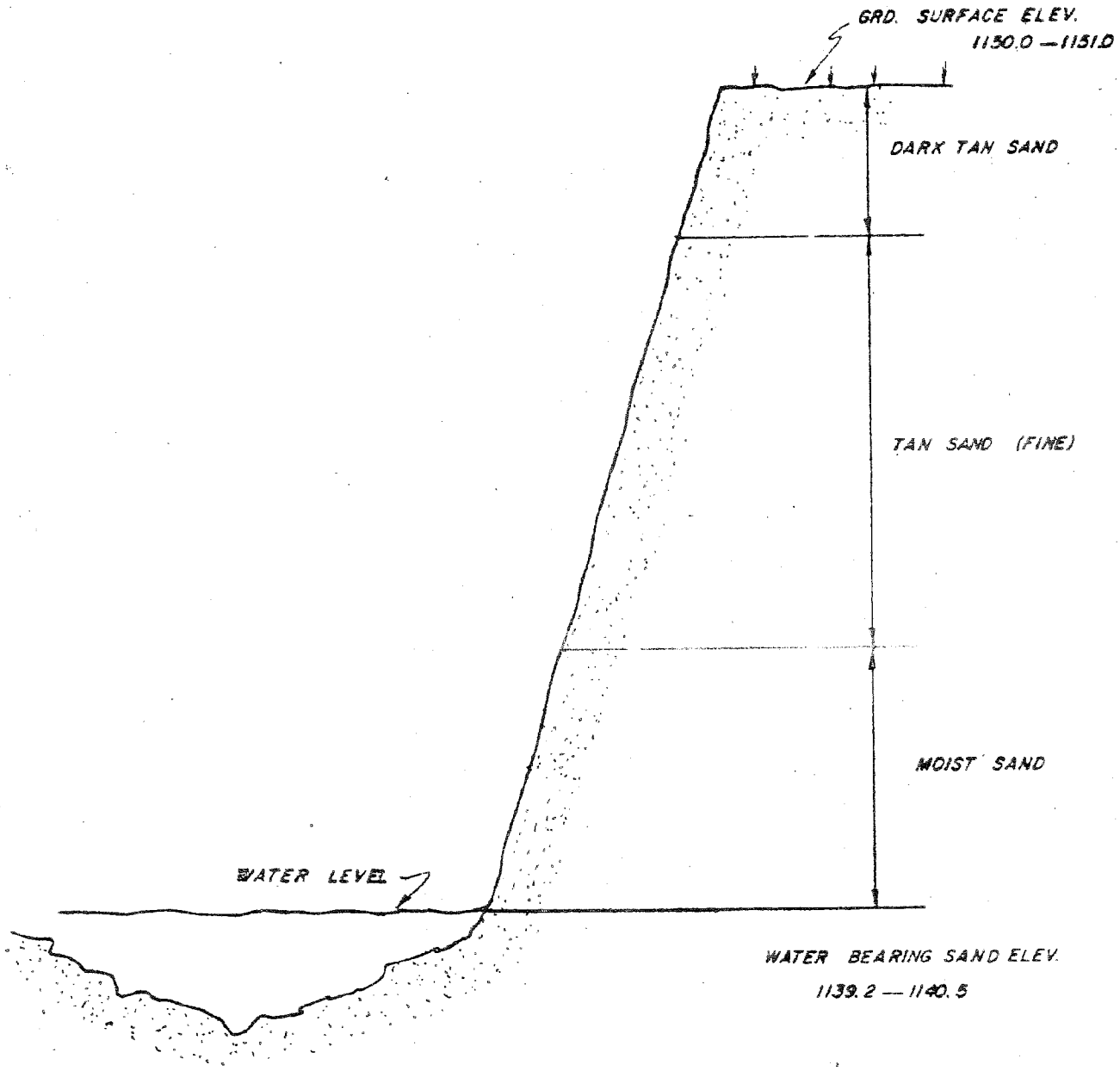
SOIL STRATA

Observation point	Description and remarks
No. 1	Ground elevation 1150.00 Water elevation 1139.60
depth	
0' to 3'	Brown sandy top soil
3' to 5'	Tan fine sand
5' to 10'	Tan sand
No. 2	Ground elevation 1150.60 Water elevation 1139.50
depth	
0' to 2'	Tan fine sand
2' to 6'	Dark sand
6' to 12'	Moist dark sand
No. 3	Ground elevation 1149.80 Water elevation 1140.40
depth	
0' to 5'	Brown silty topsoil
5' to 7'	Tan fine sand
7' to 10'	Moist tan sand
No. 4	Ground elevation 1150.20 Water elevation 1140.50
depth	
0' to 4'	Brown silty topsoil
4' to 8'	Tan sandy soil
8' to 10'	Tan sand (moist)

SANITARY LANDFILL
SOIL STRATA

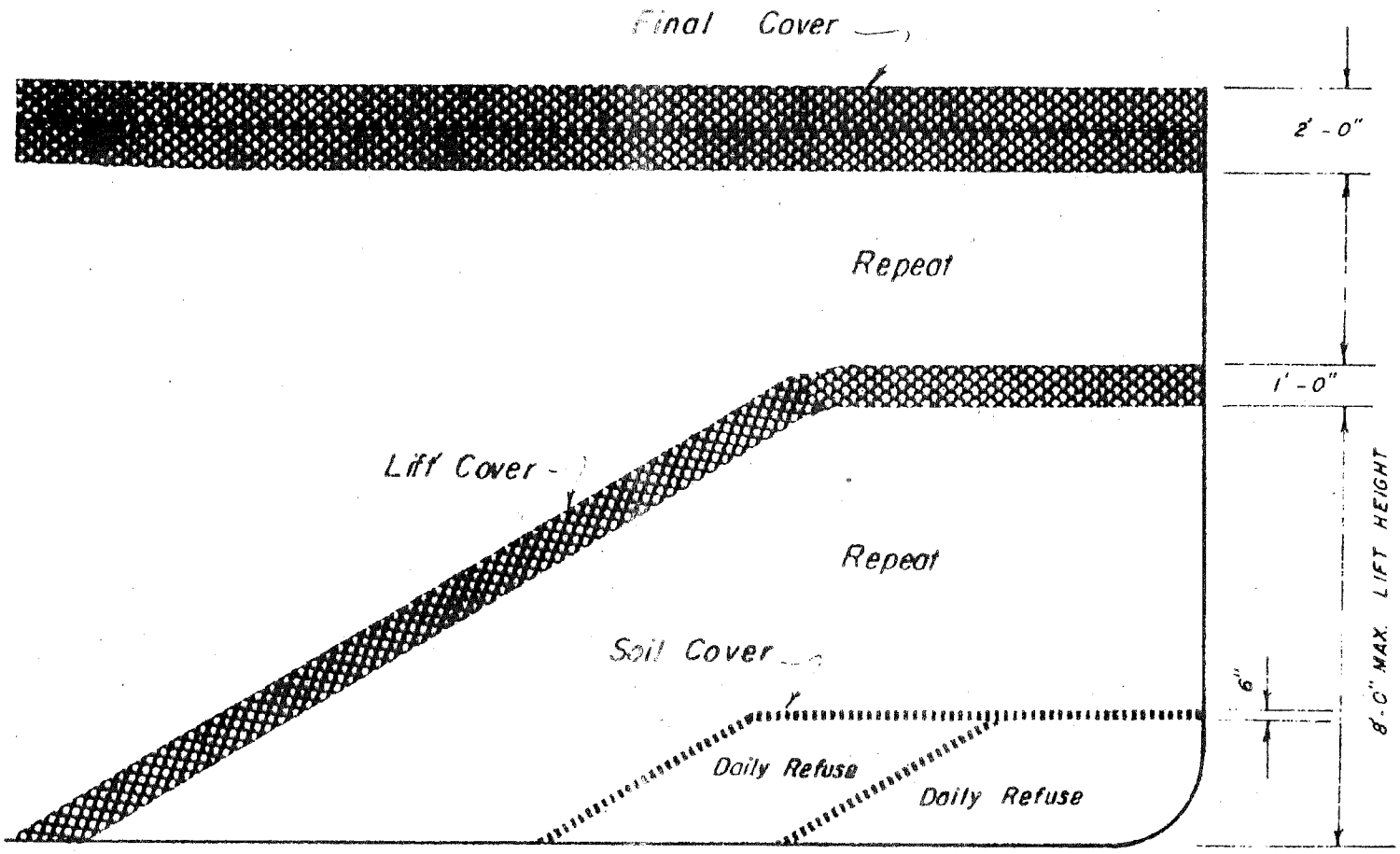
Observation point	Description and remarks
No. 5	Ground elevation 1150.60 Water elevation 1140.50
depth	
0' to 4.5'	Brown silty topsoil
4.5' to 8'	Tan sand
8' to 10'	Moist tan sand
No 6	Ground elevation 1166.50 Water elevation 1145.60
depth	
0' to 6'	Brown silty topsoil
6' to 12'	Tan sand
12' to 20'	Moist tan sand
No 7	Ground elevation 1167.00 Water elevation 1146.20
depth	
0' to 8'	Light brown silty topsoil
8' to 13'	Brown silty sand
13' to 15'	tan fine sand
15' to 20'	Moist tan (fine) sand

TYPICAL LOG OF SOIL STRATA



LeRoy K. Rachels 6-22-73
(ST)

CROSS SECTION OF LANDFILL (SIDE VIEW)



CITY OF OKLAHOMA CITY

APPLICATION FOR PERMIT TO OPERATE
A SANITARY LANDFILL IN OKLAHOMA CITY

TO: CITY-COUNTY HEALTH DEPARTMENT

I, Floyd Swem of 3400 North Air Depot Drive, Oklahoma City, Oklahoma, telephone number 427-0060 do hereby make application for a permit to operate a sanitary landfill at 3200 Mosley Drive, the legal description of which is as follows: A part of the NE$\frac{1}{4}$, of Section 21, T-12-N, R-2-W of the IM more particularly described as follows: Commencing at the Southwest corner of the N.E.$\frac{1}{4}$ of Section 21, T-12-N, R-2-W; Thence North along the West side of said N.E.$\frac{1}{4}$ a distance of 1530.80 feet to a point, said point being the point or place of beginning; Thence North along the West line of said N.E.$\frac{1}{4}$ a distance of 295.20 feet to a point; Thence S 82° 37' 00" E a distance of 321.10 feet to a point; Thence S 66° 13' 00" E a distance of 458.10 feet to a point; Thence S 73° 51' 00" E a distance of 651.07 feet to a point; Thence South a distance of 818.48 feet to a point; Thence N 46° 34' 14" W a distance of 563.80 feet to a point; Thence N 60° 21' 00" W a distance of 1097.23 feet to a point, said point being the point or place of beginning. The above tract contains 16.12 acres, more or less.

The Sanitary Landfill will be constructed and operated in accordance with the Engineer's Report attached hereto, and in accordance with Ordinance No. 11,700 of the City of Oklahoma City, and in accordance with the Solid Waste Management Act, H.B. 1499, Chapter 69, Oklahoma Session Law 1970, all of which I am familiar.

Floyd Swem, Applicant

APPROVALS

DIRECTOR OF PLANNING Pat Pantle Date 3/29/72

DIRECTOR OF PUBLIC WORKS Guy Stern Date 22 Feb 72

DIRECTOR OF CITY-COUNTY HEALTH DEPARTMENT Ralph W. Bates M.D. by DCC Date

SUPVSR. OF REVENUES Date

PERMIT NUMBER DATE ISSUED

Cpies to: Planning Commission
Engineering Division
Health Department
Supervisor of Revenues

APPLICATION FOR PERMIT
FOR
SOLID WASTE DISPOSAL SITE

TO: THE OKLAHOMA STATE DEPARTMENT OF HEALTH
OKLAHOMA CITY, OKLAHOMA

Date January 12, 1972

The Floyd Swem dba A-1 Sanitary Landfill proposes
(name of applicant)

the construction, operation and maintenance of Sanitary Landfill

at N.E.¼ Section 21, T-12-N, R-2-W Okla. County, Okla.
(Legal description and location address)

and,

as required by the Solid Waste Management Act, H.B. 1499, Chapter 69, Oklahoma Session Law 1970, and rules and regulations promulgated pursuant thereto, we hereby make application to the State Department of Health for a permit to construct, operate and maintain this solid waste disposal site. Three (3) copies of the plans and specifications along with a copy of the consultant's report for this proposed site accompany this application.

The plans, specifications and consultant's report have been approved by the proper officials.

It is proposed to start operating this site on or about February 1, 1972 (date).

The estimated cost of this operation is _____ initial;

_____ yearly.

REMARKS: _____

Signature Floyd Swem Title owner

Address 3400 N. Air Depot Drive
(zip code)

O.D.H. Form No. 850

15

LeRoy K. Rachels 6-22-73
(SJ)

A-1 Sanitary Fill

Mr. Floyd Swem
Rt 4- Box 190

Owner of land

State Board of Health

OTHO R. WHITENECK, D.D.S., PRESIDENT
ROBERT D. McCULLOUGH, D.O., VICE PRESIDENT
THOMAS DONICA, M.D., SECRETARY
GLEN L. BERKENBILE, M.D.
WALLACE BYRD, M.D.
ARNOLD HELVEY
EUGENE A. OWENS, M.D.
W. A. "TATE" TAYLOR
HAROLD A. TOAZ

Commissioner

R. LEROY CARPENTER, M.D., M.P.H.

Oklahoma
State Department of Health

Northeast 10th Street & Stonewall
Post Office Box 53551
Oklahoma City, Oklahoma 73105

March 10, 1975

Mr. Carl A. Jorski, President
Oklahoma City Disposal, Inc.
245 Southwest 15th Street
Oklahoma City, Oklahoma 73109

Dear Mr. Jorski:

Enclosed is a permit to construct, operate and maintain a municipal-type sanitary landfill solid waste disposal site located in part of the NE¼, Sec. 21, T12N, R2W, between NE 23rd and NE 36th Streets on Mosley Road in Oklahoma County.

This site will be constructed, operated and maintained in accordance with the plans and specifications approved by this department on March 10, 1975, and all standards and rules promulgated pursuant to the Solid Waste Management Act. This permit is issued subject to the provisions listed on the permit. Upon receipt of this permit it should be made a part of your permanent records.

We are returning one set of the approved plans and specifications and retaining the other two sets.

Very truly yours,

LeRoy K. Rachels

LeRoy K. Rachels, Director
Solid Waste Management Division

LKR/dk
Enclosures

cc: Oklahoma City-County Health Dept.
cc: Larry Goodman, Executive Director, ACOG
bcc: Mobile Waste Controls, Inc.

OKLAHOMA STATE DEPARTMENT OF HEALTH
Northeast 10th & Stonewall
Post Office Box 53551
Oklahoma City, Oklahoma 73105

SOLID WASTE MANAGEMENT DIVISION
SANITATION SERVICE
ENVIRONMENTAL HEALTH SERVICES

PERMIT

for a

SOLID WASTE DISPOSAL SITE OR FACILITY

Oklahoma City Disposal, Inc.
224 SW. 14th Street
Oklahoma City, Okla., 73109

PERMIT NUMBER 3555011

DATE March 10, 1975

having complied with the requirements of the law is hereby granted permission to establish, construct, operate and maintain a municipal-type sanitary landfill site located in part of the NE¼, Sec. 21, T12N, R2W, Oklahoma County, between NE 23rd and NE 36th on Mosley Road.

This site shall be subject to the following provisions:

(1) All operation practices and procedures shall conform to the best public health concepts possible.

(2) No burning of trees or other large or bulky items will be allowed at this site.

(3) Sewage solids or liquids or other hazardous wastes will not be accepted at this site.

(4) No refuse shall be deposited below an elevation of 1147 feet above mean sea level.

(5) Two (2) monitoring wells shall be provided; one (1) located near the northeast edge and one (1) located near the southwest edge of the area defined on this permit.

LeRoy K. Rachels — Director, Solid Waste Management Division

Loyd Hammil — Deputy Commissioner for Environmental Health Services

R. LeRoy Carpenter — Commissioner of Health

ODH Form No. 852
11/1/74

RECEIVED MAR 3 1975
SOLID WASTE MANAGEMENT SECTION

APPLICATION FOR PERMIT
FOR
SOLID WASTE DISPOSAL SITE

TO: THE OKLAHOMA STATE DEPARTMENT OF HEALTH
OKLAHOMA CITY, OKLAHOMA

Date February 24, 1975

Permit H-3555011

The SCA Services, Inc. DBA Oklahoma City Disposal Inc. proposes
(name of applicant)

the construction, operation and maintenance of Sanitary Landfill

at between N.E. 23rd & N.E. 36th on Mosley Road
(Legal description and location address)

Legal Description attached and,

as required by the Solid Waste Management Act, H.B. 1499, Chapter 69, Oklahoma Session Law 1970, and rules and regulations promulgated pursuant thereto, we hereby make application to the State Department of Health for a permit to construct, operate and maintain this solid waste disposal site. Three (3) copies of the plans and specifications along with a copy of the consultant's report for this proposed site accompany this application.

The plans, specifications and consultant's report have been approved by the proper officials.

It is proposed to start operating this site on or about April 1, 1975
(date)

The estimated cost of this operation is $250,000.00 initial;

$400,000.00 yearly.

REMARKS: Estimated yearly cost based on 240,000 tons per year.

Oklahoma City Disposal, Inc.

Signature [signature] Title President

Address 245 S.W. 15th Oklahoma City, Okla. 73109
(zip code)

STATE OF OKLAHOMA
STATE DEPARTMENT OF HEALTH
APPROVED
[illegible] STATE SANITARY ENGINEER
R. LeRoy Carpenter, M.D., State Commissioner of Health
By M. John Bradford Date 3-18-75

O.D.H. Form No. 850

A part of the NE 1/4 of Section 21, T-12-N, R-2-W of the I.M., Oklahoma County, Oklahoma, being more particularly described as follows: Beginning at the Southwest Corner of the NE 1/4 of Section 21, T-12-N, R-2-W, I.M.; Thence North along the west line of said NE 1/4 a distance of 1826.00 feet to a point, said point being 813.14 feet South of the Northwest corner of said NE 1/4; Thence S 82° 37' 00" E a distance of 321.10 feet to a point; Thence S 66° 13' 00" E a distance of 458.10 feet to a point; Thence S 73° 51' 00" E a distance of 926.00 feet to a point; Thence N 80°34' 00" E a distance of 1016.00 feet, more or less, to a point on the East line of said NE 1/4, said point being 1130.00 feet South of the Northeast corner of said N.E.-1/4; Thence S 7° 34' 04" W along the East line of said NE-1/4 a distance of 35.40 feet to a point; Thence S 40° 15' 14" W a distance of 866.24 feet to a point; Thence S 39° 36' 06" W a distance of 372.00 feet to a point; Thence s 36° 04' 06" W a distance of 317.37 feet to a point; Thence S 33° 28' 06" W a distance of 336.75 feet to a point being in the South line of said NE-1/4; Thence North 89°33' 14" W along the South line of said NE-1/4 of Section 21, T-12-N, R-2-W, I.M. a distance of 1455.30 feet to a point, said point being the point or place of beginning. Said tract containing 71.765 acres, more or less.

MOSLEY ROAD

SANITARY LANDFILL

IN

OKLAHOMA CITY, OKLAHOMA

LANDFILL OPERATOR: Oklahoma City Disposal
224 Southwest 14th Street
Oklahoma City, Oklahoma - 73125

LAND OWNER: Mobile Waste Controls, Inc.
200 Executive Park, Suite 222
Louisville, Kentucky - 40207

STATE OF OKLAHOMA
STATE DEPARTMENT OF HEALTH
APPROVED
LOYD F. PUMMILL, STATE SANITARY ENGINEER
R. LeRey Carpenter, M.D., State Commissioner of Health
By M. J. Bradford Date 3-10-75

August, 1973

By

Charles C. Iglehart Jr., P.E.

Corporate Manager, Disposal Systems

Mobile Waste Controls, Inc.

STATE OF KENTUCKY
C. C. Iglehart, Jr.
5666
REGISTERED
PROFESSIONAL ENGINEER

CONTENTS

INTRODUCTION

OWNER

LANDFILL OPERATOR

LOCATION

TOPOGRAPHIC CHARACTERISTICS

PRESENT DEVELOPMENT

REASONS FOR LOCATING HERE

LAND REQUIREMENT

SOIL AND GEOLOGIC CONDITIONS

DRAINAGE

SITE PREPARATION AND MAINTENANCE

OPERATION OF PROPOSED SITE

GENERAL STANDARDS

EQUIPMENT

HOURS

CHARACTERISTICS OF REFUSE

RESPONSIBILITY FOR OPERATION

APPENDIX

INTRODUCTION

This report and the engineering drawings cover all data necessary to submit an application to the Oklahoma City Health Department to operate a sanitary landfill. This application is required by City Ordinance No. 11700, Sections Three and Four.

This same application and information is also required by the Oklahoma State Health Department in order to comply to the Solid Waste Management Act, H.B. 1499, Chapter 69, Oklahoma Session Law 1970 to obtain a permit to construct, operate, and maintain a solid waste disposal site.

MOSLEY ROAD

SANITARY LANDFILL

OWNER: Mobile Waste Controls, Inc.
200 Executive Park
Suite 222
Louisville, Kentucky - 40207

LANDFILL OPERATOR: Oklahoma City Disposal
224 Southwest 14th Street
Oklahoma City, Oklahoma - 73125

LOCATION

The proposed Mosley Road Sanitary Landfill is located one block south of Northeast 36th Street on Mosley Road. Mosley Road runs between N.E. 23rd Street and N.E. 36th Street just east of Sooner Road and east of where N.E. 23rd Street crosses the North Canadian River.

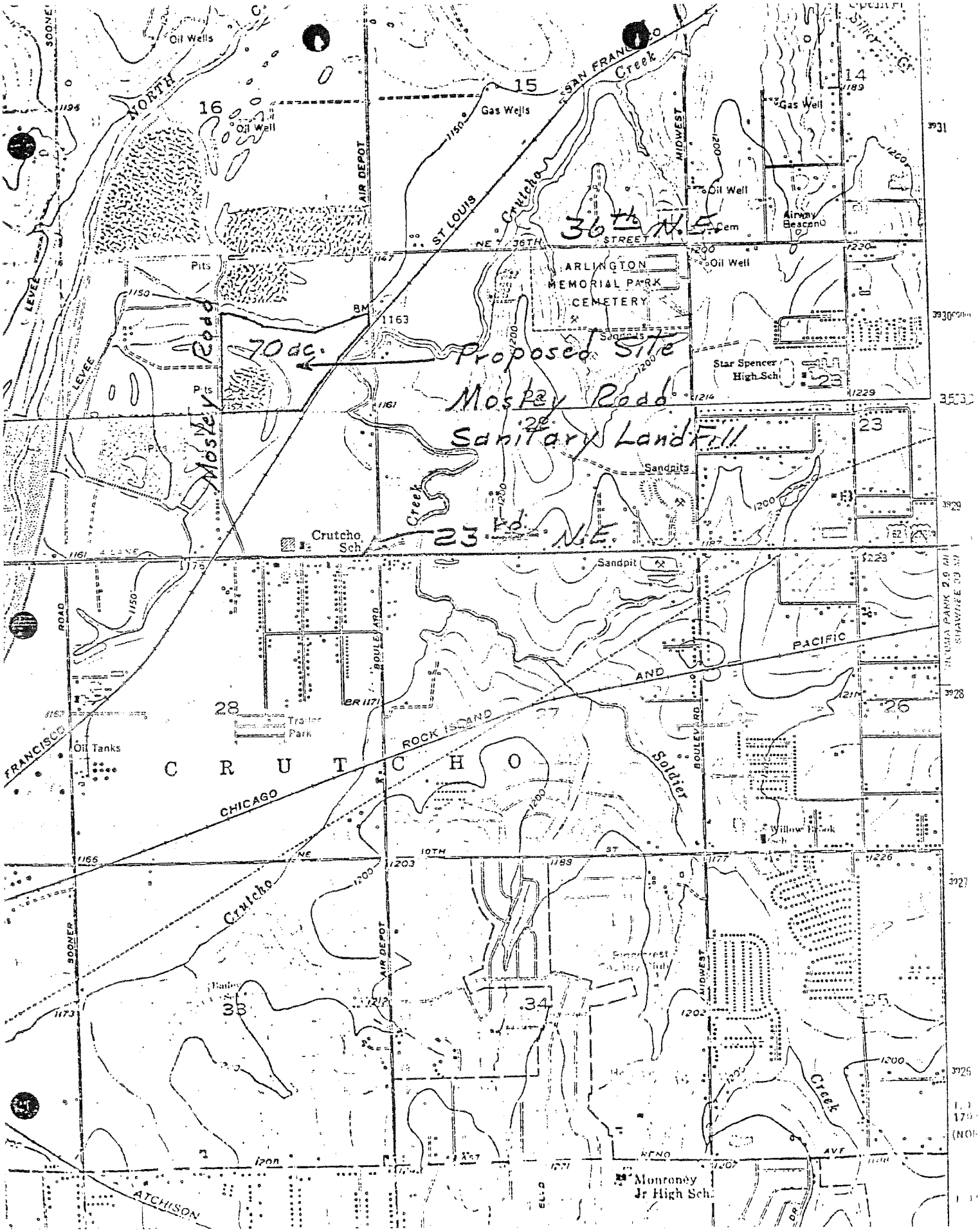
The site is located across 36th Street from city property which is presently being used for a sanitary landfill and which is being operated by Oklahoma City Disposal.

The site is shown on drawing No. D13-300. The Mosley Road site is an existing landfill with a Oklahoma State Permit. The site has been operated by A-1 Sanitation Company.

The site is located in a part of the Northeast Quarter (NE ¼) of Section 21, T-12-N, R-2-W of the I.M.

TOPOGRAPHIC CHARACTERISTICS

The following sheet is a copy of a U.S.G.S. Topographic Map showing the contour elevations of the site. Drawing No. D13-301 shows the latest contour map of the area with two foot contour lines printed.


Oil Wells
Gas Wells
Oil Well
Gas Well
Oil Well
Oil Well
Airway Beacon
Cem
Pits
Pits
Pits
Sandpits
Sandpit
Sandpits
Star Spencer High Sch
Crutcho Sch
Trailer Park
Oil Tanks
Monroney Jr High Sch
Willow Park
NORTH
LEVEE
LEVEE
ROAD
BOONER
AIR DEPOT
ST LOUIS
SAN FRANCISCO
Crutcho Creek
MIDWEST
BOULEVARD
Soldier
Creek
ROCK ISLAND
AND
PACIFIC
CHICAGO
ATCHISON
FRANCISCO
NE 36TH STREET
NE 10TH ST
RENO AVE
ARLINGTON MEMORIAL PARK CEMETERY
C R U T C H O
14
15
16
23
26
27
28
33
34
35
36th N.E.
70 ac.
Proposed Site
Mosley Road
Sanitary Landfill
23rd N.E.
Mosley Road

PRESENT DEVELOPMENT

The site is presently a landfill operated by A-1 Sanitation Company and owned by Mr. Floyd Swem. The site does have a Oklahoma State Solid Waste Permit to operate.

The site is bounded on the east side by the St. Louis, San Francisco Railroad. The other three sides are bounded by agricultural land. The site is only one block south of the present sanitary landfill being operated by the Oklahoma City Disposal Company.

This site contains seventy acres which has been disposing of solid waste from nearby communities and industrial and commercial customers. Only forty acres have been used as a landfill to date.

REASONS FOR LOCATING HERE

The proposed seventy acre Mosley Road site is presently a landfill. It has been in operation for several years. The site still has several years of remaining life. Oklahoma City Disposal Company has a contract to dispose of all solid waste collected by the Oklahoma City Department of Sanitation. This contract will be in effect another three years. The city landfill site which is now being operated by Oklahoma

City Disposal is being filled rapidly. The main purpose of obtaining the Mosley Road site is to secure adequate land for landfills to meet all contract commitments to the city and other residential commercial and industrial customers.

This site was also chosen because it is located in an underdeveloped area and its neighbors are another landfill and a sand pit digging operation. Traffic going to the site is the same traffic presently using the the roadways in the area and landowners along the routes are accustomed to seeing the trucks. The traffic going to the landfill site is an important consideration in trying to get a new site zoned for use as a sanitary landfill.

If the new owner of the Mosley Road site is issued a sanitary landfill permit, the site will be shut down and cleaned up. All existing refuse on the site will be compacted and covered. Customers presently using the A-1 landfill will now dump at the 36th Street landfill. The new Mosley Road Sanitary Landfill will then open to receive all solid waste when the present city landfill has been filled in approximately two years.

LAND REQUIREMENT

The Mosley Road Sanitary Landfill has a designed

fill volume of approximately 1,376,000 cubic yards. The site can receive in excess of 3,400,000 cubic yards of refuse at 400 pounds per cubic yard.

Oklahoma City Disposal presently disposes of nearly 4,000 yards of solid waste per day. This site added to the present city landfill site would give a total life of six years. This capacity would allow Oklahoma City Disposal to meet all short term goals and would allow time for them, as well as Oklahoma City, to develop a long term solid waste management plan.

SOIL AND GEOLOGIC CONDITIONS

Soil boring locations are shown on drawing No. D13-301. The log of these borings is in the appendix of this report.

Existing undisturbed soil has a surface elevation of 1162. The soil is generally divided into a six to eight foot layer of brown silty topsoil, followed by a six foot layer of brown silty sand. These layers are followed by a three to six foot layer of fine tan sand and then a layer of moist fine tan sand.

The water table elevation is around 1140 elevation and sometimes two feet higher. This information checks with the city landfill where the water table is

usually at 1138 elevation.

The topsoil is classified CdB - Canadian-Dale Complex, common or loamy bottom land. It consists of Canadian fine sandy loam and Dale silty clay loam. The soil unified classification is SM, and ML. A copy of the soil map is shown in the appendix of this report.

DRAINAGE

The final proposed contour lines are shown on drawing No. D13-302. The main drainage layout is also on this drawing. It was necessary to develop two ditch layouts because of the old fill which has already been made. The existing bank along Mosley Road is already higher than the dip in the road. It is necessary to drain as much surface water as possible away from the west side of the landfill. Surface water falling on the west bank lower than 1162 elevation will flow towards the dip in the road, then cross the road into a sink area.

Rain water falling onto the landfill along the south property line below elevation 1162 will flow east to a sinkhole excavated in the southwest corner of the property. The natural valley has already been filled and diverting a small amount of surface water into a sinkhole appears to be a better solution than to allow

the water to flow south onto the adjacent property owner.

All surface water above elevation 1162 will be diverted to the northeast corner of the property where it will flow through a silt lagoon and on to a surface ditch along Air Depot Road. The overflow then runs north and west to the North Canadian River.

Drawing D13-304 shows a cross-section through the ditch which lies along the top of the old landfill and will handle all surface runoff from higher elevations. This ditch will be contoured and compacted with silty topsoil and seeded as soon as possible to prevent erosion.

The surface of the landfill drains in all directions at a 1.0% slope. All side banks have a maximum slope of three to one in order to control erosion.

SITE PREPARATION AND MAINTENANCE

Site improvements begin after all permits have been approved by all local and state agencies. The objective is to clean up and cover all signs of the old landfill. Soild waste from the city transfer station only will be used to bring all elevations up to 1162 where a controlled drainage plan can be worked out. With surface drainage controlled, the site will be closed and not used until the city site is full.

Access roads, field office, and scale and scale pit must be installed before this site is again placed in operation.

This site will be adequately fenced and a gate installed to assure that there will be no unathorized dumping while the site is not in operation.

OPERATION OF PROPOSED SITE

The proposed sanitary landfill is to be operated in four stages of construction. Drawing No. D13-303 shows these four stages. The main access roads run north and south dividing the landfill area into four stages.

Stage I lies along Mosley Road and extends east into the landfill 750 feet. Seven rows, approximately two hundred feet wide and six hundred feet long, make up this stage. Row No. 1 is filled from west to east. Trucks back down row No. 1 from the east and unload. Because an old landfill exists in this area, no excavation can be made, and all refuse is pushed and compacted up slope to form one lift between elevations 1162 and 1172. The side slopes are gently sloping at the beginning of this new row until the upper elevation of 1172 has been obtained. At the end of each days operation cover dirt is placed over the compacted refuse

making up that days cell. Cover dirt is moved to the working area with a scraper from the stage III area where no old landfill has been placed over the existing natural ground. As row No. 1 is filled it moves east towards the north, south access road.

Row No. 2 is filled after row No. 1, then row No. 3. Row No. 4 is in stage II, Stage II is shown on drawing D13-303. The rows in stage II are filled from east to west. The refuse is also the end of the row and working back towards the access road in stage I and II, trucks are moving over the surface of old compacted refuse and not on newly covered refuse which would be softer and cause more operations problems to the truck drivers.

The rows in stages I and II are continued to be filled as the landfill filling process moves south. After row No. 14 is filled, the access road between the two stages is filled, pushing upslope and moving from south to north.

Stage III is filled after the 1300 feet east of Mosley Road is filled which consisted of stages I, II and the access road which runs north and south between them. Stage III has been excavated for cover dirt leaving pits in this area approximately fifteen feet deep. The bottoms of these pits are above the water table. Stage III will be filled in two lifts as shown in the cross section at

the bottom of drawing No. D13-304. The first lift is formed by dumping right next to the access road and pushing the refuse down slope on a thirty degree angle. The rows, two hundred feet wide are filled across the pit pushing down the slope. At the end of the row the surface elevation is 1162. The row is then completed by moving back across the just completed fill ading a second layer pushing up slope. Any road material or compacting done by trucks backing down the row to fill the pit can also be used in reaching the dumping area for the second lift of the same row. Cover dirt for stage III comes from Stage III and stage IV.

Stage IV consists of filling two pits east of the gas line. These rows are filled to the surface of the pit or elevation 1162. A second lift may be added to the rows of stage IV if they are needed to raise the elevation to 1162. It may be that the one lift added from north to south fills the pit to 1162, depending upon how much soil is taken from the pit.

GENERAL STANDARDS

Side slopes of fill shall not exceed one foot vertical to three foot horizontal and shall be blended into undisturbed existing surfaces.

Provision shall be made for the disposal of

surface water falling on, or crossing the site at all times, during and after completion of the operation. The operations shall not obstruct the normal flow of any public drain.

The depth of excavation and the materials to be used for fill shall not have any adverse effect on the supply, quality or purity of ground water or wells. In no case shall an excavation be carried to a depth below an elevation of 1140 feet above mean sea level.

A compacted layer of at least six inches of material shall be used to cover all exposed solid waste at the end of each working day.

A layer of clean earth at least two feet thick shall be deposited and thoroughly compacted over all fill to bring the surface to the finished surface grade as shown on the topographic plan filed with the application.

The landfill operation shall be under the direction of a responsible individual at all times.

Access to the site shall be permitted only during the hours when operating personnel are on the site.

Dumping of solid waste on the site shall be confined to the smallest practical area.

Unloading shall be supervised. Portable fences shall be used when necessary to prevent blowing litter from the unloading site.

EQUIPMENT

This landfill will dispose of an average of 4,000 yards of solid waste per day, with peak days running as high as 5,000 yards per day.

To spread and compact this volume of solid waste a Caterpillar 826B of 300 horsepower will be used along with a Caterpillar D-8 Dozer rated at 270 horsepower. A Caterpillar scraper, Model 621 with 300 horsepower will be used to carry daily cover to the working area and for placing final cover dirt.

A water truck with a 3,000 gallon tank and a sprinkle bar for controlling dust is also available. This truck also has a high pressure pump for fighting fires and for washing off equipment.

A motor grader, equal to a Caterpillar Model 12 will be available at the site.

A pickup truck will also be part of the landfill equipment.

Additional equipment is available within four hours notice from contractors in the area. This has been our experience during the last two years of operating experience.

HOURS

The landfill will be open from 8:00 A.M. to 6:00

P.M., Monday through Sunday, seven days per week. Holiday notice will be given two weeks in advance.

CHARACTERISTICS OF REFUSE

It is recommended that this site be approved to dispose of municipal, commercial, and industrial solid waste.

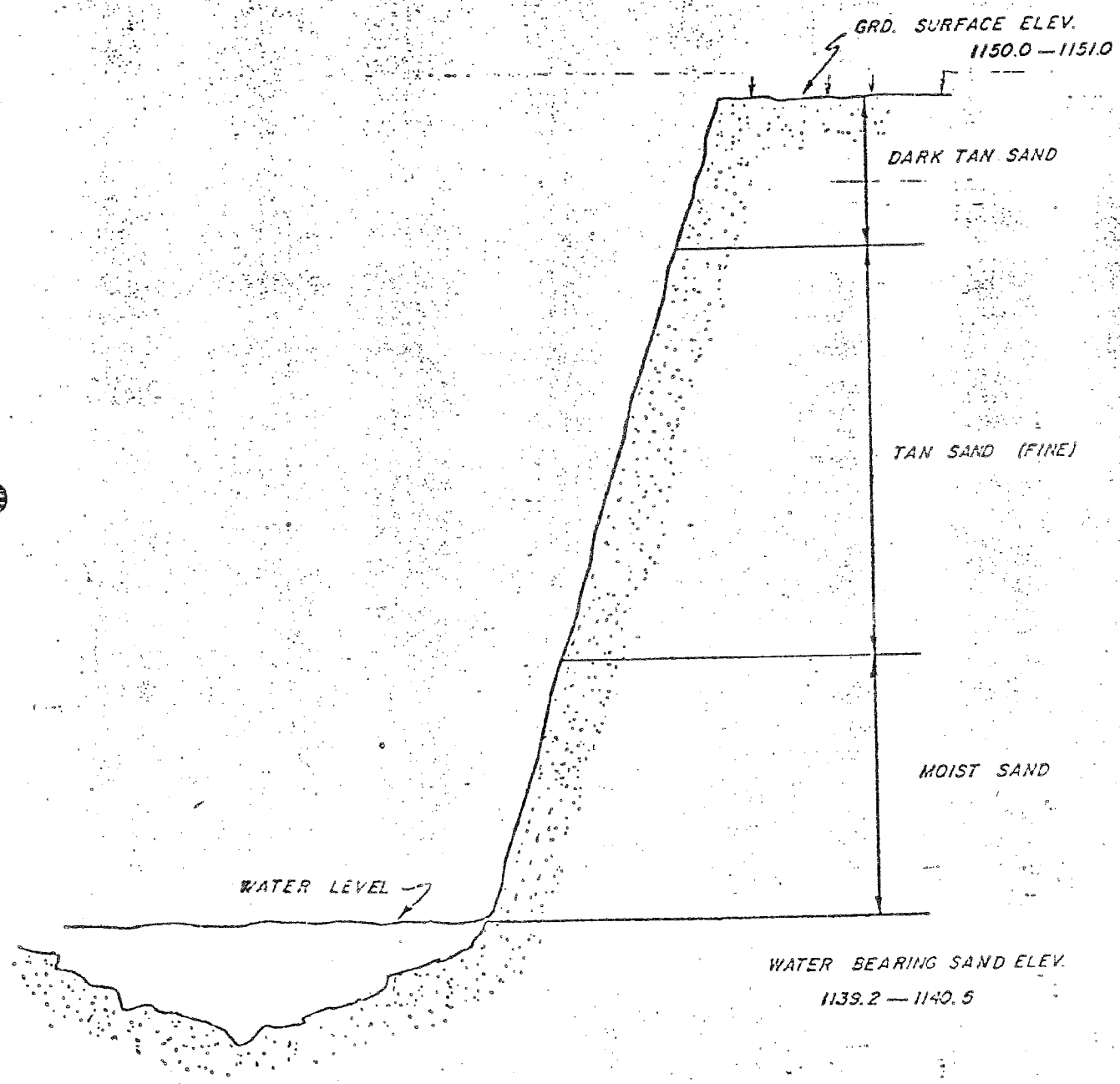
No toxic, water soluble, or water emusificable chemicals shall be introduced into the fill without prior approval of the Oklahoma Department of Health. No hazardous liquid waste will be allowed on the site. Pumpings from septic tank will also be restricted from the site.

RESPONSIBILITY FOR OPERATION

The overall operation of the sanitary landfill will be the responsibility of the engineering staff of Mobile Waste Controls, Inc. A superintendent of site operations, experienced in heavy equipment operation and maintenance and in landfill operating techniques will be assigned to the site on a full time basis.

APPENDIX

TYPICAL LOG OF SOIL STRATA



S A N I T A R Y L A N D F I L L

S O I L S T R A T A

Observation Point No. 1

Ground elevation 1150.00
Water elevation 1139.60

Depth from	Depth to	Description & remarks
0'	3'	Brown sandy top soil
3'	5'	Tan fine sand
5'	10'	Tan sand

Observation Point No. 2

Ground elevation 1150.60
Water elevation 1139.50

Depth from	Depth to	Description & remarks
0'	2'	Tan fine sand
2'	6'	Dark sand
6'	12'	Moist dark sand

Observation Point No. 3

Ground elevation 1149.80
Water elevation 1140.40

Depth from	Depth to	Description & remarks
0'	5'	Brown silty topsoil
5'	7'	Tan fine sand
7'	10'	Moist Tan sand

S A N I T A R Y L A N D F I L L

S O I L S T R A T A

Observation Point No. 4

Ground elevation 1150.20
Water elevation 1140.50

Depth from	Depth to	Description & remarks
0'	4'	Brown silty topsoil
4'	8'	Tan sandy soil
8'	10'	Tan sand (moist)

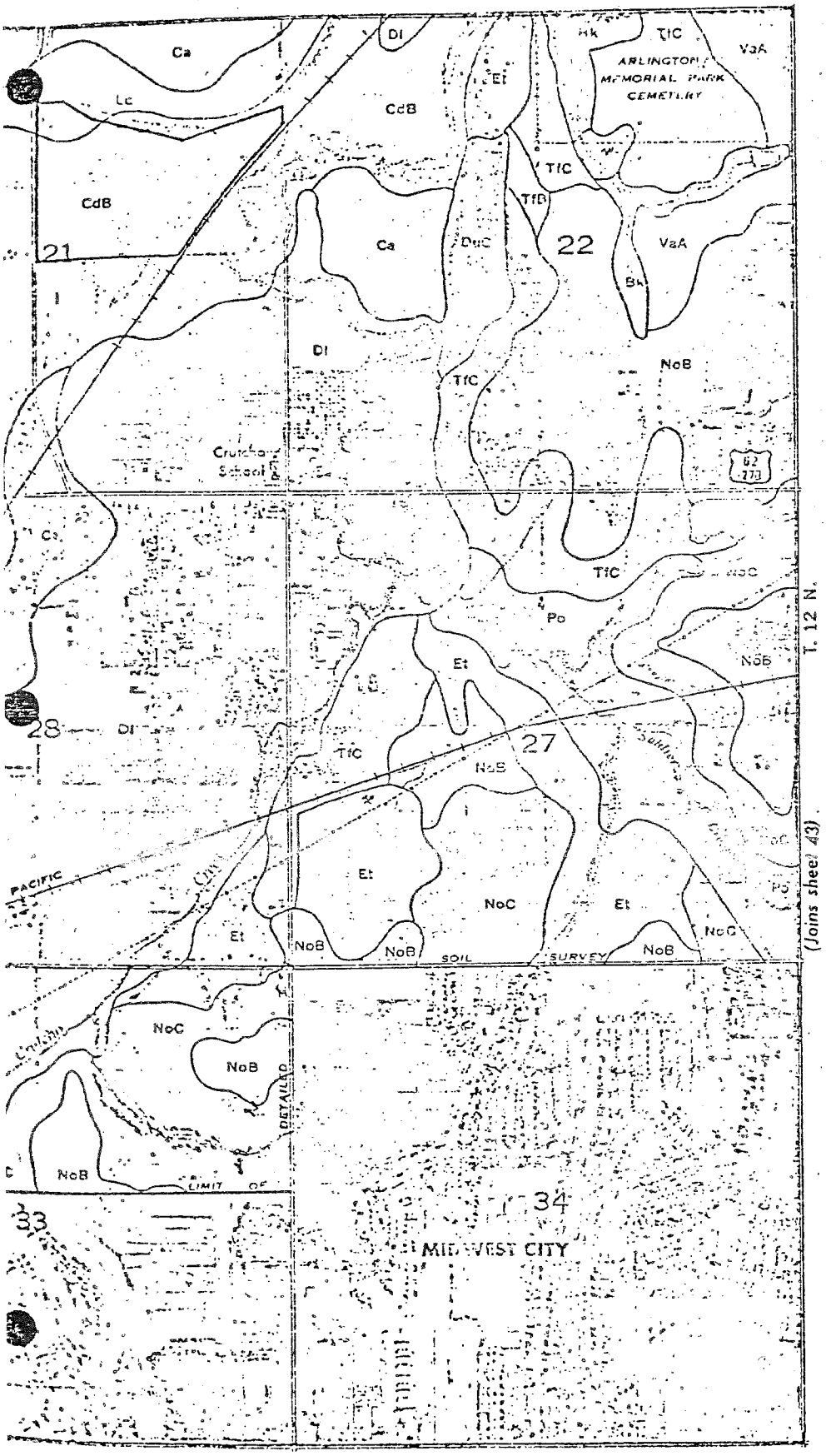
Observation Point No. 5

Ground elevation 1150.60
Water elevation 1140.60

Depth from	Depth to	Description & remarks
0'	4.5'	Brown silty topsoil
4.5'	8'	Tan sand
8'	10'	Moist tan sand

SANITARY LANDFILL
SOIL STRATA

Observation point	Description and remarks
No. 5	Ground elevation 1150.60 Water elevation 1140.50
depth	
0' to 4.5'	Brown silty topsoil
4.5' to 8'	Tan sand
8' to 10'	Moist tan sand
No 6	Ground elevation 1166.50 Water elevation 1145.60
depth	
0' to 6'	Brown silty topsoil
6' to 12'	Tan sand
12' to 20'	Moist tan sand
No 7	Ground elevation 1167.00 Water elevation 1146.20
depth	
0' to 8'	Light brown silty topsoil
8' to 13'	Brown silty sand
13' to 15'	tan fine sand
15' to 20'	Moist tan (fine) sand

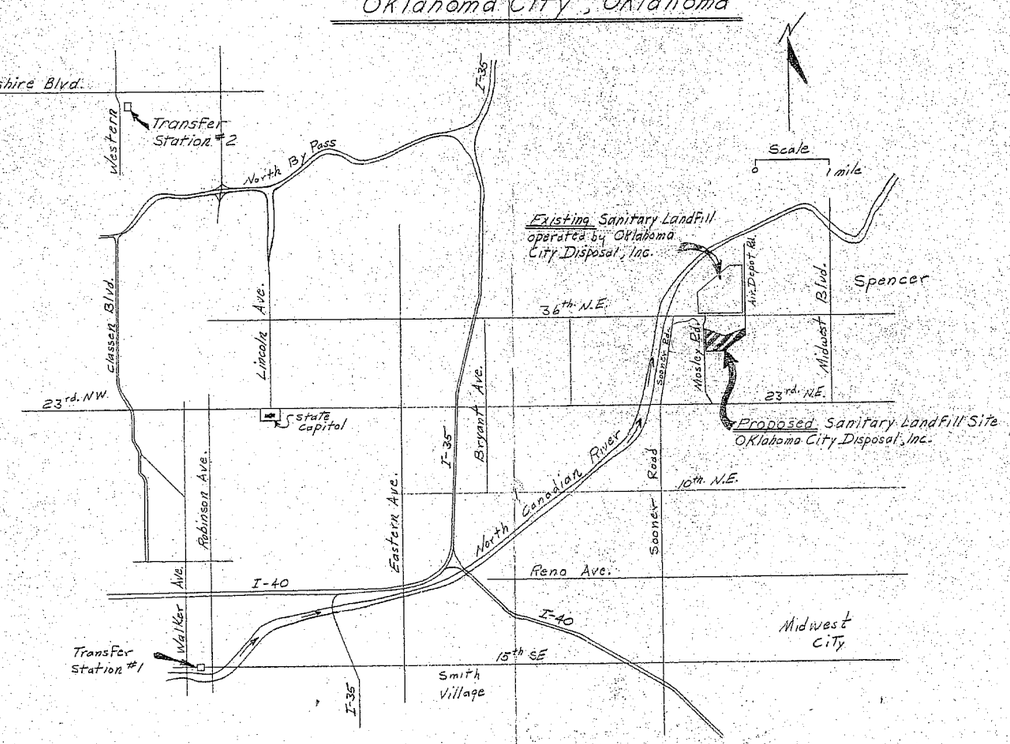


5000 Feet

CdB -
Canadian-Dale Complex
(undulating)
Loamy bottom land
Canadian fine sandy loam and Dale silty clay loam.
Unified → SM, ML
average rainfall is 31.93 inches.

MOSLEY ROAD SANITARY LANDFILL

Oklahoma City, Oklahoma



STATE OF OKLAHOMA
STATE DEPARTMENT OF HEALTH
APPROVED
LOYD F. PUMMILL, STATE SANITARY ENGINEER
R. LeRoy Carpenter, M.D., State Commissioner of Health
By [signature] Date 3/10/75

Oklahoma City Disposal
224 Southwest 14th Street
Oklahoma City, Oklahoma 73125

Mobile Waste Controls, Inc.
Suite 222, 200 Executive Park
Louisville, Kentucky 40207

B-1-46

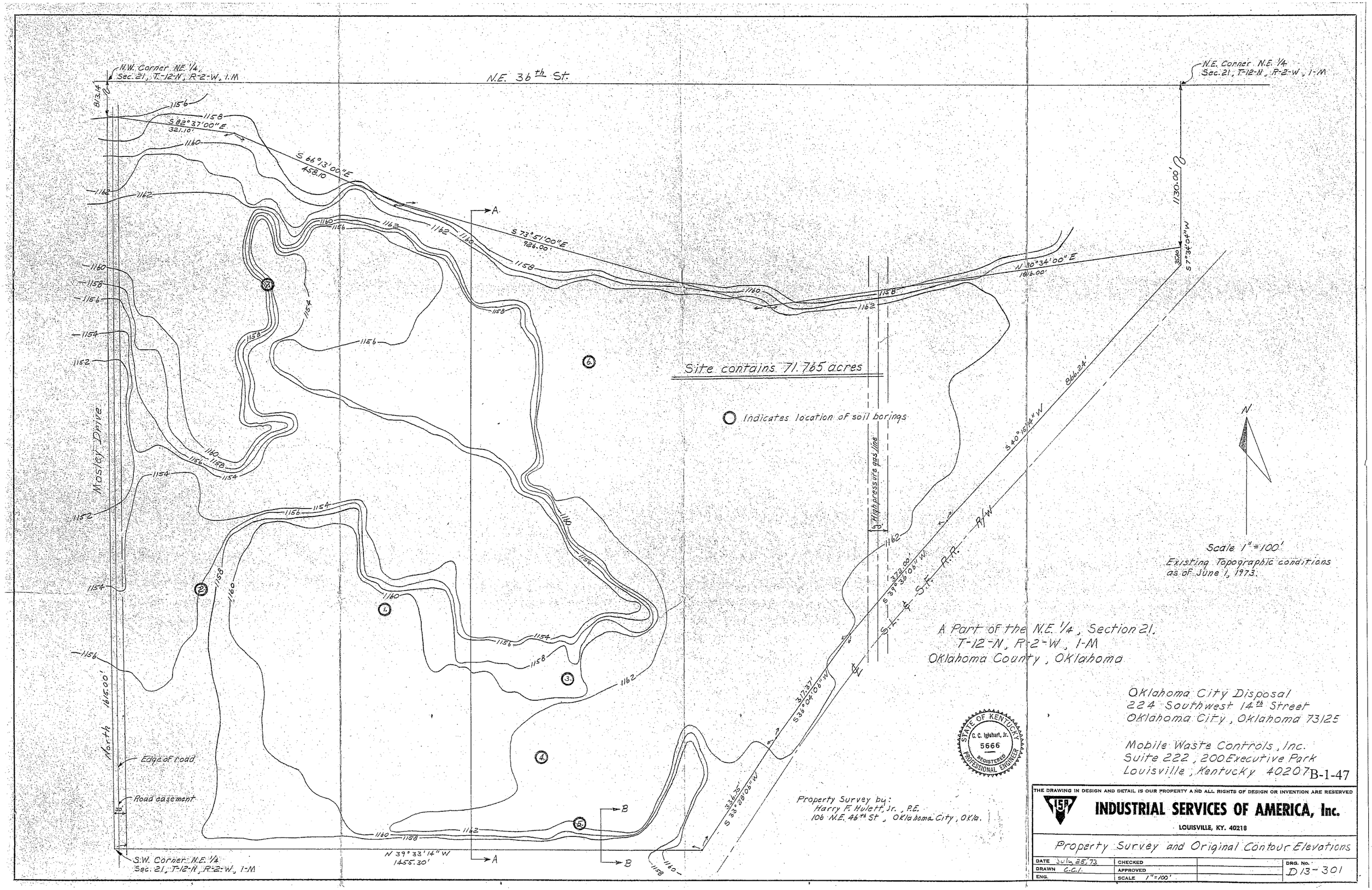
STATE OF KENTUCKY
C. C. Iglehart, Jr.
5666
REGISTERED
PROFESSIONAL ENGINEER

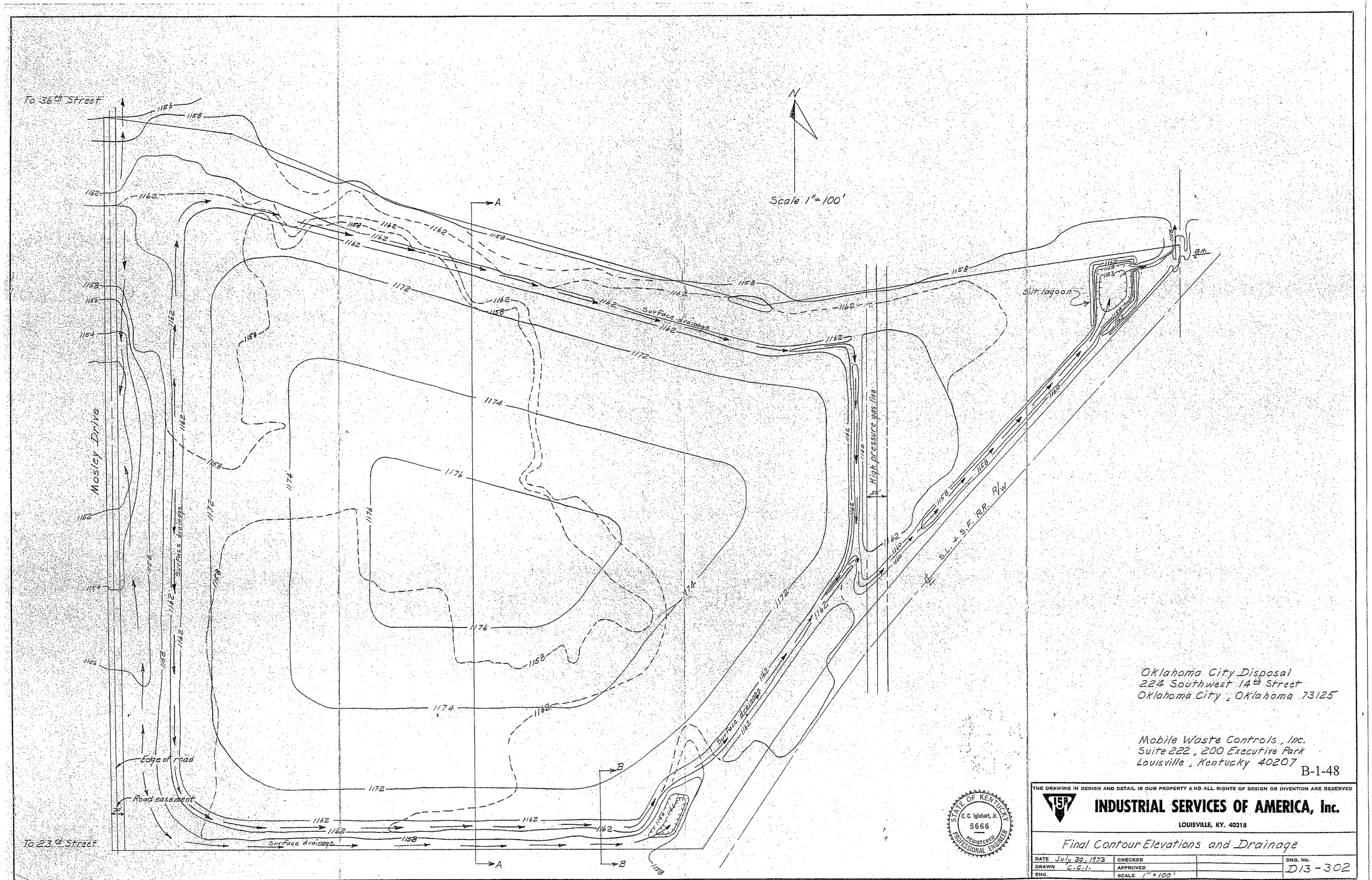
THE DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED

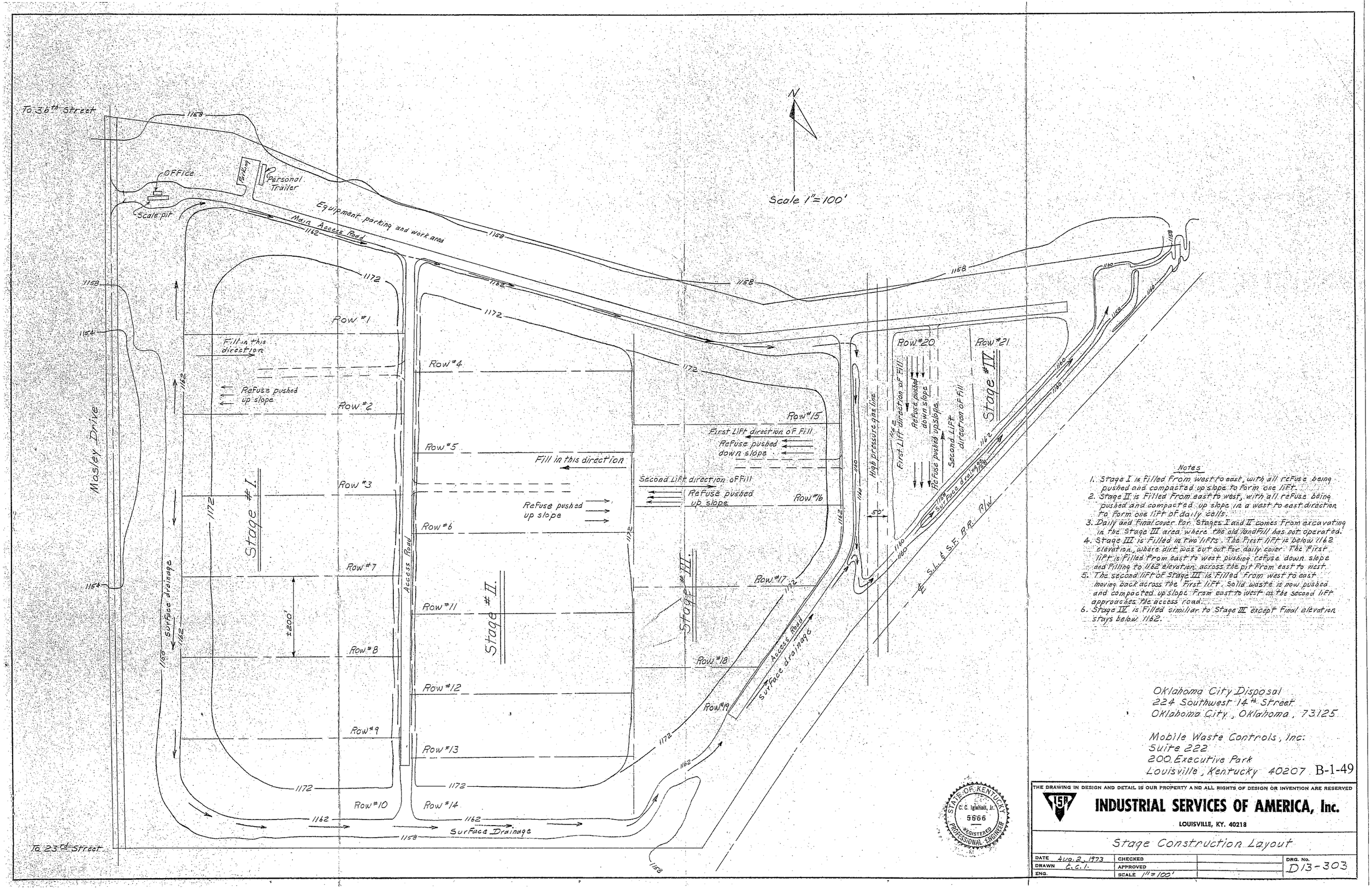
INDUSTRIAL SERVICES OF AMERICA, Inc.
LOUISVILLE, KY. 40218

General Location Map - Mosley Road Landfill

DATE Aug. 2, 1973	CHECKED		DRG. No.
DRAWN C.C.I.	APPROVED		D13-300
ENG.	SCALE As Shown		


N.W. Corner N.E. 1/4, Sec. 21, T-12-N, R-2-W, I.M
N.E. 36th St.
N.E. Corner N.E. 1/4 Sec. 21, T-12-N, R-2-W, I-M
813.4'
S 82°37'00"E 321.10'
S 66°3'00"E 458.10'
S 73°51'00"E 926.00'
N 30°34'00"E 1816.00'
S 7°34'04"W
1130.00'
S 40°15'14"W 866.24'
S 39°36'06"W 372.00'
S 33°04'06"W 317.37'
S 33°28'06"W 336.75'
N 39°33'14"W 1455.30'
North 1165.00'
Mosley Drive
Edge of road
Road easement
S.W. Corner N.E. 1/4 Sec. 21, T-12-N, R-2-W, I-M
Site contains 71.765 acres
Indicates location of soil borings
High pressure gas line
S.F. & S.F. R.R. R/W
A
B
N
Scale 1" = 100'
Existing Topographic conditions as of June 1, 1973.
A Part of the N.E. 1/4, Section 21, T-12-N, R-2-W, I-M
Oklahoma County, Oklahoma
Oklahoma City Disposal
224 Southwest 14th Street
Oklahoma City, Oklahoma 73125
Mobile Waste Controls, Inc.
Suite 222, 200 Executive Park
Louisville, Kentucky 40207
B-1-47
STATE OF KENTUCKY
C. C. Iglehart, Jr.
5666
REGISTERED PROFESSIONAL ENGINEER
Property Survey by:
Harry F. Hulett, Jr., P.E.
106 N.E. 46th St., Oklahoma City, Okla.
THE DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED
INDUSTRIAL SERVICES OF AMERICA, Inc.
LOUISVILLE, KY. 40218
Property Survey and Original Contour Elevations
DATE July 25, 73
DRAWN C.C.I.
ENG.
CHECKED
APPROVED
SCALE 1" = 100'
DRG. No. D13-301


To 36th Street
N
Scale 1" = 100'
A
B
Mosley Drive
Surface drainage
High pressure gas line
Silt lagoon
BM
S.L. + S.F. R.R. R/W
Edge of road
Road easement
To 23rd Street
1156
1158
1160
1162
1164
1166
1168
1170
1172
1174
1176
Oklahoma City Disposal
224 Southwest 14th Street
Oklahoma City, Oklahoma 73125
Mobile Waste Controls, Inc.
Suite 222, 200 Executive Park
Louisville, Kentucky 40207
B-1-48
STATE OF KENTUCKY
C. C. Iglehart, Jr.
5666
REGISTERED
PROFESSIONAL ENGINEER
THE DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED
INDUSTRIAL SERVICES OF AMERICA, Inc.
LOUISVILLE, KY. 40218
Final Contour Elevations and Drainage
DATE July 30, 1973
DRAWN C.C.I.
ENG.
CHECKED
APPROVED
SCALE 1" = 100'
DRG. No.
D13-302



Notes

1. Stage I is filled from west to east, with all refuse being pushed and compacted up slope to form one lift.
2. Stage II is filled from east to west, with all refuse being pushed and compacted up slope in a west to east direction to form one lift of daily cells.
3. Daily and final cover for Stages I and II comes from excavating in the Stage III area where the old landfill has not operated.
4. Stage III is filled in two lifts. The first lift is below 1162 elevation, where dirt was cut out for daily cover. The first lift is filled from east to west pushing refuse down slope and filling to 1162 elevation across the pit from east to west.
5. The second lift of Stage III is filled from west to east moving back across the first lift. Solid waste is now pushed and compacted up slope from east to west as the second lift approaches the access road.
6. Stage IV is filled similar to Stage III except final elevation stays below 1162.

Oklahoma City Disposal
224 Southwest 14th Street
Oklahoma City, Oklahoma, 73125

Mobile Waste Controls, Inc.
Suite 222
200 Executive Park
Louisville, Kentucky 40207

B-1-49

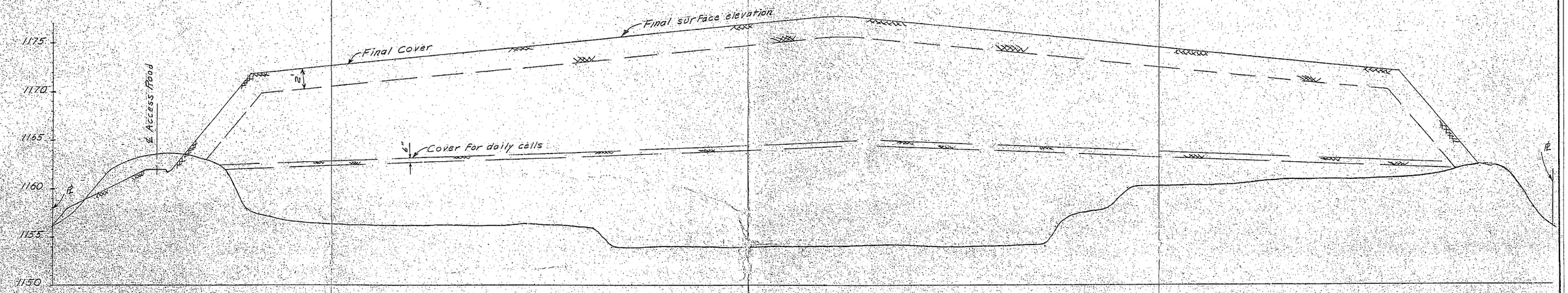
STATE OF KENTUCKY
C. C. Ignatiadis, Jr.
5666
REGISTERED PROFESSIONAL ENGINEER

THE DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED

INDUSTRIAL SERVICES OF AMERICA, Inc.
LOUISVILLE, KY. 40218

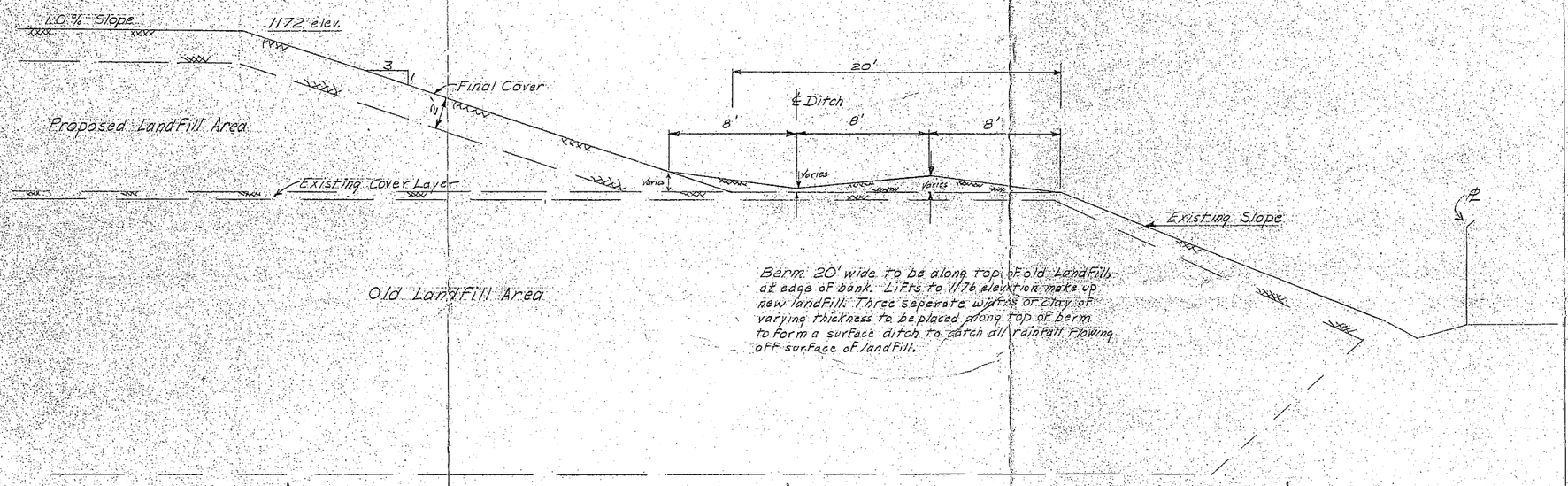
Stage Construction Layout

DATE Aug. 2, 1973	CHECKED		DRG. No.
DRAWN C.C.I.	APPROVED		D13-303
ENG.	SCALE 1"=100'		



Section A-A

Scale: horizonal 1"=50'
vertical 1"=5'



Section B-B

Scale 1"= 4'

Typical Cross-Section No scale

Solid waste being compacted over old landFill, Rows #1 through #14. LandFill is only one lift deep. Trucks back off access road to end of row. Refuse pushed up slope and row is filled working towards access road.

Typical Cross-Section No scale

Solid waste being compacted in area of landFill where old landFill has operated, namely Rows #15 through #21. Here 12' to 16' of soil is dug out for daily and final cover. Two lifts are placed, the first down slope, the second up slope. Access road across row used for both lifts.

STATE OF KENTUCKY
C. C. Iglehart, Jr.
5566
REGISTERED
PROFESSIONAL ENGINEER

Oklahoma City Disposal
224 Southwest 14th Street
Oklahoma City, Oklahoma 73125

Mobile Waste Controls, Inc.
Suite 222, 200 Executive Park
Louisville, Kentucky 40207

B-1-50

THE DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED

INDUSTRIAL SERVICES OF AMERICA, Inc.
LOUISVILLE, KY. 40218

Sanitary LandFill Cross-Sections

DATE August 3, '73	CHECKED		DRG. No. D13-304
DRAWN C.C.I.	APPROVED		
ENG.	SCALE As Shown		

The City of
Oklahoma City
Dept. of Public Works
200 N. Walker
Municipal Building
Oklahoma City, Okla. 73102

May 1, 1975

Rec'd 5/5/75

Oklahoma City-County Health Dept.
P. O. Box 53445
Oklahoma City, Oklahoma 73105

Gentlemen:

SUBJECT: Application by Oklahoma City Disposal for Sanitary Landfill Permit, 3300 N. Mosely Road

The Public Works Department has reviewed the engineering plans and proposals for a permit to operate a sanitary landfill at 3300 N. Mosely Road.

The application as revised April 14, 1975, conforms to standards of the City of Oklahoma City.

The Public Works Department recommends approval.

Sincerely,

Patterson Lay, P.E., Assistant
Public Works Director/City Engineer

cc: Oklahoma City Disposal
Oklahoma City Planning Dept.

Oklahoma City-County Health Department

TELEPHONE (405) 427-8651
POST OFFICE BOX 53445
OKLAHOMA CITY, OKLAHOMA 73105

RECEIVED MAY 29 1975
SOLID WASTE MANAGEMENT SECTION

May 27, 1975

Mr. Leroy Rachels, Director
Solid Waste Management Division
Oklahoma State Department of Health
P.O. Box 53551
Oklahoma City, Oklahoma 73105

Dear Mr. Rachels:

Re: Sanitary Landfill
3300 N. Mosley Road

The City-County Health Department has reviewed the plans and proposals for a permit to operate a sanitary landfill at 3300 N. Mosely Road.

The application as revised April 14, 1975 conforms to standards of the City-County Health Department.

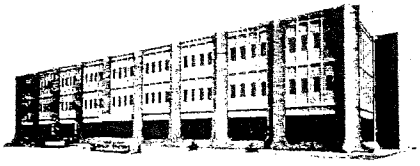
The City-County Health Department recommends approval.

Sincerely,

D. C. Cleveland, Director
Environmental Services

VLD/br

cc - Mr. Carl A. Jorski
245 SW 15th Street, OKC 73109
cc - Mr. Norman R. Standerfer
Planning Dept., 200 N. Walker, 73102
cc - Mr. Pat Lay, Director
Public Works Admin., OKC 73102



921 NORTHEAST 23rd STREET

Joan K. Leavitt, M.D.
Commissioner

Board of Health
James A. Cox, Jr., M.D.
President
Linda M. Johnson, M.D.
Vice President
Robert D. McCullough, II D.O.
Secretary/Treasurer
Wallace Byrd, M.D.
John B. Carmichael, D.D.S.
Ernest D. Martin
Walter Scott Mason, III
Edwin L. Pointer, M.D.
W. A. "Tate" Taylor

OKLAHOMA STATE
DEPARTMENT OF HEALTH

P.O. BOX 53551
1000 N.E. TENTH
OKLAHOMA CITY, OK 73152

AN EQUAL OPPORTUNITY EMPLOYER

December 16, 1986

CERTIFIED MAIL

Edward C. Parvin, P. E.
Regional Engineering Manager
Waste Management, Inc.
2600 Delk Road
Marietta, Georgia 30067

Re: Mosely Road II Landfill
Permit Number: 3555036
Type I-B Metropolitan Sanitary Landfill

Dear Mr. Parvin:

Attached is a permit to construct, operate, and maintain a Type I-B sanitary landfill, located in the Northwest quarter of Section 12, Township 12 North, Range 2 West, in Oklahoma County, Oklahoma (see attachment A for legal description). This permit is issued in accordance with the Regulations Governing Solid Waste and Sludge Management, OSDH Bulletin 0524, as adopted by the Oklahoma State Board of Health June 26, 1986. The facility shall be constructed and operated in accordance with said Regulations, with the provisions of the enclosed permit, and with the plans and specifications approved by the Department on December 16, 1986.

I am returning five sets of the approved plans and specifications to you, forwarding one set to the Oklahoma City/County Health Department, and retaining one set for our files.

Sincerely,

Dwain Farley

Dwain Farley, Ph.D., Chief
Waste Management Service

DF/JFD/am

Enclosures

cc: Jim Milner, RPS, Oklahoma City/County Health Department
Larry McKee, RPS, District Sanitarian

Joan K. Leavitt, M.D.
Commissioner

Board of Health
Walter Scott Mason, III
President
John B. Carmichael, D.D.S.
Vice-President
Wallace Byrd, M.D.
Secretary-Treasurer
Jodie L. Edge, M.D.
Dan H. Fieker, D.O.
Burage F. Green, M.D.
Linda M. Johnson, M.D.
Ernest D. Martin, R.Ph.
Lee W. Paden

OKLAHOMA STATE
DEPARTMENT OF HEALTH

P.O. BOX 53551
1000 N.E. TENTH
OKLAHOMA CITY, OK 73152

AN EQUAL OPPORTUNITY EMPLOYER

March 22, 1989

CERTIFIED MAIL

Terry Milia
Route 4, Box 310
3201 Mosley Road
Oklahoma City, Oklahoma 73111

Re: East Oak Sanitary Landfill
Permit Number 3555036
Type I-B Metropolitan Sanitary Landfill
Oklahoma County

Dear Mr. Milia:

Attached is an amended permit to continue to construct, operate, and maintain a Type I-B sanitary landfill, located in part of government lots 3 and 4 and part of the south half of the NW/4 of Section 21, T 12 N, R 2 W of the Indian Meridian in Oklahoma County, Oklahoma (see Attachment A for legal description). Amendments to the plans include the change in facility name from Waste Management, Inc., Mosley Road II to East Oak, changes in hours of operation, changes in the leachate collection system design, and changes in the sedimentation pond spillway design. This permit is issued in accordance with the Regulations Governing Solid Waste and Sludge Management, OSDH Bulletin 0524, as amended by the Oklahoma State Board of Health April 2, 1987. This facility shall continue to be constructed, operated, and maintained in accordance with said Regulations, with the provisions of the enclosed permit, and with the plans and specifications approved by the Department on December 16, 1986.

I am returning one set of the approved plans and specifications to you, forwarding one set to the Oklahoma County Health Department, and retaining one set for our files.

Sincerely,

R. Fenton Rood

R. Fenton Rood, Director
Solid Waste Division
Waste Management Service

RFR/DLD/am

Enclosures

cc: Dave Davison, R.S., Oklahoma City-County Health Department
Larry McKee, DPA, R.S., District Sanitarian

OKLAHOMA STATE DEPARTMENT OF HEALTH
1000 NORTHEAST TENTH STREET
POST OFFICE BOX 53551
OKLAHOMA CITY, OKLAHOMA 73152

WASTE MANAGEMENT SERVICE
ENVIRONMENTAL HEALTH SERVICES

TYPE I-B PERMIT

EAST OAK SANITARY LANDFILL
(formerly Waste Management of Oklahoma, Inc., Mosley Road II)

PERMIT NUMBER: 3555036

EFFECTIVE DATE: March 22, 1989
EXPIRATION DATE: Refer to provision 1

In compliance with the requirements of the law is hereby granted permission to construct, operate and maintain a Type I-B landfill facility in part of government lots 3 and 4 and part of the S/2 of the NW/4 of Section 21, Township 12 North, Range 2 West of the Indian Meridian in Oklahoma County, Oklahoma (see Attachment A for legal description).

This site shall be subject to the following provisions:

(see Attachment B for provisions)

Chief, Waste Management Services

Deputy Commissioner for Environmental Health Services

Commissioner of Health

ODH Form No. 852
Revised 2-83

E[illegible] OAK SANITARY LANDFILL
(formerly Waste Management, Inc., Mosley Road II)

PLAT OF SURVEY

IN NW1/4 SEC. 21, T-12-N, R-2-W, I.M.

Permit Number 3555036

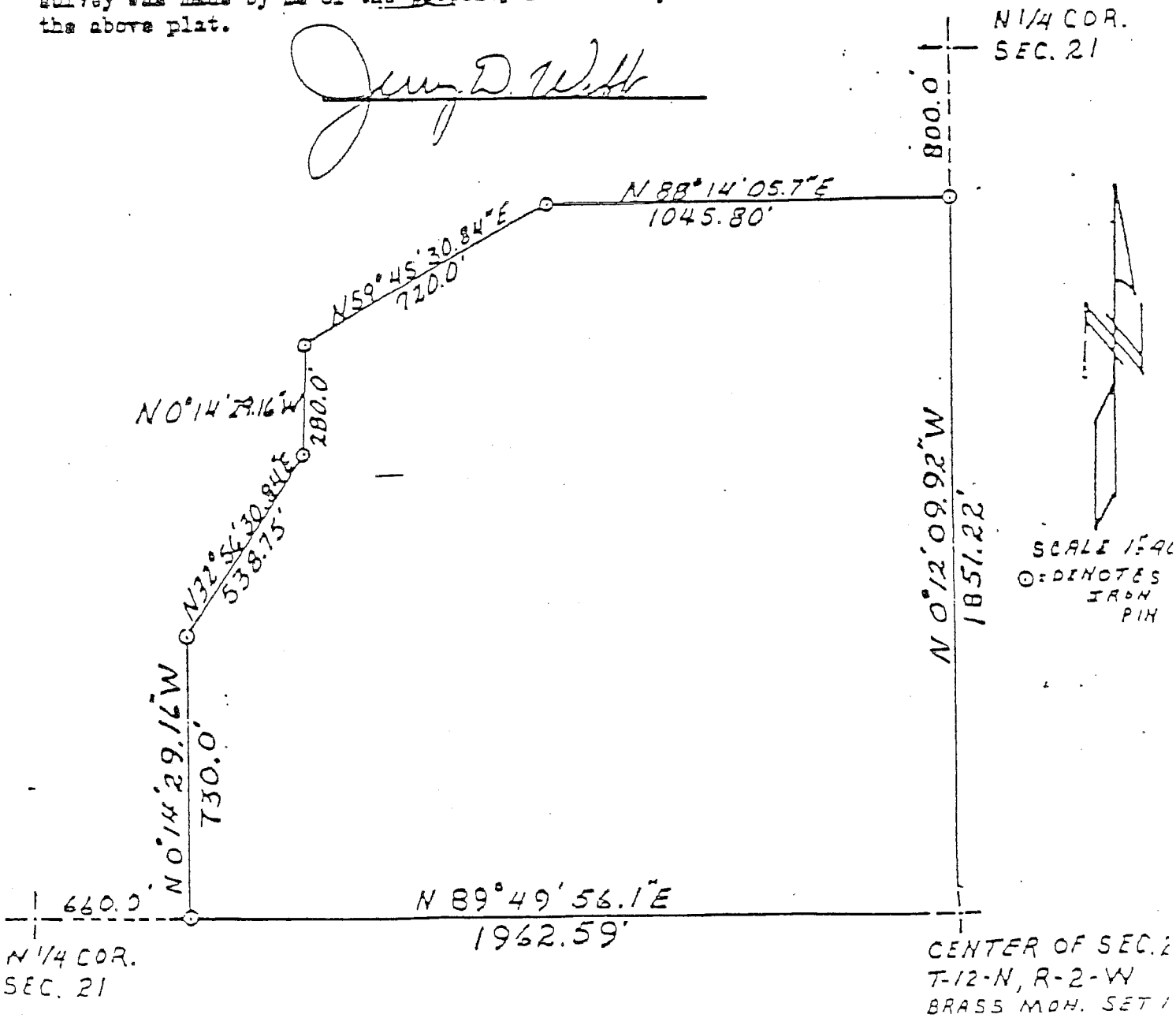
Attachment A

Part of Government Lots Three (3) and Four (4) and part of the South Half of the Northwest Quarter of Section 21, Township 12 North, Range 2 West of the Indian Meridian; Oklahoma County, Oklahoma.

CERTIFICATE OF SURVEY

I, Jerry D. Webb, A Registered Land Surveyor in the State of Oklahoma, do hereby certify that a careful survey was made by me of the property as shown by the above plat.

Jerry D. Webb



EAST OAK SANITARY LANDFILL FACILITY
(Formerly Waste Management Inc., Mosley Road II)

AMENDED PERMIT NUMBER 3555036
TYPE I-B METROPOLITAN SANITARY LANDFILL
ATTACHMENT B

PERMIT PROVISIONS

1. All operational practices and procedures used at this facility shall conform to the best possible public health practices.

2. Construction and operation of this Type I-B Metropolitan Sanitary Landfill conducted in accordance with the plans and specifications originally submitted to the Oklahoma State Department of Health on December 16, 1986, with amendments (see condition 9) submitted on December 6, 1988, the conditions in this permit, and with the Regulations Governing Solid Waste and Sludge Management (OSDH Bulletin 0524) for a Type I-B Metropolitan Sanitary Landfill, as amended by the Oklahoma State Board of Health on April 2, 1987.

3. Any amendment or major modification to this permit must be submitted to and approved by the Department.

4. This permit is effective for the lifetime of the facility, estimated in the original application plans to be 7.7 years. This permit will therefore expire upon completion of the landfill to the designed boundaries and final grades represented in the plans and specifications approved March 22, 1989. If the facility's life ends before or extends after August 29, 1994, due to changes in operation or other factors not addressed in the approved application or modifications thereto, the permittee shall immediately notify the Department in writing. Alterations to facility life resulting from Department approved permit modifications shall modify the expiration date in accordance with the terms of the permit modifications.

5. If the population served by or the waste volume received at this site increased by ten percent (10%) or more above the figures stated in the approved application report, the permit holder must modify the expected life of site and amount of land to be covered by the performance bond.

6. Wastes designated as hazardous by either the Oklahoma State Department of Health or the U.S. Environmental Protection Agency shall not be accepted or disposed of at this facility. Wastes excluded from designation as "hazardous" or "controlled" industrial waste solely on the basis of quantity shall not be accepted or disposed of at this facility.

7. Non-hazardous (other) industrial waste shall not be accepted at this site without special handling procedures for each type of such waste and specific approval from the Oklahoma State Department of Health.

8. Asbestos wastes and incinerator ash or residue shall not be accepted at this site without special handling procedures for each type of such waste and specific approval from the Oklahoma State Department of Health.

9. Amendments to the plans include the change in facility name from Waste Management, Inc., Mosley Road II to East Oak, changes in hours of operation, changes in the leachate collection system design, and changes in the sedimentation pond spillway design.

STEVEN A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

FRANK KEATING
Governor

July 30, 2002

Mr. Peter Schultze
Waste Management of Oklahoma
3201 Mosley Road
Oklahoma City, OK 73141

Certified Mail, Return Receipt Requested

Subject: Tier III Modification for Lateral Expansion of the Permitted Boundary
East Oak Landfill
Permit # 3555036

Dear Mr. Schultze:

The Department has completed the technical review of the above referenced modification and found it to be technically complete. Pursuant to Oklahoma Administrative Code (OAC) 252:4-7-60(2) the submittal was processed as a Tier III Application. The Department approves the permit modification, which is effective on the date that it was signed. Enclosed is a copy of the permit modification.

Please contact Wesley Squyres at (405) 702-5196, if there are any questions concerning the permit modification.

Sincerely,

Saba Tahmassebi, Ph. D., P. E.
Chief Engineer
Land Protection Division

cc: File 3555036

707 NORTH ROBINSON, P.O. BOX 1677, OKLAHOMA CITY, OKLAHOMA 73101-1677

printed on recycled paper with soy ink

STEVEN A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

FRANK KEATING
Governor

SOLID WASTE PERMIT MODIFICATION

The Department of Environmental Quality hereby approves the following modification:

Permit Number:	3555036
Permittee:	Waste Management Inc.
Facility:	East Oak Landfill and Disposal Facility
Facility Type:	Municipal Solid Waste Landfill
County:	Oklahoma County

Modification: Expansion of the permitted boundary to incorporate 20 additional acres, increasing the landfill's total acreage to 88 acres.

MODIFICATION CONDITIONS:

1. The original application submitted on 10/29/99 and revised on 10/30/00, 4/10/01, 8/24/01, 9/25/01, 12/13/01 and 2/04/02 is considered approved and is incorporated as part of this modification.

2. Financial assurance in the amount of $1,091,632.84 will be required before waste is accepted.

3. The final cap design must be resubmitted 6 months prior to final closure; the current design in the application is being used for calculating financial assurance only and is not approved for construction.

4. The permittee is authorized to operate in conformity with the application described above. Commencing operations under this permit modification constitutes acceptance of, and consent to, the conditions contained herein.

Saba Tahmassebi, Ph. D., P. E.
Chief Engineer
Land Protection Division

Date: 7/30/02

Scott A. Thompson
Division Director
Land Protection Division

Date: 7-30-02

Steven A. Thompson
Executive Director

Date: 7-31-02

707 NORTH ROBINSON, P.O. BOX 1677, OKLAHOMA CITY, OKLAHOMA 73101-1677

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STEVEN A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

BRAD HENRY
Governor

May 15, 2008

Mr. Peter Schultze
Waste Management of Oklahoma
3201 Mosley Road
Oklahoma City, OK 73141

Subject: Permit Modification
Tier III Modification for Lateral Expansion of the Permitted Boundary
East Oak Landfill
Permit # 3555036

Dear Mr. Schultze:

The Department has completed the technical review of the above referenced Tier III Application and found it to be technically complete; enclosed is the signed permit. Pursuant to Oklahoma Administrative Code (OAC) 252:4-7-60(2)(B) the submittal was processed as a Tier III Application. The Department approves the permit modification, which is effective on the date that it was signed. Also enclosed is a *DEQ Permit Satisfaction Survey*. The Department would appreciate you taking a few minutes to complete the survey and return it to our Customer Services Division. It is important to the Department for you to let us know how we are doing and/or how we can improve our process.

Please contact Wesley Squyres at (405) 702-5197, if there are any questions concerning the permit modification.

Sincerely,

Saba Tahmassebi, Ph. D., P. E.
Chief Engineer
Land Protection Division

cc: Jeff Young, Weaver Boos Consultants

STEVEN A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

BRAD HENRY
Governor

SOLID WASTE PERMIT MODIFICATION

The Department of Environmental Quality hereby approves the following modification:

Permit Number: 3555036
Permittee: Waste Management of Oklahoma, Inc.
Facility: East Oak Recycling and Disposal Facility
Facility Type: Municipal Solid Waste Landfill
County: Oklahoma County

Modification: Expansion of the permitted boundary to incorporate 44.6 additional acres, increasing the landfill's total acreage to 158.8 acres. The permit will grant three (3) variances to the OAC 252:515 regulations as follows OAC 252:515-15-4(b), OAC 252:515-5-32(a) and OAC 252:515-5-51(a).

MODIFICATION CONDITIONS:

1. The original application submitted on August 15, 2007 is considered approved and is incorporated as part of this modification.
2. Financial assurance will be required before waste is accepted.
3. The permittee is authorized to operate in conformity with the application described above. Commencing operations under this permit modification constitutes acceptance of, and consent to, the conditions contained herein.

Date: 5-15-08

Saba Tahmassebi, Ph. D., P. E.
Chief Engineer
Land Protection Division

Date:

Scott A. Thompson
Division Director
Land Protection Division

Date: 5-16-08

Steven A. Thompson
Executive Director

707 NORTH ROBINSON, P.O. BOX 1677, OKLAHOMA CITY, OKLAHOMA 73101-1677

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APPENDIX B-2

PROOF OF PUBLICATION

Weaver Consultants Group

June 16, 2015
Project No. 0086-356-11-42

Ms. Rachel Hanigan
Oklahoma Department of Environmental Quality
Land Protection Division
707 North Robinson Avenue
Oklahoma City, Oklahoma 73102

Re: Notice of Application for a Tier III Permit Modification
Southeast OKC Landfill, Permit No. 3555028
Oklahoma County, Oklahoma

Dear Ms. Hanigan:

Attached please find a copy of the Notice of Application Filed for a Tier III Permit Modification advertisement that was published in *The Oklahoman*. Also attached is the Affidavit of Publication from the newspaper to be included in Appendix B-2 of the Tier III Permit Modification submitted on June 5, 2015 to the ODEQ.

The Notice of Application for a Tier III Permit Modification was published on June 12, 2015.

Please call if you have any questions.

Sincerely,
Weaver Consultants Group, LLC

Jonathan V. Queen, P.E.
Project Engineer

Attachment: Notice of Application Filed
The Oklahoman Affidavit of Publication

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
NOTICE - APPLICATION FILED

Application filed. A solid waste Tier III application has been filed with the Department of Environmental Quality (ODEQ). Interested persons now have the opportunity to meet with the ODEQ and learn how and where they may participate in the permitting process.

Applicant: The applicant is: Waste Management of Oklahoma, Inc.
East Oak Recycling and Disposal Facility
3201 Mosley Road
Oklahoma City, OK 73141

Type of final permit or permit action being sought: The applicant seeks to modify an existing Municipal Solid Waste Landfill permit.

Facility location: The Municipal Solid Waste Landfill is located at 3201 Mosley Road, Oklahoma City, Oklahoma, 73141.

Activities to be regulated if the application is approved: The existing Municipal Solid Waste Landfill (ODEQ Permit No. 3555036) currently receives residential and commercial waste, construction and demolition waste, non-hazardous industrial waste, asbestos waste, vegetative waste, and various sludges. The facility is submitting this permit application to permit a lateral expansion of the existing landfill. With this lateral expansion, the existing landfill permit boundary will expand from approximately 158.8 acres to a proposed 282.96 acres. The waste disposal area will increase from approximately 135.2 acres to 176.6 acres. With the addition of the Mosley Road Landfill waste disposal area, the total waste disposal area on site will be 191.8 acres. Over the life of the facility, the expected average daily volume of incoming waste is projected to be approximately 1,749 tons per day. These projections are based on current market conditions and may vary as market conditions change. The existing groundwater monitoring systems will also be revised to monitor the expanded site. Surface water drainage improvements that will occur with the expansion consist of providing final cover erosion control structures, perimeter drainage channels, and detention ponds. The site is also designed to prevent stormwater run-on to the active portion of the landfill during a 24-hour, 25-year storm event. The application includes three variance requests. The variance requests include (1) spacing of LFG monitoring probes (OAC 252:515-15-4(b)), (2) location of the disposal area as it relates to the existing 100-year floodplain (OAC 252:515-5-32(a)), and (3) location of the site within an area designated as alluvium or terrace deposits (OAC 252:515-5-51(a)).

Statutes and Rules: The ODEQ will review the application for compliance with the Environmental Quality Code, including the Solid Waste Management Act, Title 27A of Oklahoma Statutes, Section 2-10-101, *et seq.*, and the rules of the ODEQ, Oklahoma Administrative Code, Title 252, Chapters 4 and 515.

Permitting procedures explained: On request, a representative of the ODEQ will chair a meeting to explain the steps of the ODEQ's permitting process to interested persons. At that meeting, there will be discussion explaining when oral and written public

comments can be made on the proposal. Administrative hearing opportunities will also be discussed. To request this process meeting, send a written request to the ODEQ representative named below within 30 days after the date this notice is published. Please note that this is not a meeting for protests. Its purpose is to advise interested persons on participation opportunities during the permitting process. For more information about this process meeting, please contact the ODEQ representative named below.

Locations where application may be reviewed:

1. Locally at the Midwest City Public Library, 8143 E. Reno, Midwest City, OK 73110.
2. The ODEQ's Central Records Division, located on the 2nd floor of the ODEQ building at 707 N. Robinson, Oklahoma City, Oklahoma.
3. http://www.deq.state.ok.us/lpdnew/DraftPermits/ppp.html

For more information, contact:

1. For applicant: Pete Schultze, Waste Management of Oklahoma, Inc., 3201 Mosley Rd., Oklahoma City, OK 73141; (918) 439-7828; Fax No. (405) 427-1139.
2. For ODEQ: Hillary Young, P.E., ODEQ, Land Protection Division, P.O. Box 1677, Oklahoma City, OK 73101-1677; (405) 702-5100; Fax No. (405) 702-5101.

***Legal description of site**: A general legal description is as follows: Section 21 of Township 12 North, Range 2 West in Oklahoma County, Oklahoma.

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
NOTICE - APPLICATION FILED

Application filed. A solid waste Tier III application has been filed with the Department of Environmental Quality (ODEQ). Interested persons now have the opportunity to meet with the ODEQ and learn how and where they may participate in the permitting process.

Applicant: The applicant is: Waste Management of Oklahoma, Inc.
East Oak Recycling and Disposal Facility
3201 Mosley Road
Oklahoma City, OK 73141

Type of final permit or permit action being sought: The applicant seeks to modify an existing Municipal Solid Waste Landfill permit.

Facility location: The Municipal Solid Waste Landfill is located at 3201 Mosley Road, Oklahoma City, Oklahoma, 73141.

Activities to be regulated if the application is approved: The existing Municipal Solid Waste Landfill (ODEQ Permit No. 3555036) currently receives residential and commercial waste, construction and demolition waste, non-hazardous industrial waste, asbestos waste, vegetative waste, and various sludges. The facility is submitting this permit application to permit a lateral expansion of the existing landfill. With this lateral expansion, the existing landfill permit boundary will expand from approximately 158.8 acres to a proposed 282.96 acres. The waste disposal area will increase from approximately 135.2 acres to 176.6 acres. With the addition of the Mosley Road Landfill waste disposal area, the total waste disposal area on site will be 191.8 acres. Over the life of the facility, the expected average daily volume of incoming waste is projected to be approximately 1,749 tons per day. These projections are based on current market conditions and may vary as market conditions change. The existing groundwater monitoring systems will also be revised to monitor the expanded site. Surface water drainage improvements that will occur with the expansion consist of providing final cover erosion control structures, perimeter drainage channels, and detention ponds. The site is also designed to prevent stormwater run-on to the active portion of the landfill during a 24-hour, 25-year storm event. The application includes three variance requests. The variance requests include (1) spacing of LFG monitoring probes (OAC 252:515-15-4(b)), (2) location of the disposal area as it relates to the existing 100-year floodplain (OAC 252:515-5-32(a)), and (3) location of the site within an area designated as alluvium or terrace deposits (OAC 252:515-5-51(a)).

Statutes and Rules: The ODEQ will review the application for compliance with the Environmental Quality Code, including the Solid Waste Management Act, Title 27A of Oklahoma Statutes, Section 2-10-101, et seq., and the rules of the ODEQ, Oklahoma Administrative Code, Title 252, Chapters 4 and 515.

Permitting procedures explained: On request, a representative of the ODEQ will chair a meeting to explain the steps of the ODEQ's permitting process to interested persons. At that meeting, there will be discussion explaining when oral and written public comments can be made on the proposal. Administrative hearing opportunities will also be discussed. To request this process meeting, send a written request to the

STATE OF OKLAHOMA,
COUNTY OF OKLAHOMA } SS.

Affidavit of Publication

Royce Parkhurst, of lawful age, being first duly sworn, upon oath deposes and says that she/he is the Classified Legal Notice Admin, of The Oklahoma Publishing Company, a corporation, which is the publisher of *The Oklahoman* which is a daily newspaper of general circulation in the State of Oklahoma, and which is a daily newspaper published in Oklahoma County and having paid general circulation therein; that said newspaper has been continuously and uninterruptedly published in said county and state for a period of more than one hundred and four consecutive weeks next prior to the first publication of the notice attached hereto, and that said notice was published in the following issues of said newspaper, namely:

Weaver Boos Consultants, LLC- South
11287885 - Metro
Published on 06/12/2015

Royce Parkhurst

Subscribed and sworn to before me this Friday
June 12, 2015
Notary Public

My commission expires 11-5-17

GINA CALANE RASCHKA
NOTARY PUBLIC
STATE OF OKLAHOMA
13010217
EXP. 11/05/17

ODEQ representative named below within 30 days after the date this notice is published. Please note that this is not a meeting for protests. Its purpose is to advise interested persons on participation opportunities during the permitting process. For more information about this process meeting, please contact the ODEQ representative named below.

Locations where application may be reviewed:
1. Locally at the Midwest City Public Library, 8143 E. Reno, Midwest City, OK 73110
2. The ODEQ's Central Records Division, located on the 2nd floor of the
ODEQ building at 707 N. Robinson, Oklahoma City, Oklahoma.
3. http://www.deq.state.ok.us/lpdnew/DraftPermits/ppp.html

For more information, contact:
1. For applicant: Pete Schultze, Waste Management of Oklahoma, Inc., 3201 Mosley Rd., Oklahoma City OK 73141; (918) 439-7828, Fax No. (405) 427-1139.
2. For ODEQ: Hillary Young, P.E., ODEQ, Land Protection Division, P.O. Box 1677, Oklahoma City, OK 73101-1677; (405) 702-5100, Fax No. (405) 702-5101.

Legal description of site: A general legal description is as follows: Section 21 of Township 12 North, Range 2 West in Oklahoma County, Oklahoma.

APPENDIX B-3

PERMIT BOUNDARY LEGAL DESCRIPTION AND DEEDS

PERMIT BOUNDARY LEGAL DESCRIPTION AND DEEDS

This appendix includes the following information.

- Permit Boundary Legal Description. The legal description for the 282.96-acre permit boundary is included on Sheets B-3-2 and B-3-5.
- Property Ownership Map. Figure B-3-6 shows the property ownership within the 282.96-acre permit boundary. The deeds associated with each tract owned by Waste Management of Oklahoma, Inc. or a subsidiary, are included on Sheets B-3-9 through B-3-26. which includes the following:
- Easement Summary. Figures B-3-7 and B-3-8 show the location and holders of easements located on the Waste Management of Oklahoma, Inc. property. Many of the easements that lay along the perimeter of the proposed permit boundary will not be affected by the proposed expansion. The other easements that transverse the site will be relocated, abandoned and/or have already been abandoned before the waste disposal area is developed. Blanket easements associated with the site will be provided area around the perimeter of the site to accommodate the rights of these easement holders, if required. Waste Management of Oklahoma, Inc. will maintain compliance with OAC 252:515-5-52(a).

Legal Description for Permit Boundary

LEGAL DESCRIPTION (TRACT 1)

A part of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Northeast Corner of said Section 21

THENCE N89°47'56"W, along the North line of said Section 21, a distance of 100.00 feet;

THENCE S00°30'38"E, parallel to the East line of the Northeast Quarter of said Section 21, a distance of 100.00 feet to the POINT OF BEGINNING;

THENCE continuing S00°30'38"E a distance of 464.72 feet;

THENCE S45°30'38"E a distance of 70.71 feet;

THENCE S00°30'38"E a distance of 524.64 feet;

THENCE N80°21'02"E a distance of 50.64 feet to a point in said East line;

THENCE S00°30'38"E a distance of 35.40 feet;

THENCE S40°15'14"W a distance of 866.24 feet;

THENCE S39°36'06"W a distance of 372.00 feet;

THENCE S36°04'06"W a distance of 317.37 feet;

THENCE S33°28'06"W a distance of 323.68 feet to a point in the South line of the Northeast Quarter of said Section 21;

THENCE S32°41'41"W a distance of 2324.55 feet;

THENCE N20°49'00"W a distance of 537.57 feet to a point in the West line of the Southeast Quarter of said Section 21;

THENCE N00°21'36"W, along said West line, a distance of 1450.38 feet to Southeast corner of the Northwest Quarter of said Section 21;

THENCE S89°51'56"W, along the South line of said Northwest Quarter, a distance of 2244.87 feet;

THENCE N13°51'44"E a distance of 498.85 feet to a point of curvature;

THENCE along a curve to the right, having a radius of 2814.76 feet, a chord bearing of N18°23'44"E, a chord distance of 444.96 feet, an arc length of 445.42 feet;

THENCE N22°55'44"E a distance of 488.61 feet;

THENCE N67°55'44"E a distance of 70.71 feet;

THENCE N22°55'44"E a distance of 74.47 feet;

THENCE N59°45'36"E a distance of 742.14 feet;

THENCE N32°28'39"W a distance of 303.61 feet;

THENCE S58°44'37"W a distance of 358.10 feet to a point on a non-tangent curve;

THENCE along a curve to the left, having a radius of 2009.86 feet, a chord bearing of N08°04'29"E, a chord distance of 555.65 feet, an arc length of 557.43 feet;

THENCE N00°07'38"E a distance of 116.69 feet;

THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 3958.27 feet to the POINT OF BEGINNING, containing 11,709,925.23 square feet or 268.82 acres more less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on September 13, 2013.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

LEGAL DESCRIPTION (TRACT 2)

A tract of land located in the Southwest Quarter (SW/4) of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Southeast Corner of the Southwest Quarter of said Section 21;

THENCE North 00°21'36" West, along the East line of said Southwest Quarter, a distance of 388.09 feet to the POINT OF BEGINNING;

THENCE South 32°55'14" West a distance of 213.24 feet;

THENCE South 45°10'58" West a distance of 197.54 feet to a point in the East line of the Billy Williams property, warranty deed filed in Book 6736 at Page 1181;

THENCE North 00°00'08" West, along said East line, a distance of 284.89 feet to the Northeast corner of said Billy Williams's property;

THENCE South 89°59'34" West, along the North line of said Billy Williams's property, a distance of 232.21 feet;

THENCE North 04°00'04" East a distance of 2.82 feet;

THENCE North 24°22'33" West a distance of 250.00 feet;

THENCE North 36°46'03" East a distance of 544.27 feet;

THENCE North 25°05'09" East a distance of 110.82 feet;

THENCE North 47°16'25" East a distance of 289.42 feet to a point in the East line of the Southwest Quarter of Section 21;

THENCE South 00°21'36" East, along said East line a distance of 929.91 feet to the POINT OF BEGINNING, containing 391,257.69 square feet or 8.982 acres of land, more or less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on January 21, 2010.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

Lamkin Land Surveying, LLC
Norman –3226 Bart Conner Dr., Norman, OK 73072 – P 405.366.8541 – F 405.366.8540
Tulsa – 7136 S. Yale Ave., Suite 120 – Tulsa, OK 74136 – P 918.895.9383 – F 918.895.9768

LEGAL DESCRIPTION (TRACT 3)

A part of the Northwest Quarter of Section Twenty-One (22), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as Beginning at a point on the West line of said Section 22, said point being 918.00 feet S00°29'01"E of the Northwest corner of said Northwest Quarter:

THENCE N43°28'59"E, a distance of 596.95 feet;

THENCE N23°34'59"E a distance of 424.18 feet;

THENCE N89°36'31"E a distance of 359.39 feet to a point on the West right-of-way of the S.L.& S.F Railroad;

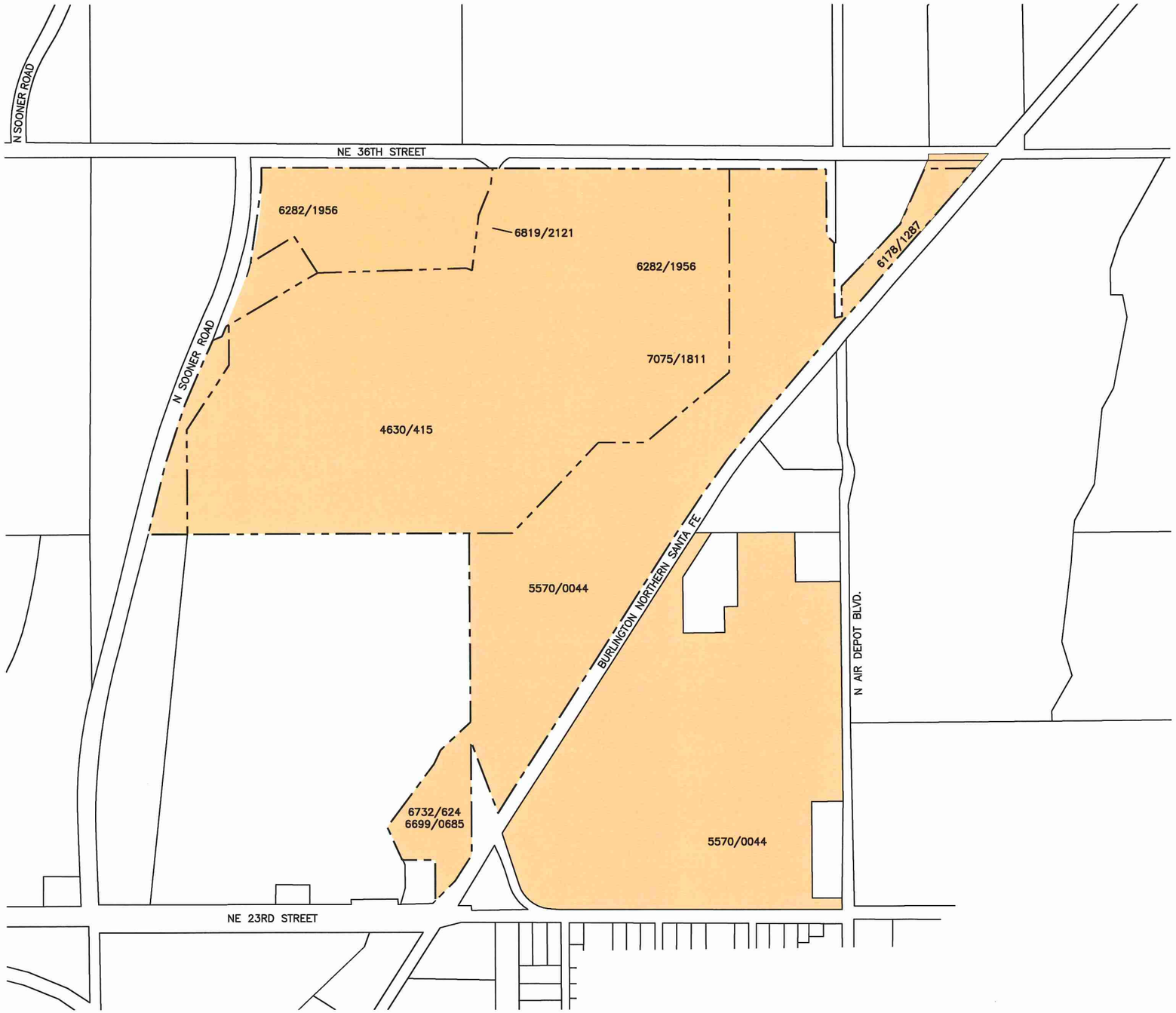
THENCE S40°59'06"W, along said right-of-way, a distance of 1429.80 feet to a point on the West line of said Northwest Quarter;

THENCE N00°29'01"W, along said West line, a distance of 255.14 feet to the point or place of Beginning, said tract to containing 224,706.05 square feet or 5.159 acres more or less.

Basis of Bearing is Deed Bearings as filed in Book 6178, Page 1287 of the Oklahoma County Clerk's records.

This legal description prepared by Robby L. Johnson, PLS 1539, on August 11, 2014.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA



0 400 800
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- PROPOSED PERMIT BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- 4630/415 WARRANTY DEEDS

NOTES:

1. PROPERTY BOUNDARIES REPRODUCED FROM OKLAHOMA ASSESSOR'S ONLINE INTERACTIVE GIS MAP, MAY 2015.

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

- [ ] DRAFT
- [x] FOR PERMITTING PURPOSES
- [ ] ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: B-3-6 PROP OWN.DWG

DRAWN BY: SRF
DESIGN BY: CAM
REVIEWED BY: KDG

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

PROPERTY OWNERSHIP MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

SHEET B-3-6

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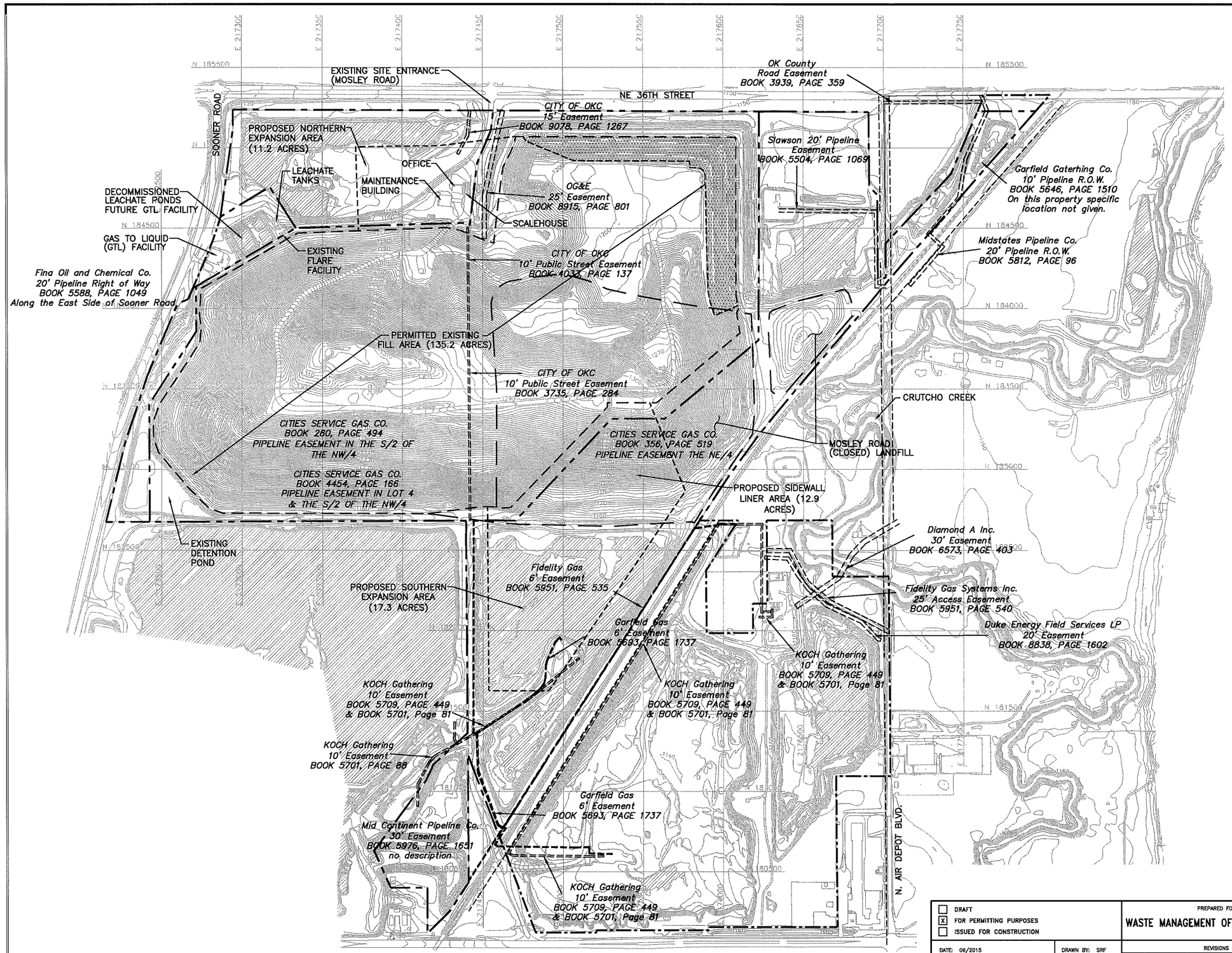
O:\0086\356\EXPANSION 2013\APPENDIX B\SHEET B-3-6 PROPERTY OWNERS.dwg, uacholonu, 1:2



LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- EXISTING EASEMENTS
- IN-PLACE FINAL COVER

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. IN-PLACE FINAL COVER AREA REPRODUCED FROM LEMKE LAND SURVEYING, INC. VERIFICATION SURVEY DATED JULY 2013 (FINAL COVER AREA 1).
5. EASEMENT AND RIGHT OF WAY INFORMATION PROVIDED BY LEMKE LAND SURVEYING, INC., AUGUST 2013.

☐ DRAFT
☒ FOR PERMITTING PURPOSES
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0088-356-11
CAD: B-3-7 EASMENT SUM.DWG

DRAWN BY: SRF
DESIGN BY: CAM
REVIEWED BY: KDG

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION EASEMENT SUMMARY

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

SHEET B-3-7

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O:\0086\356\EXPANSION 2013\APPENDIX B\SHEET B-3-7 EASEMENT SUMMARY.dwg, uacholonu, 1:2

Right of Way			
Book	**Page**	**Grantee**	**Legal Description**
13	264	ST LOUIS&OKLAHOMA CITY RR CO	SECT:21 TSHP:12N RANGE:2W Call1:1 DETAIL:13
1773	396	OKLAHOMA NATURAL GAS CO	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NE4 Call4:SW4
1773	397	OKLAHOMA NATURAL GAS CO	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:SE4 Call4:SW4
5588	1049	FINA OIL & CHEMICAL CO	SECT:21 TSHP:12N RANGE:2W LOT:1 Call1:1 Call3:NE4 Call4:NW4
5646	1510	GARFIELD GAS GATHERING CO	SECT:22 TSHP:12N RANGE:2W Call1:1 Call3:NW4 Call4:NW4
5701	81	KOCH GATHERING SYSTEMS INC	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NE4 Call4:SE4
5701	88	KOCH GATHERING SYSTEMS INC	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NE4 Call4:SW4
5709	449	KOCH GATHERING SYSTEMS INC	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NE4 Call4:SE4
5812	96	MIDSTATES PIPELINE CO	SECT:22 TSHP:12N RANGE:2W Call1:3 Call3:SE4 Call4:NW4
5951	535	FIDELITY GAS SYSTEMS INC	SECT:21 TSHP:12N RANGE:2W Call1:2 Call3:NW4 Call4:SE4
5951	540	FIDELITY GAS SYSTEMS INC	SECT:21 TSHP:12N RANGE:2W Call1:2 Call3:NW4 Call4:SE4
5976	1651	MID CONTINENT PIPE LINE CO	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NE4 Call4:SW4
8838	1602	DUKE ENERGY FIELD SERVICES LP	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NE4 Call4:SE4 DETAIL

Easement			
Book	**Page**	**Grantee**	**Legal Description**
280	494	CITIES SERVICE GAS CO	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:SW4 Call4:NW4 DETAIL:280
356	519	CITIES SERVICE GAS CO	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NE4 Call4:NE4 DETAIL:356
3735	284	CITY OF OKLAHOMA CITY	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:SW4 Call4:NE4
4033	137	CITY OF OKLAHOMA CITY	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NW4 Call4:NE4
5504	1069	SLAWSON DONALD COIL PRODUCER	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:NE4 Call4:NE4
5693	1737	GARFIELD GAS GATHERING CO	SECT:21 TSHP:12N RANGE:2W Call1:1 Call3:SE4 Call4:SE4
6573	403	DIAMOND A INC	SECT:21 TSHP:12N RANGE:2W Call1:1 Call2:NE4 Call3:NE4 Call4:SE4
8915	801	OKLAHOMA GAS AND ELECTRIC COMPANY	SECT:21 TSHP:12N RANGE:2W LOT:002 Call1:1 Call4:NE4 DETAIL:
9078	1267	CITY OF OKLAHOMA CITY	SECT:21 TSHP:12N RANGE:2W Call1:1 DETAIL:

Release of Right of Way			
Book	**Page**	**Grantee**	**Legal Description**
4454	166	ERICKSON MARY S	SECT:21 TSHP:12N RANGE:2W LOT:4 Call1:1 Call3:SW4 Call4:NW4

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

NOTES:

1. REFER TO B-3-7 FOR EASEMENT LOCATIONS AND DESIGNATIONS.
2. EASEMENT AND RIGHT OF WAY INFORMATION PROVIDED BY LEMKE LAND SURVEYING, INC., AUGUST 2013.

☐ DRAFT
☒ FOR PERMITTING PURPOSES
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086-356-11
CAD: B-3-8 EASMENT HOLDERS.DWG

DRAWN BY: SRF
DESIGN BY: CAM
REVIEWED BY: KDG

Weaver Consultants Group
CA 3804 PE - 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION
EASEMENT HOLDERS

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

SHEET B-3-8

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O:\0086\356\EXPANSION 2013\APPENDIX B\SHEET B-3-8-EASEMENT HOLDERS.dwg, sford, 1:2

Return
Ray H. Lemmer
600 Fidelity Plaza
OKC 73102

4630/415 1 of 2

DEC 11 79 119431 LSTAed 6.00

4630 PG 415
4630 P. 415

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS:

THAT Helen Erickson Derry, the same person as Helen S. Erickson, a widow, of Oklahoma County, State of Oklahoma, party of the first part, in consideration of the sum of Ten ($10.00) DOLLARS in hand paid, the receipt of which is hereby acknowledged, does hereby Grant, Bargain, Sell and Convey unto Oklahoma City Disposal, Inc., a corporation, of Oklahoma County, State of Oklahoma, party of the second part, the following described real property and premises situate in Oklahoma County, State of Oklahoma, to-wit:

OKLAHOMA $100.00 DOCUMENTARY 37897
OKLAHOMA $100.00 DOCUMENTARY 37892
OKLAHOMA $100.00 DOCUMENTARY 37896

All of Government Lots Three (3) and Four (4) and the South Half (S/2) of the Northwest Quarter (NW/4) of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian; Except that part of Government Lots 3 and 4 and the SW/4 of the NW/4 lying West and North of the following described line: Beginning at a point on the South line of the NW/4 Section 21 Township 12 North Range 2 West, which is 660 feet east of the Southwest corner of said NW/4; thence North along a line which is 660 feet from and parallel to the West line of said NW/4 for a distance of 730 feet; thence at an angle of 33 deg. 11' to the right for a distance of 538.75 feet; thence at an angle of 33 deg. 11' to the left for a distance of 280 feet; thence at an angle of 60 deg. 0' to the right for a distance of 720 feet more or less; thence in an easterly direction to a point on the East line of the NW/4 of Section 21 Township 12 North, Range 2 West, which is 800 feet South of the Northeast Corner of said NW/4, containing 80.86 acres more or less.

OKLAHOMA $100.00 DOCUMENTARY 37898
OKLAHOMA $100.00 DOCUMENTARY 37893

$10.00
380722

together with all first party's interest in leases, permits, licenses and tenancy agreements affecting said lands and all the improvements thereon and the appurtenances thereunto belonging, and warrant the title to the same.

TO HAVE AND TO HOLD said described premises unto the said party of the second part, its successors and assigns forever, free,

clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and incumbrances of whatsoever nature, except easements of record.

Signed and delivered this 10th day of December, 1979.

Helen Erickson Berry
Helen Erickson Berry, the same person as Helen S. Erickson, a widow

STATE OF OKLAHOMA)
) ss.
COUNTY OF OKLAHOMA)

Before me, the undersigned, a Notary Public in and for said County and State on this 10th day of December, 1979, personally appeared Helen Erickson Berry, the same person as Helen S. Erickson, a widow, to me known to be the identical person who executed the within and foregoing instrument and acknowledged to me that she executed the same as her free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and seal the day and year last above written.

Linda Johnson
Notary Public Linda Johnson

My Commission Expires:

September 23, 1981

5570/0044

1 of 4

CAPITOL ABSTRACT & TITLE CO.
SUITE 610, PARK AVENUE BANK BUILDING
122 PARK AVENUE
OKLAHOMA CITY, OKLAHOMA 73102
Don Kirk

FORM NO. 292-AF

Daily Office Supply Co.-Phone-Oklahoma City

(ORDER BY NUMBER)

WARRANTY DEED

Corporation Form

This Space Reserved for Filing Stamp

BOOK 5570 PAGE 0044

DOC NUMBER 00167598
TIME 05:00 PM
FEE 14.00
DATE DEC. 31 1986
TERRY DEWOODY
OKLAHOMA COUNTY CLERK
RECORDED AND FILED

Know All Men by These Presents:

That MINI, LTD

a corporation duly organized and existing under and by virtue of the laws of the State of Oklahoma, whose principal place of business is in Oklahoma County, State of Oklahoma, party of the first part, in consideration of the sum of Ten and No/100 DOLLARS ($10.00) and other valuable considerations, in hand paid, the receipt of which is hereby acknowledged, does hereby Grant, Bargain, Sell and Convey unto WASTE MANAGEMENT OF OKLAHOMA, INC., an Oklahoma corporation, of Oklahoma County, State of Oklahoma, party of the second part, the following described real property and premises situate in Midwest City, Oklahoma County, State of Oklahoma, to-wit:

Part of the Southeast Quarter (SE¼) of Section Twenty-one (21), Township Twelve (12) North, Range Two (2) West of the I.M., Oklahoma County, Oklahoma more particularly described on Exhibit "A" attached hereto.

together with all the improvements thereon and appurtenances thereunto belonging and warrant the title to the same.

TO HAVE AND TO HOLD said described premises unto the said party of the second part, its successors and assigns forever free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature.

(Documentary Stamps Have Been Purchased, Cancelled and Shall Be Affixed After Recording)

IN WITNESS WHEREOF, the said party of the first part hereto has caused these presents to be signed in its name by its President, its corporate seal affixed, and attested by its Secretary at, this 31st day of December, 19 86.

MINI, LTD., an Oklahoma corporation

Lucille Sparks President

Attest: Helen Hutchik Secretary

STATE OF OKLAHOMA
COUNTY OF OKLAHOMA } SS:

CORPORATION ACKNOWLEDGMENT
Oklahoma Form

Before me, the undersigned, a Notary Public, in and for said County and State on this 31st day of December, 19 86, personally appeared Lucille Sparks to me known to be the identical person who subscribed the name of the maker thereof to the foregoing instrument as its President and acknowledged to me that she executed the same as his free and voluntary act and deed and as the free and voluntary act and deed of such corporation, for the uses and purposes therein set forth.

Given under my hand and seal of office the day and year last above written.

My commission expires May 26, 1989 Cathy Lee Notary Public

Daily Office Supply Co.-Phone-Oklahoma City

14.00

5570/0044
2 of 4

Exhibit "A"

BOOK 5570 PAGE 0045

LEGAL DESCRIPTION

Part of the Southeast Quarter (SE¼) of Section Twenty-one (21), Township Twelve (12) North, Range Two (2) West of the I.M., Oklahoma County, more particularly described as follows:

Beginning at the Southeast corner of the SE¼ of said Section 21; thence North 0° 28' 08" East along the East line of said SE¼ a distance of 2291.66 feet to a point 350.0 feet south of the northeast corner of said SE¼; thence South 89° 53' 39" West and parallel with the north line of said SE¼ a distance of 350.0 feet; thence North 0° 28' 08" East and parallel with the east line of said SE¼ a distance of 350.0 feet to a point on the north line of said SE¼; thence South 89° 53' 39" West along the north line of said SE¼ a distance of 2289.41 feet to the northwest corner of said SE¼; thence South 0° 32' 45" East along the west line of said SE¼ a distance of 1450.38 feet to the most northerly corner of the tract of land owned by the State of Oklahoma and conveyed in District Court Case No. 96282 as shown in Book 425, page 55; thence South 21° 02' 15" East along the boundary line of said State of Oklahoma tract a distance of 1187.42 feet; thence South 89° 51' 51" East along the boundary of said State of Oklahoma tract a distance of 368.14 feet; thence South 89° 55' 51" East along the boundary of said State of Oklahoma tract a distance of 1618.30 feet; thence South 0° 04' 09" West a distance of 75.0 feet to a point on the south line of said SE¼; thence South 89° 55' 51" East along the south line of said SE¼ a distance of 234.6 feet to the point of beginning.

Subject to:

1. 100 foot right-of-way of the St. Louis & San Francisco Railroad as located across this Quarter Section recorded in Book 13 Page 264 and rights of Oklahoma County, State of Oklahoma, therein, pursuant to County Deed recorded in Book 1217 Page 78.

2. Easement to School District No. 74 recorded in Book 133 Page 197 and rights of Oklahoma County, State of Oklahoma in the property covered thereby under County Deed recorded in Book 1217 Page 78.

3. The South Thirty-three (33) feet of the West 2399.2 feet, the South Forty-three (43) feet of the East 234.6 feet, the East Forty-three (43) feet of the North 417.42 feet of the South 460.42 feet and the East Sixty-six (66) feet less the South 460.42 feet thereof of said Quarter Section for highway and road purposes pursuant to County Deed recorded in Book 1217 Page 78, and applicable statutory authority.

4. Easement in favor of Shawnee Electric Railways Company, as contained in Deed recorded in Book 107 Page 408.

5. Right-of-Way Contract in favor of Independent Pipe Line Company recorded in Book 282 page 227, subsequently assigned to Williams Pipe Line Company, by assignment recorded in Book 4978 Page 629.

6. Right-of-Way in favor of Cities Service Gas Company recorded in Book 394 Page 487, assigned to Oklahoma Natural Gas Company by assignment recorded in Book 1018 Page 189.

7. Easement in favor of School District No. 74, recorded in Book 1456 Page 655.

8. Easement in favor of T. K. Quillin, as contained in Warranty Deed recorded in Book 1756 Page 105.

9. Easement in favor of School District No. 74 recorded in Book 2980 Page 141.

10. Highway Easement in favor of State of Oklahoma, recorded in Book 3676 Page 360.

11. Highway Easement in favor of State of Oklahoma, recorded in Book 3676 Page 362.

12. Oil and Gas Lease between The Board of County Commissioners and Paul Clements recorded in Book 3780 Page 12.

13. Miscellaneous Lease by and between Mimi, Inc., "Lessor" and Cities Service Gas Company, "Lessee", recorded in Book 4774 Page 1892.

14. Rights of tenants in possession, if any.

Including any right, title and interest of party of the first part in and to any adjacent streets, alleys, rights-of-way and easements.

LESS AND EXCEPT outstanding mineral interests previously conveyed or reserved of record.

6178/1287
1 of 1

(Individual Form)

WARRANTY DEED

BOOK 6178 PAGE 1287

KNOW ALL MEN BY THESE PRESENTS

THAT Kenneth L. Daniel and Lucy S. Daniel, husband and wife

_____, party(ies) of the first part, in consideration of the sum of Ten and NO/100---------- dollars and other valuable considerations, in hand paid, the receipt of which is hereby acknowledged, do(es) hereby grant, bargain, sell and convey unto Waste Management of Oklahoma, Inc.

_____, party(ies) of the second part, the following described real property and premises situate in Oklahoma County, State of Oklahoma, to-wit:

A part of the NW/4 of Section 22, T12N, R2W, I.M., Oklahoma County, Oklahoma being more particularly described as BEGINNING at a point on the west line of said Section 22, said point being 918.00 feet S 0°29'01" E of the northwest corner of said NW/4; Thence N 43°28'59"E a distance of 596.95 feet; Thence N 23°34'59"E a distance of 499.67 feet; Thence N 0°00'00"E a distance of 31.12 feet to a point on the north line of said NW/4, said point being 618.45 feet N 89°36'31"E of said northwest corner; Thence N 89°36'31E a distance of 416.83 feet to a point on the west right-of-way of the S.L. & S.F. Railroad; Thence S 40°59'06"W along said right-of-way a distance of 1563.38 feet to a point on the west line of said NW/4; Thence N 0°29'01"W along said west line a distance 255.14 feet to the point or place of Beginning, said tract to contain 263,128 sq. ft. (6.041 acres) more or less.

DOC NUMBER 0005988
TIME 11:00 AM
FEE 8.00
DATE JUN. 7 1991
RALPH HESS
OKLAHOMA COUNTY CLERK
RECORDED AND FILED

OKLAHOMA Documentary TAX JUN-7'91 $ 8 2 5 0

RETURN RECORDED DOCUMENT TO FIRST AMERICAN TITLE 133 N.W. 8th Street Okla. City, OK 73102

059104 (LA)

together with all the improvements thereon and the appurtenances thereunto belonging, and warrant the title to the same

TO HAVE AND TO HOLD said described premises unto the said party(ies) of the second part, (his) (her) (their) heirs and assigns forever, free, clear and discharged of and from all former grants, charges, taxes judgments, mortgages and other liens and incumbrances of whatsoever nature, EXCEPT covenants, conditions, restrictions, easements and mineral conveyances of record.

Signed and delivered this 5th day of June, 19 91

Kenneth L. Daniel — Lucy S. Daniel

INDIVIDUAL ACKNOWLEDGMENT

STATE OF Oklahoma, County of Cleveland, ss

Before me, the undersigned, a Notary Public in and for said County and State, on this 5th day of June, 19 91, personally appeared Kenneth L. Daniel and Lucy S. Daniel, husband and wife

to me known to be the identical person(s) who executed the within and foregoing instrument, and acknowledged to me that (he) (she) (they) executed the same as (his) (her) (their) free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and seal the day and year last above written.

My commission expires 1/16/92

Lisa Jordanoff, Notary Public

(SEAL)

NOTE—The LOCAL AGENT for FIRST AMERICAN TITLE INSURANCE COMPANY, Oklahoma City furnishes this form to ATTORNEYS as a courtesy and for their convenience. All legal instruments should be prepared or supervised by ATTORNEYS

Warranty Deed (Statutory Form—Individual) #9501

6282/1956
6 of 3

Grantee's Address:
3003 Butterfield Road
Oak Brook, Illinois 60521

BOOK 6282 PAGE 1956

RETURN TO: BETTY J. CUMMINS
SOUTHWEST TITLE & TRUST COMPANY
ESCROW DEPARTMENT
133 N.W. 6th
OKLAHOMA CITY, OKLAHOMA 73102

QUIT CLAIM DEED

KNOW ALL MEN BY THESE PRESENTS:

That the City of Oklahoma City, a municipal corporation, and the Trustees of The Oklahoma City Riverfront Redevelopment Authority, a public trust, * parties of the first part, in consideration of the sum of Ten Dollars ($10.00) and other valuable considerations to it in hand paid, the receipt of which is hereby acknowledged does hereby quit-claim, grant, bargain, sell and convey unto Waste Management of Oklahoma, Inc., party of the second part, all their rights, title interest, estate, and every claim and demand, both at law and in equity, in and to all of the following described real property and premises situated in Oklahoma County, State of Oklahoma, to-wit:

See Attachment Exhibit "A"

subject to the following restriction and reservation:

No waste materials of any kind shall be disposed of on the described real property without the prior written approval of The City of Oklahoma City and The Oklahoma City Riverfront Redevelopment Authority.

together with all the improvements thereon and the appurtenances thereunto belonging.

* The Oklahoma City Riverfront Redevelopment Authority is executing this Quit Claim Deed by reason of an unrecorded lease by and between The City of Oklahoma City and the Trustees of the Oklahoma City Riverfront Redevelopment Authority dated 6-17-86.

To Have and to Hold the above premises unto the said parties of the second parties, their heirs and assigns forever.

Signed and delivered this 14 day of April, 1992.

DOC NUMBER 00044496
TIME 01:36 PM
FEE 12.00
DATE APR. 22 1992
RALPH HESS
OKLAHOMA COUNTY CLERK
RECORDED AND FILED

"Exempt Documentary Stamp Tax OS
Title 68, Article 32 Section 3201."

THE CITY OF OKLAHOMA CITY
A Municipal Corporation

MAYOR

ATTEST:

City Clerk

Approved as to form ~~and legality~~ this 3rd day of April, 1992.

12.00

6282/1956
2 of 3

BOOK 6282 PAGE 1957

STATE OF OKLAHOMA)
)ss
COUNTY OF OKLAHOMA)

On this 14 day of April, 1992, before me, the undersigned, a Notary Public in and for said County and State, personally appeared Ronald J. Norick, to me known to be the identical person who signed the name of the maker thereof to the within and foregoing instrument as its Mayor and acknowledged to me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of The City of Oklahoma City, for the uses and purposes therein set forth.

Given under my hand and seal the day and year last above written.

Notary Public

My Commission Expires:
April 1, 1996

PKJ:cw

6282/1956
3 of 3

EXHIBIT A

BOOK 6282 PAGE 1958

TRACT 1

A part of the North Half (N/2) of Section Twenty-one (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, more particularly described as follows:

COMMENCING at the Northwest corner of said Section 21; THENCE S 89°47'54" E along the North line of said Section 21 a distance of 1191.49 feet; THENCE S 00°07'46" W a distance of 100.00 feet to the point or place of BEGINNING; THENCE S 89°47'54" E a distance of 1508.17 feet; THENCE S 00°00'00" W a distance of 30.89 feet; THENCE along a curve to the right a distance of 76.84 feet, said curve having a radius of 275.22 feet, a chord bearing of S 07°59'54" W and a chord length of 76.59 feet; THENCE S 31°28'48" E a distance of 63.93 feet; THENCE along a curve to the right a distance of 35.27 feet, said curve having a radius of 325.22 feet, chord bearing of S 26°44'20" W and a chord length of 35.25 feet; THENCE S 29°50'45" W a distance of 101.36 feet; THENCE along a curve to the left a distance of 221.62 feet, said curve having a radius of 422.56 feet, a chord bearing of N 14°49'16" E and a chord length of 219.09 feet; THENCE S 00°12'13" E a distance of 208.10 feet; THENCE S 88°14'57" W a distance of 1019.04 feet; THENCE S 59°45'13" W a distance of 720.00 feet; THENCE S 00°14'47" E a distance of 280.00 feet; THENCE S 32°56'13" W a distance of 538.75 feet; THENCE S 00°14'47" E a distance of 730.00 feet; THENCE S 89°50'15" W a distance of 275.33 feet; THENCE N 13°51'46" E a distance of 498.85 feet; THENCE along a curve to the right a distance of 445.42 feet, said curve having a radius of 2814.79 feet, a chord bearing of N 18°23'46" E and a chord length of 444.95 feet; THENCE N 22°55'46" E a distance of 488.61 feet; THENCE N 67°55'46" E a distance of 70.71 feet; THENCE N 22°55'46" E a distance of 308.71 feet; THENCE along a curve to the left a distance of 799.78 feet, said curve having a radius of 2009.86 feet, a chord bearing of N 11°31'46" E and a chord length of 794.52 feet; THENCE N 00°07'46" E a distance of 116.69 feet to the point or place of beginning.

AND

TRACT 2

A part of the Northeast Quarter (NE/4) of Section Twenty-one (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, more particularly described as follows:

COMMENCING at the Northeast corner of said Northeast Quarter (NE/4); THENCE N 89°47'54" W along the North line of said NE/4 a distance of 100.00 feet; THENCE S 00°29'01" E parallel to the East line of said NE/4 a distance of 100.00 feet to the point or place of BEGINNING; THENCE continuing S 00°29'01 E a distance of 464.72 feet; THENCE S 45°29'01" E a distance of 70.71 feet; THENCE S 00°29'01" E a distance of 518.16 feet; THENCE S 80°21'47" W a distance of 965.93 feet; THENCE N 74°03'13" W a distance of 926.00 feet; THENCE N 66°25'13" W a distance of 458.10 feet; THENCE N 82°49'13" W a distance of 247.20 feet; THENCE N 00°12'13" W a distance of 242.09 feet; THENCE along a curve to the right a distance of 269.17 feet, said curve having a radius of 322.56 feet, a chord bearing of N 14°49'16" E and a chord length of 167.24 feet; THENCE N 29°50'45" E a distance of 101.36 feet; THENCE along a curve to the left a distance of 46.12 feet, said curve having a radius of 425.22 feet, a chord bearing of N 26°44'20" E and a chord length of 46.09 feet; THENCE N 59°34'51" E a distance of 77.99 feet; THENCE along a curve to the left a distance of 132.68 feet, said curve having a radius of 475.22 feet, a chord bearing of N 07°59'54" E and a chord length of 132.25 feet; THENCE N 00°00'00" E a distance of 30.19 feet; THENCE S 89°47'54" E, parallel to the North line of said NE/4, a distance of 2250.31 feet to the point or place of beginning.

WILLIAMS, BOX, FORSHEE & BULLARD, P.C.

ATTORNEYS AND COUNSELLORS

JOHN MICHAEL WILLIAMS
DENNIS R. BOX
RICHARD D. FORSHEE
KEITH R. GIBSON
PAUL LEFEBVRE
MICHAEL D. O'NEAL
DAVID M. BOX
S. SHANE PATE II
OF COUNSEL
WILLIAM J. BULLARD

522 COLCORD DRIVE

OKLAHOMA CITY, OKLAHOMA 73102-2202

TELEPHONE
(405) 232-0080

TELECOPIER
(405) 236-5814

May 26, 2015

Guy Campbell
East Oak RDF
3201 Mosley Road
Oklahoma City, OK 73141

Dear Guy:

As you will recall, on July 8, 2014, Pete Schultz contacted me to review the language contained in a 1992 Quit Claim Deed between the City of Oklahoma City and the Oklahoma City Riverfront Redevelopment Authority and Waste Management of Oklahoma, Inc., which was recorded in Book 6282, Pages 1956-1958. This land was now within our landfill footprint in Northeast Oklahoma City. The 1992 deed contained language which stated that no waste materials of any kind could be deposited on the land without prior written approval of the City and the Trust.

Since 1992, Waste Management requested and received written approval from the Oklahoma City Council for several municipal landfill and recycling zoning applications including but not limited to SP-387, SPUD-531, PUD-1419, SPUD-703 and PUD 1534.

On or about September 29, 2014, Dennis Box and myself met with Dan Bummitt, an attorney with the Oklahoma City Municipal Counselor's office concerning this matter. It was our position that with the approval of the written requests to rezone the landfill and with each written approval by City Council of our rezoning requests, that this constituted written approval. Mr. Brummitt, via an email dated September 30, 2014, was in agreement with our position.

Dennis Box and I then focused our attention on the Trust. Our discussions with Pat Downes, Director of Development, and Marsha Harrod, Assistance Municipal Counselor, eventually leg to the passing of a Resolution on December 30, 2014 by the Oklahoma City Riverfront Redevelopment Trust, which stated: "Ratifying actions of the Oklahoma City Council in approving municipal zoning ordinances constituting written approval for the development of the of the municipal solid waste landfill property located at 3201 Mosely Road, Oklahoma City, Oklahoma, more specifically described in a Quit Claim Deed recorded in Book 6282, Pages 1956-1958.

Should you need anything else, please do not hesitate to contact us.

Sincerely,

Keith R. Gibson

KRG:ps

cc: Peter Schultz

From: daniel.brummitt@okc.gov
Subject: RE: Waste Management Deed Restriction
Date: September 30, 2014 at 1:36 PM
To: kgibson@wbfblaw.com

That is correct.

----Original Message----
From: Keith Gibson [mailto:kgibson@wbfblaw.com]
Sent: Tuesday, September 30, 2014 1:33 PM
To: Brummitt, Daniel T
Subject: Waste Management Deed Restriction

Dan
I wanted to confirm that you met with Dennis Box and myself about a deed restriction which is contained on my clients deed which prohibits the placement of solid waste on their site without the written authorization of the City and the Riverfront Authority. We discussed the fact that we have had several SPUD's and PUD's approved on the property over the years. You agreed that as far as the city would be concerned, that the passage of the SPUD's and the PUD's would constitute written authorization.

I have contacted Pat Downes of the Riverfront Authority and transmitted to him the same documents that I left with you.Dennis and I will contact him later in the week to ascertain his thoughts and then I will advise.

Thank you for your assistance.

CONFIDENTIALITY NOTE: This e-mail message and any attachments are intended solely for the person to which it is addressed and may contain privileged and confidential information protected by law. If you have received this communication in error, please notify the sender immediately by telephone or e-mail, destroy this message and delete any copies held in your electronic files. Unauthorized use and/or re-disclosure may subject you to penalties under applicable state and federal laws.

SPECIAL MEETING MINUTES
December 30, 2014

Trust Members:

Mick Cornett, Mayor
Chairman, Vacant
Don C. Kaspereit, Interim Chairman
Mike Voorhees, Surrogate Trustee for Mayor
Larry McAtee, Ward 3
Margaret S. "Meg" Salyer, Ward 6
Patrick J. Ryan, Ward 8
Gary Marrs
Brian Dougherty
Paul W. Dudman
Kathy L. Williams

James D. Couch, General Manager
Charlotte Nelson, Assistant Secretary
Pat Downes, Director of Development
Marsha Harrod, Assistant Municipal Counselor
Dennis Clowers, Assistant City Manager (Surrogate for the General Manager)

OKLAHOMA CITY RIVERFRONT REDEVELOPMENT AUTHORITY
SPECIAL MEETING MINUTES
December 30, 2014

The agenda was posted on the Council Chamber bulletin board at 10:13 a.m. on December 23, 2014.

I. Call to Order at 1:00 p.m.

Interim Chairman Don C. Kaspereit called the meeting to order at 1:00 p.m. Mayor Mick Cornett and Trustees Larry McAtee and Gary Marrs were absent.

II. Items from the Chairman

A. Update on Oklahoma City Riverfront Redevelopment Authority committee activities.

1. Recommendation from the Development and Water Use Committee on Amended Lease Agreement between The City of Oklahoma City and the Oklahoma City Riverfront Redevelopment Authority.

2. Recommendation from the Development and Water Use Committee on Resolution ratifying actions of the Oklahoma City Council in approving municipal zoning Ordinances constituting written approval for the development of the municipal solid waste landfill property located at 3201 Mosley Road, Oklahoma City, Oklahoma, more specifically described in Quit Claim Deed recorded in Book 6282, Pages 1956-58.

3. Recommendation from the Development and Water Use Committee on Revised Operating Rules and Regulations for Crystal Lake, as submitted by City Care Inc.

Interim Chairman Kaspereit said the Development and Water Use Committee met and recommended approval of the three items. He also said that Trustee Williams recused herself from the discussion and voting on Item No. II.A.2.

B. Update on MAPS 3 Oklahoma River Subcommittee activities.

No report.

III. Meeting Minutes

A. Approve Minutes of the October 21, 2014, Oklahoma City Riverfront Redevelopment Authority meeting.

APPROVED. Moved by Dudman, seconded by Salyer. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

IV. Consent Docket

A. Receive Sand Mining and Oil and Gas Revenue Report.

RECEIVED. Moved by Ryan, seconded by Williams. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

B. Receive Oklahoma River Corridor Events Update.

RECEIVED. Moved by Ryan, seconded by Williams. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

V. Primary Agenda Items

A. Receive Oklahoma River Maintenance Projects Update.

Paul Bronson, Assistant Public Works Director, gave the Update.

RECEIVED. Moved by Dougherty, seconded by Williams. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

B. Receive MAPS 3 Projects Update.

David Todd, MAPS Program Manager, gave the Update.

RECEIVED. Moved by Dudman, seconded by Ryan. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

C. Receive Unaudited Interim Financial Statements for the period ended October 31, 2014.

RECEIVED. Moved by Salyer, seconded by Williams. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

D. Receive Oklahoma City Riverfront Redevelopment Authority Annual Financial Report for the fiscal year ended June 30, 2014.

RECEIVED. Moved by Ryan, seconded by Williams. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

E. Receive Oklahoma City Riverfront Redevelopment Authority Regular Meeting Calendar for 2015.

RECEIVED. Moved by Salyer, seconded by Ryan. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

F. Approve Amended Lease Agreement between The City of Oklahoma City and the Oklahoma City Riverfront Redevelopment Authority.

APPROVED. Moved by Voorhees, seconded by Salyer. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

G. Adopt Resolution ratifying actions of the Oklahoma City Council in approving municipal zoning Ordinances constituting written approval for the development of the municipal solid waste landfill property located at 3201 Mosley Road, Oklahoma City, Oklahoma, more specifically described in Quit Claim Deed recorded in Book 6282, Pages 1956-58.

ADOPTED. Moved by Salyer, seconded by Dudman. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, and Voorhees. Recused: Williams.

H. Recommend approval of Revised Operating Rules and Regulations for Crystal Lake, as submitted by City Care Inc.

RECOMMENDED. Moved by Williams, seconded by Ryan. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

VI. Claims

A. Approve Claims Docket.

APPROVED. Moved by Salyer, seconded by Dougherty. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

VII. Additional Items

A. Comments By Staff.

1. Receive Oklahoma City Riverfront Redevelopment Authority Director of Development Report.

Pat Downes, Director of Development, said the groundbreaking for the MAPS 3 Whitewater Facility was completed recently. He said the Boathouse District may be featured on NBC Sports' "Road to Rio" program prior to the 2016 Summer Olympics. He also said the 10th "Holiday River Parade," presented by Air Comfort Solutions, was held on November 28, 2014.

In response to a question from Trustee Salyer, Mr. Downes said staff continues to seek funding opportunities for a River Cruiser landing in the Stockyards District.

Doug Kupper, Parks, Recreation and Cultural Affairs Director, said that, starting in January 2015, he will provide monthly updates on his department's activities related to the Oklahoma River.

RECEIVED. Moved by Ryan, seconded by Dudman. Ayes: Kaspereit, Ryan, Salyer, Dougherty, Dudman, Voorhees, and Williams.

B. Comments By Trustees.

None.

C. Comments By Citizens.

None.

VIII. Adjournment at 1:29 p.m.

Interim Chairman

Surrogate General Manager

ATTEST:

Assistant Secretary

B-3-18G

6699/0685

1 of 2

Return to: Michael E. Gilman
5950 Berkshire Lane, Ste 850 L.B.55
Dallas, TX 75225

WARRANTY DEED

(Statutory Form - Individual)

BOOK 6699 PAGE 0685

KNOW ALL MEN BY THESE PRESENTS:

THAT FRANK J. WALSH, JR. and RHODA K. WALSH, husband and wife

, parties of the first part, in consideration of the sum of TEN AND NO/100 dollars, and other valuable considerations, in hand paid, the receipt of which is hereby acknowledged, do hereby grant, bargain, sell and convey unto WASTE MANAGEMENT OF OKLAHOMA, INC.

, party of the second part, the following described real property and premises situate in Oklahoma County, State of Oklahoma, to-wit:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

DOC NUMBER 95006481
BOOK 6699
PAGES 685 - 686
TIME 12:17:20
FEE 10.00
01/13/95
JOHN J BARVEY
OKLAHOMA COUNTY CLERK
RECORDED AND FILED

OKLAHOMA Documentary TAX
Tax Commission
JAN 13 '95
181.50
NO. 11497
22439

together with all the improvements thereon and the appurtenances thereunto belonging, and warrant the title to the same.

TO HAVE AND TO HOLD said described premises unto the said party of the second part, its successors ~~heirs~~ and assigns forever, free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and incumbrances of whatsoever nature.

Signed and delivered this 10th day of January, 19 95

FRANK J. WALSH, JR. RHODA K. WALSH

STATE OF OKLAHOMA
COUNTY OF OKLAHOMA ss.

INDIVIDUAL ACKNOWLEDGMENT
Oklahoma Form

The foregoing instrument was acknowledged before me this January 10, 1995 (date)
by FRANK J. WALSH, JR. and RHODA K. WALSH, husband and wife (name of person).

Given under my hand and seal the day and year last above written.

My commission expires 8/16/97

Bernadine Abernathy Notary Public
Bernadine Abernathy

NOTE: This form is supplied by AMERICAN GUARANTY TITLE CO. of Oklahoma City for the convenience of attorneys. No legal instrument or form should ever be prepared by anyone other than an attorney.

G-44 4628 3 $181.50

2/10

6699/0685
2 of 2

EXHIBIT "A"

BOOK 6699 PAGE 0686

A tract, place or parcel of land in the SW 1/4 of Section 21, Township 12 North, Range 2, West of the Indian Meridian, Oklahoma County, Oklahoma, more particularly described as follows: BEGINNING at a point on the south line of said SW 1/4, 253.80 feet (Record 227.90) S 89°48'00"W (Record West) of the SE corner of said SW 1/4, Thence N 32°45'16"E (Record N 30°21'26"E) a distance of 83.42 feet, Thence S 89°40'00"W a distance of 50.00 feet, Thence N 45°01'E (Record N 45°13'E) a distance of 197.54 feet, Thence N 32°45'16E (Record N 30°21'26"E) a distance of 213.24 feet to a point on the east line of said SW 1/4, Thence N 00°31'34"W (Record N 00°19'34"W), along the east line of said SW 1/4 a distance of 170.91 feet, Thence S 89°49'06"W a distance of 391.00 feet, Thence N 00°31'34"W a distance of 180.00 feet, Thence N 89°49'06"E a distance of 391.00 feet to a point on the east line of said SW 1/4, Thence N 00°31'34"W, along the east line of said SW 1/4 a distance of 579.00 feet, Thence S 47°06'27'W (Record S 43°21'12"W) a distance of 289.42 feet, (Record 270.80) Thence S 24°55'11"W (Record S 23°01'26"W) a distance of 110.82 feet (Record 102.30), Thence S 36°36'05"W (Record 37°30'37"W) a distance of 544.27 feet (Record 561.40), Thence S 24°32'31"E (Record S 25°36'21"E) a distance of 250.00 feet, Thence S 3°50'06"W (Record S 3°19'35"W) a distance of 140.35 feet (Record 140.00), Thence S 11°16'33"W (Record S 11°38'35"W) a distance of 222.25 feet (Record 222.60) to a point on the south line of said SW 1/4, Thence N 89°48'00"E (Record East) along the south line of said SW 1/4 a distance of 290.56 (Record 292.10) feet to the point or place of beginning.

Subject to the following exceptions

Statutory easement for roadway purposes along all section lines.

Right-of-way/easement recorded in Book 1714, Page 697.
Right-of-way/easement recorded in Book 1773, Page 396.
Right-of-way/easement recorded in Book 1773, Page 397.
Right-of-way/easement recorded in Book 5701, Page 88.
Right-of-way/easement recorded in Book 5976, Page 1656.
Right-of-way Deed for railroad recorded in Book 13, Page 258.

6732/624

1 of 1

Return to: Michael Gillman
Haines & Gillman
5001 Spring Valley Road
Ste 1140 East, LB 5-E
Dallas, TX 75244

WARRANTY DEED

(Statutory Form - Individual)

BOOK 6732 PAGE 0624

KNOW ALL MEN BY THESE PRESENTS:

THAT Billy E. Williams and Rita Williams, husband and wife

, parties of the first part, in consideration of the sum of TEN AND NO/100---------- dollars, and other valuable considerations, in hand paid, the receipt of which is hereby acknowledged, do hereby grant, bargain, sell and convey unto WASTE MANAGEMENT OF OKLAHOMA, INC.

, party of the second part, the following described real property and premises situate in Oklahoma County, State of Oklahoma, to-wit:

A tract of real estate described by metes and bounds as follows, to-wit: Beginning at a point in the East boundary line of the Southwest quarter of Section TWENTY-ONE (21), Township TWELVE (12) North, Range TWO (2) West of the Indian Meridian, 559 feet North of the Southeast corner of said quarter section, and thence in a Northerly direction along the East boundary line of said quarter section for a distance of 180 feet, and thence in a Westerly direction and parallel to the North boundary line of said quarter section for a distance of 391 feet, and thence in a Southerly direction and parallel to the East boundary line of said quarter section for a distance of 180 feet, and thence in an Easterly direction and parallel to the North boundary line of said quarter section for a distance of 391 feet to the point of beginning.
LESS AND EXCEPT any interest in and to all of the oil, gas and mineral rights which have been previously conveyed or reserved of record, and subject to easements, restrictive covenants and rights of way of record.

together with all the improvements thereon and the appurtenances thereunto belonging, and warrant the title to the same.

TO HAVE AND TO HOLD said described premises unto the said party of the second part, its heirs and assigns forever, free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and incumbrances of whatsoever nature.

DOC NUMBER 95048033
BOOK 6732
PAGES 624 - 624
TIME 1:10:44
FEE 8.00
04/13/95
JOHN J GARVEY
OKLAHOMA COUNTY CLERK
RECORDED AND FILED
BY

OKLAHOMA Documentary Tax Commission APR 13 '95 $7.50 MM 11407

Signed and delivered this 11th day of April, 1995

Billy E. Williams

Rita Williams

STATE OF OKLAHOMA
ss.
COUNTY OF Oklahoma

INDIVIDUAL ACKNOWLEDGMENT
Oklahoma Form

The foregoing instrument was acknowledged before me this April 11, 1995 (date) by Billy E. Williams and Rita Williams, husband and wife (name of person).

Given under my hand and seal the day and year last above written.

My commission expires August 16, 1997

Bernadine Abernathy, Notary Public

NOTE: This form is supplied by AMERICAN GUARANTY TITLE CO. of Oklahoma City for the convenience of attorneys. No legal instrument or form should ever be prepared by anyone other than an attorney.

G-44 #4834-3 $7.50

6819/2121

1 of 3

QUIT CLAIM DEED

BOOK 6819 PAGE 2121

Exempt Doc. Stamp Tax, -- Oklahoma Statutes Title 68 Article 32, Section 3201 or 3202. Paragraph 11.

KNOW ALL MEN BY THESE PRESENTS:

That The City of Oklahoma City, a municipal corporation, and the Trustees of The Oklahoma City Riverfront Redevelopment Authority, a public trust*, parties of the first part; in consideration of the sum of Ten Dollars ($10.00) and other valuable considerations to it in hand paid, the receipt of which is hereby acknowledged does hereby quit claim, grant, bargain, sell and convey unto Waste Management of Oklahoma, Inc., 5600 N.W. 4th, Oklahoma City, Oklahoma 73127, party of the second part, all their rights, title, interest, estate and every claim and demand, both at law and in equity, in and to all of the following described real property and premises situated in Oklahoma County, State of Oklahoma, to-wit:

See Exhibit "A"

subject to the following restriction and reservation:

> No waste materials of any kind shall be disposed of on the described real property without the prior written approval of The City of Oklahoma City and The Oklahoma City Riverfront Redevelopment Authority.

together with all the improvements thereon and the appurtenances thereunto belonging.

* The Oklahoma City Riverfront Redevelopment Authority is executing this Quit Claim Deed by reason of an unrecorded lease by and between The City of Oklahoma City and the Trustees of the Oklahoma City Riverfront Redevelopment Authority dated June 17, 1986.

To have and to hold the above premises unto the said parties of the second part, their heirs and assigns forever.

Signed and delivered this 7 day of November, 1995.

DOC NUMBER 95148871
BOOK 6819
PAGES 2121 - 2123
TIME 4:08:41
FEE 12.00
11/20/1995
John J. Garvey
Oklahoma County Clerk
RECORDED AND FILED

Attest:

The City of Oklahoma City
A municipal Corporation

City Clerk

VICE Mayor

Approved as to form only this 31 day of Oct., 1995.

Attest:

The Oklahoma City Riverfront Redevelopment Authority

Secretary

, Chairman

Diane Moershel
22 N.C. Liberty Tow
OKC, OK 73102

1

State of Oklahoma)
)§
County of Oklahoma)

On this 7 day of November, 1995, before me, the undersigned, a Notary Public in and for said County and State, personally appeared ~~Ronald J. Norick~~ Kirk L. Lipsey, to me to be the identical person who signed the name of the maker thereof to the within and foregoing instrument as its Vice Mayor and acknowledged to me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of The City of Oklahoma City, for the uses and purposes therein set forth.

Given under my hand and seal the day and year last above written.

Notary Public

My Commission Expires:

April 1, 1996

State of Oklahoma)
)§
County of Oklahoma)

On this 17th day of November, 1995, before me, the undersigned, a Notary Public in and for said County and State, personally appeared Kirk L. (Rusty) Mott, to me to be the identical person who signed the name of the maker thereof to the within and foregoing instrument as its Chairman and acknowledged to me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of The Oklahoma City Riverfront Redevelopment Authority, for the uses and purposes therein set forth.

Given under my hand and seal the day and year last above written.

Notary Public

My Commission Expires:

April 1, 1996

Exhibit "A"

The surface rights only in a tract of land lying in the North Half of Section 21, Township 12 North, Range 2 West of the Indian meridian, City of Oklahoma City, Oklahoma ounty, Oklahoma, and being more particularly described as follows:

COMMENCING at the Northwest Corner of said Section 21;

THENCE south 89°47'54" East along the North line of said Northwest quarter a distance of 1191.49 feet;

THENCE South 00°07'46" West a distance of 100.00 feet;

THENCE South 89°47'54" East a distance of 1508.17 feet to the POINT of BEGINNING;

THENCE continuing South 89°47'54" East a distance of 200.00 feet;

THENCE South 00°00'00" West a distance of 30.19 feet;

THENCE along a curve to the right having a radius of 475.22 feet (said curve being subtended by a chord which bears South 07°59'54" West a distance of 132.25 feet) an arc distance of 132.68 feet;

THENCE South 59°34'51" West a distance of 77.99 feet;

THENCE Southwesterly on non-tangent curve to the right having a radius of 425.22 feet (said curve being subtended by a chord which bears South 26°44'20" West a distance of 46.09 feet) an arc distance of 46.12 feet;

THENCE South 29°50'45" West a distance of 101.36 feet;

THENCE along a curve to the left having a radius of 322.56 feet (said curve being subtended by a chord which bears South 14°49'16" West a distance of 167.24 feet) an arc distance of 169.17 feet;

THENCE South 00°12'13" East a distance of 242.09 feet;

THENCE North 82°49'13" West a distance of 73.89 feet;

THENCE North 00°12'09" West a distance of 25.22 feet;

THENCE South 88°14'57" West a distance of 26.75 feet;

THENCE North 00°12'13" West a distance of 208.10 feet;

THENCE along a curve to the right having a radius of 422.56 feet (said curve being subtended by a chord which bears North 14°49'16 East a distance of 219.09 feet) an arc distance of 221.62 feet;

THENCE North 29°50'45" East a distance of 101.36 feet;

THENCE along a curve to the left having a radius of 325.22 feet (said curve being subtended by a chord which bears North 26°44'19" East a distance of 35.25 feet) an arc distance of 35.27 feet;

THENCE North 31°28'48" West a distance of 63.93 feet;

THENCE Northerly on a non-tangent curve to the left having a radius of 275.22 feet (said curve being subtended by a chord which bears North 07°59'54 East a distance of 76.59 feet) an arc distance of 76.84 feet;

THENCE north 00°00'00" West a distance of 30.89 feet to the POINT OF BEGINNING,

Less and except any and all oil and gas and mineral rights

Containing 91238 square feet or 2.0945 acres.

7075/1812
1 of 2

BOOK 7075 PAGE 1811

QUIT CLAIM DEED

Exempt Doc. Stamp Tax – Oklahoma Statutes Title 68 Article 32, Section 3201 or 3202, Paragraph 9.

KNOW ALL MEN BY THESE PRESENTS:

That Waste Management of Alabama, Inc., as successor by merger and name change to Mobile Waste Controls, Inc. party of the first part, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration to it in hand paid, the receipt of which is hereby acknowledged, does hereby quit claim, grant, bargain, sell and convey unto Waste Management of Oklahoma, Inc., 5600 N.W. 4th, Oklahoma City, Oklahoma 73127, party of the second part, all its right, title, interest, estate and every claim and demand, both at law and in equity, in and to all of the following described real property and premises situated in Oklahoma County, State of Oklahoma, to-wit:

See Exhibit "A"

together with all the improvements thereon and the appurtenances thereunto belonging.

To have and to hold the above premises unto the said parties of the second part, their heirs and assigns forever.

Signed and delivered this 25 day of April, 1997.

WASTE MANAGEMENT OF ALABAMA, INC.

Harold Jorski
President

WHEN RECORDED MAIL TO
NAME Waste Management of OKC
ADDRESS 5600 NW 4th
CITY & STATE OKC 73127

DOC NUMBER 97060812
BOOK 7075
PAGES 1811 - 1812
TIME 9:58:04
FEE 10.00
05/14/1997
Carolynn Caudill
Oklahoma County Clerk
RECORDED AND FILED

STATE OF GEORGIA)
) ss.
COUNTY OF COBB)

Before me, a notary public in and for said county and state, on this day personally appeared Harold Jorski, known to me to be the person whose name is subscribed to the foregoing instrument as President for Waste Management of Alabama, Inc., and acknowledged to me that (he/she) executed the same for the purposes and consideration therein expressed, in the capacity stated, and as the act and deed of said corporation.

SUBSCRIBED AND SWORN to before me on this 25th day of April, 1997.

Jessie Brumsett
Notary Public

My commission expires: 11/30/98
11-30-98

EXEMPT DOCUMENTARY STAMP TAX O.S. TITLE 68, ARTICLE 32, SECTION 3202, PAR 9 2/10

7075/1812
2 of 2

BOOK 7075 PAGE 1812

Exhibit "A"

A part of the NE/4 of Section 21-12N-2W of the I.M., Oklahoma County, Oklahoma, being more particularly described as follows: Beginning at the Southwest corner of the NE/4 of Section 21-12N-2W, I.M.; Thence North along the West line of said NE/4 a distance of 1826.00 feet to a point, said point being 813.14 feet South of the Northwest corner of said NE/4; Thence S 82° 37'00" E a distance of 321.10 feet to a point; Thence S 66° 13' 00" E a distance of 458.10 feet to a point; Thence S 73° 51'00" E a distance of 926.00 feet to a point; Thence N 80° 34'00" E a distance of 1016.00 feet, more or less, to a point on the East line of said NE/4, said point being 1130.00 feet South of the NE corner of said NE/4; Thence S 7° 34'04" W along the East line of said NE/4 a distance of 35.40 feet to a point; Thence S 40° 15'14" W a distance of 866.24 feet to a point; Thence S 39° 36'06" W a distance of 372.00 feet to a point; Thence S 36 04'06" W a distance of 317.37 feet to a point; Thence S 33° 28'06" W a distance of 366.75 feet to a point, said point being in the South line of said NE/4; Thence N 89° 33'14" W along the South line of said NE/4 of Section 21-12N-2W, I.M., a distance of 1455.30 feet to a point, said point being the point or place of beginning.

APPENDIX B-4

VOLUME CALCULATIONS

Includes Pages B-4-1 through B-4-6

CONTENTS

1	**SITE LIFE**	**B-4-1**
1.1	Solid Waste Generation	B-4-1
1.2	Landfill Capacity	B-4-1
1.3	Site Life Calculations	B-4-1
SITE LIFE CALCULATIONS		**B-4-2**
SHEET B-4-4		**B-4-4**
Depth of Waste Between Bottom of Final Cover and Bottom of Waste		
AVERAGE DENSITY DETERMINATION		**B-4-5**

1 SITE LIFE

1.1 Solid Waste Generation

Waste Management of Oklahoma, Inc. estimates that the waste stream will be approximately 490,480 tons per year in 2015 for the East Oak Recycling and Disposal Facility. The waste inflow rate is assumed to increase consistent with the projected growth rate of the Oklahoma City Metropolitan areas. The expected maximum annual waste acceptance rate is 510,017 tons per year (1,790 tons per day based on a 286-day operating schedule). The above projections are based on current market conditions and may vary as market conditions change. Over the life of the facility, the expected average daily volume of incoming waste is projected to be approximately 1,749 tons/day.

1.2 Landfill Capacity

The total volume available for solid waste and daily cover after January 19, 2014 (date of topographic information) is estimated to be 4,760,700 cubic yards using the average end area method (the additional capacity due to the expansion is 7,000,000 cubic yards). This airspace estimate includes the remaining available volume in the existing permitted area, as well as the volume resulting from the landfill expansion.

1.3 Site Life Calculations

The site life calculations are presented on pages B-4-2 and B-4-3. In summary, the site life is projected to be approximately 11.6 years, which would result in the site's closure during the year 2025.

Required: Determine approximate site life (years) for the site. The site will typically operate 286 days per year.

Solution: Determine available landfill tonnage and initial annual waste inflow rate:

Remaining airspace (includes existing permitted site and expansion)=	11,760,700	cy	(as of January 19, 2014)
Percent daily cover =	20	%	
In-place density of waste/cover soils =	1,473	lb/cy	

Estimate the total remaining airspace (tons).

-Estimate density of waste only

(γ_{soil})(20% of 11,760,700 cy) + (γ_{waste})(80% of 11,760,700 cy)= $(\gamma_{soil/waste})$(11,760,700 cy)

(2,430 lb/cy)(1,764,105 cy) + (γ_{waste})(9,996,595 cy) = (1,473 lb/cy)(11,760,700 cy)

γ_{waste} = 1,234 lb/cy

Remaining airspace = (80% of 11,760,700 cy)*(1,234 lb/cy*1/2000 tons/lb)

Remaining airspace = 5,803,905 tons

Total remaining capacity (includes existing permitted site and expansion)=	5,803,906 tons

Initial waste stream estimate =	1,707	tons/operational day
Days of operation per year =	286	days

Initial waste inflow rate =	488,163 tons/year

Assumed annual growth rates (based on population growth rates):

Growth rate (years 2014-2020) =	4.85 %	or annualized growth rate of :	0.4745%
Growth rate (years 2021-2030) =	4.11 %	or annualized growth rate of :	0.4033%

The growth rate estimates were obtained from the Oklahoma Water Resources Board (OWRB projections used in the 2012 Oklahoma Comprehensive Water Plan). The initial waste stream volume was provided by East Oak RDF.

The following table calculates the waste stream growth (assuming the growth rates described above) and the projected cumulative airspace consumed.

EAST OAK RDF
0086-356-11-40-01
SITE LIFE CALCULATIONS

	Year	Waste Inflow (tons/year)	Tonnage Consumed (tons)	
January 19th	2014	488,163	462,752	271 operational days
	2015	490,480	953,232	
	2016	492,807	1,446,039	
	2017	495,145	1,941,184	
	2018	497,495	2,438,679	
	2019	499,855	2,938,534	
	2020	501,871	3,440,406	
	2021	503,895	3,944,301	
	2022	505,928	4,450,228	
	2023	507,968	4,958,196	
	2024	510,017	5,468,213	
	2025	335,692	5,803,906	187 operational days

Available tonnage is consumed during year 2025
Site life is projected to be approximately 11.6 years

Summary of waste tonnage information:

Initial inflow = 1,707 tons/operational day

$$\text{Maximum inflow} = \frac{\text{Tonnage accepted during final year of operation (510,017 tons)}^{1}}{\text{286 days of operation per year}}$$

[1] 510,017 tons represents the calculated total tonnage accepted for the full year of 2024.

Projected maximum waste inflow rate:

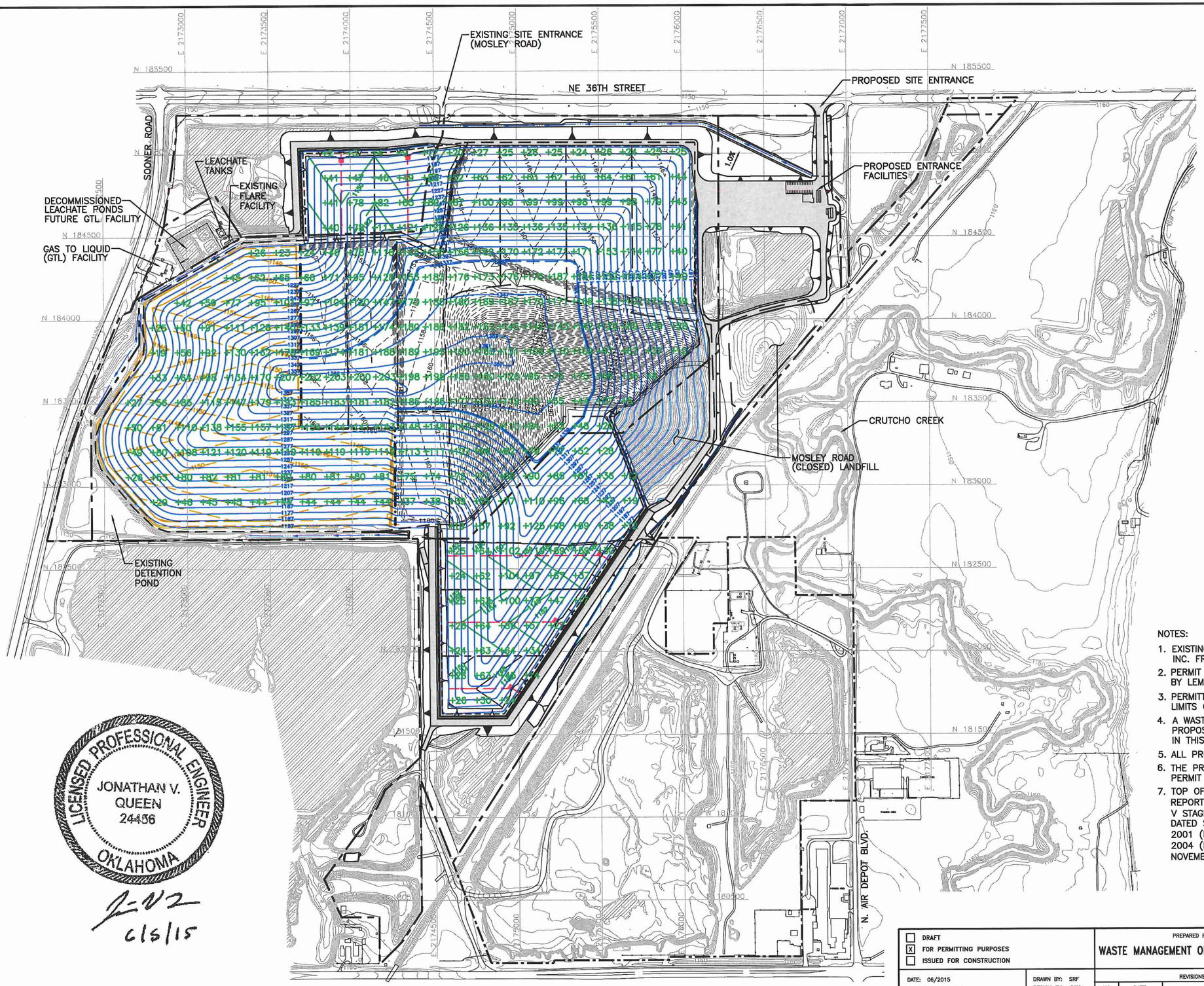
Maximum inflow = 1,790 tons/operational day

$$\text{Average inflow} = \frac{\text{Maximum waste accepted}}{\text{Site Life}}$$

Projected average waste inflow rate:

$$\frac{\text{5,803,906 tons}}{\text{11.6 years} \quad * \quad \text{286 days/year}}$$

Average inflow = 1,749 tons/operational day



N

0 300 600

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- MOSLEY ROAD LANDFILL LIMITS OF WASTE
- PHASE BOUNDARY
- N 183000 — STATE PLANE GRID COORDINATE
- 1180 — EXISTING CONTOUR
- 1152 — PROPOSED TOP OF PROTECTIVE COVER CONTOUR
- 1350 — INTERMEDIATE COVER CONTOUR
- 1150 — APPROXIMATE PRE–SUBTITLE D CONTOUR (SEE NOTE 6)
- 1240 — TOP OF CLAY AS–BUILT CONTOUR (SEE NOTE 7)
- LEACHATE COLLECTION PIPE
- LCS SUMP
- LEACHATE CLEANOUT RISER
- PROPOSED DRAINAGE CHANNEL
- APPROXIMATE PRE–SUBTITLE D/ SUBTITLE D LINER LOCATION
- +110 — DEPTH OF WASTE

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY DALLAS AERIAL SURVEYS, INC. FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 19, 2014.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.
3. PERMITTED LIMITS OF WASTE AND MOSLEY ROAD LANDFILL (CLOSED LANDFILL) LIMITS OF WASTE PROVIDED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
4. A WASTE–FREE BUFFER ZONE OF AT LEAST 100–FEET OFFSET FROM THE PROPOSED PERMIT BOUNDARY FOR THE LANDFILL EXPANSION AREA INCLUDED IN THIS MODIFICATION WILL BE MAINTAINED.
5. ALL PROPOSED EXCAVATION SIDESLOPES ARE 3(HORIZONTAL):1(VERTICAL).
6. THE PRE–SUBTITLE D GRADES WERE REPRODUCED FROM THE LATERAL EXPANSION PERMIT APPLICATION REVISED FEBRUARY 2002 BY CARDINAL ENGINEERING INC.
7. TOP OF CLAY AS–BUILT CONTOURS WERE REPRODUCED FROM THE VERIFICATION REPORTS PREPARED BY: GERALD L. McGARVIN, L.S. DATED JUNE 1994 (PHASE V STAGE I), OCTOBER 1995 (PHASE V STAGE I), RONALD A. LAVARNWAY RPLS. DATED SEPTEMBER, 1998, AND LEMKE LAND SURVEYING, INC. DATED DECEMBER 2001 (PHASE IV STAGES II AND III), JANUARY 2004 (PHASE VIII), SEPTEMBER 2004 (PHASE VII), MAY 2009 (PHASE 10), JULY 2011 (CELLS 11B AND 12B), NOVEMBER 2012 (CELLS 9B AND 10B).

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

☐ DRAFT
☒ FOR PERMITTING PURPOSES
☐ ISSUED FOR CONSTRUCTION

DATE: 06/2015
FILE: 0086–356–11
CAD: B–4–4.DWG

DRAWN BY: SRF
DESIGN BY: CAM
REVIEWED BY: KDG

Weaver Consultants Group
CA 3804 PE – 06/30/2015

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

TIER III PERMIT MODIFICATION DEPTH OF WASTE BETWEEN BOTTOM OF FINAL COVER AND BOTTOM OF WASTE

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

WWW.WCGRP.COM

SHEET B–4–4

COPYRIGHT © 2015 WEAVER BOOS CONSULTANTS, LLC – SOUTHWEST. ALL RIGHTS RESERVED.

O:\0086\356\EXPANSION 2013\APPENDIX B\SHEET B-4-4-WASTE DEPTH.dwg, uacholonu, 1:2

AVERAGE DENSITY DETERMINATION TO SUPPORT SITE LIFE CALCULATIONS

Required: Determine average density for the landfill between the proposed bottom of waste contours and the bottom of the final cover system.

Method:

1. Determine average thickness of waste/soil throughout the landfill profile.
2. Determine the average density of the waste/soil between the proposed/permitted bottom of waste contours and the bottom of final cover.

References:

1. Acar, Yalcin B.& Daniel, David E., *Geoenvironment 2000 Characterization, Containment, Remediation, and Performance in Environmental Geotechnics,* Volume 2, American Society of Civil Engineers, 1995.

List of Symbols

$D_{avg.}$ = Average Density, lb/yd^3
D_{top} = Density at Top of Lift, lb/yd^3
D_{bottom} = Density at Bottom of Lift, lb/yd^3

Procedure:

1. Determine average thickness of waste/soil throughout the landfill profile.

Using the Drawing B-4-4, the average thickness of waste/soil over the entire site is shown below.

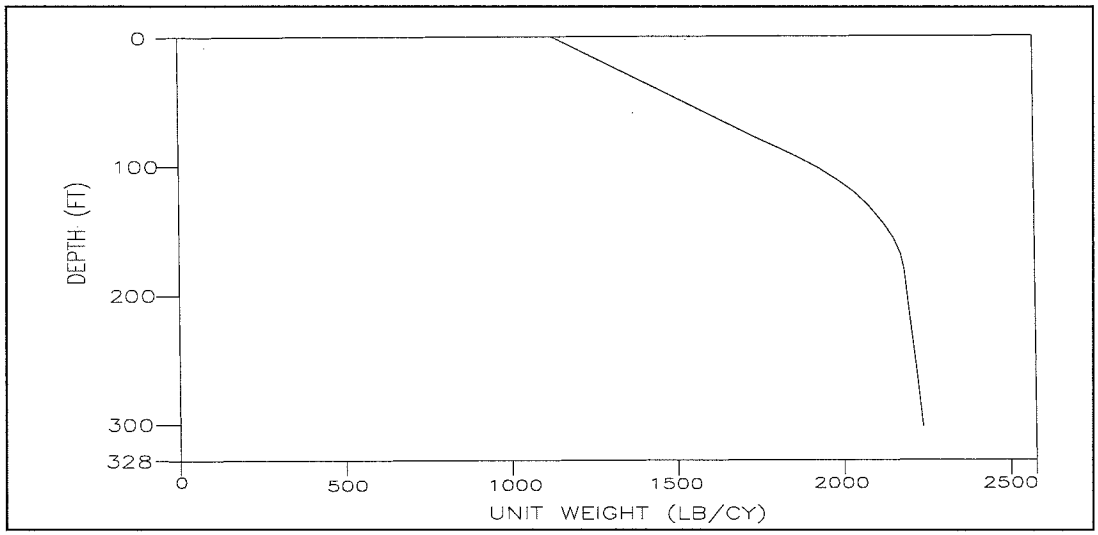
Volume of Waste/Soil = 25,455,405 cy
Area of Waste/Soil = 7,692,696 ft^2

Average Thickness of Waste = 89 ft

2. Determine the average density of the waste/soil between the proposed/permitted bottom of waste contours and the bottom of final cover.

a) Waste/daily cover generally is placed into a landfill with a density from 1,100 lb/yd^3 to 1,300 lb/yd^3.
b) Using the Unit Weight Profile for MSW graph shown on the following page, density estimates were obtained at the top and bottom of the average 89-foot lift.
c) The density reading at the top and bottom the lift were averaged to determine an average density for the lift.

UNIT WEIGHT PROFILE FOR WASTE/DAILY COVER WITHIN A MSW LANDFILL[1]



[1] Graph derived from Reference 1

$$D_{avg.} = \frac{D_{top} + D_{bottom}}{2}$$

D_{top} = 1,113 lb/yd^3

D_{bottom} = 1,833 lb/yd^3

$D_{avg.}$ = 1,473 lb/yd^3

EAST OAK RECYCLING AND DISPOSAL FACILITY
OKLAHOMA COUNTY, OKLAHOMA
ODEQ PERMIT NO. 3555036

APPENDIX C

TEMPORARY EASEMENT FOR ACCESS

Prepared for

Waste Management of Oklahoma, Inc.

June 2015

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24456
OKLAHOMA

6/5/15

Prepared by

Weaver Consultants Group, LLC
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 0086-356-11-40-04

CONTENTS

TEMPORARY ACCESS EASEMENT **C-1**

TEMPORARY ACCESS EASEMENT

The purpose of this appendix is to provide a Temporary Easement for Access for the East Oak Recycling and Disposal Facility in accordance with OAC 252:515, Subchapter 3. Consistent with OAC 252:515-3-34(c), a Temporary Easement for Access is provided on pages C-2 through C-8. The attached Temporary Easement for Access to the landfill tract has been recorded with the County Clerk's office in Oklahoma County.

20150129010118490
01/29/2015 08:58:07 AM
Bk:RE12739 Pg:177 Pgs:7 EASE
State of Oklahoma
County of Oklahoma
Oklahoma County Clerk
Carolynn Caudill

TEMPORARY EASEMENT FOR ACCESS

Pursuant to the Oklahoma Environmental Quality Code (27A O.S. §2-1-101 *et seq.*, including the Solid Waste Management Act, the rules promulgated thereunder, and in accordance with the conditions and requirements of Permit No. 3555036, issued by the Oklahoma State Department of Health, the predecessor in interest to the Oklahoma Department of Environmental Quality (ODEQ) on December 16, 1986, Waste Management of Oklahoma, Inc., its successors and assigns, hereinafter referred to as Grantor, does hereby grant unto the ODEQ, including its contractors, employees, and its successors and assigns, the right of access for purposes of performing closure, post-closure monitoring, or corrective action in the event of default by the owner or operator. The Easement is granted over and across the following described land, situated in Oklahoma County, State of Oklahoma:

Tract 1 (the landfill permitted boundary and borrow areas): The East Oak Recycling and Disposal Facility permit boundary (Permit No. 3555036) and borrow area as described in the attached legal description.

This Temporary Easement for Access is given subject to the following conditions:

1. The Grantor hereby grants unto the ODEQ an easement and right-of-way over and across Tract 1 (the landfill permit boundary and borrow areas), above set out, for access to said Tract 1 for the purposes of conducting closure and post-closure activities and/or corrective action and for the purposes of utilizing borrow material while performing closure and post-closure activities and/or corrective action as prescribed by the laws of the State of Oklahoma and Rules of the ODEQ;

2. This Easement is temporary and shall become null and void upon certification by the ODEQ that post-closure and/or corrective action has been properly completed.

This Easement shall be binding upon the heirs, successors and assigns of the parties hereto.

WL

WEAVER BOOS CONSULTANTS
6420 SOUTHWEST BLVD STE 206
FORT WORTH TX 76109

2

IN WITNESS WHEREOF, the Grantor has hereunto set his hand this 20th day of January, 2015.

Guy R. Campbell
Engineering Manager

ACKNOWLEDGMENT

STATE OF ~~Utah~~ Texas)
) §:
COUNTY OF Tarrant)

Before me, the undersigned, a Notary Public within and for said County and State, on this 20th day of January, 2015, personally appeared Guy R. Campbell, to me known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that he executed the same as his free and voluntary act and deed, for the uses and purposes therein set forth.

Witness my hand and official seal the date above written.

Notary Public

My commission expires:

5/17/17

NOTARY PUBLIC STATE OF TEXAS
HELEN M. HANSON
My Commission Expires
May 17, 2017

Legal Description for 2014 Temporary Easement for Access

LEGAL DESCRIPTION (TRACT 1)

A part of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Northeast Corner of said Section 21

THENCE N89°47'56"W, along the North line of said Section 21, a distance of 100.00 feet;

THENCE S00°30'38"E, parallel to the East line of the Northeast Quarter of said Section 21, a distance of 100.00 feet to the POINT OF BEGINNING;

THENCE continuing S00°30'38"E a distance of 464.72 feet;

THENCE S45°30'38"E a distance of 70.71 feet;

THENCE S00°30'38"E a distance of 524.64 feet;

THENCE N80°21'02"E a distance of 50.64 feet to a point in said East line;

THENCE S00°30'38"E a distance of 35.40 feet;

THENCE S40°15'14"W a distance of 866.24 feet;

THENCE S39°36'06"W a distance of 372.00 feet;

THENCE S36°04'06"W a distance of 317.37 feet;

THENCE S33°28'06"W a distance of 323.68 feet to a point in the South line of the Northeast Quarter of said Section 21;

THENCE N89°51'56"E, along said South line, a distance of 241.15 feet;

THENCE S32°48'01"W a distance of 370.56 feet;

THENCE S00°27'55"E a distance of 388.75 feet;

THENCE N89°51'56"E a distance of 288.70 feet;

THENCE N00°27'55"W a distance of 182.59 feet;

THENCE N89°51'56"E a distance of 91.60 feet;

THENCE N00°28'38"W a distance of 517.17 feet to a point in said South line;

THENCE N89°51'56"E, along said South line, a distance of 407.26 feet;

THENCE S00°27'55"E a distance of 350.00 feet;

THENCE N89°51'56"E a distance of 350.00 feet to a point in the East line of the Southeast Quarter of said Section 21;

THENCE S00°27'55"E, along said East line, a distance of 1241.13 feet;

THENCE N89°59'30"W a distance of 339.27 feet;

THENCE S00°27'55"E a distance of 940.35 feet;

THENCE N89°59'31"W a distance of 798.64 feet;

THENCE S00°00'29"W a distance of 20.00 feet;

THENCE N89°59'31"W a distance of 703.40 feet;

THENCE S00°34'13"E a distance of 15.00 feet;

THENCE N89°59'30"W a distance of 11.59 feet;

THENCE N89°55'30"W a distance of 368.14 feet;

THENCE N20°49'00"W a distance of 1186.57 feet to a point in the West line of the Southeast Quarter of said Section 21;

THENCE N00°21'36"W, along said West line, a distance of 1450.38 feet to Southeast corner of the Northwest Quarter of said Section 21;

THENCE S89°51'56"W, along the South line of said Northwest Quarter, a distance of 2244.87 feet;

THENCE N13°51'44"E a distance of 498.85 feet to a point of curvature;

THENCE along a curve to the right, having a radius of 2814.76 feet, a chord bearing of N18°23'44"E, a chord distance of 444.96 feet, an arc length of 445.42 feet;

THENCE N22°55'44"E a distance of 488.61 feet;

THENCE N67°55'44"E a distance of 70.71 feet;

THENCE N22°55'44"E a distance of 74.47 feet;

THENCE N59°45'36"E a distance of 742.14 feet;

THENCE N32°28'39"W a distance of 303.61 feet;

THENCE S58°44'37"W a distance of 358.10 feet to a point on a non-tangent curve;

THENCE along a curve to the left, having a radius of 2009.86 feet, a chord bearing of N08°04'29"E, a chord distance of 555.65 feet, an arc length of 557.43 feet;

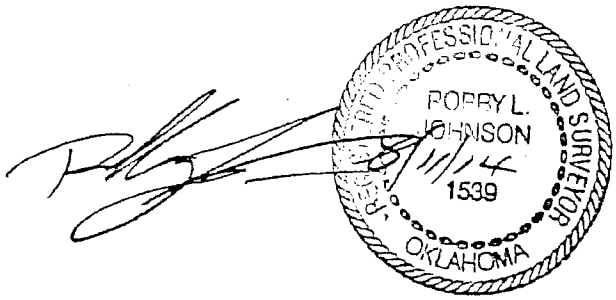
THENCE N00°07'38"E a distance of 116.69 feet;

THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 3958.27 feet to the POINT OF BEGINNING, containing 15,962,036.90 square feet or 366.44 acres more less.

Less and except a 100 foot wide strip of land being 50 feet either side of the centerline of the St. Louis and San Francisco Railroad as it lies through the Southeast Quarter of said Section 21.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on August 15, 2013.



LEGAL DESCRIPTION (TRACT 2)

A tract of land located in the Southwest Quarter (SW/4) of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Southeast Corner of the Southwest Quarter of said Section 21;

THENCE North 00°21'36" West, along the East line of said Southwest Quarter, a distance of 388.09 feet to the POINT OF BEGINNING;

THENCE South 32°55'14" West a distance of 213.24 feet;

THENCE South 45°10'58" West a distance of 197.54 feet to a point in the East line of the Billy Williams property, warranty deed filed in Book 6736 at Page 1181;

THENCE North 00°00'08" West, along said East line, a distance of 284.89 feet to the Northeast corner of said Billy Williams property;

THENCE South 89°59'34" West, along the North line of said Billy Williams property, a distance of 232.21 feet;

THENCE North 04°00'04" East a distance of 2.82 feet;

THENCE North 24°22'33" West a distance of 250.00 feet;

THENCE North 36°46'03" East a distance of 544.27 feet;

THENCE North 25°05'09" East a distance of 110.82 feet;

THENCE North 47°16'25" East a distance of 289.42 feet to a point in the East line of the Southwest Quarter of Section 21;

THENCE South 00°21'36" East, along said East line a distance of 929.91 feet to the POINT OF BEGINNING, containing 391,254.49 square feet or 8.982 acres of land, more or less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on January 21, 2010.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

Lemke Land Surveying, LLC
Norman – 3226 Bart Conner Dr., Norman, OK 73072 – P 405.366.8541 – F 405.366.8540
Tulsa – 7136 S. Yale Ave., Suite 120 – Tulsa, OK 74136 – P 918.895.9383 – F 918.895.9768

LEGAL DESCRIPTION (TRACT 3) Warranty Deed Book 6178, Page 1287

A part of the Northwest Quarter of Section Twenty-One (22), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as Beginning at a point on the West line of said Section 22, said point being 918.00 feet S00°29'01"E of the Northwest corner of said Northwest Quarter:

THENCE N43°28'59"E, a distance of 596.95 feet;

THENCE N23°34'59"E a distance of 499.67 feet;

THENCE N00°00'00"E a distance of 31.12 feet to a point on the North line of said Northwest Quarter, said point being 618.45 feet N89°36'31"E of said Northwest corner;

THENCE N89°36'31"E a distance of 416.83 feet to a point on the West right-of-way of the S.L.& S.F Railroad;

THENCE S40°59'06"W, along said right-of-way, a distance of 1563.38 feet to a point on the West line of said Northwest Quarter;

THENCE N00°29'01"W, along said West line, a distance of 255.14 feet to the point or place of Beginning, said tract to contain 263,128 square feet (6.041 acres) more or less.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

20150129010118490
Filing Fee: $25.00

01/29/2015 08:58:07 AM
EASE

EAST OAK RECYCLING AND DISPOSAL FACILITY
OKLAHOMA COUNTY, OKLAHOMA
ODEQ PERMIT NO. 3555036

APPENDIX D

LOCATION RESTRICTION CORRESPONDENCE

Prepared for

Waste Management of Oklahoma City, Inc.

June 2015

LICENSED PROFESSIONAL ENGINEER
JONATHAN V. QUEEN
24436
OKLAHOMA

6/5/15

Prepared by

Weaver Consultants Group, LLC
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

WCG Project No. 0086-356-11-40-04

LIST OF APPENDICES

APPENDIX D-1
Airports

APPENDIX D-2
Endangered and Threatened Species

APPENDIX D-3
Scenic Rivers

APPENDIX D-4
Recreation/Preservation Areas

APPENDIX D-5
Surface Water Intake

APPENDIX D-6
Excerpts from PUD-1534

APPENDIX D-1

AIRPORTS

CONTENTS

This appendix provides documentation for the required coordination with the Federal Aviation Administration (FAA) and airports within 5 miles. This appendix includes:

- August 19, 2014 Weaver Boos Consultants, LLC-Southwest comment response letter to Tinker Air Force Base addressing comments and providing requested information as mentioned in the April 29, 2014 letter.
- August 6, 2014 ODEQ letter identifying receipt of FAA correspondence dated July 21, 2014.
- July 25, 2014 Aeronautical Studies, Nos. 2014-ASW-2409-OE, 2014-ASW-2410-OE, 2014-ASW-2411-OE, 2014-ASW-2412-OE, 2014-ASW-2413-OE, 2014-ASW-2414-OE, 2014-ASW-2415-OE, and 2014-ASW-2416-OE; the FAA concluded that the landfill does not exceed obstruction standards and will not be a hazard to air navigation. The determination letters, along with any future required updates, will be placed in the site operating record and can be accessed at https://oeaaa.faa.gov.
- July 21, 2014 FAA Airports Division letter identifying no objection based on the application of FAA guidance for hazardous wildlife attractants on or near airports.
- April 29, 2014 Tinker Air Force Base comment letter.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for Federal Aviation Administration Review.

WEAVER
BOOS
CONSULTANTS
LLC
SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206
FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

Chicago, IL
Naperville, IL
South Bend, IN
Griffith, IN
St. Louis, MO
Springfield, MO
Kansas City, MO
Columbus, OH
Denver, CO
Fort Worth, TX
Clermont, FL
Grand Rapids, MI

August 19, 2014
Project No. 0086-356-11-40-01

Ms. LouAnna Munkres
Community Planner
72 ABW/CC
7460 Arnold Street
Tinker Air Force Base, OK 73145

Re: Response to Comments
Compliance with Airport Location Restriction
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Ms. Munkres:

On behalf of Waste Management of Oklahoma, Inc. (WMO), please find enclosed our response to the April 29, 2014 Department of the Air Force letter (Attachment 1) regarding the referenced project. This response letter contains the items identified in the Air Force letter (in bold) followed by a response to that item.

1. **"The base will want notification from FAA, Oklahoma City, and the landfill operator (applicant to the Tier III Permit Application) if the waste and waste processing procedures, including the nightly dirt covering the landfill, should change or be modified."**

Response:

Waste and waste processing procedures, including the daily covering of the active face of the landfill, are regulated by the Oklahoma Department of Environmental Quality (ODEQ). These procedures are provided in the Tier III Permit Modification that will be approved by ODEQ.

More specifically, ODEQ regulations are designed to prevent and control disease vectors (e.g., birds), fires, odors, blowing litter and scavenging at the facility. In accordance with Section 252:515-19-51 of the ODEQ Municipal Solid Waste Regulations, solid waste disposed at land disposal facilities shall be covered with at least six inches of compacted earthen material or an alternate daily cover capable of controlling disease vectors, fires, odors, and blowing litter without presenting a threat to human health or the environment.

The site also has coordinated with the Federal Aviation Administration (FAA) about the proposed expansion. Correspondence with the FAA included communication regarding (1) the potential impact of the proposed expansion to existing airports or air traffic and (2) the potential for wildlife hazards to aircraft. The site has received approval for the proposed expansion from FAA regarding both of these criteria. The approval letters are provided in Attachments 2 and 3.

Additionally, the site has obtained zoning approval from the City of Oklahoma City (City) for the expansion of the landfill through a Planned Unit Development (PUD). The PUD provided an updated Master Development Plan that will allow the existing East Oak Recycling and Disposal Facility to continue to provide a safe and environmentally protective solid waste disposal facility for the City and surrounding communities. The approval from the City is provided in Attachment 4.

WMO will operate the East Oak Recycling and Disposal Facility in accordance with all applicable regulations, including the regulations regarding waste and waste processing procedures and daily cover of the landfill active face.

2. **"...the applicant and Oklahoma City must provide Tinker AFB a plan to address birds in the event the USDA personnel observe and increase in the existing bird activity."**

Response:

WMO is being proactive toward controlling vectors at the East Oak Recycling and Disposal Facility (RDF). East Oak RDF utilizes three methods to control vectors:

(1) Working Face Size – The working face is confined to as small an area as practical. The working face is also covered at the end of each day.

(2) Propane Cannon – A propane cannon is utilized throughout the day on a random sequence to scare away vectors. The random sequence is programmed to occur more frequently in the early morning hours to try to prevent initial roosting of vectors.

(3) Pyrotechnical Launchers – A pyrotechnical launcher is utilized throughout the day to project pyrotechnical bird scare cartridges (aka bangers, screamers, whistlers, poppers, etc.) to scare away vectors.

These methods have been effective in deterring birds and other vectors from becoming a nuisance to the landfill and surrounding areas. The expansion to the landfill will not include any change to the current working face size or operating

procedures. Therefore, expanding the landfill footprint will not result in attracting more vectors.

Additionally, as stated in the response to Comment No. 1, WMO has coordinated with the FAA regarding wildlife hazard potential. Since the site is greater than 5 statute miles from any privately owned or publicly owned public use airports, the FAA had no objection to the landfill expansion. Colonel Christopher P. Azzano was copied on this FAA letter concerning wildlife hazard potential, which is included in Attachment 2.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachments: Attachment 1 – April 29, 2014 Department of the Air Force Letter
Attachment 2 – FAA Approval Letters Obstruction Standards
Attachment 3 – FAA Approval Letter Wildlife Attractants
Attachment 4 – Oklahoma City PUD Approval

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

ATTACHMENT 1

APRIL 29, 2014 DEPARTMENT OF THE AIR FORCE LETTER

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 72D AIR BASE WING (AFMC)
TINKER AIR FORCE BASE OKLAHOMA

29 APR 2014

MEMORANDUM FOR AIRPORT DIVISION – SAFETY AND STANDARDS BRANCH
ASW-620
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
2601 MEACHAM BOULEVARD
FORT WORTH, TEXAS 76137-4298

FROM: 72 ABW/CC
7460 Arnold Street
Tinker AFB OK 73145

SUBJECT: Compliance with Airport Location Restriction of East Oak Recycling and Disposal Facility Expansion, Oklahoma City, Oklahoma

1. Thank you for providing Tinker AFB the opportunity to review and comment on the expansion of the East Oak Recycling and Disposal Facility, located at 3201 Mosley Road, Oklahoma City, Oklahoma 73141.

2. We are always concerned for the safety of our aircraft and aircrews. In accordance with Oklahoma Administration Code (OAC) 252:515-5-52(e) and 252:515-5-52(e), regarding the potential impacts of the expansion of East Oak Recycling and Disposal Facility, Tinker AFB has the following comments, since the runway is located within a 5-mile radius. The base will want notification from FAA, Oklahoma City and the landfill operator (applicant to the Tier III Permit Application) if the waste and waste processing procedures, including the nightly dirt covering of the landfill, should change or be modified. The facility is not projected to violate any of the Imaginary Surfaces (Outer Horizontal) with a maximum elevation of 1,412 feet versus the airfield's elevation (1,291 feet), so from this aspect we do not have any issues with its expansion. However, the applicant and Oklahoma City must provide Tinker AFB a plan to address birds in the event the USDA personnel observe an increase in the existing bird activity. The POCs for this action is Ms. LouAnna Munkres, Community Planner, 734-2074, Louanna.Munkres@tinker.af.mil.

CHRISTOPHER P. AZZANO, Colonel, USAF
Commander, 72d Air Base Wing

CC: Weaver Boos Consultants, LLS-Southwest
Jonathan V. Queen, P.E.
Project Engineer
6420 Southwest Blvd, Suite 206
Fort Worth, Texas 76109

ATTACHMENT 2

FAA APPROVAL LETTERS
OBSTRUCTION STANDARDS

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2409-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point A Top Deck
Location:	Oklahoma City, OK
Latitude:	35-30-10.00N NAD 83
Longitude:	97-25-05.00W
Heights:	1161 feet site elevation (SE)
	251 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2409-OE.

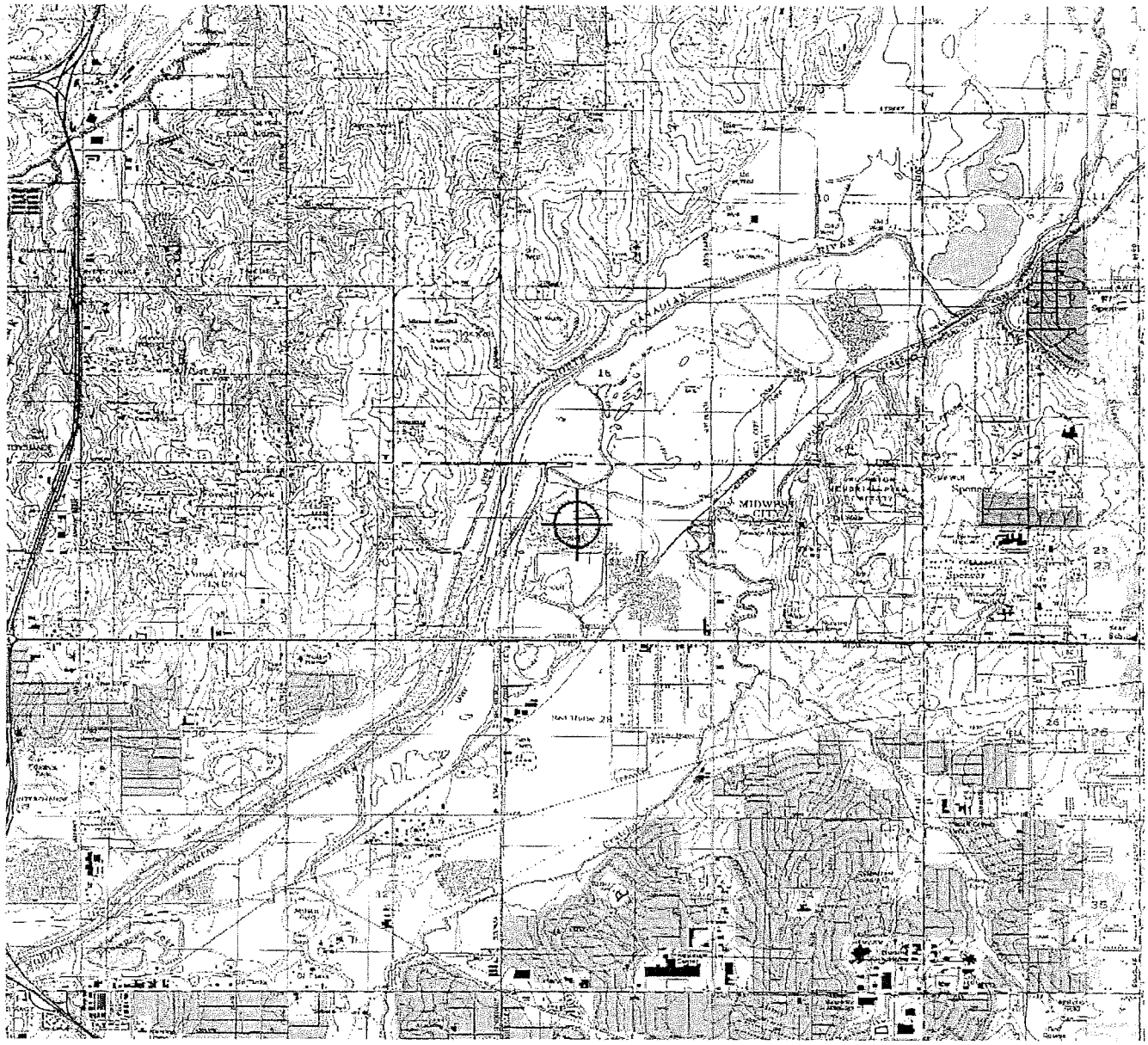
Signature Control No: 213369561-224939587 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2409-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2409-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2410-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point B Top Deck
Location:	Oklahoma City, OK
Latitude:	35-30-12.00N NAD 83
Longitude:	97-24-50.00W
Heights:	1161 feet site elevation (SE)
	251 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2410-OE.

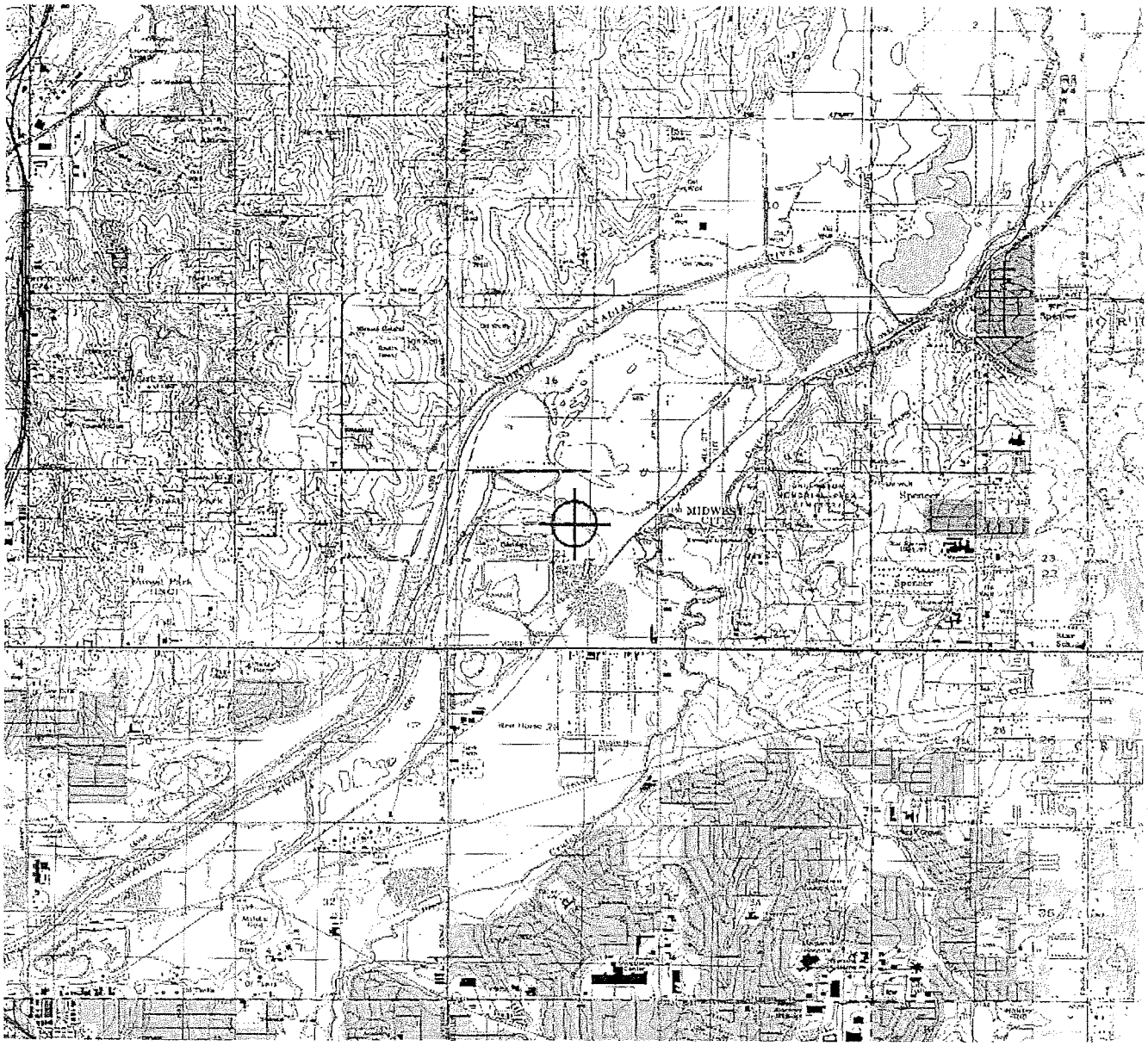
Signature Control No: 213369562-224939588 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2410-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2410-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2411-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point C Northeast Corner
Location:	Oklahoma City, OK
Latitude:	35-30-23.00N NAD 83
Longitude:	97-24-35.00W
Heights:	1159 feet site elevation (SE)
	253 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2411-OE.

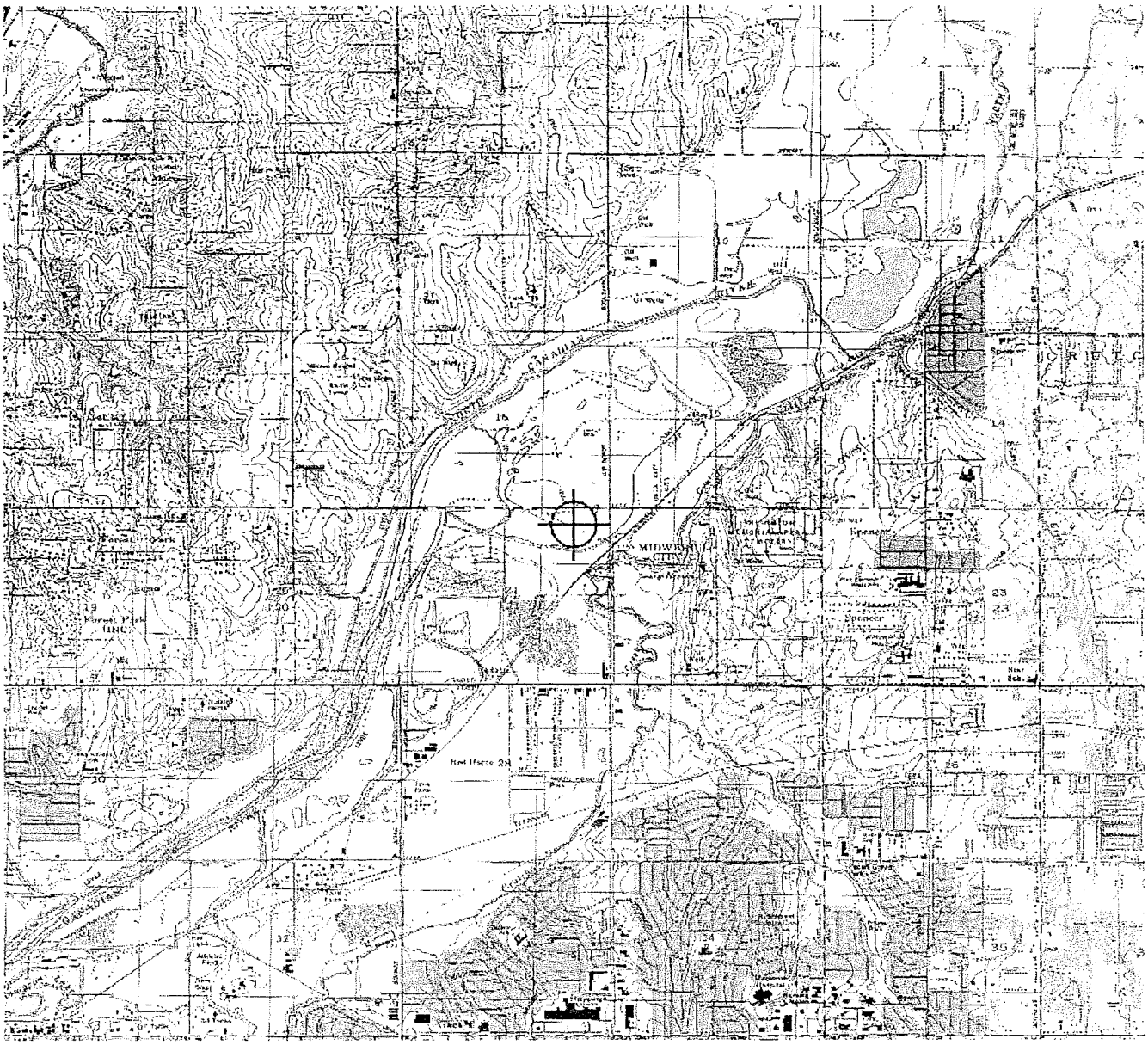
Signature Control No: 213369563-224939586 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2411-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2411-OE



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2601 Meacham Boulevard
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Aeronautical Study No.
2014-ASW-2412-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point D East Corner
Location:	Oklahoma City, OK
Latitude:	35-30-05.00N NAD 83
Longitude:	97-24-33.00W
Heights:	1168 feet site elevation (SE)
	244 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2412-OE.

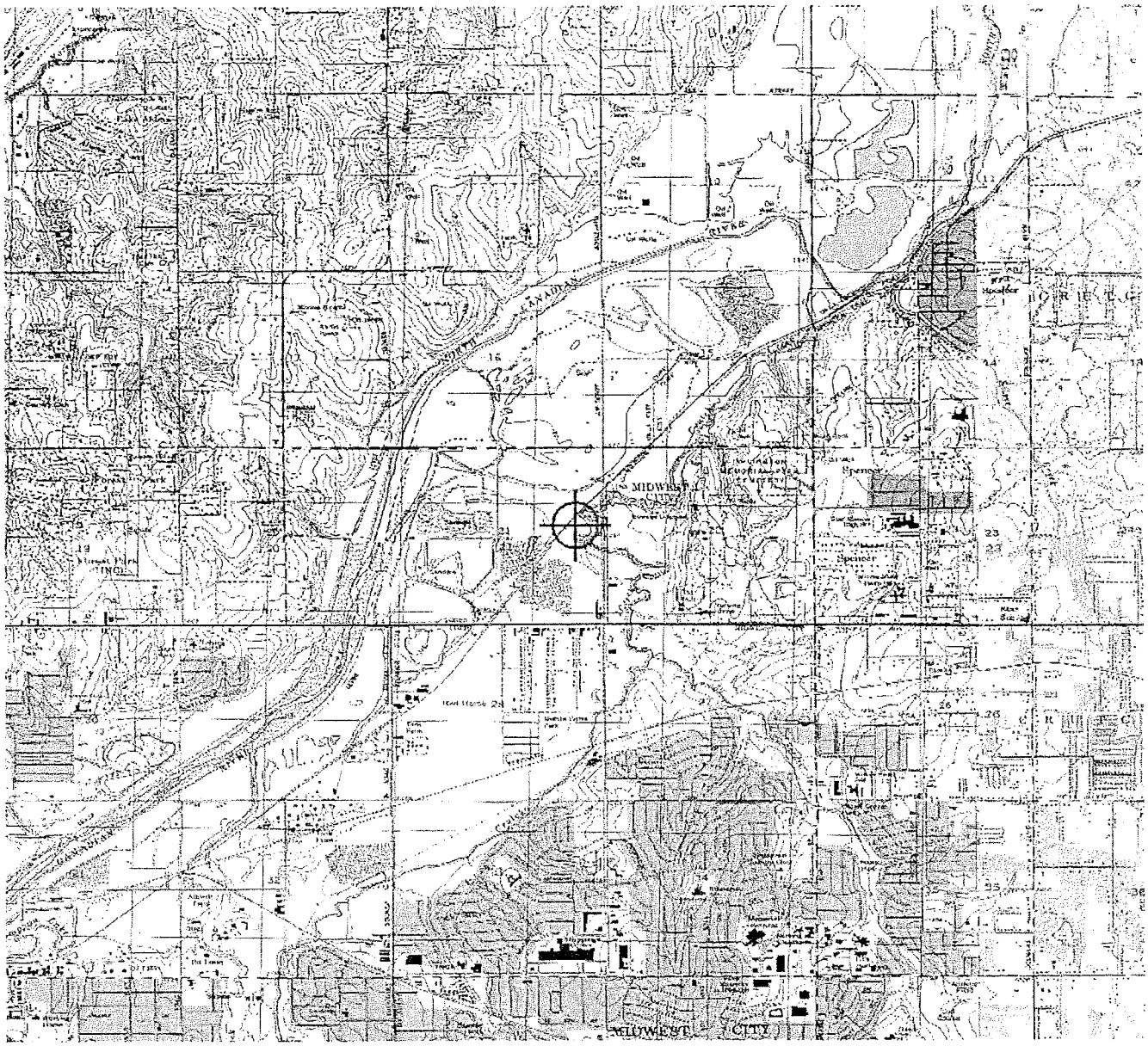
Signature Control No: 213369564-224939592 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2412-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2412-OE



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2601 Meacham Boulevard
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Aeronautical Study No.
2014-ASW-2413-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point E South Corner
Location:	Oklahoma City, OK
Latitude:	35-29-48.00N NAD 83
Longitude:	97-24-50.00W
Heights:	1146 feet site elevation (SE)
	266 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2413-OE.

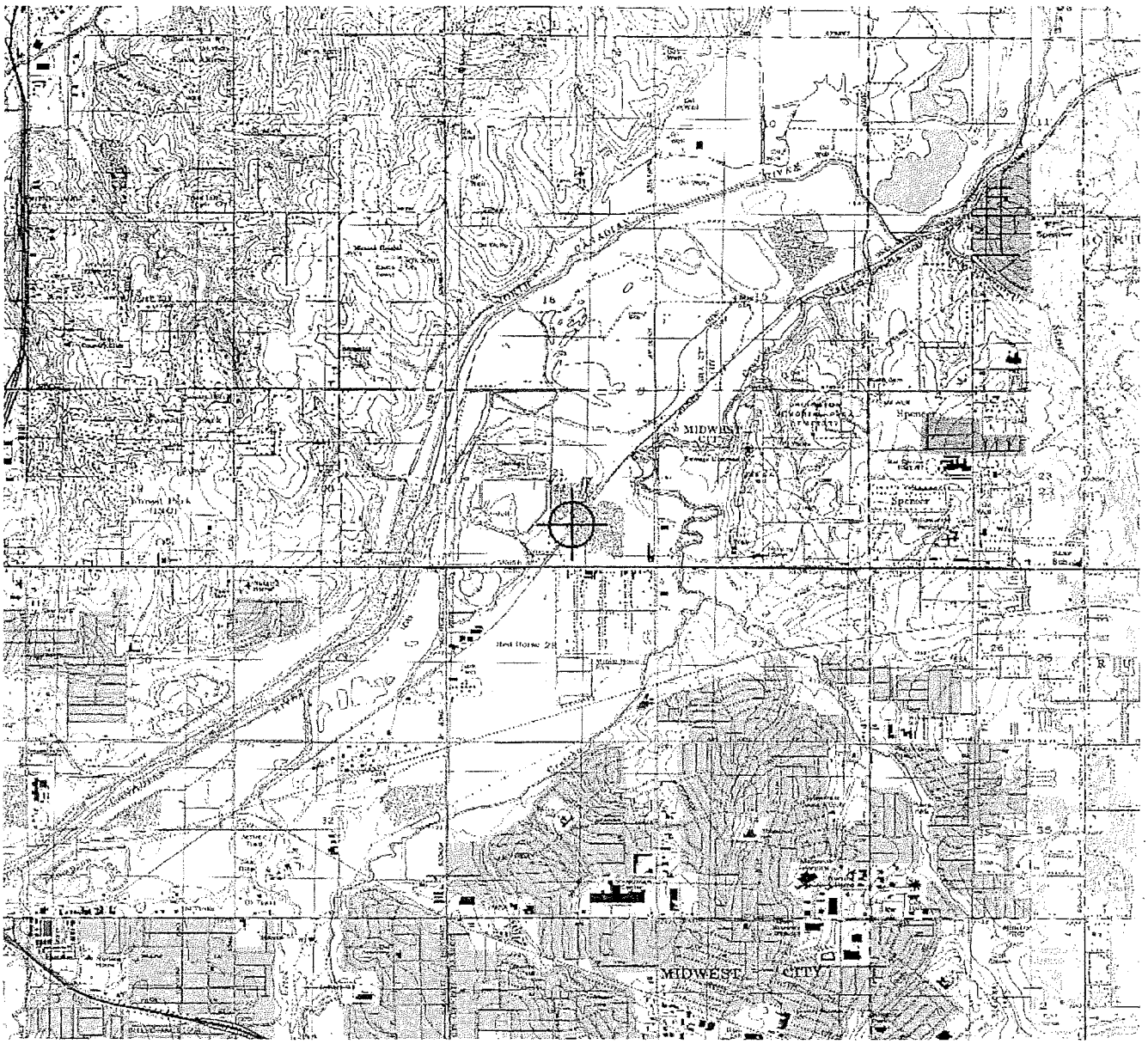
Signature Control No: 213369565-224939590 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2413-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2413-OE



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2601 Meacham Boulevard
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Aeronautical Study No.
2014-ASW-2414-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point F Southwest Corner
Location:	Oklahoma City, OK
Latitude:	35-30-02.00N NAD 83
Longitude:	97-25-16.00W
Heights:	1161 feet site elevation (SE)
	251 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2414-OE.

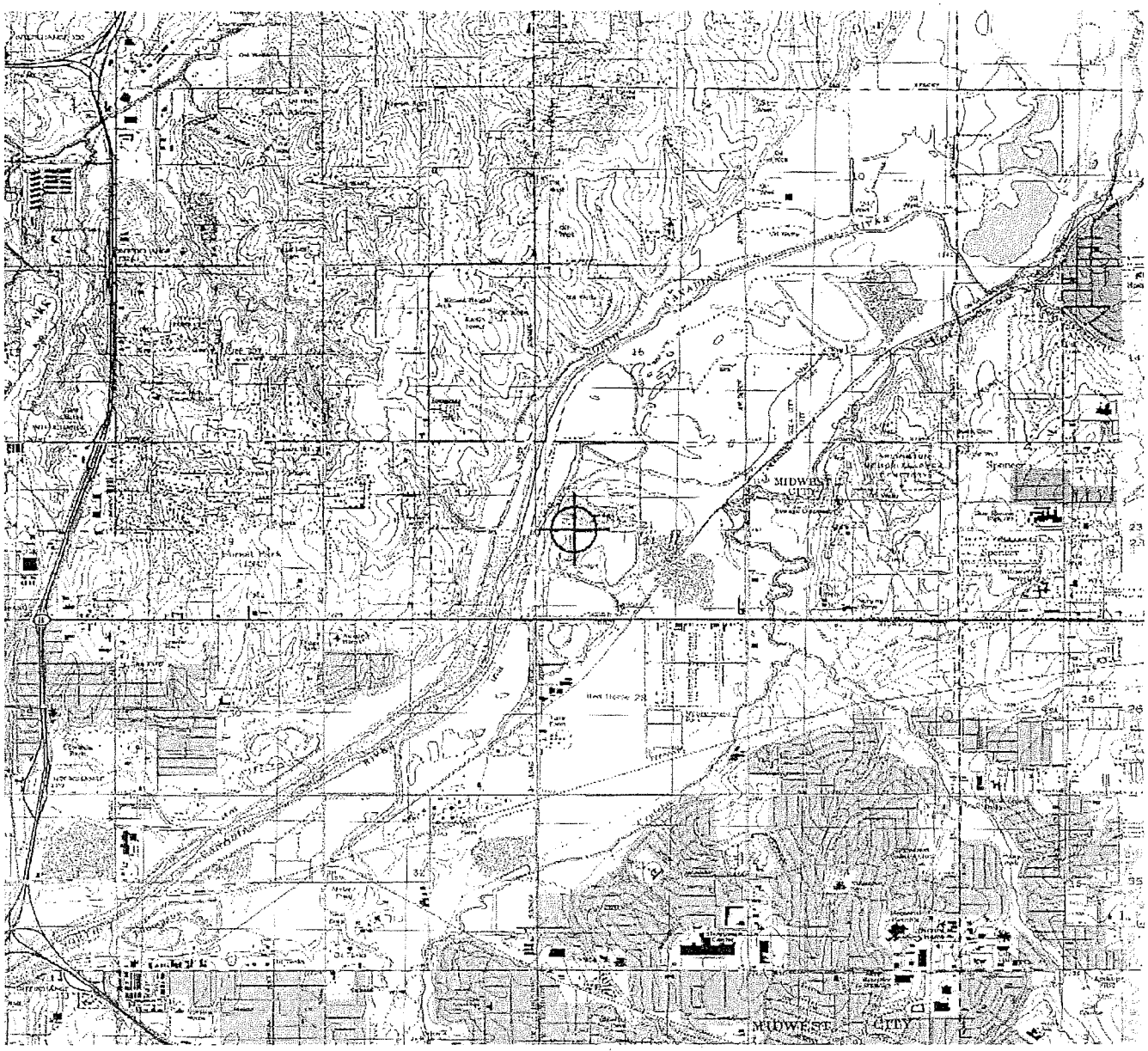
Signature Control No: 213369566-224939591 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2414-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2414-OE



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2601 Meacham Boulevard
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Aeronautical Study No.
2014-ASW-2415-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point G West Corner
Location:	Oklahoma City, OK
Latitude:	35-30-14.00N NAD 83
Longitude:	97-25-14.00W
Heights:	1169 feet site elevation (SE)
	243 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

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If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2415-OE.

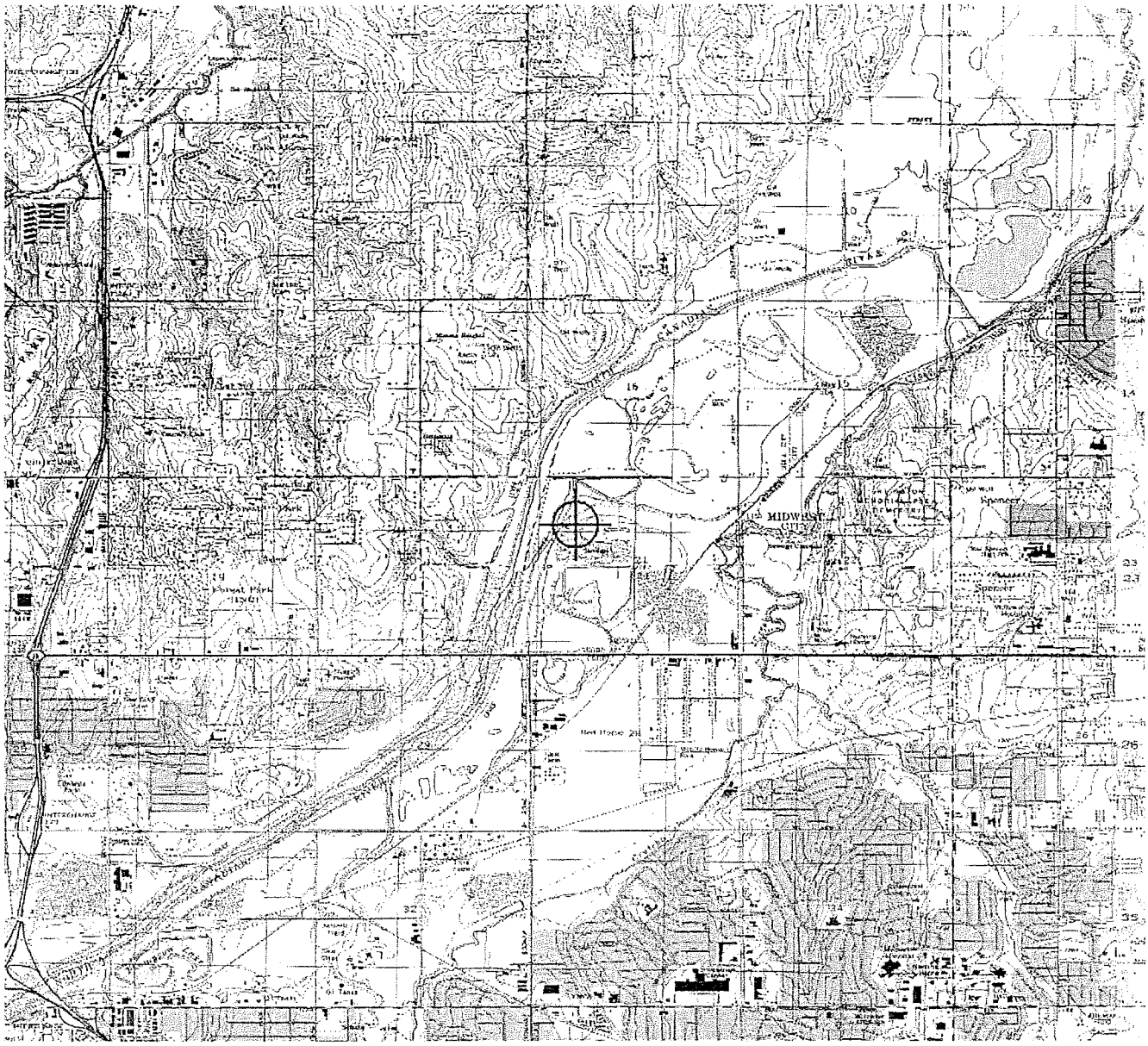
Signature Control No: 213369567-224939585 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2415-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2415-OE



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Aeronautical Study No.
2014-ASW-2416-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point H Northwest Corner
Location:	Oklahoma City, OK
Latitude:	35-30-23.00N NAD 83
Longitude:	97-25-02.00W
Heights:	1145 feet site elevation (SE)
	267 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2416-OE.

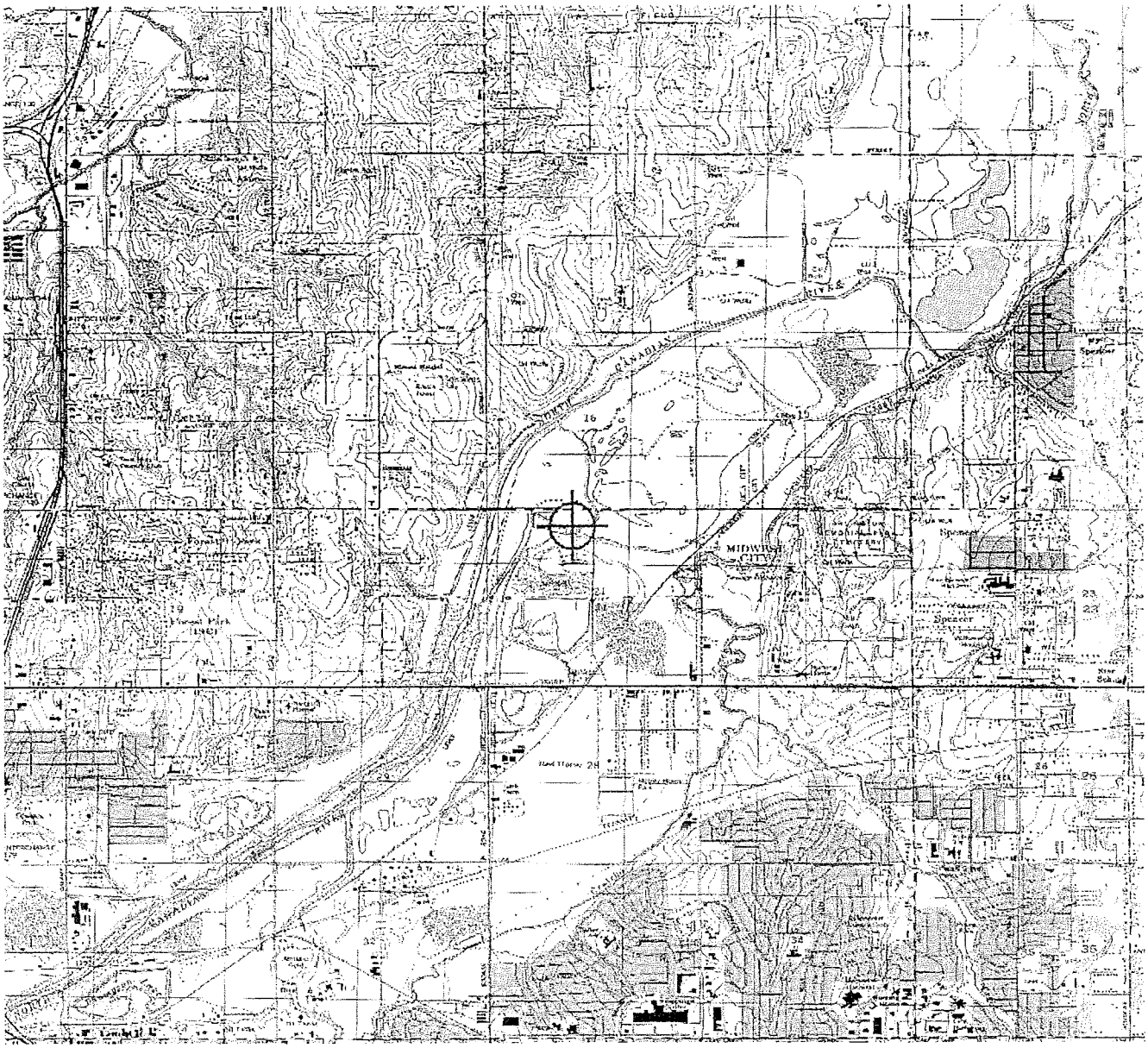
Signature Control No: 213369568-224939589 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2416-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2416-OE



ATTACHMENT 3

FAA APPROVAL LETTER
WILDLIFE ATTRACTANTS

U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Airports Division, Southwest Region Safety and
Standards Branch

2601 Meacham Boulevard
Fort Worth, Texas 76137

July 21, 2014

Mr. Jonathan V. Queen, P.E.
Project Manager
Weaver Boos Consultants LLC Southwest
6420 Southwest Blvd, Suite 206
Fort Worth, TX 76109

**Subject: East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.,
Oklahoma City, Oklahoma
FAA File No. 2014-001-OK**

Dear Mr. Queen:

This is in response to your April 9, 2014 notice of an application submitted by Weaver Boos Consultants in contract with Waste Management of Oklahoma, Inc., for a Tier II permit to expand the existing East Oak Waste Management and Disposal facility. The final proposed elevation of the facility is 731.5 and 736 feet above MSL.

Using coordinates representing the southernmost point of the proposed expansion area of N 35 29' 43.10" N and 97 39' 24. 47.26"W, we determined that there are no privately owned or publically owned public use airports within 4.34 nautical miles/ 5 Statute miles of the landfill. With the landfill site being located outside of our 5 statute mile review criteria for existing landfills, we have no objection to the application submitted by Weaver Boos Consultants for the expansion of the East Oak Recycling and Disposal Facility. Our position of no objection is based on the application of our guidance for hazardous wildlife attractants on or near airports FAA Advisory Circular 150/5200-33B.

A copy of the application has been forwarded to Mr. Chris Shoulders Supervisor of the FAA Obstruction Evaluation Group for their review and comments concerning potential obstruction to air navigation.

This site has been assigned our file No. 2014-001-OK. Please refer to this number in any future correspondence regarding this site. Thank you for coordinating this project with us. If there are any questions, you can contact me at 817-222-5621or bill.mitchell@faa.gov.

Sincerely,

William Mitchell
Lead Airport Certification Safety Inspector
Airports Division, Southwest Region

cc: Oklahoma Department of Environmental Quality
Waste Management Division
P.O. Box 1677
Oklahoma City, OK 73101-1677

Oklahoma Aeronautics Commission
120 North Robinson Ave, Suite 1244W
Oklahoma City, OK 73102

Christopher P. Azzano, Col, USAF
Commander, 72d Air Base Wing
72 ABW/CC
7460 Arnold Street
Tinker AFB, OK 73145

Mr. Chris Shoulders
Supervisor Obstructions Evaluation Group
AJV-15

ATTACHMENT 4

OKLAHOMA CITY PUD APPROVAL

PUD-1534

Published in The Journal Record July 30, 2014

ORDINANCE NO. 24,934

AN ORDINANCE AMENDING CHAPTER 59, SECTION 5150 OF THE OKLAHOMA CITY MUNICIPAL CODE, 2010, TO INCLUDE ADDITIONAL TERRITORY WITHIN THE PUD PLANNED UNIT DEVELOPMENT DISTRICT ~~AND DECLARING AN EMERGENCY~~. FK

~~EMERGENCY~~ ORDINANCE

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF OKLAHOMA CITY:

SECTION 1. That Chapter 59, Section 5150 of The Oklahoma City Municipal Code, 2010, be amended to change the boundaries of the PUD Planned Unit Development District, as shown upon the District Map to include therein the following described property:

LEGAL DESCRIPTION (TRACT 1)

A part of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows: Commencing at the Northeast Corner of said Section 21 THENCE N89°47'56"W, along the North line of said Section 21, a distance of 2435.65 feet; THENCE S00°12'04"E, perpendicular to said North line, a distance of 100.00 feet to the POINT OF BEGINNING; THENCE S48°15'41"E a distance of 231.02 feet; THENCE S37°32'51"E a distance of 758.06 feet; THENCE S89°51'53"E a distance of 284.15 feet; THENCE S12°11'24"E a distance of 835.40 feet; THENCE S00°56'11"E a distance of 318.12 feet; THENCE S22°26'50"E a distance of 623.59 feet to a point on the present West Right-of-Way line of the St. Louis & San Francisco Railroad; THENCE S33°28'06"W, along said West Right-of-Way line, a distance of 97.90 feet to a point on the South line of the Northeast Quarter of said Section 21; THENCE continuing S33°28'06"W, along said West Right-of-Way line, a distance of 2301.78 feet; THENCE N20°49'00"W a distance of 498.92 feet to a point on the West line of the Southeast Quarter of said Section 21; THENCE N00°21'36"W, along said West line a distance of 1450.26 feet to the Northwest corner of said Southeast Quarter; THENCE continuing N00°21'36"W, along the West line of the Northeast Quarter of said Section 21, a distance of 812.24 feet; THENCE N51°27'41"W a distance of 273.48 feet; THENCE N76°22'42"W a distance of 445.75 feet; THENCE N12°39'25"W a distance of 758.59 feet; THENCE N00°00'00"E a distance of 727.41 feet; THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 990.03 feet to the POINT OF BEGINNING, containing 5,404,194.10 square feet or 124.06 acres more less.
Basis of Bearing is Oklahoma State Plane Grid Bearings. This legal description prepared by Robby L. Johnson, PLS 1539, on October 14, 2013.

LEGAL DESCRIPTION (TRACT 2)

A tract of land located in the Northeast Quarter (NE/4) of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:
Commencing at the Northeast Corner of the Northeast Quarter of said Section 21; THENCE N89°47'56"W, along the North line of said Northeast Quarter, a distance of 100.00 feet; THENCE S00°30'38"E, parallel to and 100 feet west of the East line of said Northeast Quarter, a distance of 100.00 feet to the POINT OF BEGINNING; THENCE continuing S00°30'38"E a

distance of 464.72 feet; THENCE S45°30'38"E a distance of 70.71 feet; THENCE N90°00'00"W a distance of 735.30 feet; THENCE N00°11'17"E a distance of 516.64 feet; THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 679.02 feet to the POINT OF BEGINNING, containing 352,851.86 square feet or 8.10 acres more less. Basis of Bearing is Oklahoma State Plane Grid Bearings. This legal description prepared by Robby L. Johnson, PLS 1539, on October 14, 2013.

LEGAL DESCRIPTION (TRACT 3) Warranty Deed Book 6178, Page 1287

A part of the Northwest Quarter of Section Twenty-Two (22), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as Beginning at a point on the West line of said Section 22, said point being 918.00 feet S00°29'01"E of the Northwest corner of said Northwest Quarter:
THENCE N43°28'59"E, a distance of 596.95 feet; THENCE N23°34'59"E a distance of 499.67 feet; THENCE N00°00'00"E a distance of 31.12 feet to a point on the North line of said Northwest Quarter, said point being 618.45 feet N89°36'31"E of said Northwest corner; THENCE N89°36'31"E a distance of 416.83 feet to a point on the West right-of-way of the S.L.& S.F Railroad; THENCE S40°59'06"W, along said right-of-way, a distance of 1563.38 feet to a point on the West line of said Northwest Quarter; THENCE N00°29'01"W, along said West line, a distance of 255.14 feet to the point or place of Beginning, said tract to contain 263,127.86 square feet (6.041 acres) more or less.

~~SECTION 2. (EMERGENCY) WHEREAS, it being immediately necessary for the preservation of the peace, health, safety, and public good of Oklahoma City and the inhabitants thereof that the provisions of the ordinance be put into full force and effect, an emergency is hereby declared to exist by reason whereof this ordinance shall take effect, and be in full force from and after its passage as provided by law.~~

INTRODUCED AND READ in open meeting of the Council of The City of Oklahoma City, Oklahoma, on this 1st day of July, 2014.

PASSED by the Council of The City of Oklahoma City, Oklahoma, on the 29th day of July, 2014.

SIGNED by the Mayor of The City of Oklahoma City, Oklahoma, on this 29th day of July, 2014.

ATTEST:

CITY CLERK

SEAL OF THE CITY OF OKLAHOMA CITY

MAYOR

REVIEWED for form and legality.

ASSISTANT MUNICIPAL COUNSELOR

APPROVED
7-29-14

BY THE CITY COUNCIL
CITY CLERK

Prepared for

Waste Management of Oklahoma, Inc.

March 2014
Revised June 2014

Prepared by

Weaver Boos Consultants, LLC–Southwest
6420 Southwest Blvd, Suite 206
Fort Worth, Texas 76109
817-735-9770 (Office) 817-735-9775 (Fax)
jqueen@weaverboos.com

WBC Project No. 0086-356-11-38-05

SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN
Governor

August 6, 2014

Mr. Guy Campbell
Waste Management of Oklahoma, Inc.
3201 Mosley Road
Oklahoma City, OK 73141

Re: Federal Aviation Administration (FAA) Correspondence
East Oak Recycling and Disposal Facility (Permit No. 3555036)
Oklahoma County

Dear Mr. Campbell:

The Oklahoma Department of Environmental Quality (DEQ) is in receipt of correspondence, dated July 21, 2014, from the Federal Aviation Administration (FAA), regarding an April 9, 2014, notice of application submitted by Weaver Boos Consultants in contract with Waste Management of Oklahoma, Inc.

The FAA correspondence states, "With the landfill site being located outside our 5 statute mile review criteria for existing landfills, we have no objection to the application submitted by Weaver Boos Consultants for the expansion of the East Oak Recycling and Disposal Facility. Our position of no objection is based on the application of our guidance for hazardous wildlife attractants on or near airports." The correspondence also notes the application has been forwarded to the FAA Obstruction Evaluation Group for review concerning potential obstruction to air navigation.

A copy of the FAA correspondence has been placed in the facility's permit file. If you have any questions, please contact Rachel Hanigan at (405) 702-5196.

Sincerely,

Hillary Young

Hillary Young, P.E.
Chief Engineer
Land Protection Division

HY/rh

cc: Jonathan V. Queen, P.E., Weaver Boos Consultants LLC – Southwest

707 NORTH ROBINSON, P.O. BOX 1677, OKLAHOMA CITY, OKLAHOMA 73101-1677

printed on recycled paper with soy ink

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2409-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point A Top Deck
Location:	Oklahoma City, OK
Latitude:	35-30-10.00N NAD 83
Longitude:	97-25-05.00W
Heights:	1161 feet site elevation (SE)
	251 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2409-OE.

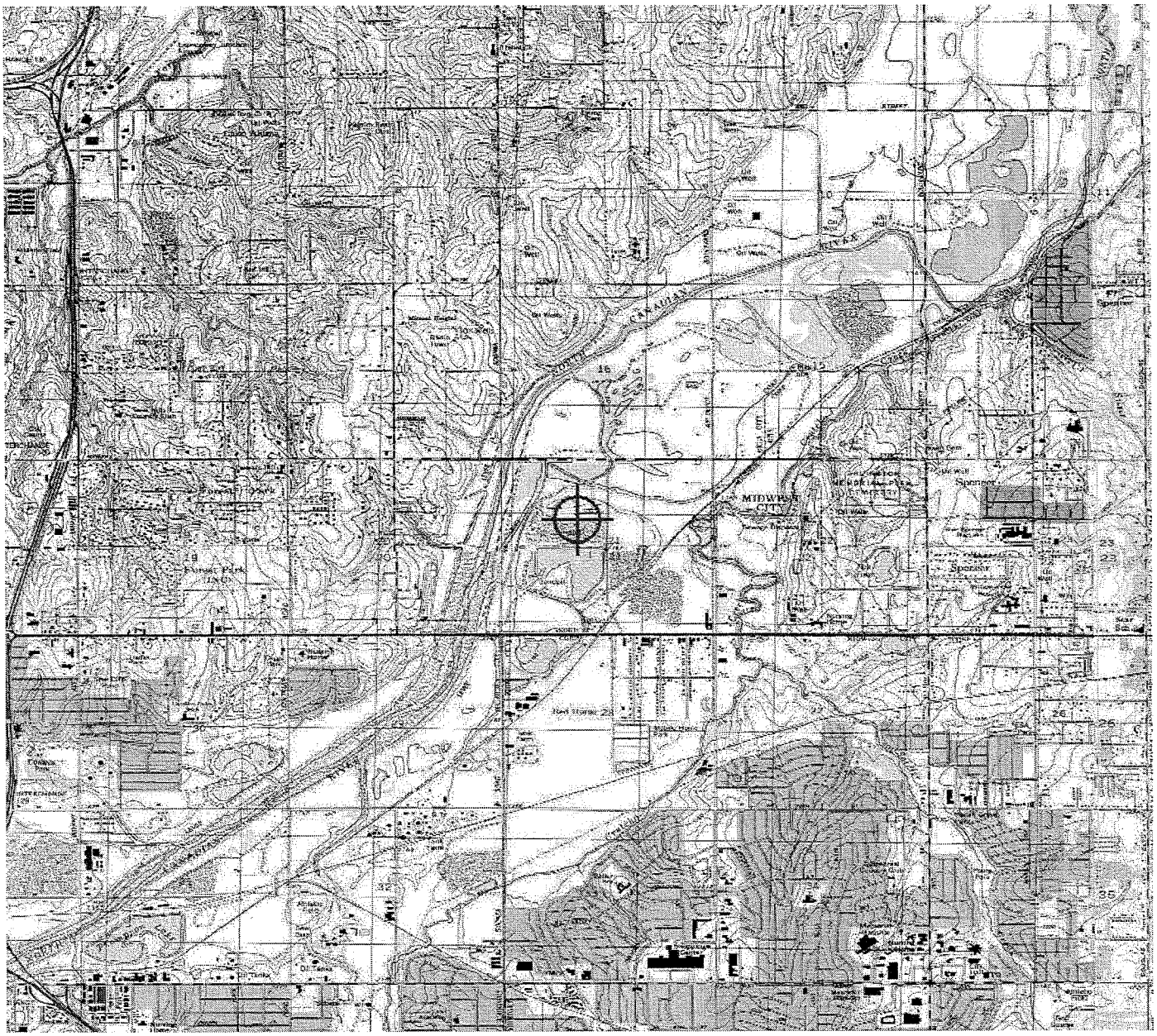
Signature Control No: 213369561-224939587 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2409-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2409-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2410-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point B Top Deck
Location:	Oklahoma City, OK
Latitude:	35-30-12.00N NAD 83
Longitude:	97-24-50.00W
Heights:	1161 feet site elevation (SE)
	251 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

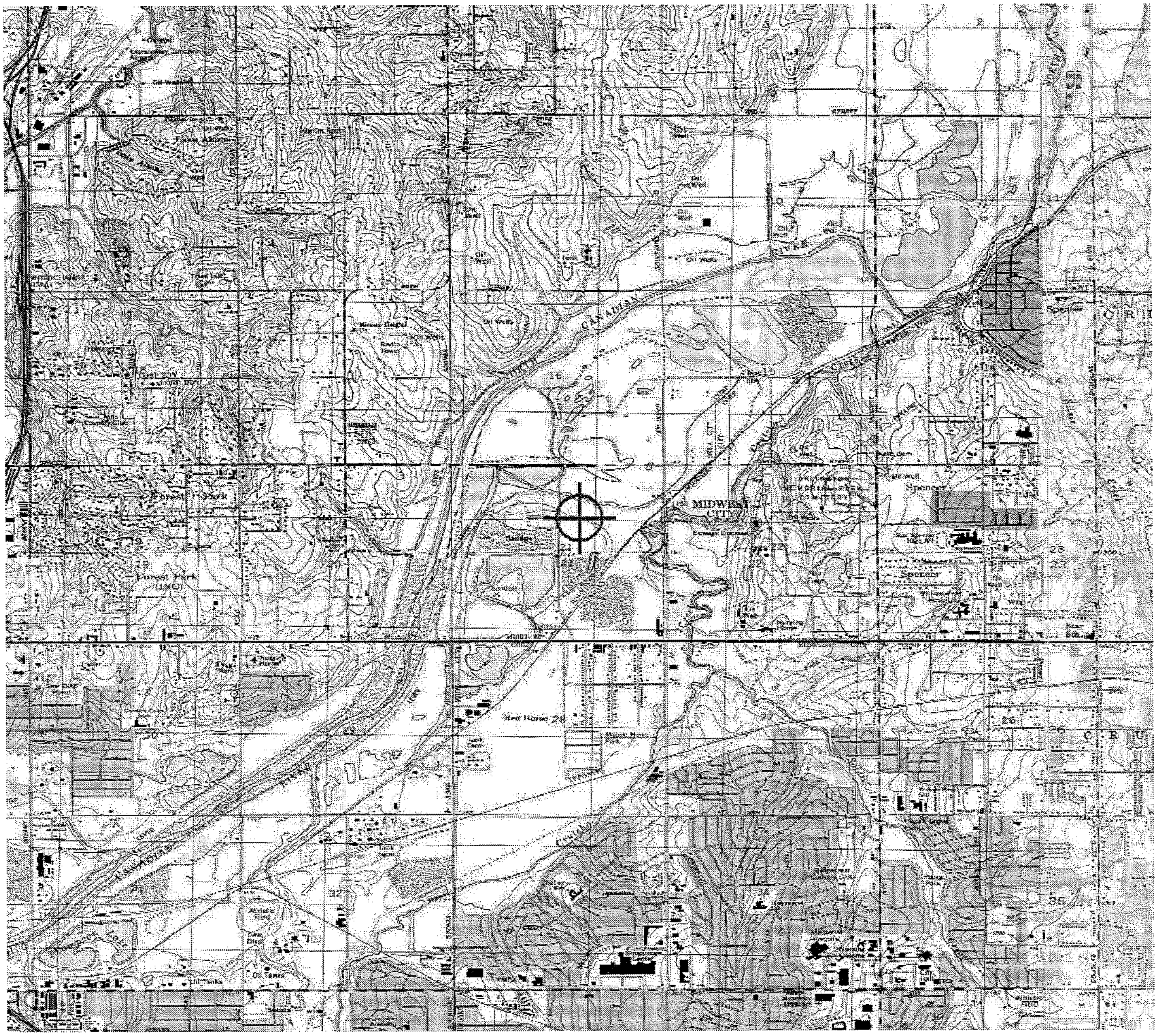
If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2410-OE.

Signature Control No: 213369562-224939588 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2410-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.


MIDWEST
CITY

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2411-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point C Northeast Corner
Location:	Oklahoma City, OK
Latitude:	35-30-23.00N NAD 83
Longitude:	97-24-35.00W
Heights:	1159 feet site elevation (SE) 253 feet above ground level (AGL) 1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2411-OE.

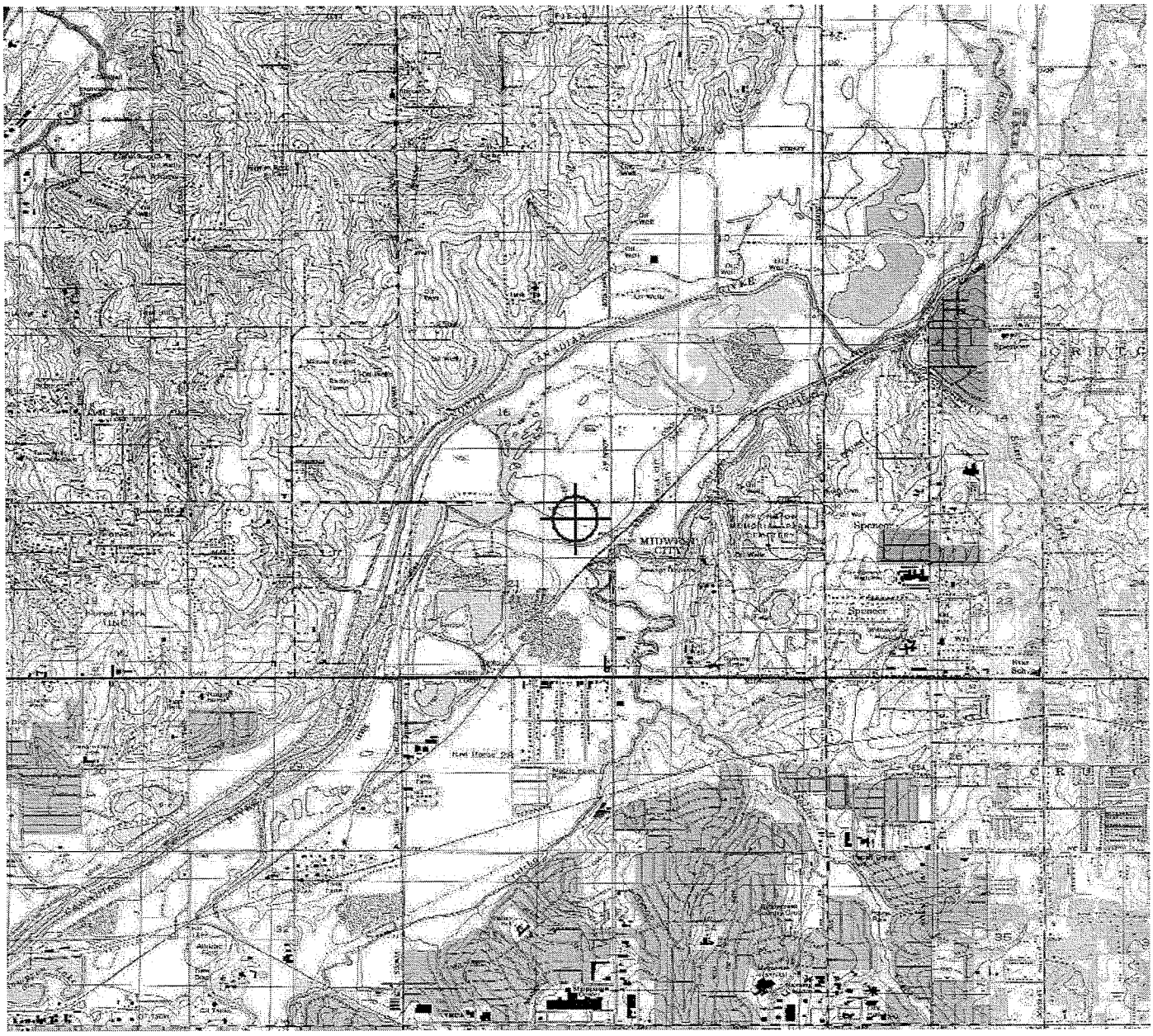
Signature Control No: 213369563-224939586 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2411-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2411-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2412-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point D East Corner
Location:	Oklahoma City, OK
Latitude:	35-30-05.00N NAD 83
Longitude:	97-24-33.00W
Heights:	1168 feet site elevation (SE)
	244 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

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__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

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any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2412-OE.

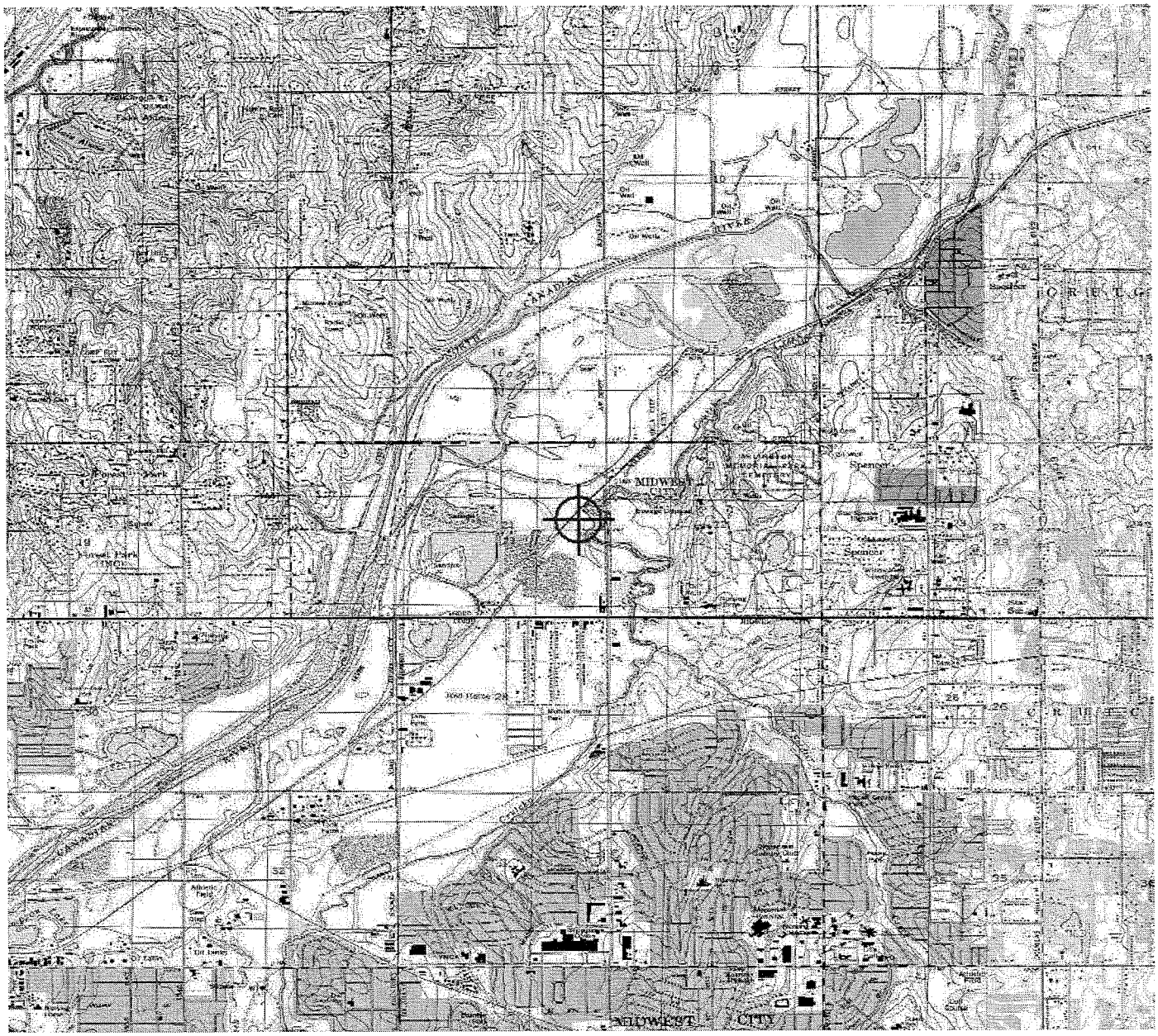
Signature Control No: 213369564-224939592 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2412-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2412-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2413-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point E South Corner
Location:	Oklahoma City, OK
Latitude:	35-29-48.00N NAD 83
Longitude:	97-24-50.00W
Heights:	1146 feet site elevation (SE)
	266 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
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(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2413-OE.

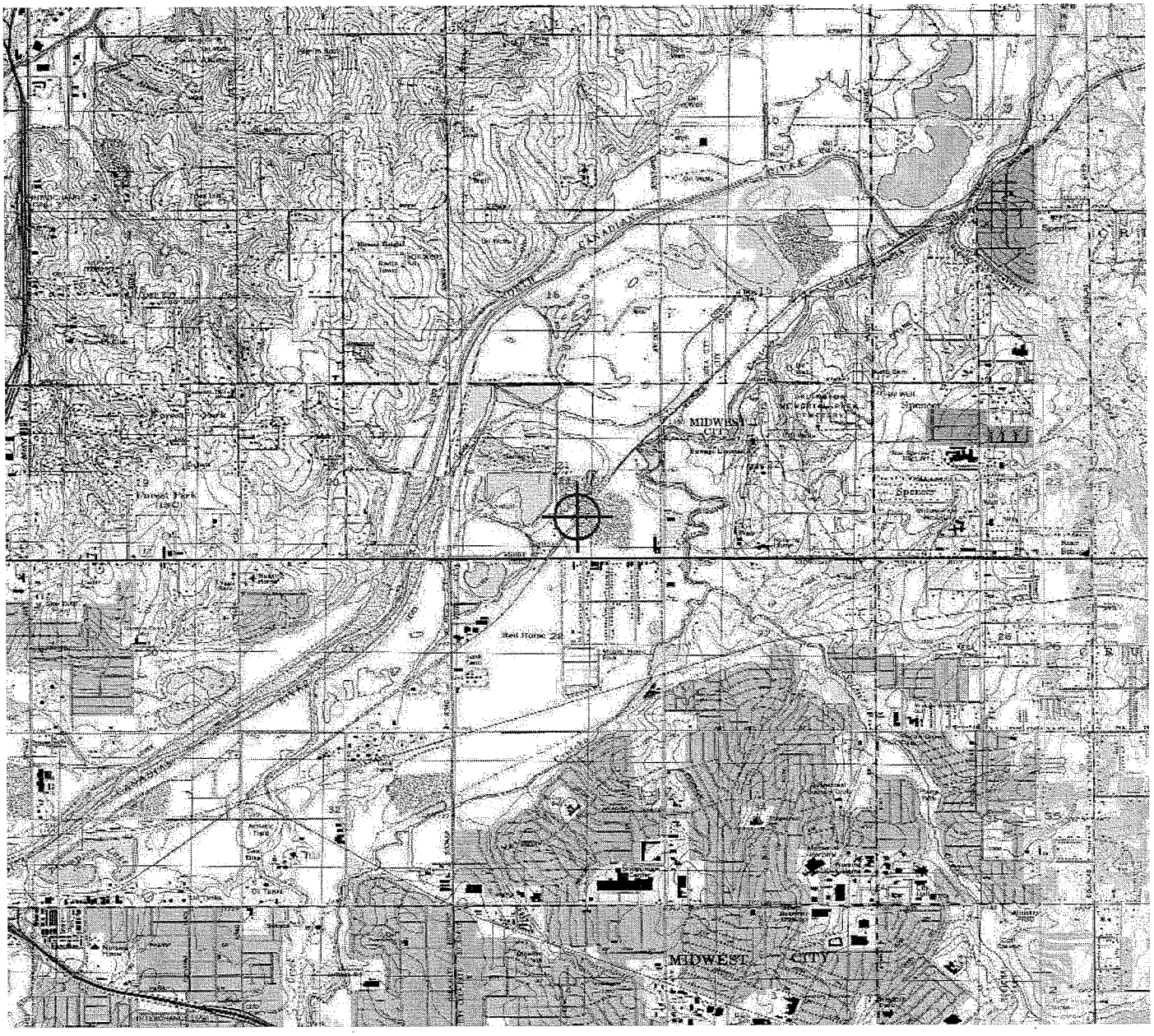
Signature Control No: 213369565-224939590 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2413-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2413-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2414-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point F Southwest Corner
Location:	Oklahoma City, OK
Latitude:	35-30-02.00N NAD 83
Longitude:	97-25-16.00W
Heights:	1161 feet site elevation (SE)
	251 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

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This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2414-OE.

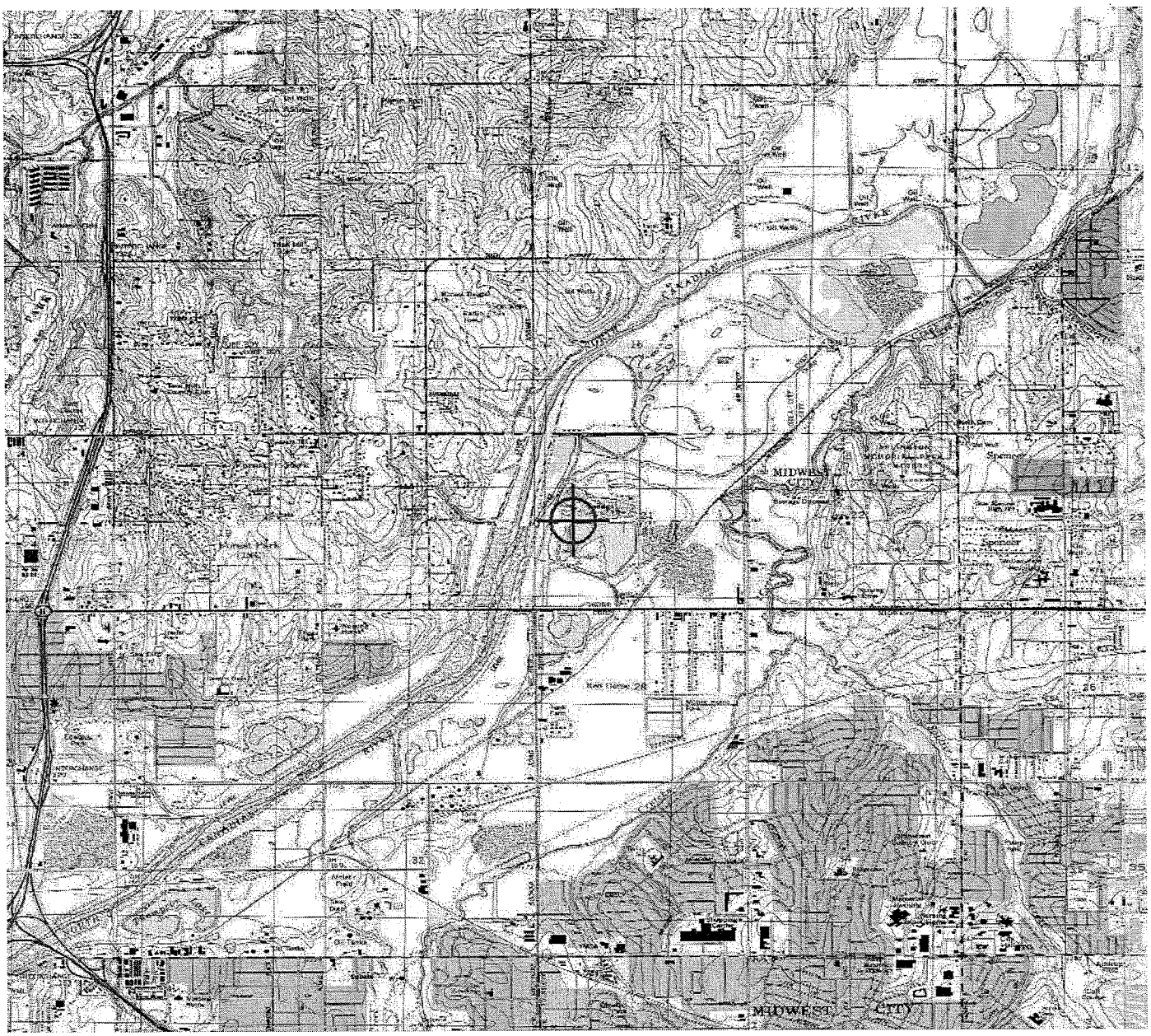
Signature Control No: 213369566-224939591 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2414-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2414-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2415-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point G West Corner
Location:	Oklahoma City, OK
Latitude:	35-30-14.00N NAD 83
Longitude:	97-25-14.00W
Heights:	1169 feet site elevation (SE)
	243 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

This determination expires on 01/25/2016 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
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(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2415-OE.

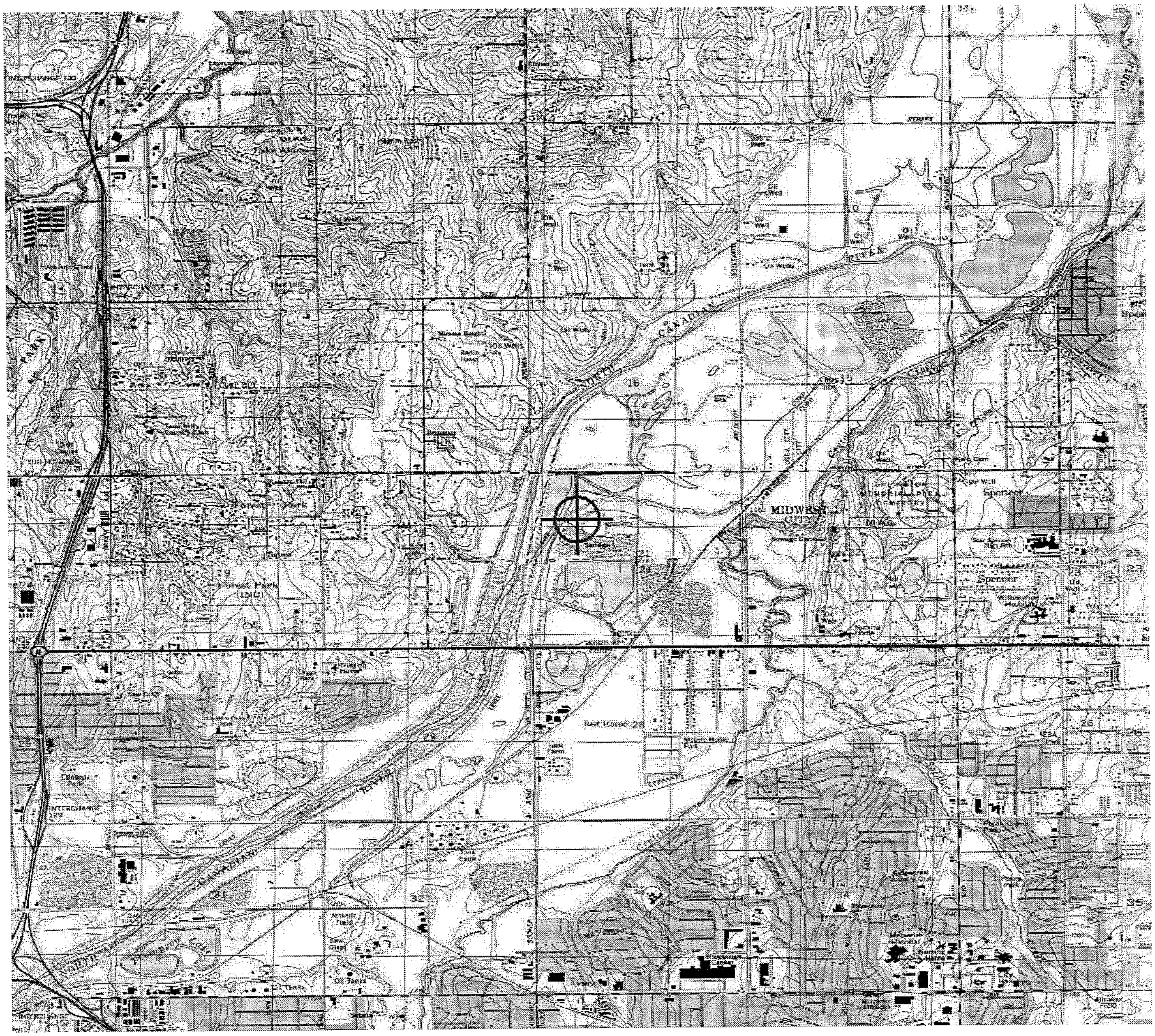
Signature Control No: 213369567-224939585 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2415-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2415-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ASW-2416-OE

Issued Date: 07/25/2014

Guy R. Campbell
Waste Management of Oklahoma, Inc.
13720 E. 46th Street N.
Tulsa, OK 74116

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Landfill East Oak RDF - Point H Northwest Corner
Location:	Oklahoma City, OK
Latitude:	35-30-23.00N NAD 83
Longitude:	97-25-02.00W
Heights:	1145 feet site elevation (SE)
	267 feet above ground level (AGL)
	1412 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

As a result of this structure being critical to flight safety, it is required that the FAA be kept appraised as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

See attachment for additional condition(s) or information.
FAA Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, identifies this land use as a hazardous wildlife attractant, and provides procedures and conditions to ensure compatibility with safe airport operations. You must contact Bill Mitchell (bill.mitchell@faa.gov) (817-222-5621) before beginning

any construction at the site to verify that no potential to attract hazardous wildlife on or near public-use airports exists.

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(b) extended, revised, or terminated by the issuing office.
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If we can be of further assistance, please contact our office at (816) 329-2508. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ASW-2416-OE.

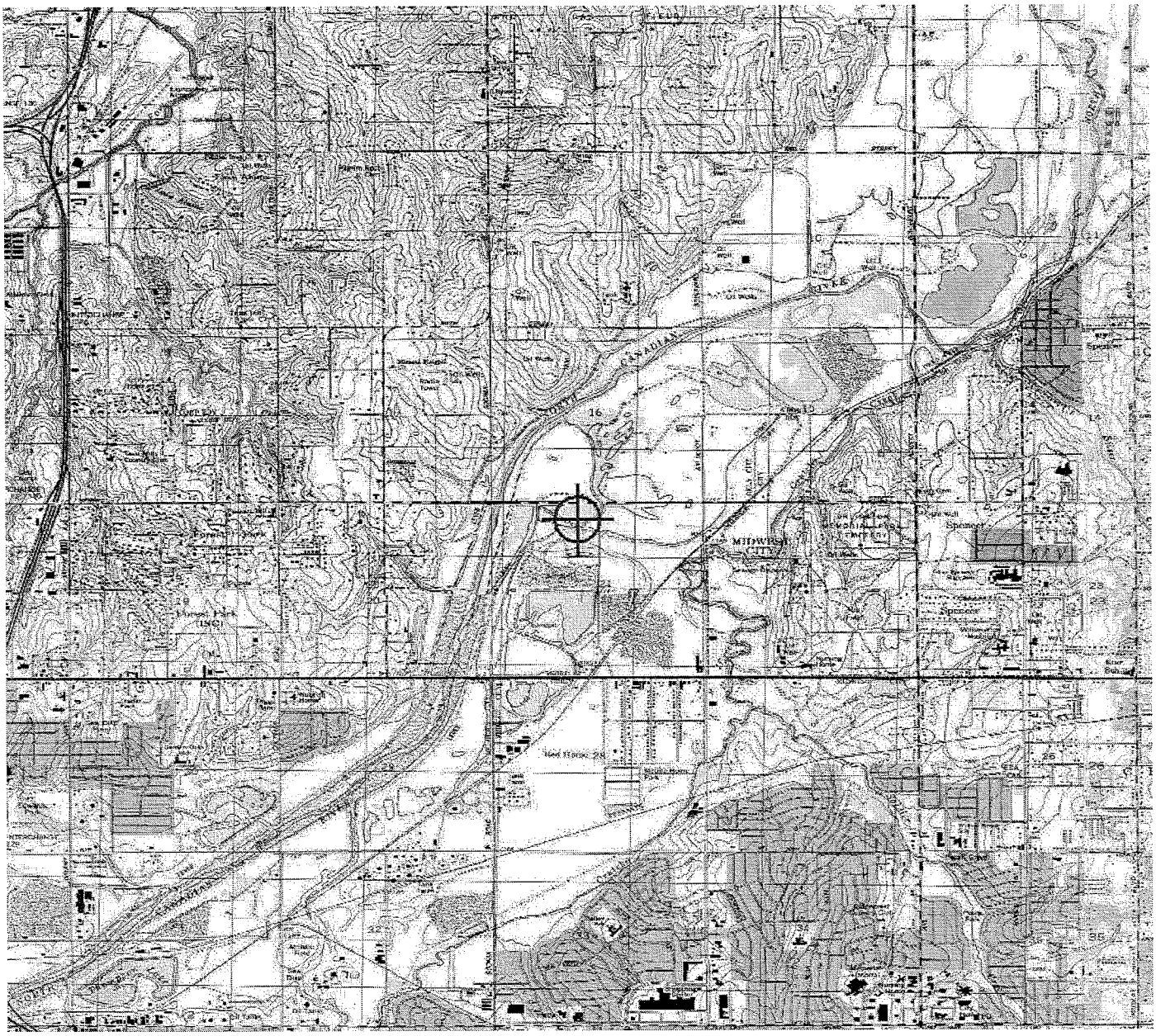
Signature Control No: 213369568-224939589 (DNE)
Vee Stewart
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-ASW-2416-OE

This determination (DET) supersedes the DET issued on 7/24/14 and corrects the contact information regarding hazardous wildlife attractants.

TOPO Map for ASN 2014-ASW-2416-OE



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Airports Division, Southwest Region Safety and
Standards Branch

2601 Meacham Boulevard
Fort Worth, Texas 76137

July 21, 2014

Mr. Jonathan V. Queen, P.E.
Project Manager
Weaver Boos Consultants LLC Southwest
6420 Southwest Blvd, Suite 206
Fort Worth, TX 76109

**Subject: East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.,
Oklahoma City, Oklahoma
FAA File No. 2014-001-OK**

Dear Mr. Queen:

This is in response to your April 9, 2014 notice of an application submitted by Weaver Boos Consultants in contract with Waste Management of Oklahoma, Inc., for a Tier II permit to expand the existing East Oak Waste Management and Disposal facility. The final proposed elevation of the facility is 731.5 and 736 feet above MSL.

Using coordinates representing the southernmost point of the proposed expansion area of N 35 29' 43.10" N and 97 39' 24. 47.26"W, we determined that there are no privately owned or publically owned public use airports within 4.34 nautical miles/ 5 Statute miles of the landfill. With the landfill site being located outside of our 5 statute mile review criteria for existing landfills, we have no objection to the application submitted by Weaver Boos Consultants for the expansion of the East Oak Recycling and Disposal Facility. Our position of no objection is based on the application of our guidance for hazardous wildlife attractants on or near airports FAA Advisory Circular 150/5200-33B.

A copy of the application has been forwarded to Mr. Chris Shoulders Supervisor of the FAA Obstruction Evaluation Group for their review and comments concerning potential obstruction to air navigation.

This site has been assigned our file No. 2014-001-OK. Please refer to this number in any future correspondence regarding this site. Thank you for coordinating this project with us. If there are any questions, you can contact me at 817-222-5621or bill.mitchell@faa.gov.

Sincerely,

William Mitchell
Lead Airport Certification Safety Inspector
Airports Division, Southwest Region

cc: Oklahoma Department of Environmental Quality
Waste Management Division
P.O. Box 1677
Oklahoma City, OK 73101-1677

Oklahoma Aeronautics Commission
120 North Robinson Ave, Suite 1244W
Oklahoma City, OK 73102

Christopher P. Azzano, Col, USAF
Commander, 72d Air Base Wing
72 ABW/CC
7460 Arnold Street
Tinker AFB, OK 73145

Mr. Chris Shoulders
Supervisor Obstructions Evaluation Group
AJV-15

WEAVER
BOOS
CONSULTANTS
LLC
SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206
FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

Chicago, IL
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St. Louis, MO
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Columbus, OH
Denver, CO
Fort Worth, TX
Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-40-01

Airports Division – Safety and Standards Branch, ASW-620
U.S. Department of Transportation
Federal Aviation Administration
2601 Meacham Boulevard
Fort Worth, Texas 76137-4298

Stacy Servillon
72 ABW/CC
7460 Arnold St.
Tinker AFB, OK 73145

Re: Compliance with Airport Location Restriction
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

The purpose of this letter is to demonstrate communication with the Federal Aviation Administration (FAA), consistent with Oklahoma Administrative Code (OAC) 252:515-5-52(e) and 252:515-5-52(e)(1)(A). These regulations require that a permit applicant for an expansion of municipal solid waste facility communicate with the FAA regarding the potential impact of the referenced project to existing airports or air traffic. Both OAC 252:515-5-52(e) and OAC 252:515-5-52(e)(1)(A) are echoed by the Environmental Protection Agency (EPA) in Title 40 Code of Federal Regulations (40 CFR) §258.10 – Airport Safety.

OAC 252:515-5-52(e) requires a permit applicant of any waste management or disposal area of a new land disposal facility, or expansion of waste management or disposal areas of an existing land disposal facility, to provide a demonstration that the facility will not pose a bird hazard to aircraft, if that facility or expansion to the existing facility is to be located within 10,000 feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used by only piston-type aircraft.

Additionally, OAC 252:515-5-52(e)(1)(A) requires a permit applicant of waste management or disposal areas of a new land disposal facility, or expansion of waste management or disposal areas of an active land disposal facility, located within a 5-mile radius of any airport runway end used by a turbojet or piston-type aircraft to notify the FAA and the affected airport.

Weaver Boos Consultants, LLC–Southwest, is preparing a Tier III Permit Application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill, East Oak Recycling and Disposal Facility (RDF), located in the eastern portion of the City of Oklahoma City, Oklahoma. The site is located at 3201 Mosley Road, Oklahoma City, Oklahoma 73141. To assist you in your determination, please find the enclosed the following information.

- FAA Airport Vicinity Map. As shown, no airports are located within 10,000 feet. Tinker Air Force Base is located approximately 4.4 miles south of the site.
- General Topographic Map. This map shows the currently permitted and proposed expanded landfill permit boundary on a USGS map.
- Site Plan. This plan shows the currently permitted and proposed limits of waste. The site has developed the Pre-Subtitle D area and Phases V through XII. Proposed Phases XIII through XVII will be developed throughout the life of the site.
- Project Summary and Site Location Maps.

As shown on the figures, the East Oak RDF is located over 10,000 feet from the nearest runway end of the Tinker Air Force Base. Therefore, OAC 252:515-5-52(e) is not applicable. However, the facility is located within 5 miles of the nearest runway end of the Tinker Air Force Base. Therefore, OAC 252:515-5-52(e)(1)(A) is applicable, and notification to the FAA and the Tinker Air Force Base is required.

The FAA Advisory Circular 150/5200-33B also references 40 CFR §258.10. The Advisory Circular states in Section 4-2(a):

> *"The Environmental Protection Agency (EPA) requires any MSWLF operator proposing a new or expanded waste disposal operation within 5 statute miles of a runway end to notify the appropriate FAA Regional Airports Division Office and the airport operator of the proposal (40 CFR 258, Criteria for Municipal Solid Waste Landfills, Section 258.10, Airport Safety). The EPA also requires owners or operators of new MSWLF units, or lateral expansions of existing MSWLF units, that are located within 10,000 feet of any airport runway end used by turbojet aircraft, or within 5,000 feet of any airport runway end used only by piston-type aircraft, to demonstrate successfully that such units are not hazards to aircraft."*

According to the FAA Advisory Circular, Section 2-2(a), the East Oak RDF is an existing Municipal Solid Waste Landfill (MSWLF) having been established before April 5, 2001. As stated above, this facility is located over 10,000 feet from (but within 5 miles of) the

nearest runway end of the Tinker Air Force Base. Therefore, the only requirement is to provide notification to the FAA and Tinker Air Force Base.

The FAA's web-based Notice Criteria Tool (Obstruction Evaluation Version 2014.1.2) was also used, in addition to the regulations addressed in this letter, to determine notification requirements. Based on the Notice Criteria Tool, the East Oak RDF is required to file notice with the FAA in accordance with CFR Title 14 Part 77.9(a), which requires filing notice with the FAA for any construction or alteration that is more than 200 feet above ground level at the site. To assist with this filing notice, a Proposed Landfill Completion Plan (Drawing 4) is enclosed. This plan shows Points A through H, which have been uploaded to the FAA web page so that an aeronautical study can be performed. Note that the peak elevation of the landfill occurs at Point A. However, Points B through H are also set at the maximum landfill elevation to provide a conservative landfill configuration for the aeronautical study (the landfill elevations at these points are lower than the maximum landfill elevation for Point A).

In summary, East Oak RDF is an existing active land disposal facility located within 5 miles of an airport. Per the OAC and EPA regulations, as well as the FAA Advisory Circular, this only requires notification to the FAA and the affected airport (i.e., Tinker Air Force Base).

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

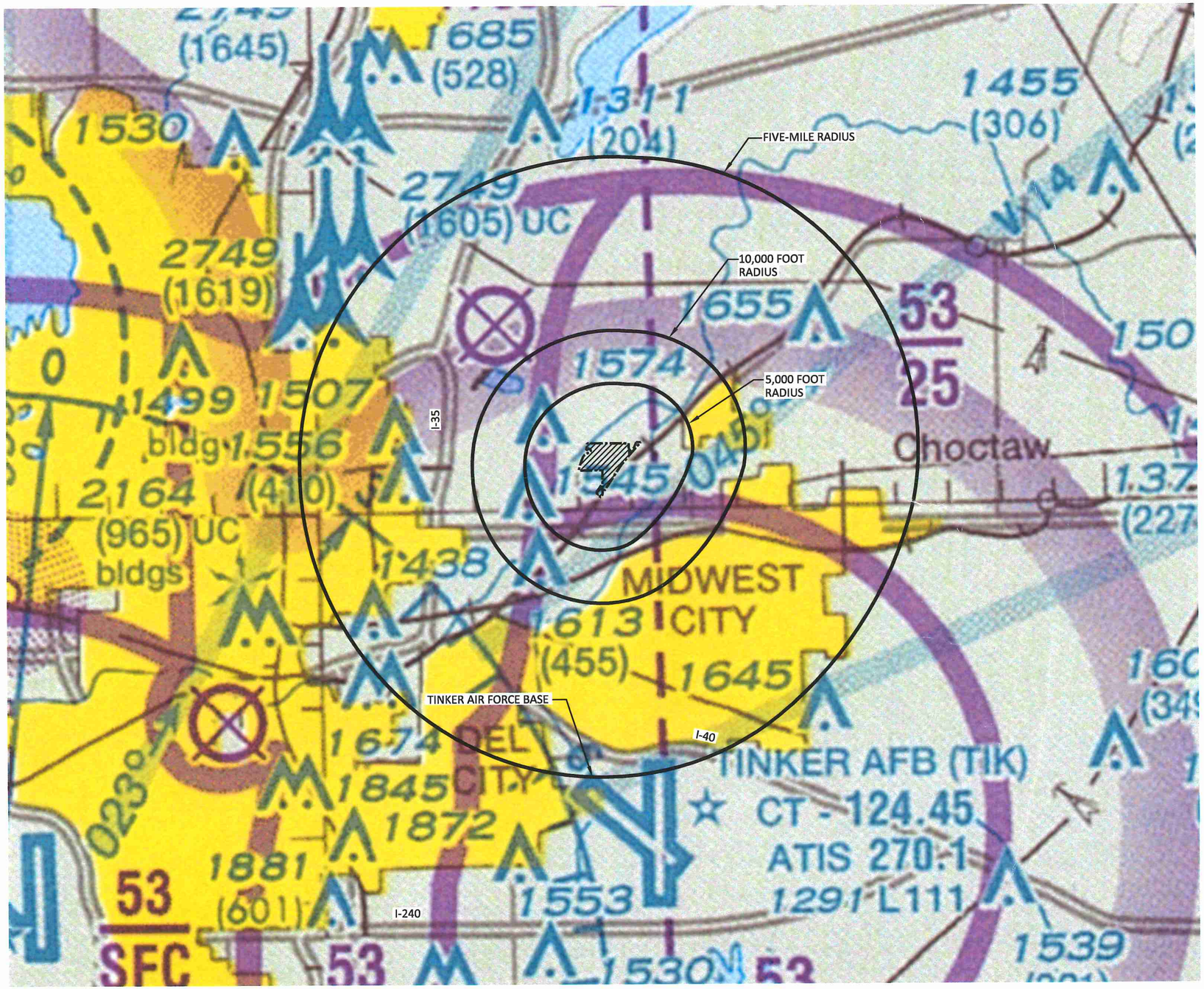
Sincerely,
Weaver Boos Consultants, LLC–Southwest

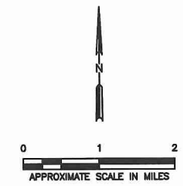
Jonathan V. Queen, P.E.
Project Engineer

Attachments: FAA Airport Vicinity Map
General Topographic Map
Site Plan
Project Summary and Site Location Maps
Proposed Landfill Completion Plan

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

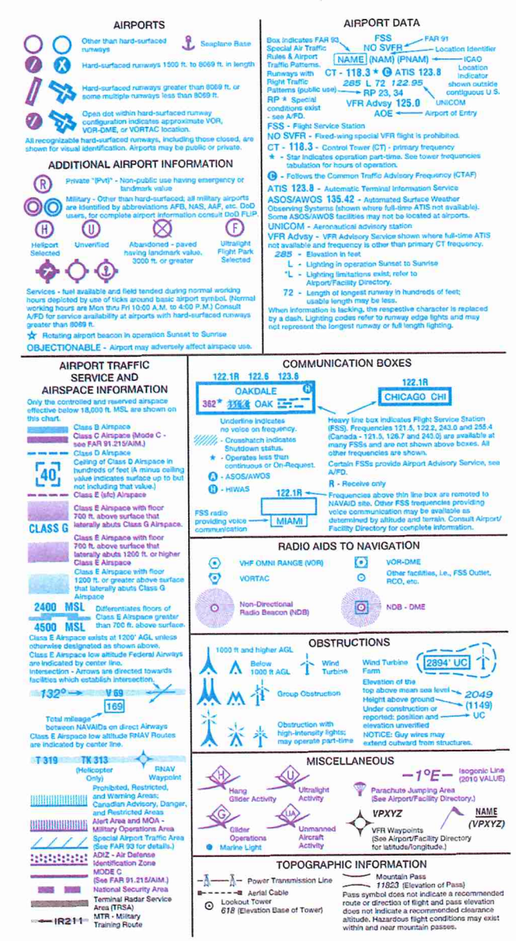
FAA AIRPORT VICINITY MAP





LEGEND

PROPOSED PERMIT BOUNDARY



NOTE:

1. THIS MAP REPRODUCED FROM THE FAA DALLAS–FORT WORTH SECTIONAL AERONAUTICAL CHART 90th EDITION DATED MARCH 7, 2013.

D-1-87

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CAD: 1–VICINITY MAP.DWG

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DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

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FAA AIRPORT VICINITY MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 1

O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\FAA\1-AREA AIRPORTS.dwg, jur min, 1:2

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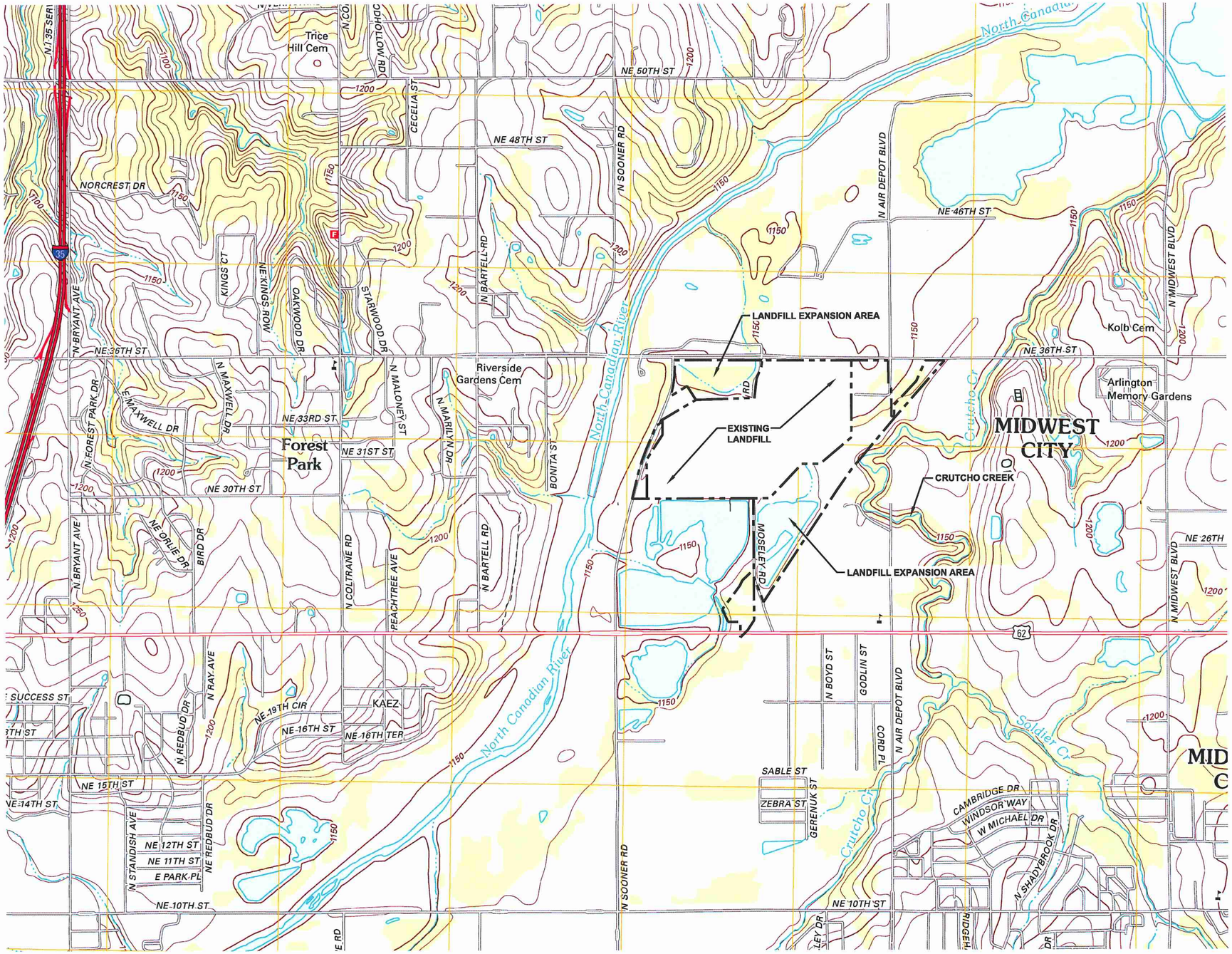
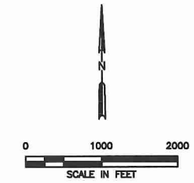
GENERAL TOPOGRAPHIC MAP





LEGEND

EXISTING PERMIT BOUNDARY

PROPOSED PERMIT BOUNDARY

ROAD CLASSIFICATION

Interstate Route	State Route
US Route	Local Road
Ramp	4WD

Interstate Route US Route State Route

SPENCER, OK 2012

MIDWEST CITY, OK 2012

NOTE:

1. ADAPTED FROM USGS 7.5 MINUTE QUADRANGLE TOPOGRAPHIC MAP (MIDWEST CITY, OKLAHOMA 2012 AND SPENCER, OKLAHOMA 2012).

D-1-89

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GENERAL TOPOGRAPHIC MAP

EAST OAK RDF
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DRAWING 2

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SITE PLAN

0 300 600
SCALE IN FEET

LEGEND:

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- N 184000 STATE PLANE COORDINATE
- PHASE BOUNDARY

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.

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DRAWN BY: VRS
DESIGN BY: SAB
REVIEWED BY: JVQ

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SITE PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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DRAWING 3

O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\FAA\3-SITE PLAN.dwg, jur min, 1:2

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PROJECT SUMMARY
AND
SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

Introduction

The East Oak Recycling and Disposal Facility is in the process of developing a Tier III Permit Application to expand the existing landfill to provide long-term disposal capacity for municipal solid waste that is generated in the City of Oklahoma City, Oklahoma County, and the surrounding areas. The purpose of this summary is to provide an overview of the proposed landfill expansion. The site is located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, City of Oklahoma City, Oklahoma. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The East Oak Recycling and Disposal Facility is owned and operated by Waste Management of Oklahoma, Inc., a Waste Management, Inc. company. Waste Management, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services and serves more than 20 million residential, commercial and industrial customers in North America.

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Oklahoma Department of Transportation Oklahoma County Highway Map.
- Aerial Photograph (Figure 2). This figure shows the existing recycling and disposal facility and permitted waste disposal area, as well as the proposed expansion area, on a recent aerial photograph.
- Permitted Completion Plan and Proposed Completion Plan (Figure 3). This figure shows the permitted landfill completion plan and the proposed landfill completion plan on detailed site topographic maps.

The East Oak Recycling and Disposal Facility is located approximately 8 miles east of downtown Oklahoma City and is accessed from NE 36th Street approximately 2.5 miles east of Interstate Highway 35. The address of the site is 3201 Mosley Road, Oklahoma City, OK 73141. The service area includes the City of Oklahoma City, Oklahoma

County, and other surrounding areas. The facility has operated under Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036 since 1986.

Design Summary

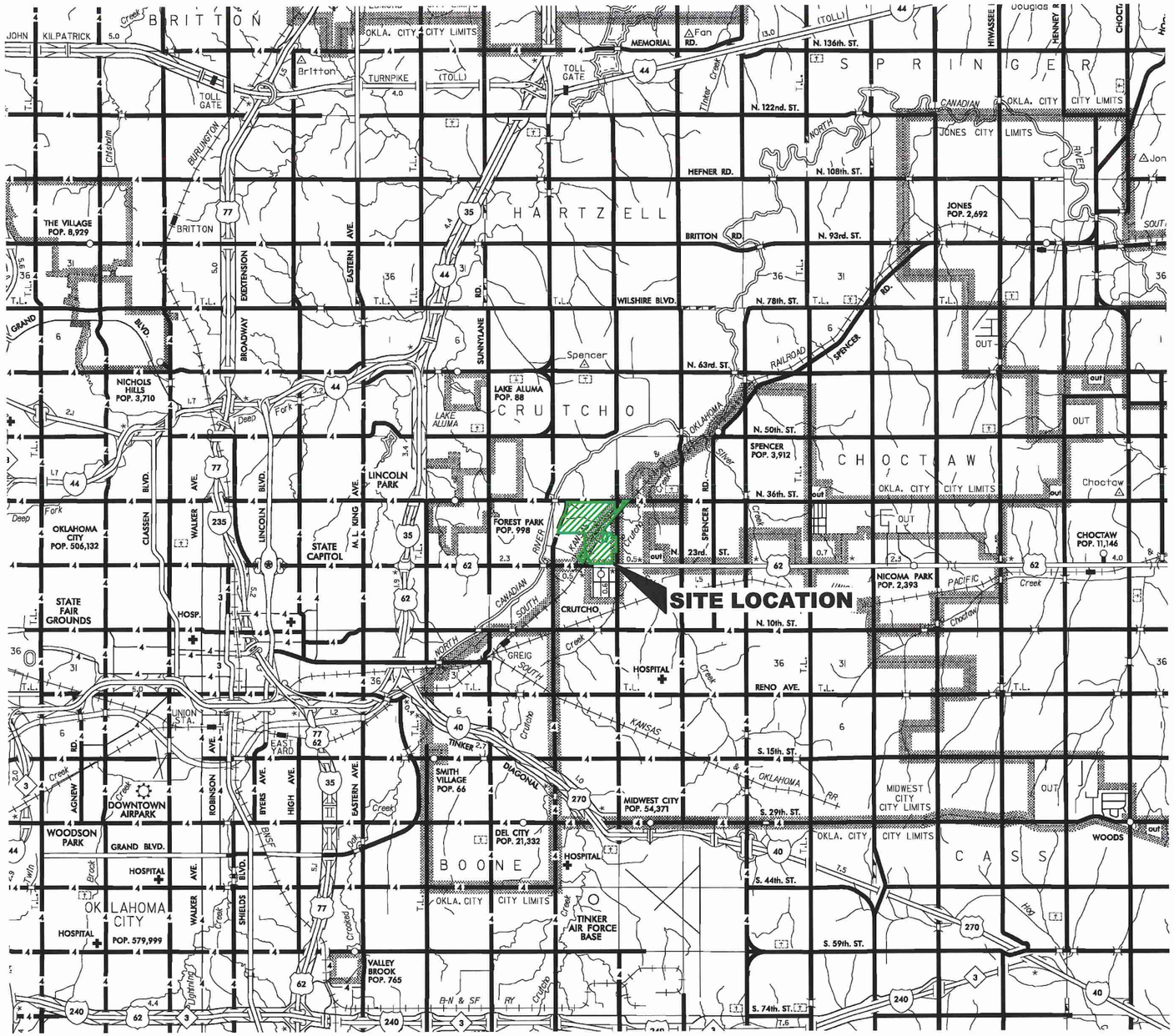
The following information presents a summary of the design and operations for the proposed East Oak Recycling and Disposal Facility expansion.

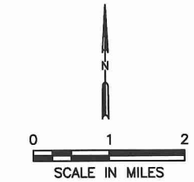
- The existing permit boundary will expand from approximately 158.8 acres to a proposed 284 acres. The waste disposal area will increase from approximately 132.0 acres to 179.5 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The facility will accept municipal solid waste, construction and demolition wastes, non-hazardous industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste, and sludges as permitted by the ODEQ.
- Access to the site will be provided via the existing site access road from NE 36th Street. Based on traffic patterns of existing landfill traffic, most vehicles bound for the landfill will access the site using NE 36th Street from Interstate Highway 35. The existing roads are capable of handling the traffic load associated with the landfill.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged offsite to the Oklahoma City Publicly Owned Treatment Works (POTW) in accordance with the Oklahoma City Industrial Wastewater Treatment/Disposal Permit No. 2865. The construction procedures of the liner and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the landfill.
- To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:
  - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
  - Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and

verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.

- These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ and are public record.

- Site Operations. Properly trained personnel will operate the site. A detailed site operating plan will be included in the landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors. The East Oak Recycling and Disposal Facility will continue to be inspected by the ODEQ on a regular basis to ensure the site is in compliance with state regulations.





LEGEND

- U.S. NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
- UNDIVIDED HIGHWAY, 3 OR MORE LANES
- TRAFFIC CIRCLE
- HIGHWAY GRADE SEPARATION
- TRAFFIC INTERCHANGE
- STATE LINE
- COUNTY LINE
- CIVIL TOWNSHIP LINE
- SECTION LINE
- RURAL DEVELOPMENT AREA
- GOVERNMENT PROPERTY LINE
- MATCH LINE
- COUNTY SEAT
- TOWN CENTER
- CORPORATE LIMITS
- CIVIL TOWNSHIP, ROAD IN PLACE
- INSET BOUNDARY
- ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
- DRY LAKE SUBJECT TO FLOOD
- SMALL BRIDGES CLOSELY SPACED
- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE, W-WOOD, S-STEEL, C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
- WIDE STREAM OR RIVER
- TRIANGULATION STATION
- RAILROAD, ANY NUMBER OF TRACKS
- RAILROAD WITH STATION INDICATED
- GRADE CROSSING
- UNDERPASS, R.R. ABOVE
- OVERPASS, R.R. BELOW
- RAILROAD ON STREET
- MILITARY AIRFIELD
- AIRPORT WITH COMPLETE FACILITIES
- AIRPORT WITH LIMITED FACILITIES
- LANDING STRIP, PRIVATE FIELD
- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds
- PLAYGROUNDS
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- MOTEL
- CAMP OR LODGE, Permanent with buildings
- SMALL PARK SP–State, CP–County MP–Municipal, TP–Trailer Park
- FOREST RANGER STATION
- OBSERVATION OR LOOKOUT TOWER
- CAMP SITE
- FISH HATCHERY
- GOLF COURSE OR COUNTRY CLUB
- ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSLEY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- JUNK YARDS & DUMPS A–Automobile, B–Scrap Building Material, D–Refuse, Garbage or trash dump, F–Sanitary Fill, G–Other
- SEWAGE DISPOSAL PLANT
- WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

D-1-96

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DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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FIGURE 1

0:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 1-GEN_LOC.dwg, jur min, 1:2

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N

0 500 1000
SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08–09–2012.
2. THE EXISTING AND PROPOSED PERMIT BOUNDARIES WERE REPRODUCED FROM A LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.

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REVISIONS

NO.	DATE	DESCRIPTION

AERIAL PHOTOGRAPH

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OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 2

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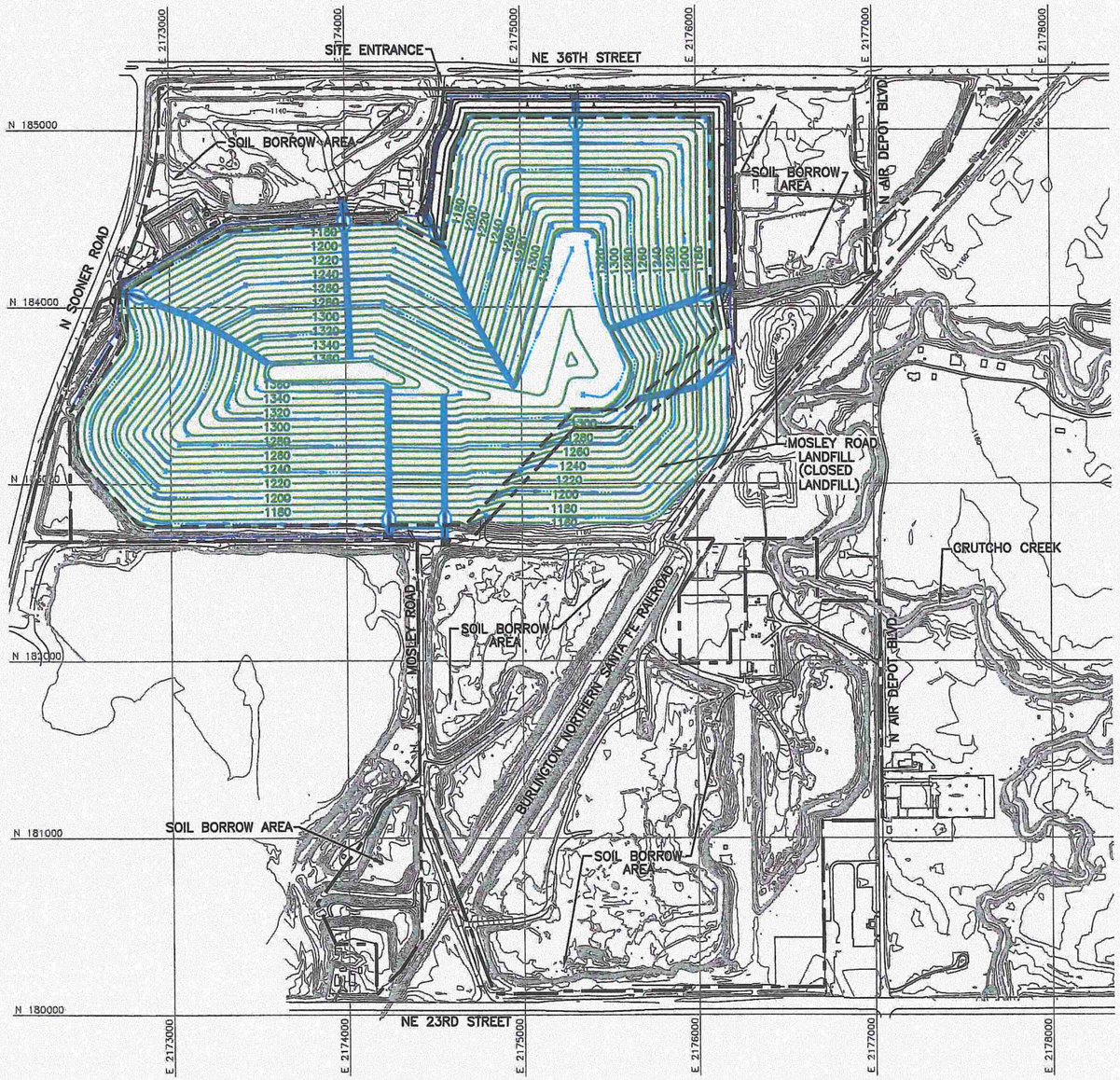
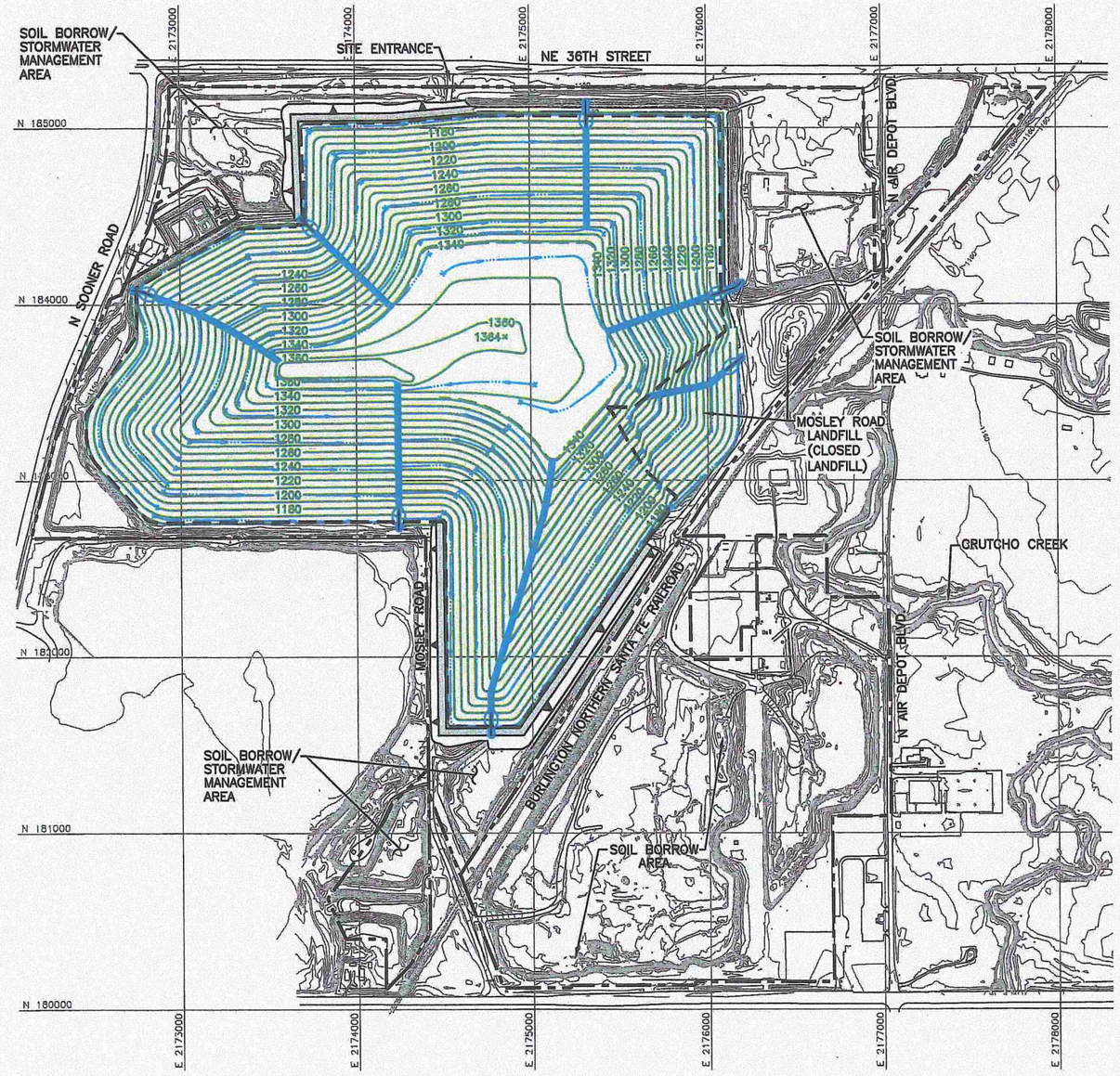
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 2–AERIAL PHOTO.dwg, jurmin, 1:2



PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN

D-1-98

LEGEND:

- LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE

N

0 400 800
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. THE CITY OF OKLAHOMA CITY HAS APPROVED SOIL BORROW PUD's TO USE THE AREAS ADJACENT TO THE LANDFILL AS A SOIL BORROW AREA TO SUPPORT SITE OPERATIONS.

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REVIEWED BY: JVQ

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WASTE MANAGEMENT OF OKLAHOMA, INC.

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PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 3

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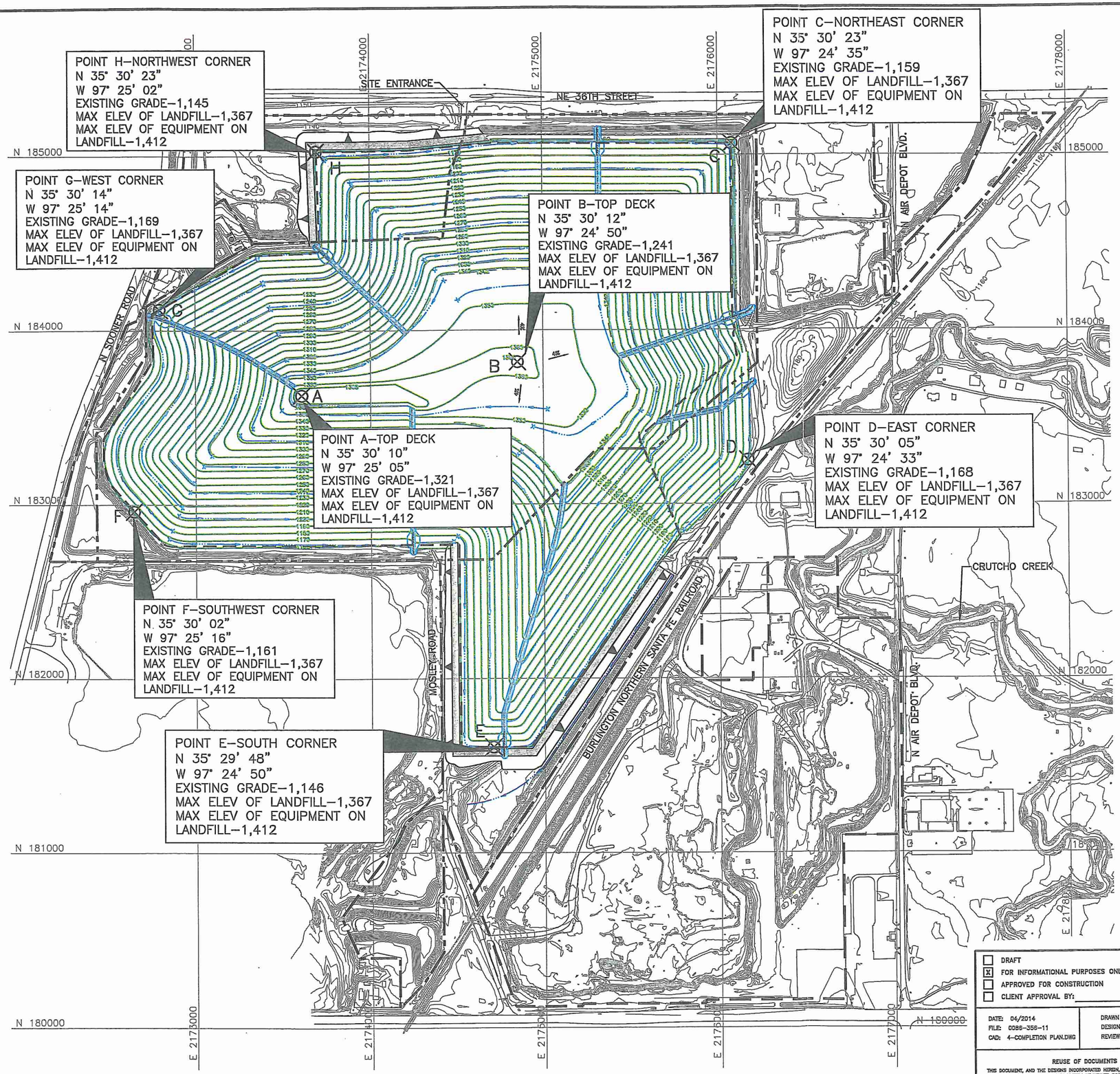
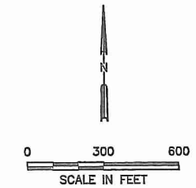
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 3-PROPOSED COMPLETION PLAN.dwg, 3/24/2014 10:11:37 AM, rsellers, 1:2

PROPOSED LANDFILL COMPLETION PLAN





LEGEND:

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PROPOSED LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE
- A ANALYSIS POINT ON FAA FORM 7460 (SEE NOTE 2)

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. NOTE THAT THE MAXIMUM ELEVATION OF THE LANDFILL AT EACH POINT CONSIDERED ASSUMES THE MAXIMUM ELEVATION OF THE LANDFILL. THE ELEVATION LISTED (1,412 FT–MSL) ACCOUNTS FOR LANDFILL EQUIPMENT THAT MAY BE USED ON TOP OF THE LANDFILL ON A TEMPORARY BASIS (E.G., A 45–FOOT HIGH DRILL RIG THAT WILL INSTALL LANDFILL GAS RECOVERY WELLS). THE HORIZONTAL DATE IS NAD 83, OKLAHOMA STATE PLANE, NORTH ZONE.

D-1-100

- [ ] DRAFT
- [x] FOR INFORMATIONAL PURPOSES ONLY
- [ ] APPROVED FOR CONSTRUCTION
- [ ] CLIENT APPROVAL BY:

DATE: 04/2014
FILE: 0086–356–11
CAD: 4–COMPLETION PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

PROPOSED LANDFILL COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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DRAWING 4

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G:\0086\356\EXI 2013\LOCATION RESTRICTIONS\FAA\4-COMPLETION PLAN.dwg, 4/9/2014 10:27:46 AM, 1:2

APPENDIX D-2

ENDANGERED AND THREATENED SPECIES

CONTENTS

This appendix provides documentation for the required coordination with the Oklahoma Department of Wildlife Conservation and the Oklahoma Biological Survey. This appendix includes:

- July 7, 2014 Oklahoma Department of Wildlife Conservation confirmation letter.
- April 10, 2014 Oklahoma Biological Survey confirmation e-mail.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for Oklahoma Department of Wildlife conservation review.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for Oklahoma Biological Survey review.

WILDLIFE CONSERVATION COMMISSION

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DEPARTMENT OF WILDLIFE CONSERVATION

P.O. Box 53465 Oklahoma City, OK 73152 PH. (405) 521-3851

July 7, 2014

Jonathan V. Queen, P. E
Project Manager
Weaver Boos Consultants, LLC-Southwest
6420 Southwest Blvd, Suite 206
Fort Worth, Texas 76109

Re: Endangered or Threatened Wildlife Species Statement
East Oak Recycling and Disposal Facility
Oklahoma City, Oklahoma

Dear Mr. Queen,

This responds to your letter of April 9, 2014 requesting information pertaining to threatened and endangered species or critical habitat that might occur on or adjacent to the proposed site. The area of concern has the following legal description: Section 21, T12N, R2W, Oklahoma City, Oklahoma.

Please understand that, due to personnel and financial constraints, the Oklahoma Department of Wildlife Conservation (ODWC) has not conducted an actual field survey of this project site; however, we have compared this site against our records for endangered and threatened species, and public wildlife management areas. Based upon our review, it is unlikely that any state-listed endangered or threatened species will be affected within on or adjacent to the proposed site as a result of this action.

The Oklahoma Department of Wildlife Conservation is not the US Fish and Wildlife Service and does not have primary management authority over federal listed threatened or endangered species or critical habitats. We recommend, for information on federally listed threatened or endangered species, contacting the USFWS, Ecological Services, 9014 E. 21st St, Tulsa, OK 74129 or visit them online at http://www.fws.gov/southwest/es/oklahoma.

Since this is an existing operation and the proposal calls for an expansion, not a new facility, lasting negative impacts to fish and wildlife resources should be at a minimum. We recognize that soil disturbance disrupts and often displaces local fish and wildlife resources. Therefore, appropriate mitigation

The Oklahoma Department of Wildlife Conservation is the state agency responsible for managing fish and wildlife. The Wildlife Department receives no general state tax appropriations and is supported by hunting and fishing license fees and federal excise taxes on hunting and fishing equipment.

techniques should be used to minimize such derogatory effects. Additionally, following any reclamation that is required of your client, we recommend that disturbed ground be replanted to native cover. I have attached recommendations for the revegetation of land to native grasses in eastern Oklahoma along with potential seed vendors.

We appreciate the opportunity to review and comment on this project. If we can be of further assistance, please contact our Environmental Program at 405/424-6062.

Sincerely,

William Ray
Environmental Biologist

Attachment

Recommendations for the Revegetation of Land to Native Grasses in Eastern Oklahoma

A mixture of perennial grasses and forbs is recommended for revegetating disturbed areas to native grassland. The ratio of grasses to forbs can be varied, but should approximate 70% grass species to 30% perennial forbs. At a minimum, the forb mixture should contain several species of legumes (clovers and their relatives) and composites (sunflowers and their relatives). Seeds should be planted in a tilled seed bed or broadcast over and raked lightly into moist soil. Consult your seed distributor for the recommended amount of seed per acre for your planting area. The use of a culti-packer or other roller device on the seedbed after planting is beneficial for successful seedling establishment. For the best germination results, planting should be conducted shortly after a rainfall event of one-inch or more in spring, early summer or mid-fall. A light straw mulch is beneficial for retaining soil moisture and protecting seedlings from wind exposure. The plant list below is comprised primarily of perennial species adapted to the rainfall patterns and soil conditions of eastern Oklahoma. If soil disturbance occurs the winter or summer months, mulch or erosion control fabric should be applied over the area until planting can take place (after early March or mid-September).

Recommended Plant Species:

Grasses

Switchgrass (*Panicum virgatum*)
Indian Grass (*Sorgastrum nutans*)
Eastern Gammagrass (*Trypisicum dactyloides*)
Reed Canary Grass (*Phalaris arundinacea*)
Big Bluestem (*Andropogon gerardi*)
Little Bluestem (*Schizachyrium scoparium*)

Forbs & Legumes

Purple Prairie Clover (*Dalea purpurea*)
Leadplant (*Amorpha canescens*)
Illinois Bundleflower (*Desmanthus illinoensis*)
Birdsfoot Trefoil (*Lotus corniculantus*)
Yellow Sweet Clover (*Melilotus officinalis*)
Prairie Plum (*Astragalus crassicarpus*)
Blue Indigo (*Baptisia australis*)
White Indigo (*Baptisia leucantha*)
Sensitive Briar (*Schrankia uncinata*)
Partridge Pea (*Cassia fasiculata*)
Roundhead Bush Clover (*Lespedeza capitata*)
Slender Lespedeza (*Lespedeza virginica*)

Composites

Smooth Blue Aster (Aster laevis)
New England Aster (Aster novae-angliae)
Purple Coneflower (Echinacea purpurea)
Pale Purple Coneflower (Echinacea pallida)
Dotted Blazing Star (Liatris punctata)
Largeflowered Coreopsis (Coreopsis grandiflora)
Lanceleaf Coreopsis (Coreopsis lanceolata)
Tall Coreopsis (Coreopsis tripteris)
Plains Coreopsis (Coreopsis tinctoria)
Maximillian Sunflower (Helianthus maximiliani)
Swamp Sunflower (Helianthus angustifolia)
Ashy Sunflower (Helianthus mollis)
Stiff Sunflower (Helianthus rigidus)
Willow-leaf Sunflower (Helianthus salicifolius)
Ox-eye Sunflower (Heliopsis helianthoides)
Gray-headed Prairie Coneflower (Rudbeckia pinnata)
Perennial Blanketflower (Gaillardia aristata)
Compass Plant (Silphium laciniatum)
Rosinweed (Silphium integrifolium)
Stiff Goldenrod (Solidago rigida)
Showy Goldenrod (Solidago speciosa)
Wrinkle-leaf Goldenrod (Solidago rugosa)

Misc.

Standing Cypress (Ipomosis rubra)
Lemon Mint (Monarda citriodora)
Pitcher Sage (Salvia pitcheri)
Showy Milkweed (Asclepias speciosa)
Butterfly Milkweed (A. tuberosa)
Purple Poppy Mallow (Callirhoe involucrata)
Wild Bergamont (Monarda fistulosa)
Beardtongue (Penstemon cobea)
Praire Penstemon (Penstemon tubaflorus)
White Penstemon (Penstemon digitalis)
Large-flowering Penstemon (Penstemon grandiflorus)
Rose Verbena (Verbena canadensis)
Hoary Vervain (Verbena stricta)

Several shrub species are suitable for planting over pipelines. The species listed below typically remain under three feet in height and do not produce root masses that are difficult to remove if line repairs become necessary. Planting scattered clumps of small shrubs provides additional wildlife cover and provides nesting sites for many species of birds.

Recommended Shrubs

Fragrant Sumac (Rhus aromatica)
American Beautyberry (Callicarpa americana)
Golden Current (Ribes aureum)
Blackberry species (Rubus sp.)

For grass and forb seeds, plants, etc., contact a local commercial nursery or vendor. If they cannot provide the necessary species, Please contact the sources below.

Oklahoma

Grasslander
Chuck Grimes
Rt. 1, Box 56
Hennessey, OK 73742
(405) 853-2607

Jonhston Seed Company
Ed Shovanec
P.O. Box 1392
Enid, OK 73702
(405) 233-5800

Guy's Seed Company
Rodney Guy
2520 Main Street
Woodward, OK 73801
(405) 254-2926

Lorenz OK Seed
Fred Lorenz
Rt. 2, Box 3
Okeene, OK 73763
1-800-826-3655

Out of State

Wild Flowers from the Ozarks
Hi-Mountain Farm
Seligman, MO 65745
(417) 662-2641

Browning Seed, Inc.
Box 1836
Plainview, TX 79072
(806) 293-5271

Plants of the Southwest
1812 Second Street
Sante Fe, NM 87501
(505) 983-1548

Turner Seed Co.
211 CR 151
Breckenridge, TX 76424-0978
1-800-722-8616

Sharp Bros. Seed Co.
P.O. Box 665
Clinton, MO 64735

Stock Seed Farms, Inc.
RR 1, Box 112
Murdock, NE 68407
(402) 867-3771

1-800-451-3779

Missouri Wildflower Nursery
Route 2, Box 373
Jefferson City, MO 65109
(314) 496-3492

Wildlife Nurseries, Inc.
P.O. Box 2724
Oshkosh, Wisconsin 54903-2734
Specializes in wetland plants

Taylor Creek Restoration Nursery
Rt. 3, Smith Road
P.O. Box 256
Broadhead, WI 53520
(608) 897-8641

Western Native Seed
P.O. Box 1463-C
Salida, CO 81201
(719) 539-1071

Wildseed Farms
P.O. Box 308
Eagle Lake, TX 77434
1-800-848-0078

Grassland West
P.O. Box 1604
Greeley, CO 80632
1-800-782-5947

Ion Exchange Nursery
1878 Old Mission Drive
Harpers Ferry, IA 52146
1-800-291-2143

Prairie Moon Nursery
Rt. 3, Box 163
Winona, MN 55987
(507) 452-1362

OBS Ref. 2014-208-BUS-WBC

Dear Mr. Queen, Apr. 10, 2014

We have reviewed occurrence information on federal and state threatened, endangered or candidate species, as well as non-regulatory rare species and ecological systems of importance currently in the Oklahoma Natural Heritage Inventory database for the following location you provided:

Sec. 21-T12N-R2W (Project Number 0086-356-11-38-02), Oklahoma County

We found no occurrence(s) of relevant species within the vicinity of the project location as described. However, absence from our database does not preclude such species from occurring in the area.

If you have any questions about this response, please send me an email, or call us at the number given below.

Although not specific to your project, you may find the following links helpful.

ONHI guide to ranking codes for endangered and threatened species:
http://vmpincel.ou.edu/heritage/ranking_guide.html

Information regarding the Oklahoma Natural Areas Registry:
http://www.oknaturalheritage.ou.edu/registry_faq.htm

Todd Fagin

Oklahoma Natural Heritage Inventory/
Department of Geography and Environmental Sustainability

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FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

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Springfield, MO
Kansas City, MO
Columbus, OH
Denver, CO
Fort Worth, TX
Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

Richard Hatcher, Director
Oklahoma Department of Wildlife Conservation
1801 North Lincoln
Oklahoma City, Oklahoma 73105

Re: Endangered or Threatened Wildlife Species Statement
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Mr. Hatcher:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to obtain endangered or threatened wildlife species information and demonstrate compatibility with Oklahoma Department of Environmental Quality (DEQ) landfill location restriction regulation Oklahoma Administrative Code (OAC) §252:515-5-31(c). This regulation requires that a permit applicant for an expansion of a municipal solid waste landfill facility obtain a current information statement from the Oklahoma Department of Wildlife Conservation (ODWC).

The DEQ landfill location restriction regulation set forth in §252:515-5-31(c), requires that a permit applicant for an expansion of a municipal solid waste facility obtain a statement from the ODWC regarding current information about endangered or threatened wildlife or plant species listed in state and federal laws that exist within one mile of the landfill permit boundary or expansion area. Weaver Boos Consultants, LLC is preparing a landfill expansion application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill (East Oak Recycling and Disposal Facility) located in the City of Oklahoma City, Oklahoma.

The proposed expansion areas were assessed by Goshawk Environmental Consulting, Inc. (Goshawk), an environmental services firm with experience in threatened and endangered species habitat assessment. Goshawk conducted an on-site field reconnaissance for endangered or threatened wildlife and plant species habitats. Goshawk's report concluded that the site does not provide habitat for and would not likely be occupied by any federal or state listed threatened and endangered species.

To assist you in your statement regarding threatened or endangered wildlife within one mile of the referenced project, please find attached a project summary, site location drawings, and the Goshawk report.

To verify compliance with §252:515-5-31(c), we will need to include a statement from the ODWC regarding current information about endangered or threatened wildlife or plant species listed in state and federal laws that exist within one mile of the landfill permit boundary or expansion area within the permit application.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachment: Project Summary and Site Location Maps
Threatened and Endangered Species Review

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

Introduction

The East Oak Recycling and Disposal Facility is in the process of developing a Tier III Permit Application to expand the existing landfill to provide long-term disposal capacity for municipal solid waste that is generated in the City of Oklahoma City, Oklahoma County, and the surrounding areas. The purpose of this summary is to provide an overview of the proposed landfill expansion. The site is located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, City of Oklahoma City, Oklahoma. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The East Oak Recycling and Disposal Facility is owned and operated by Waste Management of Oklahoma, Inc., a Waste Management, Inc. company. Waste Management, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services and serves more than 20 million residential, commercial and industrial customers in North America.

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Oklahoma Department of Transportation Oklahoma County Highway Map.
- Aerial Photograph (Figure 2). This figure shows the existing recycling and disposal facility and permitted waste disposal area, as well as the proposed expansion area, on a recent aerial photograph.
- Permitted Completion Plan and Proposed Completion Plan (Figure 3). This figure shows the permitted landfill completion plan and the proposed landfill completion plan on detailed site topographic maps.

The East Oak Recycling and Disposal Facility is located approximately 8 miles east of downtown Oklahoma City and is accessed from NE 36th Street approximately 2.5 miles east of Interstate Highway 35. The address of the site is 3201 Mosley Road, Oklahoma City, OK 73141. The service area includes the City of Oklahoma City, Oklahoma

County, and other surrounding areas. The facility has operated under Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036 since 1986.

Design Summary

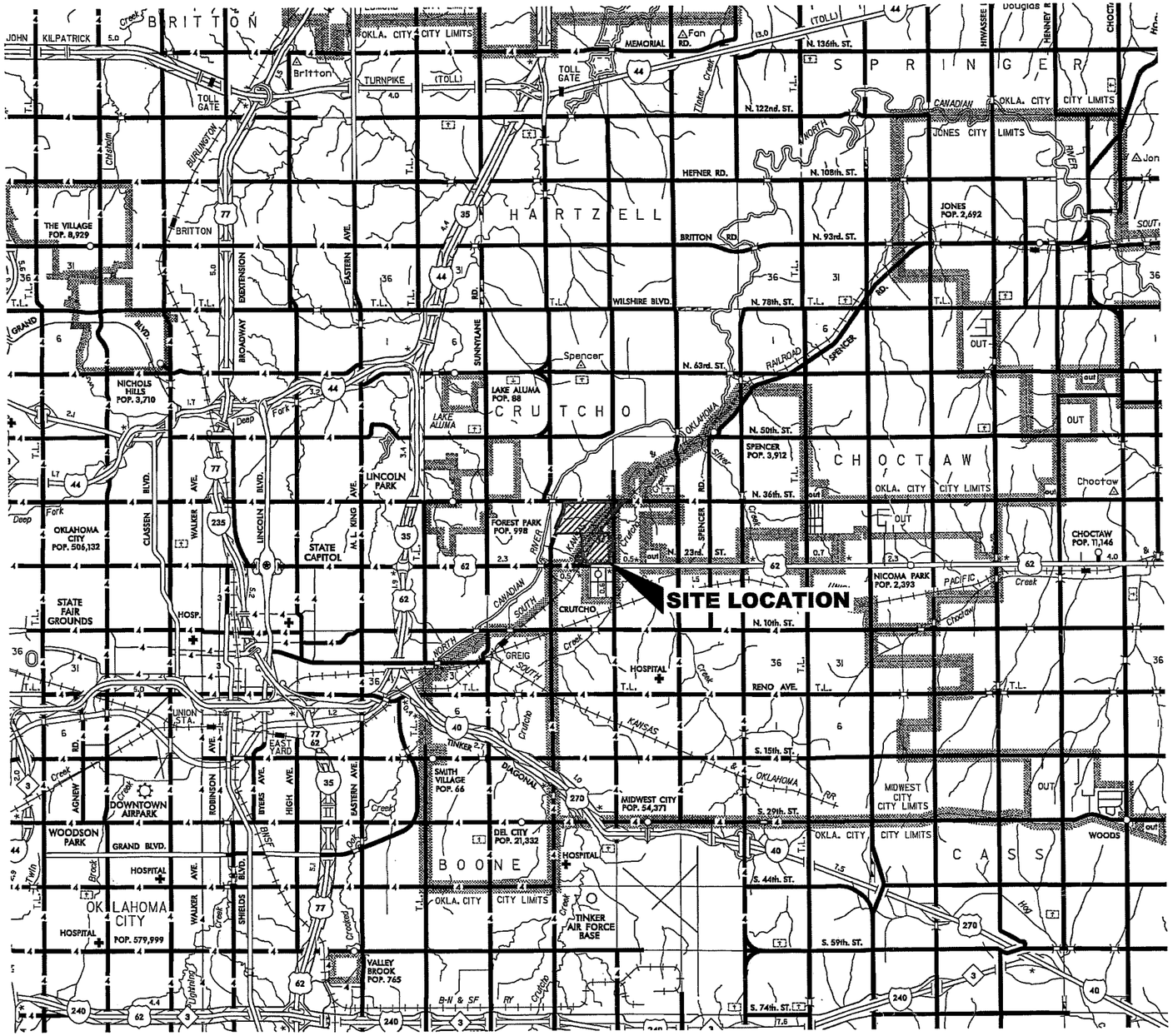
The following information presents a summary of the design and operations for the proposed East Oak Recycling and Disposal Facility expansion.

- The existing permit boundary will expand from approximately 158.8 acres to a proposed 284 acres. The waste disposal area will increase from approximately 132.0 acres to 179.5 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The facility will accept municipal solid waste, construction and demolition wastes, non-hazardous industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste, and sludges as permitted by the ODEQ.
- Access to the site will be provided via the existing site access road from NE 36th Street. Based on traffic patterns of existing landfill traffic, most vehicles bound for the landfill will access the site using NE 36th Street from Interstate Highway 35. The existing roads are capable of handling the traffic load associated with the landfill.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged offsite to the Oklahoma City Publicly Owned Treatment Works (POTW) in accordance with the Oklahoma City Industrial Wastewater Treatment/Disposal Permit No. 2865. The construction procedures of the liner and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the landfill.
- To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:
  - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
  - Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and

verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.

  - These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ and are public record.

- Site Operations. Properly trained personnel will operate the site. A detailed site operating plan will be included in the landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors. The East Oak Recycling and Disposal Facility will continue to be inspected by the ODEQ on a regular basis to ensure the site is in compliance with state regulations.



0 1 2
SCALE IN MILES

LEGEND

- U.S.NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
- UNDIVIDED HIGHWAY, 3 OR MORE LANES
- TRAFFIC CIRCLE
- HIGHWAY GRADE SEPARATION
- TRAFFIC INTERCHANGE
- STATE LINE
- COUNTY LINE
- CIVIL TOWNSHIP LINE
- SECTION LINE
- RURAL DEVELOPMENT AREA
- GOVERNMENT PROPERTY LINE
- MATCH LINE
- COUNTY SEAT
- TOWN CENTER
- CORPORATE LIMITS
- T.L. CIVIL TOWNSHIP, ROAD IN PLACE
- INSET BOUNDARY
- 1867 ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
- DRY LAKE SUBJECT TO FLOOD
- SMALL BRIDGES CLOSELY SPACED
- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE,W-WOOD,S-STEEL,C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
- WIDE STREAM OR RIVER
- TRIANGULATION STATION
- RAILROAD, ANY NUMBER OF TRACKS
- RAILROAD WITH STATION INDICATED
- GRADE CROSSING
- UNDERPASS, R.R. ABOVE
- OVERPASS, R.R. BELOW
- RAILROAD ON STREET
- MILITARY AIRFIELD
- AIRPORT WITH COMPLETE FACILITIES
- AIRPORT WITH LIMITED FACILITIES
- LANDING STRIP, PRIVATE FIELD
- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds
- PLAYGROUNDS
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- MOTEL
- CAMP OR LODGE, Permanent with buildings
- SP SMALL PARK SP–State, CP–County MP–Municpal, TP–Trailer Park
- FOREST RANGER STATION
- OBSERVATION OR LOOKOUT TOWER
- CAMP SITE
- FISH HATCHERY
- C GOLF COURSE OR COUNTRY CLUB
- A ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSELY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- JUNK YARDS & DUMPS A–Automobile, B–Scrap Building Material, D–Refuse, Garbage or trash dump, F–Sanitary Fill, G–Other
- S SEWAGE DISPOSAL PLANT
- W WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KCMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

D-2-15

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- [ ] CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 1-GEN_LOC.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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FIGURE 1

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 1-GEN_LOC.dwg, 3/24/2014 10:09:19 AM, rsellers, 1:2

N

0 500 1000
SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08-09-2012.
2. THE EXISTING AND PROPOSED PERMIT BOUNDARIES WERE REPRODUCED FROM A LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.

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DESIGN BY: RJS
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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

AERIAL PHOTOGRAPH

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 2

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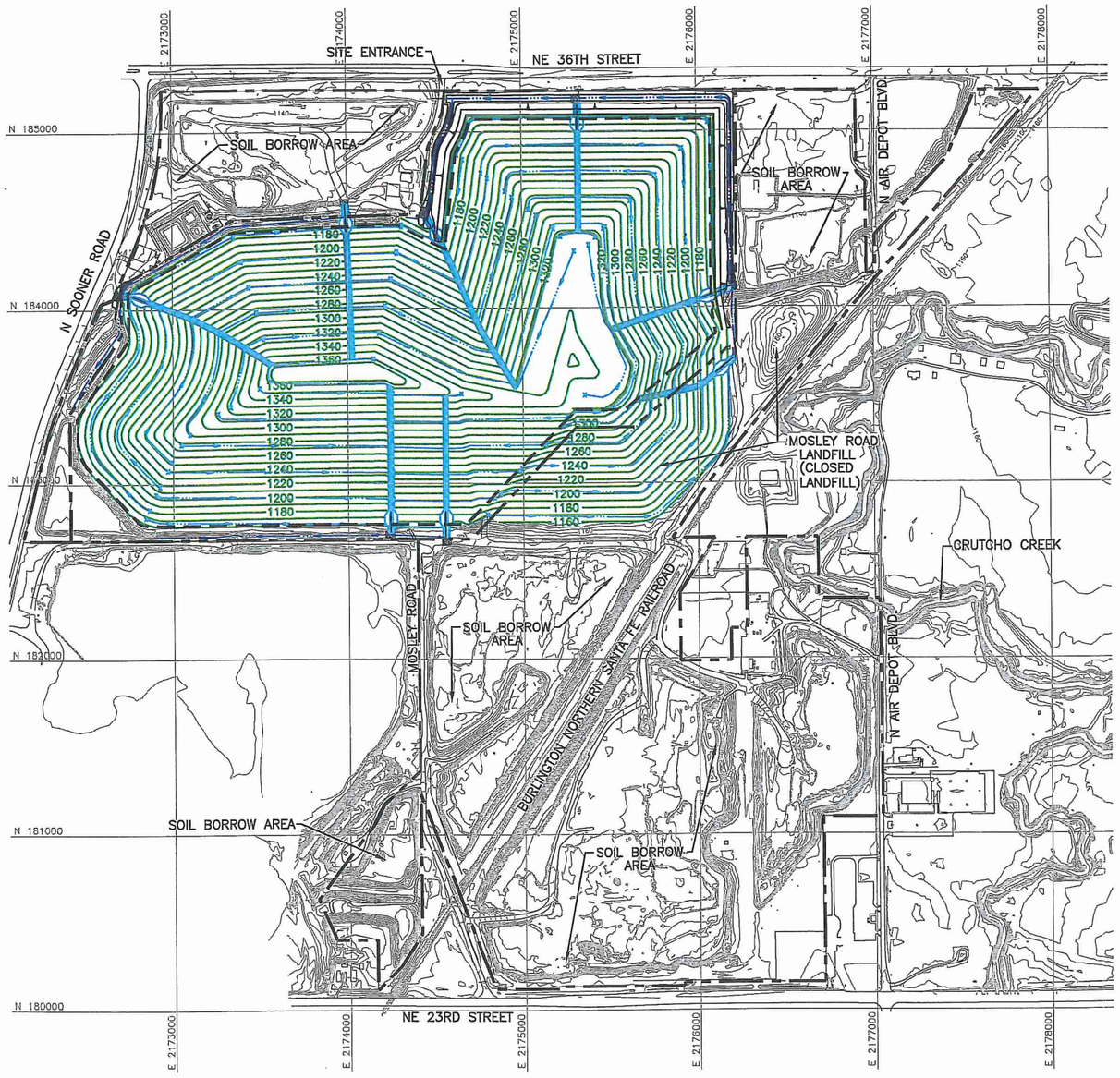
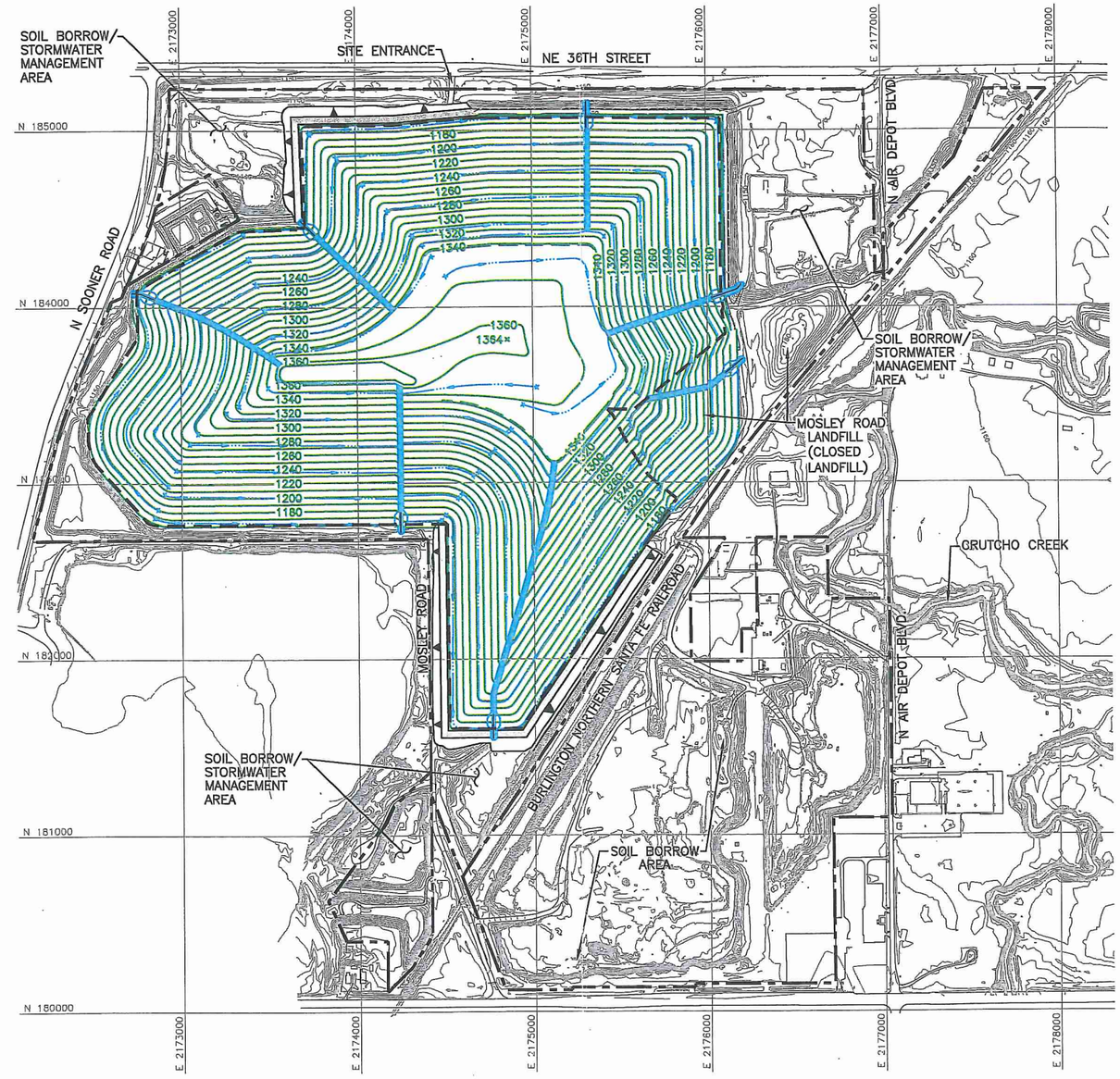
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 2-AERIAL PHOTO.dwg, 3/24/2014 10:10:14 AM, rsellers, 1:2



PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN

D-2-17

LEGEND:

- LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE

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NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. THE CITY OF OKLAHOMA CITY HAS APPROVED SOIL BORROW PUD's TO USE THE AREAS ADJACENT TO THE LANDFILL AS A SOIL BORROW AREA TO SUPPORT SITE OPERATIONS.

☐ DRAFT
☒ FOR INFORMATIONAL PURPOSES ONLY
☐ APPROVED FOR CONSTRUCTION
☐ CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 3-FC PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

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PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 3

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 3-PROPOSED COMPLETION PLAN.dwg, 3/24/2014 10:11:37 AM, rsellers, 1:2

THREATENED AND ENDANGERED SPECIES REVIEW

GOSHAWK
ENVIRONMENTAL CONSULTING, INC.

24 September 2013

Jonathan Queen
Weaver Boos Consultants, LLC-Southwest
6420 Southwest Blvd., Suite 206
Fort Worth, TX 76109

RE: Threatened or Endangered Species Habitat Assessment
East Oak Recycling and Disposal Facility
Proposed MSW Unit Expansion Areas 1 and 2
Oklahoma City, Oklahoma County, Oklahoma

Dear Mr. Queen:

This letter report provides the results of a threatened or endangered species habitat assessment conducted by Goshawk Environmental Consulting, Inc. (Goshawk ECI) on the East Oak Recycling and Disposal Facility, Proposed MSW Unit Expansion Areas 1 and 2 in Oklahoma City, Oklahoma County, Oklahoma. Expansion Area 1 is approximately 12.5 acres and is situated within the northern half of Section 21, Township 12N, Range 2W (Figure 1). Expansion Area 2 is approximately 35 acres and is situated within the eastern half of Section 21, Township 12N, Range 2W. The habitat assessment included a literature review and field reconnaissance.

1.0 LITERATURE REVIEW

Literature and agency file searches were conducted to identify the potential for any federally and/or state-listed threatened or endangered species (or their habitat) to be present within Expansion Areas 1 and 2. The literature reviewed included the US Fish and Wildlife Service (USFWS) threatened or endangered species list and the Oklahoma Natural Heritage Inventory (ONHI) database.

The USFWS' Tulsa, Oklahoma, Ecological Services web site identifies federally listed threatened or endangered species with the potential to occur in Oklahoma County. Those species are the Arkansas River shiner (*Notropis girardi*), bald eagle (*Haliaeetus leucocephalus*), interior least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*), and whooping crane (*Grus americana*).

The ONHI website identifies the federal and state endangered, threatened, and candidate species, as well as non-regulatory rare species with potential to occur in Oklahoma County. Those species are the Texas horned lizard (*Phrynosoma cornutum*), bald eagle, interior least tern, barn owl (*Tyto alba*), black-capped vireo (*Vireo atricapillus*), and woodchuck (*Marmota monax*). The ONHI database includes documented occurrences of federal and state endangered, threatened, and candidate species, as well as non-regulatory rare species. A request to the ONHI returned "no occurrence(s) of relevant species" within Expansion Areas 1 and 2 or their immediate vicinities.

2.0 FIELD RECONNAISSANCE

Goshawk ECI conducted a field reconnaissance on 2 July 2013 to assess the area for potential threatened or endangered species habitat. Goshawk ECI traversed accessible portions of

Expansion Areas 1 and 2 on foot. No listed threatened or endangered species were observed on the site during the field reconnaissance

2.1 EXPANSION AREA 1 DESCRIPTION

The eastern half of Expansion Area 1 is developed as part of the East Oak Recycling and Disposal Facility. Development includes an entrance road, scale house/office building, maintenance shop, and associated parking lots. The western and northwestern portions of the area have been used as a borrow area, and recent excavation has removed much of the vegetation and several inches of top soil. The area is bisected by a poorly defined stream or swale that lies within an open, periodically maintained grassland corridor. The stream/swale was dry during the field reconnaissance. Dominant vegetation within this corridor includes Johnsongrass (*Sorghum halepense*), Bermuda grass (*Cynodon dactylon*), and Canadian wild rye (*Elymus canadensis*) with some dock (*Rumex* sp.).

2.2 EXPANSION AREA 2 DESCRIPTION

The northern half of Expansion Area 2 is existing landfill while the southern half is mostly an open water pond. The landfill portion of Expansion Area 2 has a well-vegetated cover and is topographically much higher than natural ground. The open-water pond was inundated at the time of the field reconnaissance; very little to no vegetation was noted within the pond. There is some hydrophytic vegetation along the pond's edge while the side slopes are covered with upland vegetation. Common species along the waters' edge include cattail (*Typha latifolia*), bushy bluestem (*Andropogon glomeratus*), inland sea oats (*Chasmanthium latifolium*), black willow (*Salix nigra*), and cottonwood (*Populous deltoides*) saplings. The side slopes are dominated by Johnsongrass, annual ragweed (*Ambrosia artemisiifolia*), sunflower (*Helianthus annuus*), wood sorrel (*Oxalis* sp.), and inland sea oats.

3.0 DISCUSSION

The Arkansas River shiner historically occurred in wide, sandy-bottomed streams of the Arkansas River watershed. Its current range is believed to be restricted to portions of the Canadian, South Canadian, Cimarron, Beaver, and North Canadian rivers. The shiner feeds primarily on aquatic invertebrates and typically breeds between May and July during higher flows. Although the North Canadian River is near Expansion Areas 1 and 2, development of the site will be designed and managed according to current state regulations which prevent any contamination of surface water in the North Canadian River. Therefore, no impacts to the Arkansas River shiner are anticipated.

The bald eagle primarily winters in Oklahoma; however, some nesting occurs within the eastern portions of the state. Bald eagles are primarily found around large bodies of water such as rivers and reservoirs with tall trees in the vicinity. Although, the North Canadian River is within 0.5-mile of Expansion Areas 1 and 2, the bald eagle would not likely utilize this area due to continuous operations (landfill and gravel mining) in the general area. While the bald eagle could possibly fly over the site, it would not be expected to utilize the site; therefore, continued site development would not affect this species.

The interior least tern primarily feeds on fish within shallow water areas of rivers, streams, and lakes. This species nests on bare or sparsely vegetated beaches, sandbars, and islands composed of sand, shell, and/or gravel usually within major rivers and reservoirs. Although the North Canadian River may provide nesting and feeding habitat, the tern would not likely utilize Expansion Areas 1 and 2 because of lack of suitable habitat and the constant activity at the landfill.

The piping plover is a migratory species which winters along the Gulf Coast and nests around the Great Lakes and along the upper Atlantic Coast. It primarily inhabits sandy beaches and lakeshores and migrates along the major river systems. The piping plover mainly migrates through Oklahoma; however, they may occasionally nest along major rivers within the state. The lack of suitable habitat coupled with the amount of landfill activity near Expansion Areas 1 and 2 would likely preclude the plover from utilizing this area.

The whooping crane is migratory and passes through Oklahoma on its migration route between the Texas coast and southern Canada. It may occasionally stop over at points along the way that provide temporary feeding or resting habitat such as large wetlands, playa lakes, or agricultural fields. Since Expansion Areas 1 and 2 are primarily developed land and adjacent areas have been used as an active landfill for years, the whooping crane would likely avoid this area during migration.

The Texas horned lizard utilizes open, arid, and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush, or scrubby trees. The Texas horned lizard burrows into soil, enters rodent burrows, or hides under rocks when inactive. Since Expansion Area 1 is almost entirely developed (including the borrow operations) and Expansion Area 2 is almost entirely an open-water pond, the Texas horned lizard is not likely to occur in or around this area.

Barn owls typically require large areas of pasture, grasslands, or wet meadows for feeding on small mammals. They utilize hollows or cavities in trees for nesting, but as their name suggests can utilize man-made structures (like barns) for nesting. Neither, Expansion Area 1 or 2 contains woodlands, pastures, grasslands, or wet meadows suitable for utilization by the barn owl.

The black-capped vireo requires low-growing (typically less than 8 feet in height), dense shrub habitat. Although the vegetative species composition can vary, some deciduous broad-leaved species are necessary. There is no habitat for the black-capped vireo on Expansion Areas 1 and 2.

Woodchuck typically utilizes edge habitats, areas where woodlands meet open fields. Woodchuck build burrows that they use for protection, hibernation, and rearing young. They primarily feed on herbaceous vegetation, but can consume tree bark occasionally. Due to the developed nature of Expansion Areas 1 and 2 as well as the lack of suitable edge habitat, woodchucks are not likely to inhabit the site.

4.0 CONCLUSION

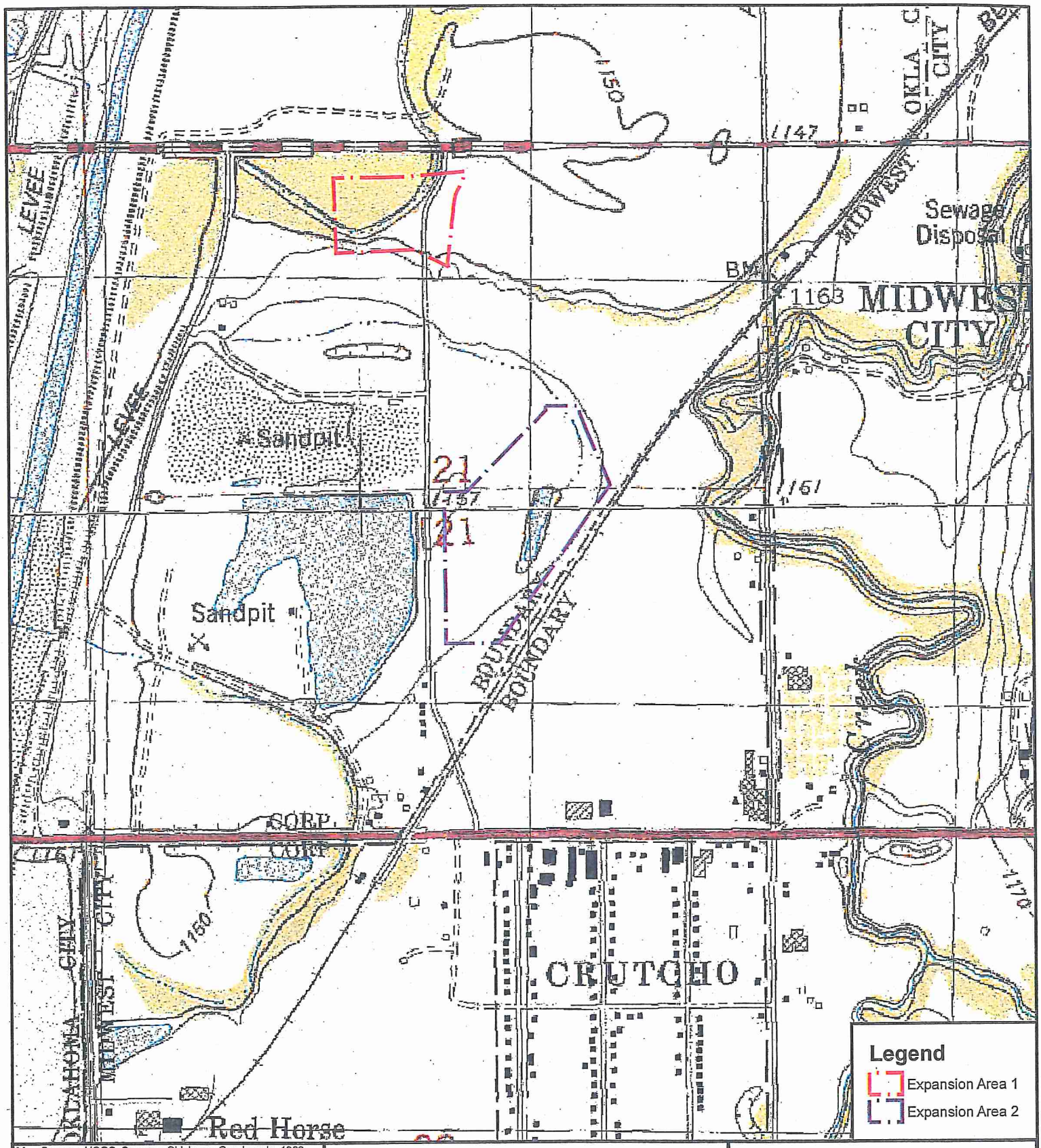
Based on this assessment, it is Goshawk ECI's opinion that Proposed MSW Unit Expansion Areas 1 and 2 do not provide habitat for any federal- or state-listed threatened or endangered species. While it is possible that migratory bird species may utilize the area during migration, use would be

transitory in nature and of short duration. Lack of suitable habitat makes the occurrence of migratory species highly unlikely. If you have any questions or desire additional information, please feel free to call.

Sincerely,

Zane N. Homesley
Principal

cc: Jeffrey P. Young, Weaver Boos Consultants, LLC-Southwest



Map Source: USGS, Spencer, Oklahoma Quadrangle, 1986.
Midwest City, Oklahoma Quadrangle, 1986.

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Mapping provided by Goshawk ECI. Map is intended for location only. It is not intended for construction purposes.

Proposed MSW Unit Expansion Area 1 and 2
East Oak Recycling and Disposal Facility
Oklahoma City, Oklahoma County, Oklahoma
Weaver Boos Consultants-Southwest, LLC

D-2-23

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 1

USGS Topographic Map

Project Manager: ZNH	Approved By: ZNH
Map ID: Figure1-TE.mxd	Date: 09/15/2013

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CONSULTANTS
LLC
SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206
FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

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Fort Worth, TX
Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

Caryn C. Vaughn, Biological Survey Director
Oklahoma Biological Survey
111 East Chesapeake Street
Norman, Oklahoma 73019-5112

Re: Endangered or Threatened Wildlife Species Statement
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Ms. Vaughn:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to obtain endangered or threatened wildlife species information and demonstrate compatibility with Oklahoma Department of Environmental Quality (DEQ) landfill location restriction regulation Oklahoma Administrative Code (OAC) §252:515-5-31(c). This regulation requires that a permit applicant for an expansion of a municipal solid waste landfill facility obtain a current information statement from the Oklahoma Biological Survey (OBS).

The DEQ landfill location restriction regulation set forth in §252:515-5-31(c), requires that a permit applicant for an expansion of a municipal solid waste facility obtain a statement from the OBS regarding current information about endangered or threatened wildlife or plant species listed in state and federal laws that exist within one mile of the landfill permit boundary or expansion area. Weaver Boos Consultants, LLC is preparing a landfill expansion application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill (East Oak Recycling and Disposal Facility) located in the City of Oklahoma City, Oklahoma.

The proposed expansion areas were assessed by Goshawk Environmental Consulting, Inc. (Goshawk), an environmental services firm with experience in threatened and endangered species habitat assessment. Goshawk conducted an on-site field reconnaissance for endangered or threatened wildlife and plant species habitats. Goshawk's report concluded that the site does not provide habitat for and would not likely be occupied by any federal or state listed threatened and endangered species.

To assist you in your statement regarding threatened or endangered wildlife within one mile of the referenced project, please find attached a project summary, site location drawings, and the Goshawk report.

To verify compliance with §252:515-5-31(c), we will need to include a statement from the OBS regarding current information about endangered or threatened wildlife or plant species listed in state and federal laws that exist within one mile of the landfill permit boundary or expansion area within the permit application.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachment: Project Summary and Site Location Maps
Threatened and Endangered Species Review

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

Introduction

The East Oak Recycling and Disposal Facility is in the process of developing a Tier III Permit Application to expand the existing landfill to provide long-term disposal capacity for municipal solid waste that is generated in the City of Oklahoma City, Oklahoma County, and the surrounding areas. The purpose of this summary is to provide an overview of the proposed landfill expansion. The site is located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, City of Oklahoma City, Oklahoma. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The East Oak Recycling and Disposal Facility is owned and operated by Waste Management of Oklahoma, Inc., a Waste Management, Inc. company. Waste Management, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services and serves more than 20 million residential, commercial and industrial customers in North America.

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Oklahoma Department of Transportation Oklahoma County Highway Map.
- Aerial Photograph (Figure 2). This figure shows the existing recycling and disposal facility and permitted waste disposal area, as well as the proposed expansion area, on a recent aerial photograph.
- Permitted Completion Plan and Proposed Completion Plan (Figure 3). This figure shows the permitted landfill completion plan and the proposed landfill completion plan on detailed site topographic maps.

The East Oak Recycling and Disposal Facility is located approximately 8 miles east of downtown Oklahoma City and is accessed from NE 36th Street approximately 2.5 miles east of Interstate Highway 35. The address of the site is 3201 Mosley Road, Oklahoma City, OK 73141. The service area includes the City of Oklahoma City, Oklahoma

County, and other surrounding areas. The facility has operated under Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036 since 1986.

Design Summary

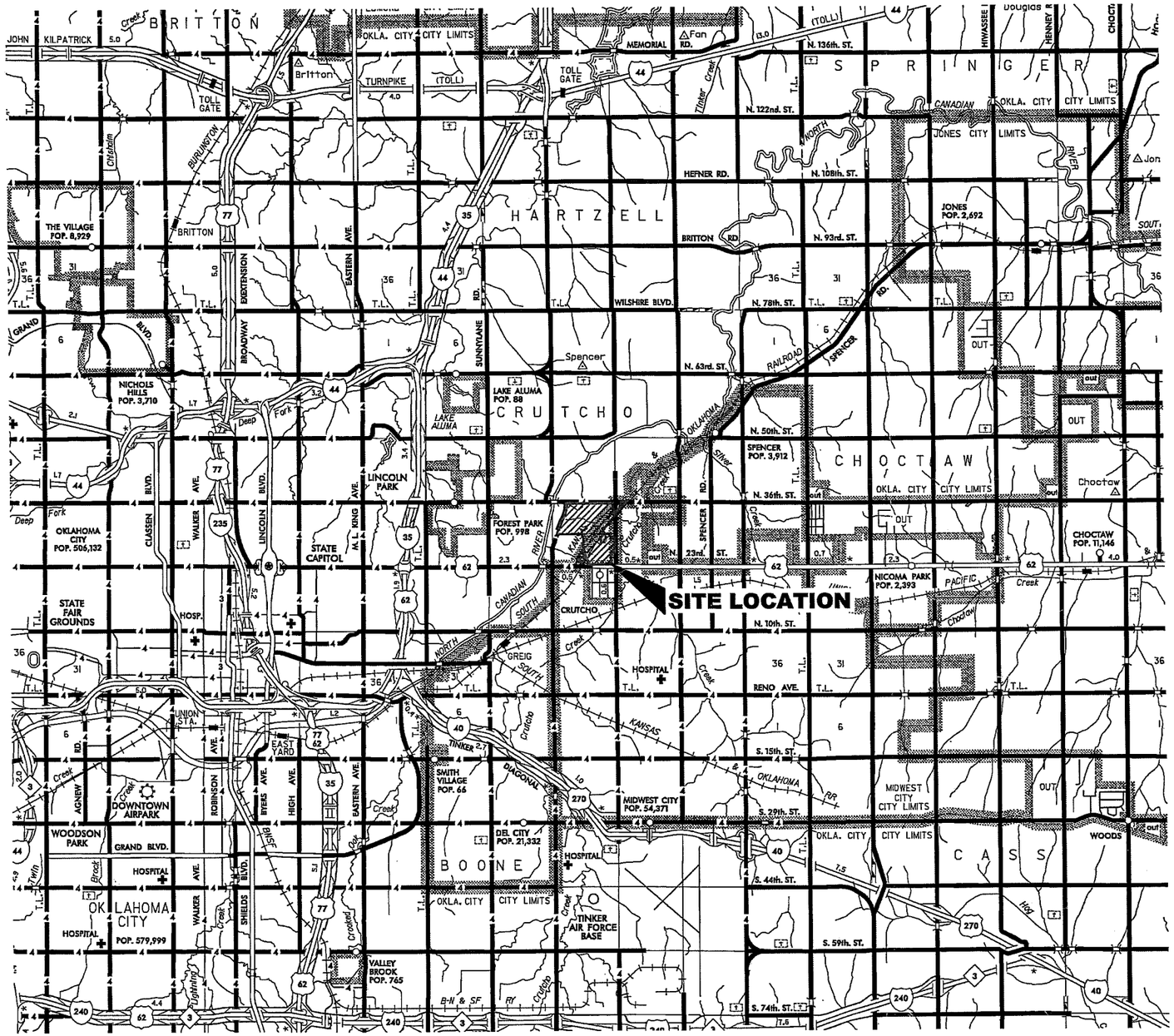
The following information presents a summary of the design and operations for the proposed East Oak Recycling and Disposal Facility expansion.

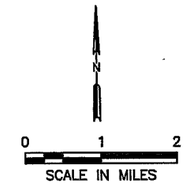
- The existing permit boundary will expand from approximately 158.8 acres to a proposed 284 acres. The waste disposal area will increase from approximately 132.0 acres to 179.5 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The facility will accept municipal solid waste, construction and demolition wastes, non-hazardous industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste, and sludges as permitted by the ODEQ.
- Access to the site will be provided via the existing site access road from NE 36th Street. Based on traffic patterns of existing landfill traffic, most vehicles bound for the landfill will access the site using NE 36th Street from Interstate Highway 35. The existing roads are capable of handling the traffic load associated with the landfill.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged offsite to the Oklahoma City Publicly Owned Treatment Works (POTW) in accordance with the Oklahoma City Industrial Wastewater Treatment/Disposal Permit No. 2865. The construction procedures of the liner and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the landfill.
- To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:
  - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
  - Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and

verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.

- These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ and are public record.

- Site Operations. Properly trained personnel will operate the site. A detailed site operating plan will be included in the landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors. The East Oak Recycling and Disposal Facility will continue to be inspected by the ODEQ on a regular basis to ensure the site is in compliance with state regulations.





LEGEND

- U.S. NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- 0.3 0.7 MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
- UNDIVIDED HIGHWAY, 3 OR MORE LANES
- TRAFFIC CIRCLE
- HIGHWAY GRADE SEPARATION
- TRAFFIC INTERCHANGE
- STATE LINE
- COUNTY LINE
- CIVIL TOWNSHIP LINE
- SECTION LINE
- RURAL DEVELOPMENT AREA
- GOVERNMENT PROPERTY LINE
- MATCH LINE
- COUNTY SEAT
- TOWN CENTER
- CORPORATE LIMITS
- T.L. CIVIL TOWNSHIP, ROAD IN PLACE
- INSET BOUNDARY
- 1867 ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
- DRY LAKE SUBJECT TO FLOOD
- SMALL BRIDGES CLOSELY SPACED
- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE, W-WOOD, S-STEEL, C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
- WIDE STREAM OR RIVER
- TRIANGULATION STATION
- RAILROAD, ANY NUMBER OF TRACKS
- RAILROAD WITH STATION INDICATED
- GRADE CROSSING
- UNDERPASS, R.R. ABOVE
- OVERPASS, R.R. BELOW
- RAILROAD ON STREET
- MILITARY AIRFIELD
- AIRPORT WITH COMPLETE FACILITIES
- AIRPORT WITH LIMITED FACILITIES
- LANDING STRIP, PRIVATE FIELD
- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds
- PLAYGROUNDS
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- MOTEL
- CAMP OR LODGE, Permanent with buildings
- SP SMALL PARK SP–State, CP–County MP–Municipal, TP–Trailer Park
- FOREST RANGER STATION
- OBSERVATION OR LOOKOUT TOWER
- CAMP SITE
- FISH HATCHERY
- C GOLF COURSE OR COUNTRY CLUB
- A ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSELY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- JUNK YARDS & DUMPS A–Automobile, B–Scrap Building Material, D–Refuse, Garbage or trash dump, F–Sanitary Fill, G–Other
- S SEWAGE DISPOSAL PLANT
- W WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

D-2-30

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CAD: FIG 1-GEN_LOC.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 1

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 1-GEN_LOC.dwg, 3/24/2014 10:09:19 AM, rsellers, 1:2

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SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08-09-2012.
2. THE EXISTING AND PROPOSED PERMIT BOUNDARIES WERE REPRODUCED FROM A LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.

D-2-31

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FILE: 0086-356-11
CAD: FIG 2-AERIAL.DWG

DRAWN BY: SRF
DESIGN BY: RJS
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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

AERIAL PHOTOGRAPH

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 2

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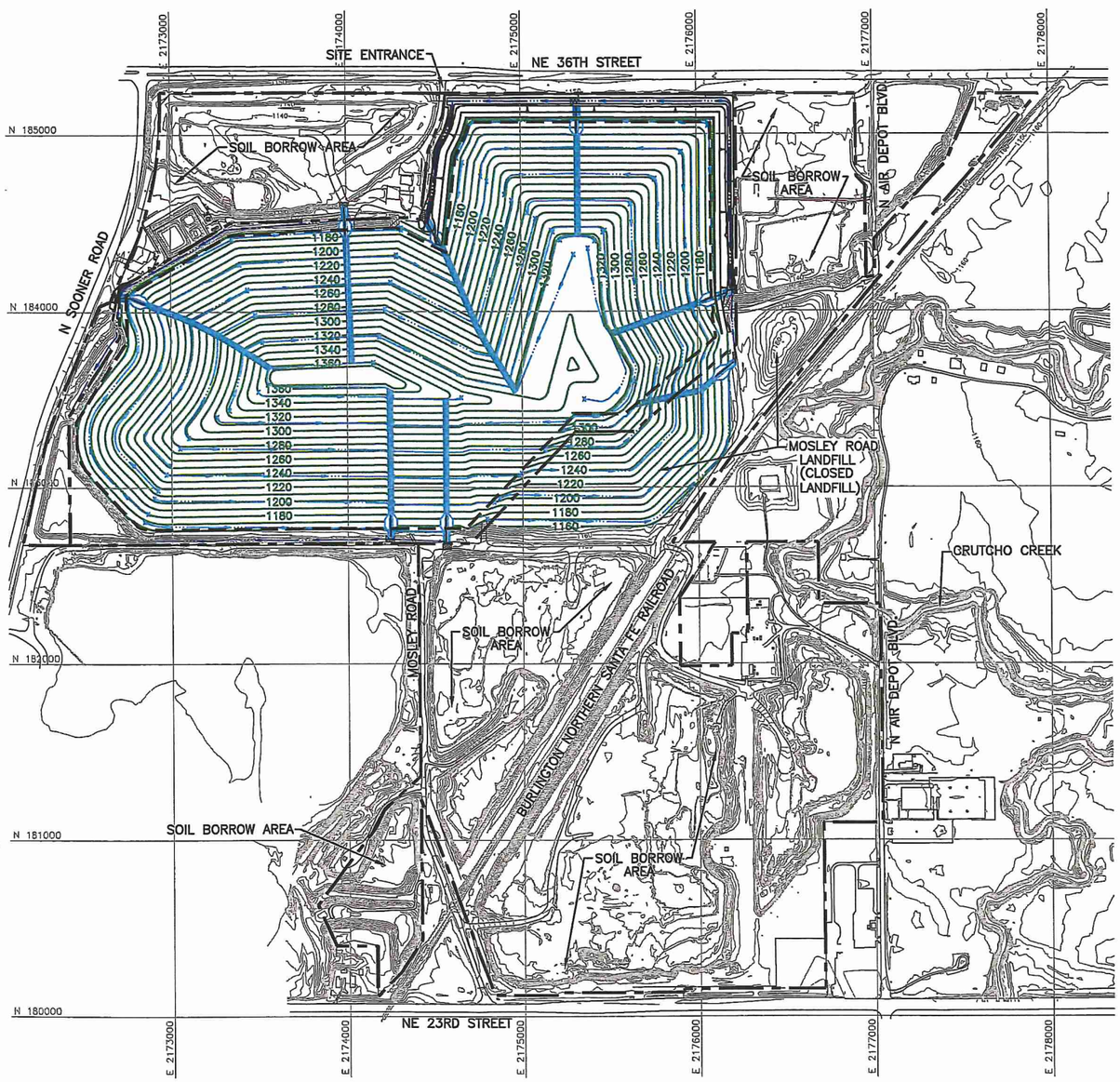
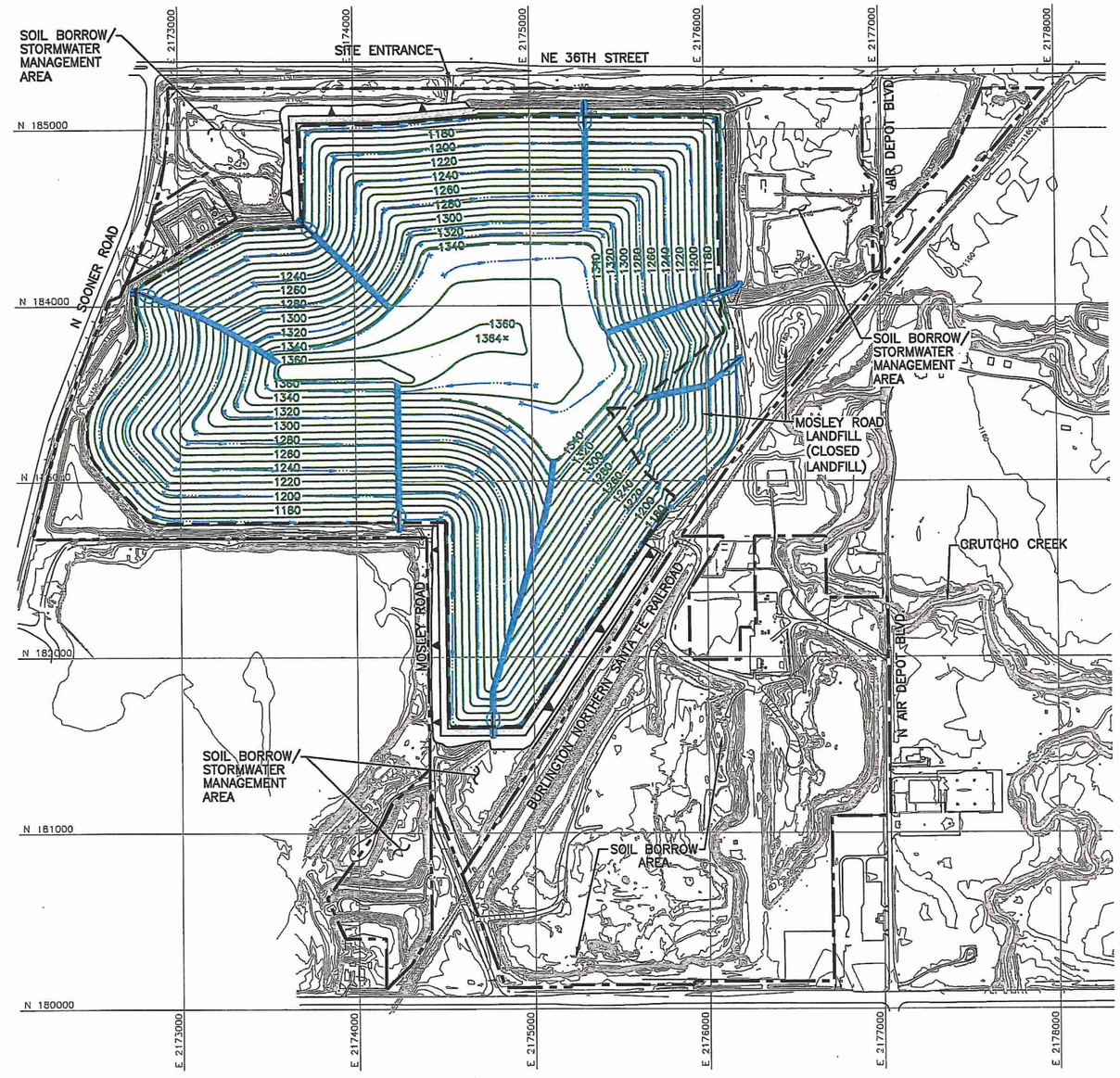
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 2-AERIAL PHOTO.dwg, 3/24/2014 10:10:14 AM, rsellers, 1:2



PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN

D-2-32

LEGEND:

- LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE

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0 400 800
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. THE CITY OF OKLAHOMA CITY HAS APPROVED SOIL BORROW PUD's TO USE THE AREAS ADJACENT TO THE LANDFILL AS A SOIL BORROW AREA TO SUPPORT SITE OPERATIONS.

☐ DRAFT
☒ FOR INFORMATIONAL PURPOSES ONLY
☐ APPROVED FOR CONSTRUCTION
☐ CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 3-FC PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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FIGURE 3

REUSE OF DOCUMENTS
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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 3-PROPOSED COMPLETION PLAN.dwg, 3/24/2014 10:11:37 AM, rsellers, 1:2

THREATENED AND ENDANGERED SPECIES REVIEW

GOSHAWK
ENVIRONMENTAL CONSULTING, INC.

24 September 2013

Jonathan Queen
Weaver Boos Consultants, LLC-Southwest
6420 Southwest Blvd., Suite 206
Fort Worth, TX 76109

RE: Threatened or Endangered Species Habitat Assessment
East Oak Recycling and Disposal Facility
Proposed MSW Unit Expansion Areas 1 and 2
Oklahoma City, Oklahoma County, Oklahoma

Dear Mr. Queen:

This letter report provides the results of a threatened or endangered species habitat assessment conducted by Goshawk Environmental Consulting, Inc. (Goshawk ECI) on the East Oak Recycling and Disposal Facility, Proposed MSW Unit Expansion Areas 1 and 2 in Oklahoma City, Oklahoma County, Oklahoma. Expansion Area 1 is approximately 12.5 acres and is situated within the northern half of Section 21, Township 12N, Range 2W (Figure 1). Expansion Area 2 is approximately 35 acres and is situated within the eastern half of Section 21, Township 12N, Range 2W. The habitat assessment included a literature review and field reconnaissance.

1.0 LITERATURE REVIEW

Literature and agency file searches were conducted to identify the potential for any federally and/or state-listed threatened or endangered species (or their habitat) to be present within Expansion Areas 1 and 2. The literature reviewed included the US Fish and Wildlife Service (USFWS) threatened or endangered species list and the Oklahoma Natural Heritage Inventory (ONHI) database.

The USFWS' Tulsa, Oklahoma, Ecological Services web site identifies federally listed threatened or endangered species with the potential to occur in Oklahoma County. Those species are the Arkansas River shiner (*Notropis girardi*), bald eagle (*Haliaeetus leucocephalus*), interior least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*), and whooping crane (*Grus americana*).

The ONHI website identifies the federal and state endangered, threatened, and candidate species, as well as non-regulatory rare species with potential to occur in Oklahoma County. Those species are the Texas horned lizard (*Phrynosoma cornutum*), bald eagle, interior least tern, barn owl (*Tyto alba*), black-capped vireo (*Vireo atricapillus*), and woodchuck (*Marmota monax*). The ONHI database includes documented occurrences of federal and state endangered, threatened, and candidate species, as well as non-regulatory rare species. A request to the ONHI returned "no occurrence(s) of relevant species" within Expansion Areas 1 and 2 or their immediate vicinities.

2.0 FIELD RECONNAISSANCE

Goshawk ECI conducted a field reconnaissance on 2 July 2013 to assess the area for potential threatened or endangered species habitat. Goshawk ECI traversed accessible portions of

Expansion Areas 1 and 2 on foot. No listed threatened or endangered species were observed on the site during the field reconnaissance

2.1 EXPANSION AREA 1 DESCRIPTION

The eastern half of Expansion Area 1 is developed as part of the East Oak Recycling and Disposal Facility. Development includes an entrance road, scale house/office building, maintenance shop, and associated parking lots. The western and northwestern portions of the area have been used as a borrow area, and recent excavation has removed much of the vegetation and several inches of top soil. The area is bisected by a poorly defined stream or swale that lies within an open, periodically maintained grassland corridor. The stream/swale was dry during the field reconnaissance. Dominant vegetation within this corridor includes Johnsongrass (*Sorghum halepense*), Bermuda grass (*Cynodon dactylon*), and Canadian wild rye (*Elymus canadensis*) with some dock (*Rumex* sp.).

2.2 EXPANSION AREA 2 DESCRIPTION

The northern half of Expansion Area 2 is existing landfill while the southern half is mostly an open water pond. The landfill portion of Expansion Area 2 has a well-vegetated cover and is topographically much higher than natural ground. The open-water pond was inundated at the time of the field reconnaissance; very little to no vegetation was noted within the pond. There is some hydrophytic vegetation along the pond's edge while the side slopes are covered with upland vegetation. Common species along the waters' edge include cattail (*Typha latifolia*), bushy bluestem (*Andropogon glomeratus*), inland sea oats (*Chasmanthium latifolium*), black willow (*Salix nigra*), and cottonwood (*Populous deltoides*) saplings. The side slopes are dominated by Johnsongrass, annual ragweed (*Ambrosia artemisiifolia*), sunflower (*Helianthus annuus*), wood sorrel (*Oxalis* sp.), and inland sea oats.

3.0 DISCUSSION

The Arkansas River shiner historically occurred in wide, sandy-bottomed streams of the Arkansas River watershed. Its current range is believed to be restricted to portions of the Canadian, South Canadian, Cimarron, Beaver, and North Canadian rivers. The shiner feeds primarily on aquatic invertebrates and typically breeds between May and July during higher flows. Although the North Canadian River is near Expansion Areas 1 and 2, development of the site will be designed and managed according to current state regulations which prevent any contamination of surface water in the North Canadian River. Therefore, no impacts to the Arkansas River shiner are anticipated.

The bald eagle primarily winters in Oklahoma; however, some nesting occurs within the eastern portions of the state. Bald eagles are primarily found around large bodies of water such as rivers and reservoirs with tall trees in the vicinity. Although, the North Canadian River is within 0.5-mile of Expansion Areas 1 and 2, the bald eagle would not likely utilize this area due to continuous operations (landfill and gravel mining) in the general area. While the bald eagle could possibly fly over the site, it would not be expected to utilize the site; therefore, continued site development would not affect this species.

The interior least tern primarily feeds on fish within shallow water areas of rivers, streams, and lakes. This species nests on bare or sparsely vegetated beaches, sandbars, and islands composed of sand, shell, and/or gravel usually within major rivers and reservoirs. Although the North Canadian River may provide nesting and feeding habitat, the tern would not likely utilize Expansion Areas 1 and 2 because of lack of suitable habitat and the constant activity at the landfill.

The piping plover is a migratory species which winters along the Gulf Coast and nests around the Great Lakes and along the upper Atlantic Coast. It primarily inhabits sandy beaches and lakeshores and migrates along the major river systems. The piping plover mainly migrates through Oklahoma; however, they may occasionally nest along major rivers within the state. The lack of suitable habitat coupled with the amount of landfill activity near Expansion Areas 1 and 2 would likely preclude the plover from utilizing this area.

The whooping crane is migratory and passes through Oklahoma on its migration route between the Texas coast and southern Canada. It may occasionally stop over at points along the way that provide temporary feeding or resting habitat such as large wetlands, playa lakes, or agricultural fields. Since Expansion Areas 1 and 2 are primarily developed land and adjacent areas have been used as an active landfill for years, the whooping crane would likely avoid this area during migration.

The Texas horned lizard utilizes open, arid, and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush, or scrubby trees. The Texas horned lizard burrows into soil, enters rodent burrows, or hides under rocks when inactive. Since Expansion Area 1 is almost entirely developed (including the borrow operations) and Expansion Area 2 is almost entirely an open-water pond, the Texas horned lizard is not likely to occur in or around this area.

Barn owls typically require large areas of pasture, grasslands, or wet meadows for feeding on small mammals. They utilize hollows or cavities in trees for nesting, but as their name suggests can utilize man-made structures (like barns) for nesting. Neither, Expansion Area 1 or 2 contains woodlands, pastures, grasslands, or wet meadows suitable for utilization by the barn owl.

The black-capped vireo requires low-growing (typically less than 8 feet in height), dense shrub habitat. Although the vegetative species composition can vary, some deciduous broad-leaved species are necessary. There is no habitat for the black-capped vireo on Expansion Areas 1 and 2.

Woodchuck typically utilizes edge habitats, areas where woodlands meet open fields. Woodchuck build burrows that they use for protection, hibernation, and rearing young. They primarily feed on herbaceous vegetation, but can consume tree bark occasionally. Due to the developed nature of Expansion Areas 1 and 2 as well as the lack of suitable edge habitat, woodchucks are not likely to inhabit the site.

4.0 CONCLUSION

Based on this assessment, it is Goshawk ECI's opinion that Proposed MSW Unit Expansion Areas 1 and 2 do not provide habitat for any federal- or state-listed threatened or endangered species. While it is possible that migratory bird species may utilize the area during migration, use would be

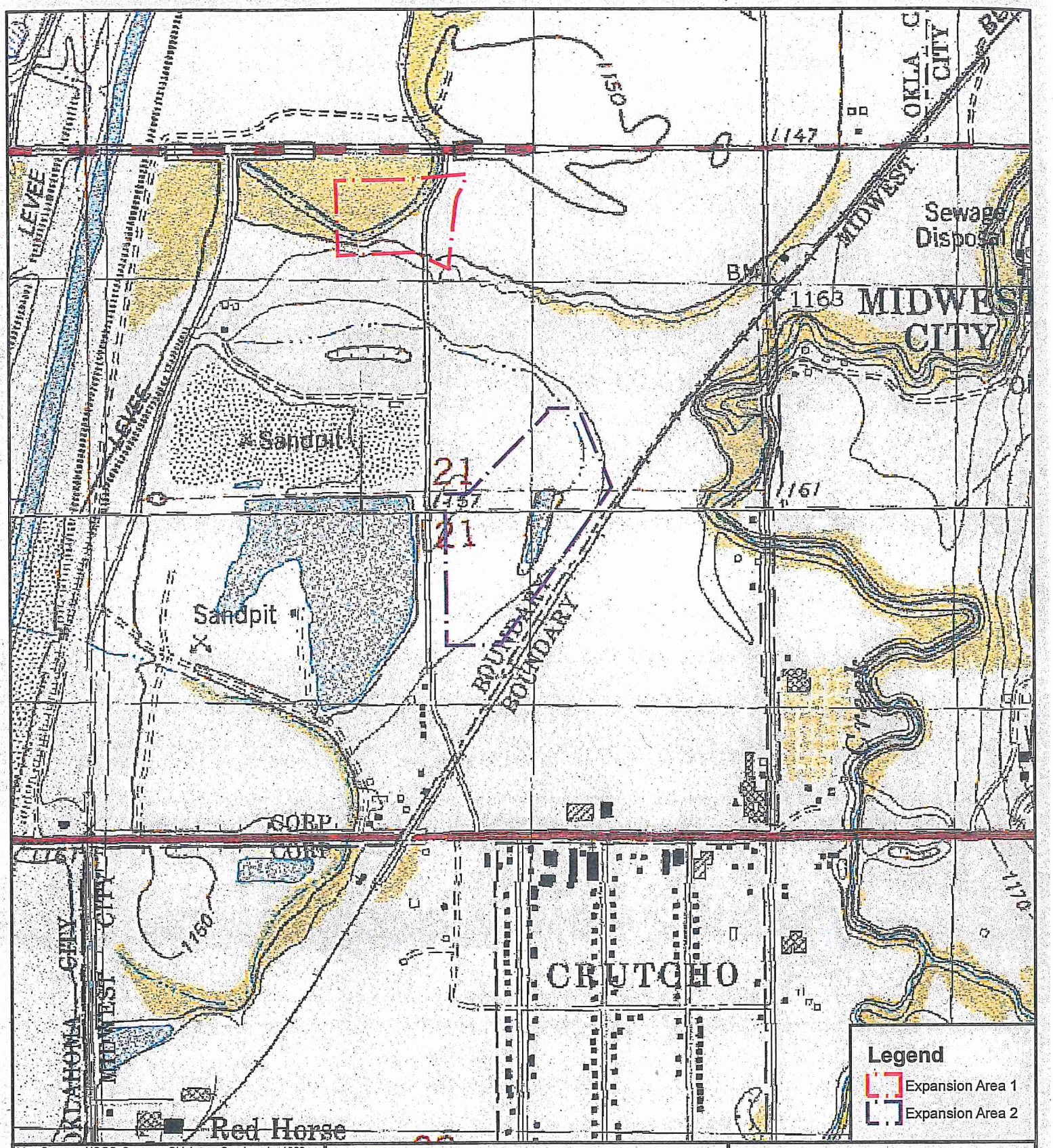
transitory in nature and of short duration. Lack of suitable habitat makes the occurrence of migratory species highly unlikely. If you have any questions or desire additional information, please feel free to call.

Sincerely,

Zane N. Homesley

Zane N. Homesley
Principal

cc: Jeffrey P. Young, Weaver Boos Consultants, LLC-Southwest



Map Source: USGS, Spencer, Oklahoma Quadrangle, 1986.
Midwest City, Oklahoma Quadrangle, 1986.

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Feet
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Mapping provided by Goshawk ECI. Map is intended for location only. It is not intended for construction purposes.

Proposed MSW Unit Expansion Area 1 and 2
East Oak Recycling and Disposal Facility
Oklahoma City, Oklahoma County, Oklahoma
Weaver Boos Consultants-Southwest, LLC

D-2-38

GOSHAWK ENVIRONMENTAL CONSULTING, INC.

FIGURE 1

USGS Topographic Map

Project Manager: ZNH	Approved By: ZNH
Map ID: Figure1-TE.mxd	Date: 09/15/2013

APPENDIX D-3

SCENIC RIVERS

CONTENTS

This appendix provides documentation for the required coordination with the Oklahoma Scenic Rivers Commission. This appendix includes:

- April 16, 2014 Oklahoma Scenic Rivers Commission confirmation response letter.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for Oklahoma Scenic Rivers Commission review.

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LLC
SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206
FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

Chicago, IL
Naperville, IL
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St. Louis, MO
Springfield, MO
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Denver, CO
Fort Worth, TX
Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

RECEIVED
APR 10 2014
BY: .....

Mr. Edward H. Fite III, Administrator
Oklahoma Scenic Rivers Commission
15971 Hwy. 10
Tahlequah, Oklahoma 74464

Re: Scenic River Statement
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Mr. Fite:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to confirm that the proposed landfill expansion of the East Oak Recycling and Disposal Facility is not located within the drainage basin of a scenic river, as designated by the Oklahoma Scenic Rivers Act. The Oklahoma Department of Environmental Quality (DEQ) landfill location restriction regulation set forth in Oklahoma Administrative Code (OAC) §252:515-5-31(a), requires that a permit applicant for an expansion of a municipal solid waste facility determine if a proposed landfill expansion lies within a drainage basin of a designated scenic river.

Weaver Boos Consultants, LLC–Southwest, is preparing a landfill expansion permit application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill facility located in the City of Oklahoma City, Oklahoma. Please find attached a project summary and site location maps to assist in your review.

To verify compliance with §252:515-5-31(a), we are requesting that the Oklahoma Scenic Rivers Commission confirm that the landfill is not located within a drainage basin of a scenic river, as designated by the Commission or other agency. A review of the Oklahoma Scenic Rivers Commission web site indicates that no designated scenic rivers are located in the area of the East Oak Recycling and Disposal Facility. The proposed landfill expansion is located within the North Canadian River drainage basin. As shown on the attached maps, Crutcho Creek is located east of the landfill property. It is our understanding that the site is not located within a drainage basin of a designated scenic river.

The Oklahoma Scenic Rivers Commission has no comments on this project(s).
4/16/2014
Administrator Date

WEAVER
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CONSULTANTS
LLC
SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206
FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

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Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

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Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachment: Project Summary and Site Location Maps

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

Introduction

The East Oak Recycling and Disposal Facility is in the process of developing a Tier III Permit Application to expand the existing landfill to provide long-term disposal capacity for municipal solid waste that is generated in the City of Oklahoma City, Oklahoma County, and the surrounding areas. The purpose of this summary is to provide an overview of the proposed landfill expansion. The site is located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, City of Oklahoma City, Oklahoma. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The East Oak Recycling and Disposal Facility is owned and operated by Waste Management of Oklahoma, Inc., a Waste Management, Inc. company. Waste Management, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services and serves more than 20 million residential, commercial and industrial customers in North America.

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Oklahoma Department of Transportation Oklahoma County Highway Map.
- Aerial Photograph (Figure 2). This figure shows the existing recycling and disposal facility and permitted waste disposal area, as well as the proposed expansion area, on a recent aerial photograph.
- Permitted Completion Plan and Proposed Completion Plan (Figure 3). This figure shows the permitted landfill completion plan and the proposed landfill completion plan on detailed site topographic maps.

The East Oak Recycling and Disposal Facility is located approximately 8 miles east of downtown Oklahoma City and is accessed from NE 36th Street approximately 2.5 miles east of Interstate Highway 35. The address of the site is 3201 Mosley Road, Oklahoma City, OK 73141. The service area includes the City of Oklahoma City, Oklahoma

County, and other surrounding areas. The facility has operated under Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036 since 1986.

Design Summary

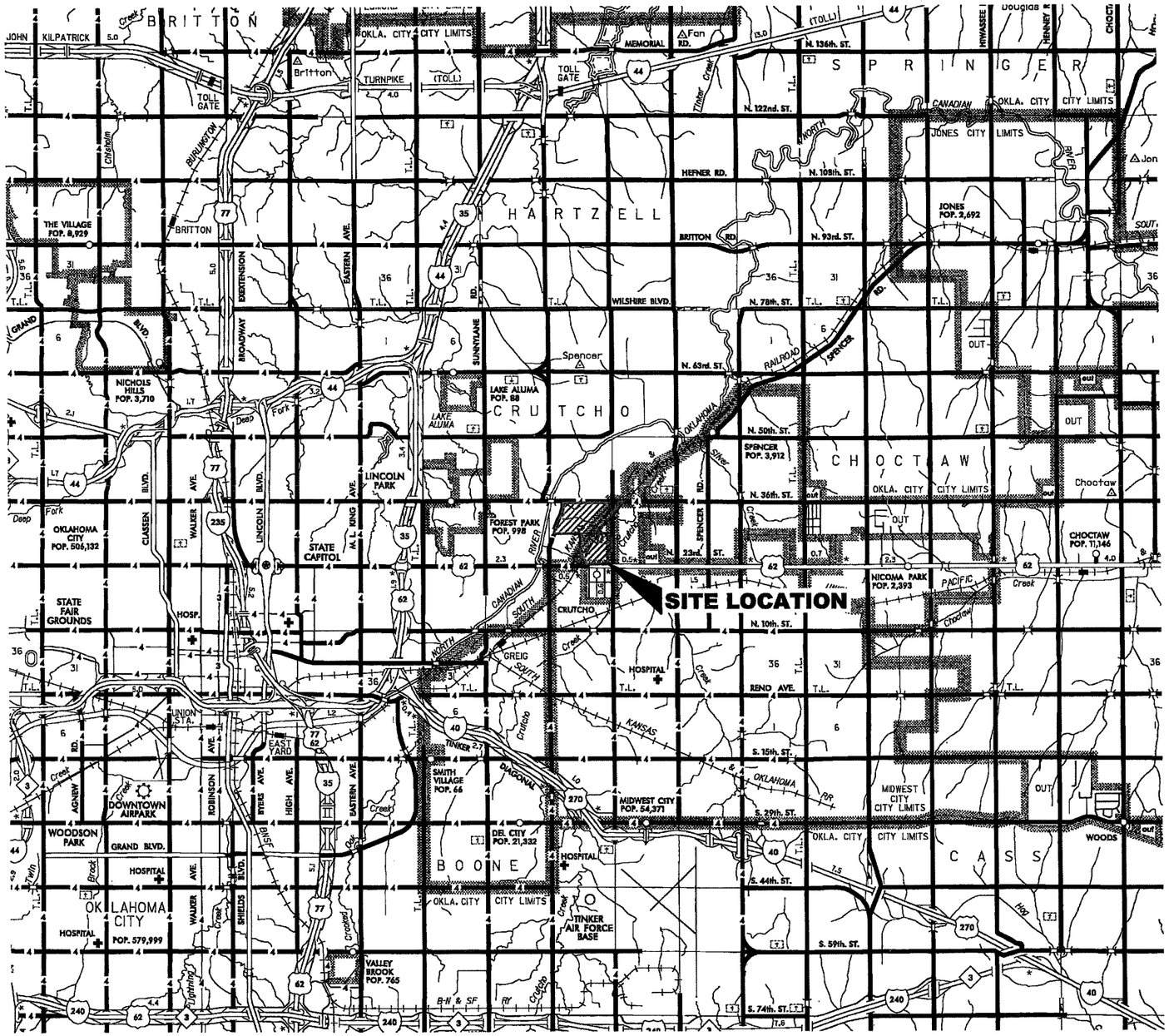
The following information presents a summary of the design and operations for the proposed East Oak Recycling and Disposal Facility expansion.

- The existing permit boundary will expand from approximately 158.8 acres to a proposed 284 acres. The waste disposal area will increase from approximately 132.0 acres to 179.5 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The facility will accept municipal solid waste, construction and demolition wastes, non-hazardous industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste, and sludges as permitted by the ODEQ.
- Access to the site will be provided via the existing site access road from NE 36th Street. Based on traffic patterns of existing landfill traffic, most vehicles bound for the landfill will access the site using NE 36th Street from Interstate Highway 35. The existing roads are capable of handling the traffic load associated with the landfill.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged offsite to the Oklahoma City Publicly Owned Treatment Works (POTW) in accordance with the Oklahoma City Industrial Wastewater Treatment/Disposal Permit No. 2865. The construction procedures of the liner and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the landfill.
- To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:
  - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
  - Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and

verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.

  - These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ and are public record.

- Site Operations. Properly trained personnel will operate the site. A detailed site operating plan will be included in the landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors. The East Oak Recycling and Disposal Facility will continue to be inspected by the ODEQ on a regular basis to ensure the site is in compliance with state regulations.



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- I.S.NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
- UNDIVIDED HIGHWAY, 3 OR MORE LANES
- TRAFFIC CIRCLE
- HIGHWAY GRADE SEPARATION
- TRAFFIC INTERCHANGE
- STATE LINE
- COUNTY LINE
- CIVIL TOWNSHIP LINE
- SECTION LINE
- RURAL DEVELOPMENT AREA
- GOVERNMENT PROPERTY LINE
- MATCH LINE
- COUNTY SEAT
- TOWN CENTER
- CORPORATE LIMITS
- CIVIL TOWNSHIP, ROAD IN PLACE
- INSET BOUNDARY
- 1867 ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
- DRY LAKE SUBJECT TO FLOOD
- SMALL BRIDGES CLOSELY SPACED
- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE,W-WOOD,S-STEEL,C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
- WIDE STREAM OR RIVER
- TRIANGULATION STATION
- RAILROAD, ANY NUMBER OF TRACKS
- RAILROAD WITH STATION INDICATED
- GRADE CROSSING
- UNDERPASS, R.R. ABOVE
- OVERPASS, R.R. BELOW
- RAILROAD ON STREET
- MILITARY AIRFIELD
- AIRPORT WITH COMPLETE FACILITIES
- AIRPORT WITH LIMITED FACILITIES
- LANDING STRIP, PRIVATE FIELD
- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds
- PLAYGROUNDS
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- MOTEL
- CAMP OR LODGE, Permanent with buildings
- SMALL PARK SP-State, CP-County MP-Municipal, TP-Trailer Park
- FOREST RANGER STATION
- OBSERVATION OR LOOKOUT TOWER
- CAMP SITE
- FISH HATCHERY
- GOLF COURSE OR COUNTRY CLUB
- ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSELY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- JUNK YARDS & DUMPS A-Automobile, B-Scrap Building Material, D-Refuse, Garbage or trash dump, F-Sanitary Fill, G-Other
- SEWAGE DISPOSAL PLANT
- WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

- [ ] DRAFT
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- [ ] CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 1-GEN_LOC.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 1

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C:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 1-GEN_LOC.dwg, 3/24/2014 10:09:19 AM, rsellers, 1:2

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SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08-09-2012.
2. THE EXISTING AND PROPOSED PERMIT BOUNDARIES WERE REPRODUCED FROM A LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.

D-3-10

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- [ ] CLIENT APPROVAL BY:

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 2-AERIAL.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

AERIAL PHOTOGRAPH

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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FIGURE 2

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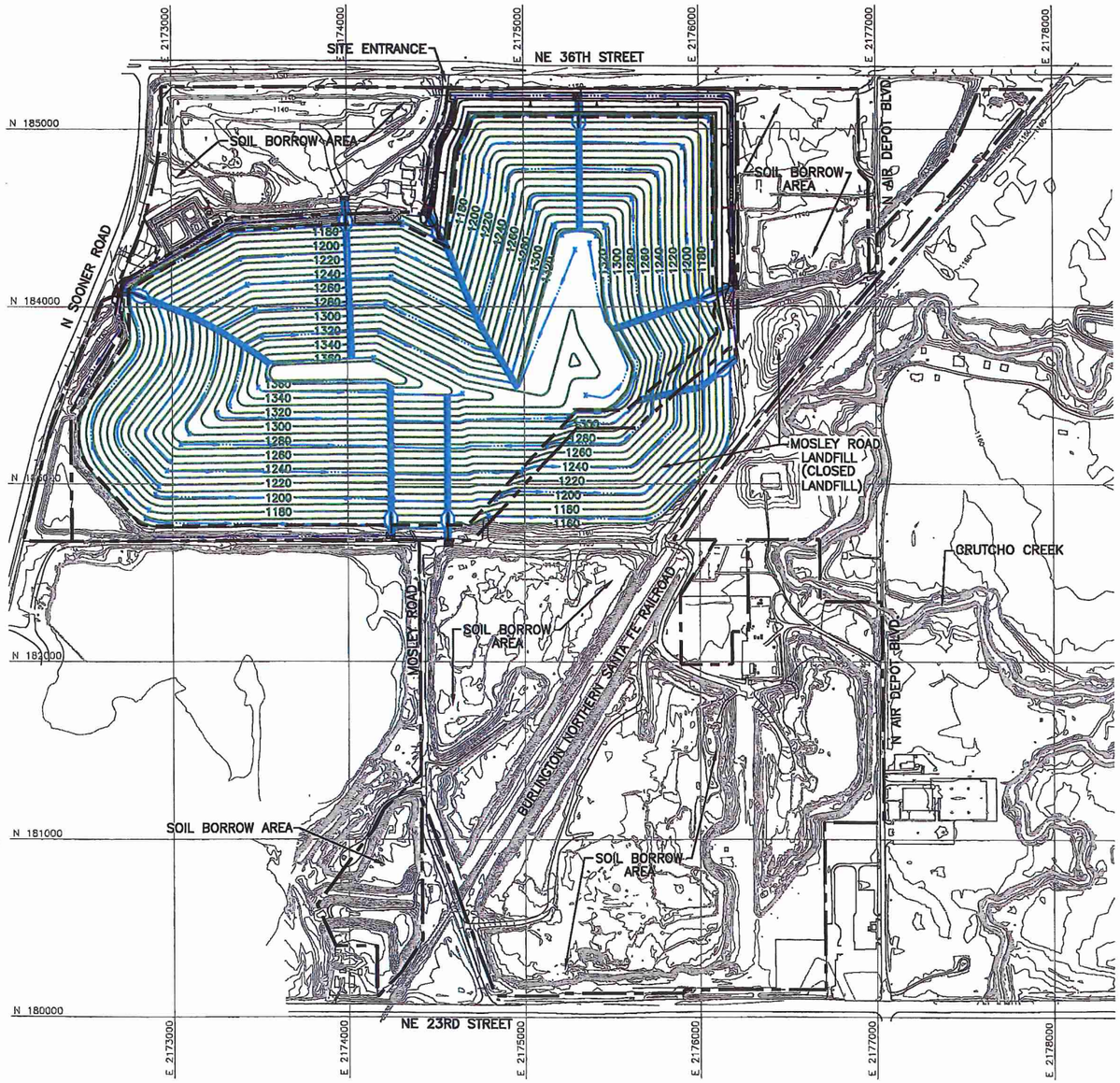
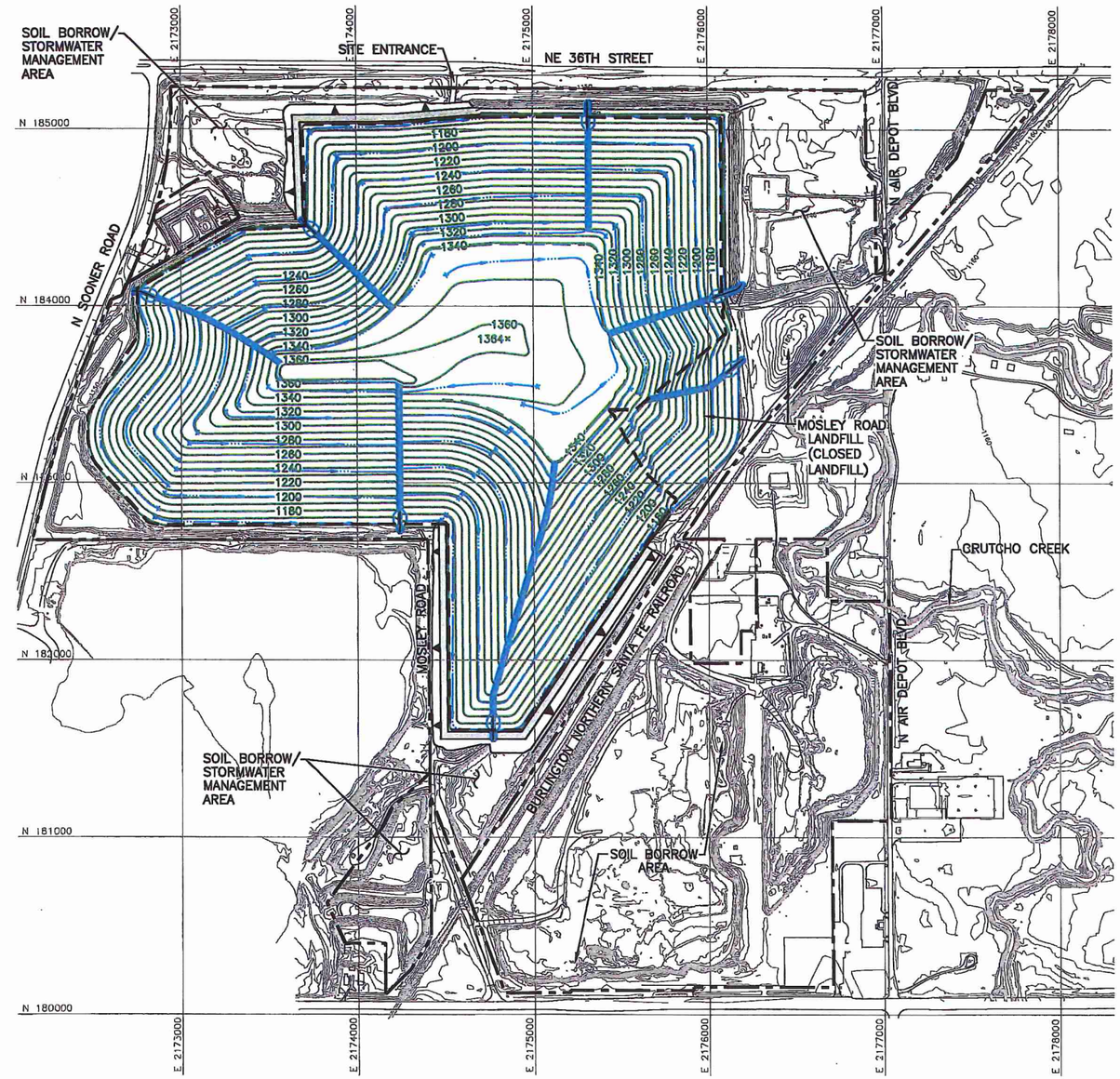
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 2-AERIAL PHOTO.dwg, 3/24/2014 10:10:14 AM, rsellers, 1:2



PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN

D-3-11

LEGEND:

- LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE

N

0 400 800
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. THE CITY OF OKLAHOMA CITY HAS APPROVED SOIL BORROW PUD's TO USE THE AREAS ADJACENT TO THE LANDFILL AS A SOIL BORROW AREA TO SUPPORT SITE OPERATIONS.

☐ DRAFT
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☐ CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 3-FC PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

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PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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FIGURE 3

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 3-PROPOSED COMPLETION PLAN.dwg, 3/24/2014 10:11:37 AM, rsellers, 1:2

APPENDIX D-4

RECREATION/PRESERVATION AREAS

CONTENTS

This appendix provides documentation for the required coordination with the Oklahoma Tourism and Recreation Department, Bureau of Reclamation, Oklahoma City Parks and Recreation Department, and Oklahoma Natural Areas Registry. This appendix includes:

- May 2, 2014 Oklahoma Tourism and Recreation Department confirmation letter.
- April 15, 2014 Bureau of Reclamation confirmation letter.
- August 6, 2014 Oklahoma City Parks and Recreation Department confirmation letter.
- April 15, 2014 Oklahoma Natural Areas Registry confirmation email.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for Oklahoma Tourism and Recreation Department review.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for Bureau of Reclamation review.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for Oklahoma City Parks and Recreation Department review.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for Oklahoma Natural Areas Registry review.

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Clermont, FL
Grand Rapids, MI

Susan File

April 9, 2014
Project No. 0086-356-11-38-02

Ms. Deby Snodgrass, Executive Director
Oklahoma Tourism and Recreation Department
120 N. Robinson, 6th Floor
Oklahoma City, Oklahoma 73102

This proposed project will have no adverse impact on any federally funded park or recreation area or state park.
Eve L Atkinson, Planner II
Director, Division of Planning & Development
Oklahoma Tourism & Recreation Department
405-230-8483

Re: Public Recreation or Preservation Area Statement
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Ms. Snodgrass:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to confirm that the proposed landfill expansion of the East Oak Recycling and Disposal Facility is not located within one-half mile of a public recreation or preservation area designated by a federal, state, or local agency. The Oklahoma Department of Environmental Quality landfill location restriction regulations set forth in Oklahoma Administrative Code (OAC) §252:515-5-31(b), requires that a permit applicant for an expansion of a municipal solid waste facility determine if a proposed landfill expansion lies within one-half mile of an area designated for public recreation or preservation.

Weaver Boos Consultants, LLC–Southwest, is preparing a landfill expansion permit application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill located in the City of Oklahoma City, Oklahoma. A landfill has been operating at this location for over 25 years. Please find attached a project summary and site location maps to facilitate your review.

To verify compliance with §252:515-5-31(b), we are requesting that the Oklahoma Tourism and Recreation Department confirm that the landfill is not located within one-half mile of an area dedicated and managed by a federal, state, or local government agency for public recreation or preservation.

United States Department of the Interior

BUREAU OF RECLAMATION
Oklahoma-Texas Area Office
Oklahoma City Field Office
5924 NW 2nd Street, Suite 200
Oklahoma City, OK 73127-6514

IN REPLY REFER TO:
OK-AM
PIO-1.10

APR 15 2014

Mr. Jonathan V. Queen
Weaver Boos Consultants LLC Southwest
6420 Southwest Blvd, Suite 206
Fort Worth, Texas 76109

Subject: Solicitation For Public Recreation or Preservation Area Statement East Oak Recycling And Disposal Facility Expansion, Oklahoma City, Oklahoma

Dear Mr. Queen,

Thank you for the opportunity for our office to respond to your letter dated April 9, 2014. The Bureau of Reclamation does not currently have any projects or facilities located within one-half miles of the landfill located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian.

Should you have any questions or need additional information, please contact Mr. Matt Warren at this office at 405-470-4830.

Sincerely,

James Allard, P. E.
Deputy Area Manager

The City of
OKLAHOMA CITY
PARKS AND RECREATION DEPARTMENT

August 6, 2014

Weaver Boos Consultants, LLC/SW
Mr. Jonathan V. Queen, P.E.
6420 SW Blvd, Suite 206
Fort Worth, TX 76109

Dear Mr. Queen:

This letter is to confirm the receipt of your inquiry on behalf of Waste Management of Oklahoma, Inc. regarding expansion of their East Oak Landfill. In response, there are no City of Oklahoma City parks located with ½ mile of your proposed landfill expansion. The nearest park in the area is Diggs Park which is approximately 1.2 miles from the landfill project.

We appreciate your checking with us on this matter. If you have questions please call me at 297-2944.

Sincerely,

Terry D. Ash, Acting Assistant Director
Oklahoma City Parks and Recreation Department

Pc: Doug Kupper, Director, Oklahoma City Parks and Recreation Department

From: Fagin, Todd D. [mailto:tfagin@ou.edu]
Sent: Tuesday, April 15, 2014 10:03 AM
To: Queen, Jonathan
Subject: ONHI Information Request follow-up

Mr. Queen,

On April 10th, I sent you the results of an Oklahoma Natural Heritage Inventory (ONHI) information request regarding federal and state threatened, endangered or candidate species, as well as non-regulatory rare species and ecological systems of importance for Sec. 21-T12N-R2W (see attached). When I arrived to the office today, I had another request from your office awaiting me (it was initially sent to Priscilla Crawford, who then forwarded it to me). It inquired about designated public recreation or preservation lands within half mile of the site. The ONHI maintains a so-called protected areas database. While it sometimes includes recreational areas, it is typically focused on those lands with some conservation status. Our database doesn't show any protected areas within ½ mile of the project area. I cannot confirm whether there are recreation areas, though.

I rarely get such requests, so I do not have a form letter for protected areas. If you need a letter in addition to this email, please let me know.

Thank you,

Todd Fagin

Oklahoma Natural Heritage Inventory/
Department of Geography and Environmental Sustainability

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Columbus, OH
Denver, CO
Fort Worth, TX
Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

Ms. Deby Snodgrass, Executive Director
Oklahoma Tourism and Recreation Department
120 N. Robinson, 6th Floor
Oklahoma City, Oklahoma 73102

Re: Public Recreation or Preservation Area Statement
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Ms. Snodgrass:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to confirm that the proposed landfill expansion of the East Oak Recycling and Disposal Facility is not located within one-half mile of a public recreation or preservation area designated by a federal, state, or local agency. The Oklahoma Department of Environmental Quality landfill location restriction regulations set forth in Oklahoma Administrative Code (OAC) §252:515-5-31(b), requires that a permit applicant for an expansion of a municipal solid waste facility determine if a proposed landfill expansion lies within one-half mile of an area designated for public recreation or preservation.

Weaver Boos Consultants, LLC–Southwest, is preparing a landfill expansion permit application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill located in the City of Oklahoma City, Oklahoma. A landfill has been operating at this location for over 25 years. Please find attached a project summary and site location maps to facilitate your review.

To verify compliance with §252:515-5-31(b), we are requesting that the Oklahoma Tourism and Recreation Department confirm that the landfill is not located within one-half mile of an area dedicated and managed by a federal, state, or local government agency for public recreation or preservation.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachment: Project Summary and Site Location Maps

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

Introduction

The East Oak Recycling and Disposal Facility is in the process of developing a Tier III Permit Application to expand the existing landfill to provide long-term disposal capacity for municipal solid waste that is generated in the City of Oklahoma City, Oklahoma County, and the surrounding areas. The purpose of this summary is to provide an overview of the proposed landfill expansion. The site is located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, City of Oklahoma City, Oklahoma. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The East Oak Recycling and Disposal Facility is owned and operated by Waste Management of Oklahoma, Inc., a Waste Management, Inc. company. Waste Management, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services and serves more than 20 million residential, commercial and industrial customers in North America.

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Oklahoma Department of Transportation Oklahoma County Highway Map.
- Aerial Photograph (Figure 2). This figure shows the existing recycling and disposal facility and permitted waste disposal area, as well as the proposed expansion area, on a recent aerial photograph.
- Permitted Completion Plan and Proposed Completion Plan (Figure 3). This figure shows the permitted landfill completion plan and the proposed landfill completion plan on detailed site topographic maps.

The East Oak Recycling and Disposal Facility is located approximately 8 miles east of downtown Oklahoma City and is accessed from NE 36th Street approximately 2.5 miles east of Interstate Highway 35. The address of the site is 3201 Mosley Road, Oklahoma City, OK 73141. The service area includes the City of Oklahoma City, Oklahoma

County, and other surrounding areas. The facility has operated under Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036 since 1986.

Design Summary

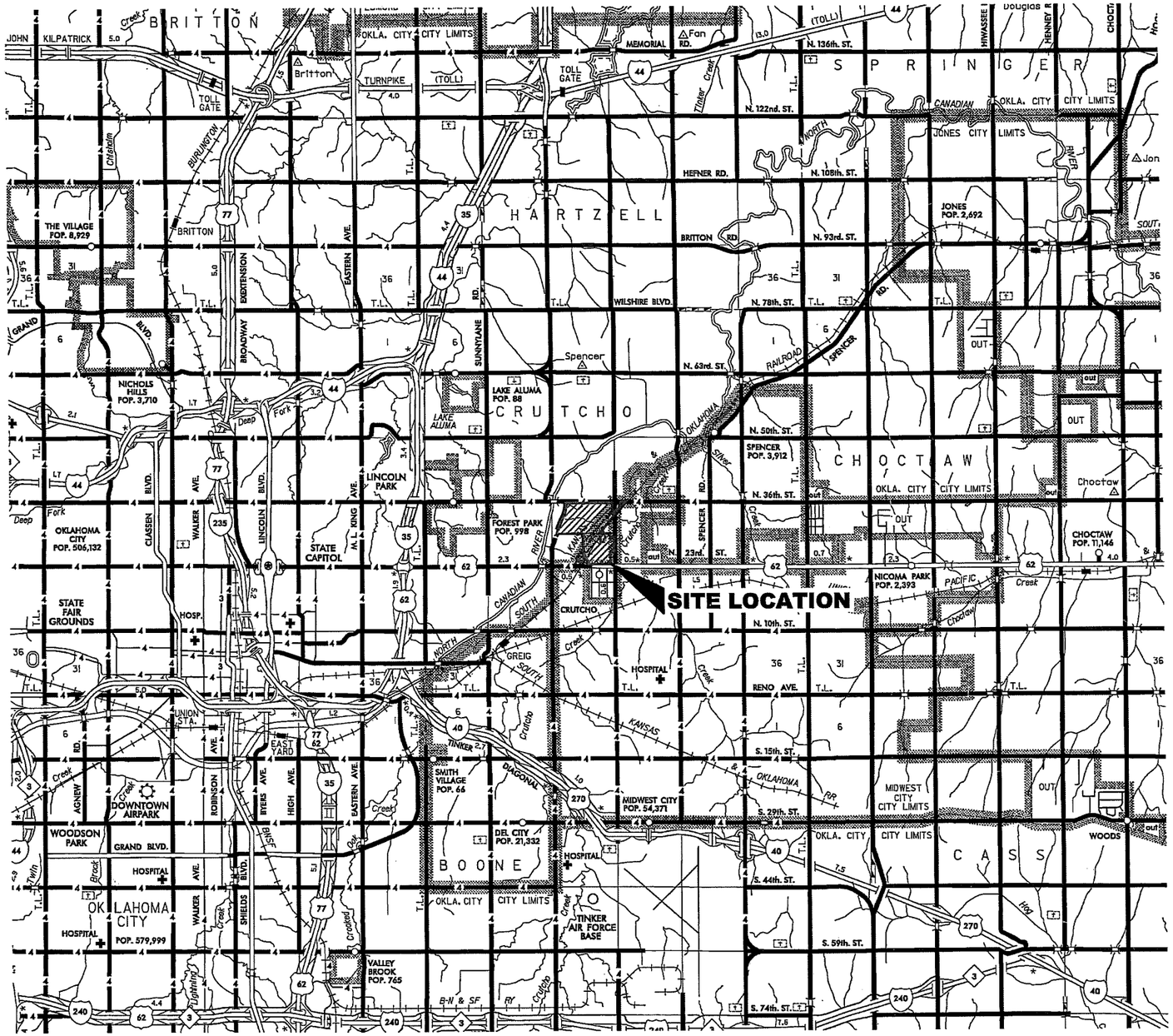
The following information presents a summary of the design and operations for the proposed East Oak Recycling and Disposal Facility expansion.

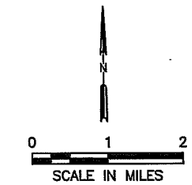
- The existing permit boundary will expand from approximately 158.8 acres to a proposed 284 acres. The waste disposal area will increase from approximately 132.0 acres to 179.5 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The facility will accept municipal solid waste, construction and demolition wastes, non-hazardous industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste, and sludges as permitted by the ODEQ.
- Access to the site will be provided via the existing site access road from NE 36th Street. Based on traffic patterns of existing landfill traffic, most vehicles bound for the landfill will access the site using NE 36th Street from Interstate Highway 35. The existing roads are capable of handling the traffic load associated with the landfill.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged offsite to the Oklahoma City Publicly Owned Treatment Works (POTW) in accordance with the Oklahoma City Industrial Wastewater Treatment/Disposal Permit No. 2865. The construction procedures of the liner and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the landfill.
- To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:
  - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
  - Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and

verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.

  - These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ and are public record.

- Site Operations. Properly trained personnel will operate the site. A detailed site operating plan will be included in the landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors. The East Oak Recycling and Disposal Facility will continue to be inspected by the ODEQ on a regular basis to ensure the site is in compliance with state regulations.





LEGEND

- U.S. NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
- UNDIVIDED HIGHWAY, 3 OR MORE LANES
- TRAFFIC CIRCLE
- HIGHWAY GRADE SEPARATION
- TRAFFIC INTERCHANGE
- STATE LINE
- COUNTY LINE
- CIVIL TOWNSHIP LINE
- SECTION LINE
- RURAL DEVELOPMENT AREA
- GOVERNMENT PROPERTY LINE
- MATCH LINE
- COUNTY SEAT
- TOWN CENTER
- CORPORATE LIMITS
- T.L. CIVIL TOWNSHIP, ROAD IN PLACE
- INSET BOUNDARY
- 1867 ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
- DRY LAKE SUBJECT TO FLOOD
- SMALL BRIDGES CLOSELY SPACED
- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE, W-WOOD, S-STEEL, C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
- WIDE STREAM OR RIVER
- TRIANGULATION STATION
- RAILROAD, ANY NUMBER OF TRACKS
- RAILROAD WITH STATION INDICATED
- GRADE CROSSING
- UNDERPASS, R.R. ABOVE
- OVERPASS, R.R. BELOW
- RAILROAD ON STREET
- MILITARY AIRFIELD
- AIRPORT WITH COMPLETE FACILITIES
- AIRPORT WITH LIMITED FACILITIES
- LANDING STRIP, PRIVATE FIELD
- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds
- PLAYGROUNDS
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- MOTEL
- CAMP OR LODGE, Permanent with buildings
- SP SMALL PARK SP–State, CP–County MP–Municipal, TP–Trailer Park
- FOREST RANGER STATION
- OBSERVATION OR LOOKOUT TOWER
- CAMP SITE
- FISH HATCHERY
- C GOLF COURSE OR COUNTRY CLUB
- A ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSELY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- JUNK YARDS & DUMPS A–Automobile, B–Scrap Building Material, D–Refuse, Garbage or trash dump, F–Sanitary Fill, G–Other
- S SEWAGE DISPOSAL PLANT
- W WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

D-4-12

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DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 1

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LEGEND

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- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08-09-2012.
2. THE EXISTING AND PROPOSED PERMIT BOUNDARIES WERE REPRODUCED FROM A LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.

D-4-13

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DATE: 04/2014
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FIGURE 2

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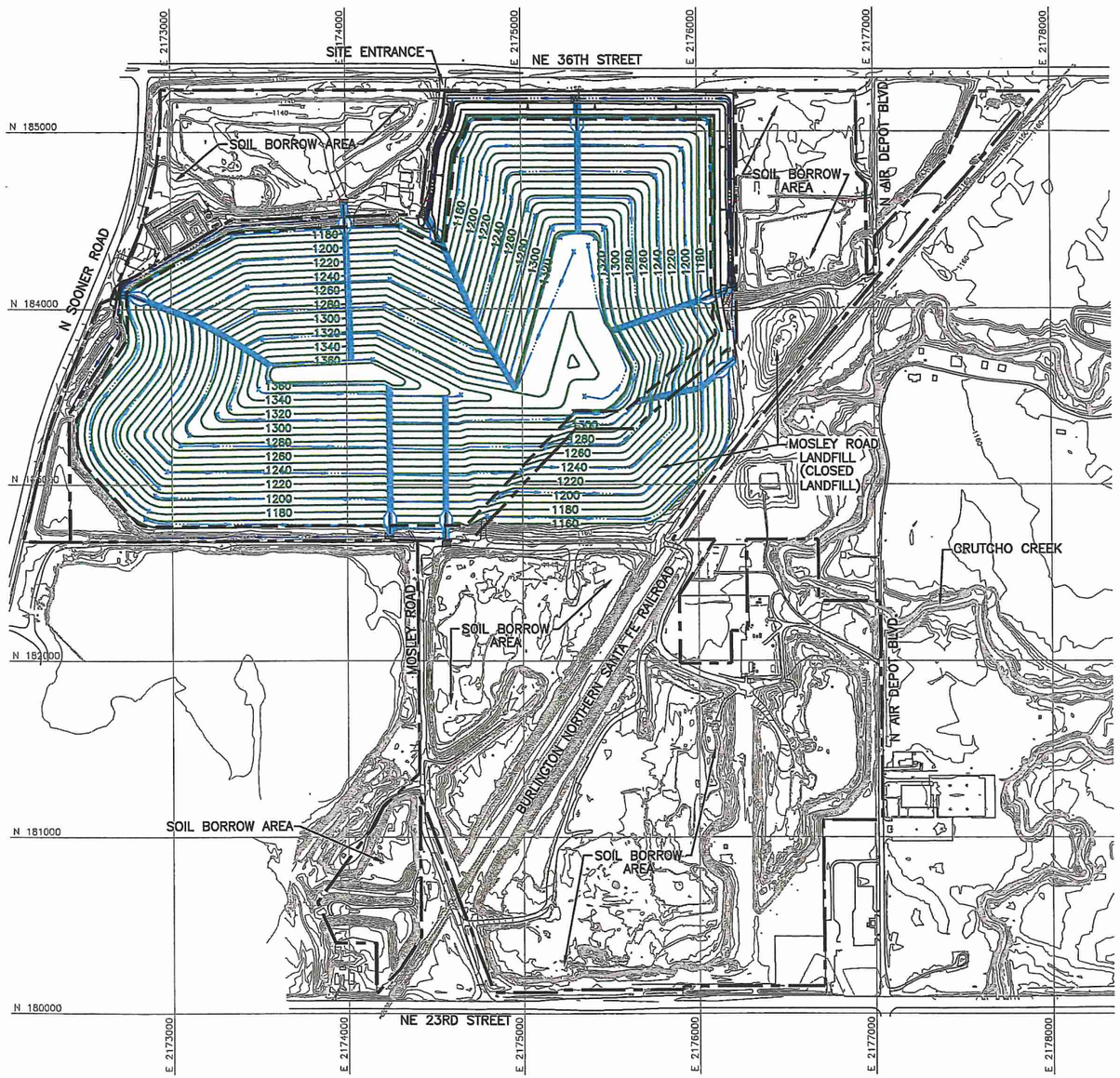

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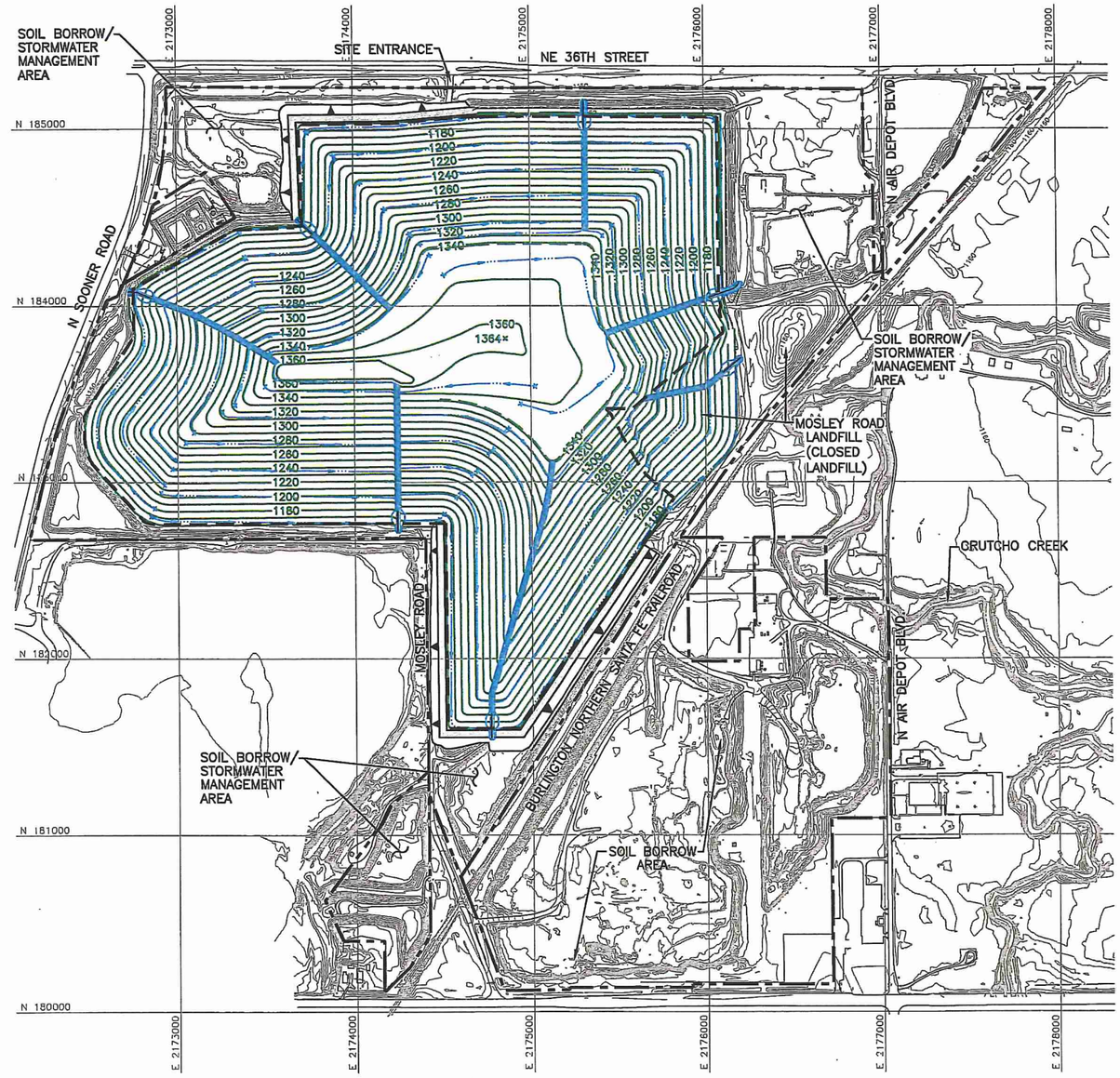

PROPOSED LANDFILL COMPLETION PLAN

D-4-14

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PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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FIGURE 3

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Kansas City, MO
Columbus, OH
Denver, CO
Fort Worth, TX
Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

Ms. Ashley Dixson, Realty Specialist
Bureau of Reclamation
5924 NW 2nd Street, Suite 200
Oklahoma City, Oklahoma 73127

Re: Public Recreation or Preservation Area Statement
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Ms. Dixson:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to confirm that the proposed landfill expansion of the East Oak Recycling and Disposal Facility is not located within one-half mile of a public recreation or preservation area designated by a federal, state, or local agency. The Oklahoma Department of Environmental Quality (ODEQ) landfill location restriction regulations set forth in Oklahoma Administrative Code (OAC) §252:515-5-31(b), require that a permit applicant for an expansion of a municipal solid waste facility determine if a proposed landfill expansion lies within one-half mile of an area designated for public recreation or preservation.

Weaver Boos Consultants, LLC–Southwest is preparing a permit application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill located in the City of Oklahoma City, Oklahoma. A landfill has been operating at this location for over 25 years. Please find attached a project summary and site locations maps to facilitate your review.

To verify compliance with §252:515-5-31(b), we are requesting that the Bureau of Reclamation confirm that the landfill is not located within one-half mile of an area dedicated for public recreation or preservation.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachments: Project Summary and Site Location Maps

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

Introduction

The East Oak Recycling and Disposal Facility is in the process of developing a Tier III Permit Application to expand the existing landfill to provide long-term disposal capacity for municipal solid waste that is generated in the City of Oklahoma City, Oklahoma County, and the surrounding areas. The purpose of this summary is to provide an overview of the proposed landfill expansion. The site is located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, City of Oklahoma City, Oklahoma. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The East Oak Recycling and Disposal Facility is owned and operated by Waste Management of Oklahoma, Inc., a Waste Management, Inc. company. Waste Management, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services and serves more than 20 million residential, commercial and industrial customers in North America.

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Oklahoma Department of Transportation Oklahoma County Highway Map.
- Aerial Photograph (Figure 2). This figure shows the existing recycling and disposal facility and permitted waste disposal area, as well as the proposed expansion area, on a recent aerial photograph.
- Permitted Completion Plan and Proposed Completion Plan (Figure 3). This figure shows the permitted landfill completion plan and the proposed landfill completion plan on detailed site topographic maps.

The East Oak Recycling and Disposal Facility is located approximately 8 miles east of downtown Oklahoma City and is accessed from NE 36th Street approximately 2.5 miles east of Interstate Highway 35. The address of the site is 3201 Mosley Road, Oklahoma City, OK 73141. The service area includes the City of Oklahoma City, Oklahoma

County, and other surrounding areas. The facility has operated under Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036 since 1986.

Design Summary

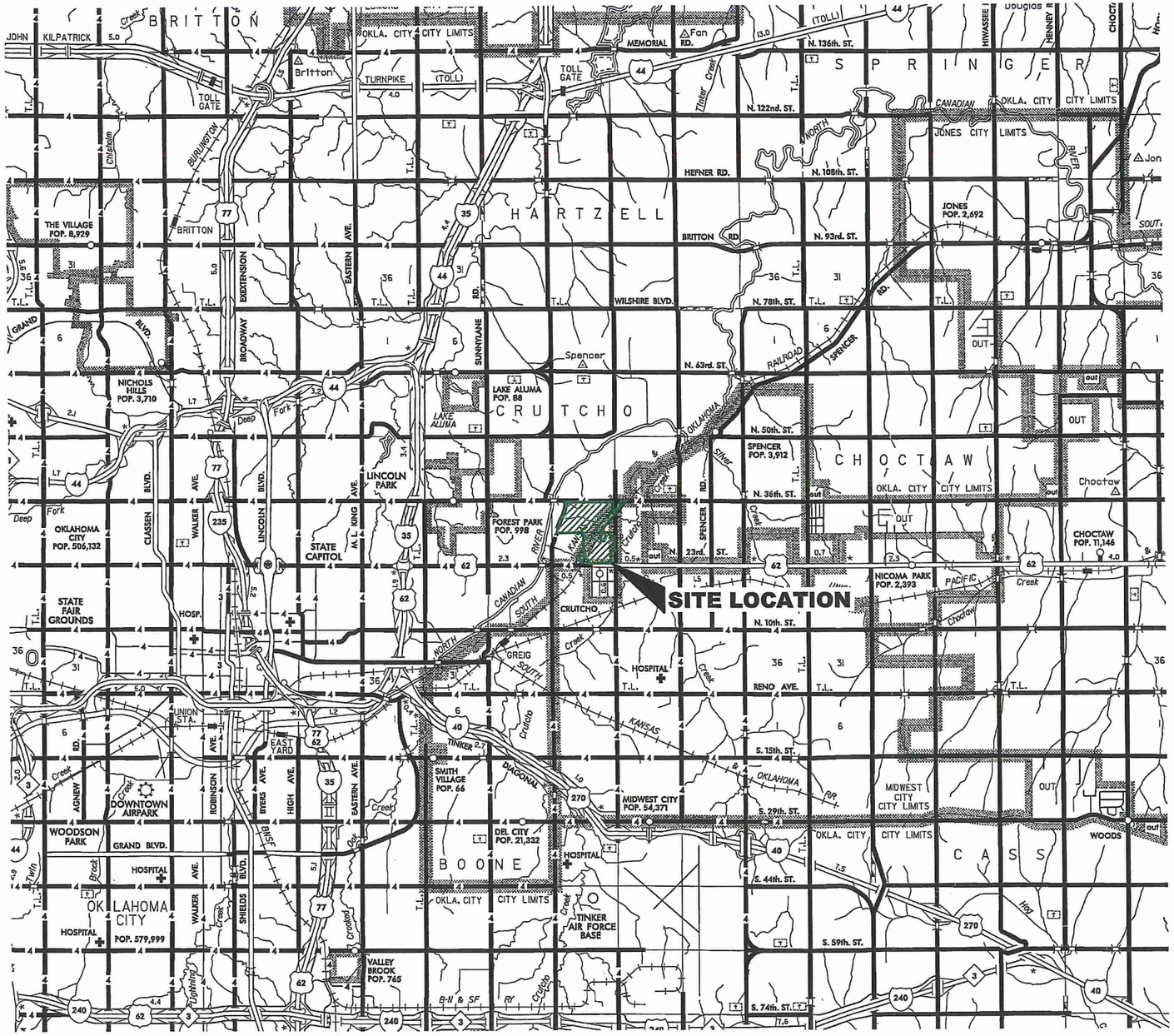
The following information presents a summary of the design and operations for the proposed East Oak Recycling and Disposal Facility expansion.

- The existing permit boundary will expand from approximately 158.8 acres to a proposed 284 acres. The waste disposal area will increase from approximately 132.0 acres to 179.5 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The facility will accept municipal solid waste, construction and demolition wastes, non-hazardous industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste, and sludges as permitted by the ODEQ.
- Access to the site will be provided via the existing site access road from NE 36th Street. Based on traffic patterns of existing landfill traffic, most vehicles bound for the landfill will access the site using NE 36th Street from Interstate Highway 35. The existing roads are capable of handling the traffic load associated with the landfill.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged offsite to the Oklahoma City Publicly Owned Treatment Works (POTW) in accordance with the Oklahoma City Industrial Wastewater Treatment/Disposal Permit No. 2865. The construction procedures of the liner and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the landfill.
- To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:
  - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
  - Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and

verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.

- These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ and are public record.

- Site Operations. Properly trained personnel will operate the site. A detailed site operating plan will be included in the landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors. The East Oak Recycling and Disposal Facility will continue to be inspected by the ODEQ on a regular basis to ensure the site is in compliance with state regulations.



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SCALE IN MILES

LEGEND

- U.S. NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
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- HIGHWAY GRADE SEPARATION
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- INSET BOUNDARY
- 1867 ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
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- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE, W-WOOD, S-STEEL, C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
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- UNDERPASS, R.R. ABOVE
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- AIRPORT WITH LIMITED FACILITIES
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- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds
- PLAYGROUNDS
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- ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSLEY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- JUNK YARDS & DUMPS A-Automobile, B-Scrap Building Material, D-Refuse, Garbage or trash dump, F-Sanitary Fill, G-Other
- SEWAGE DISPOSAL PLANT
- WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

D-4-21

- [ ] DRAFT
- [x] FOR INFORMATIONAL PURPOSES ONLY
- [ ] APPROVED FOR CONSTRUCTION
- [ ] CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 1-GEN_LOC.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

REUSE OF DOCUMENTS

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 1

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 1-GEN_LOC.dwg, 3/24/2014 10:09:19 AM, rsellers, 1:2

N

0 500 1000
SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08-09-2012.
2. THE EXISTING AND PROPOSED PERMIT BOUNDARIES WERE REPRODUCED FROM A LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.

D-4-22

- [ ] DRAFT
- [x] FOR INFORMATIONAL PURPOSES ONLY
- [ ] APPROVED FOR CONSTRUCTION
- [ ] CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 2-AERIAL.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

AERIAL PHOTOGRAPH

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 2

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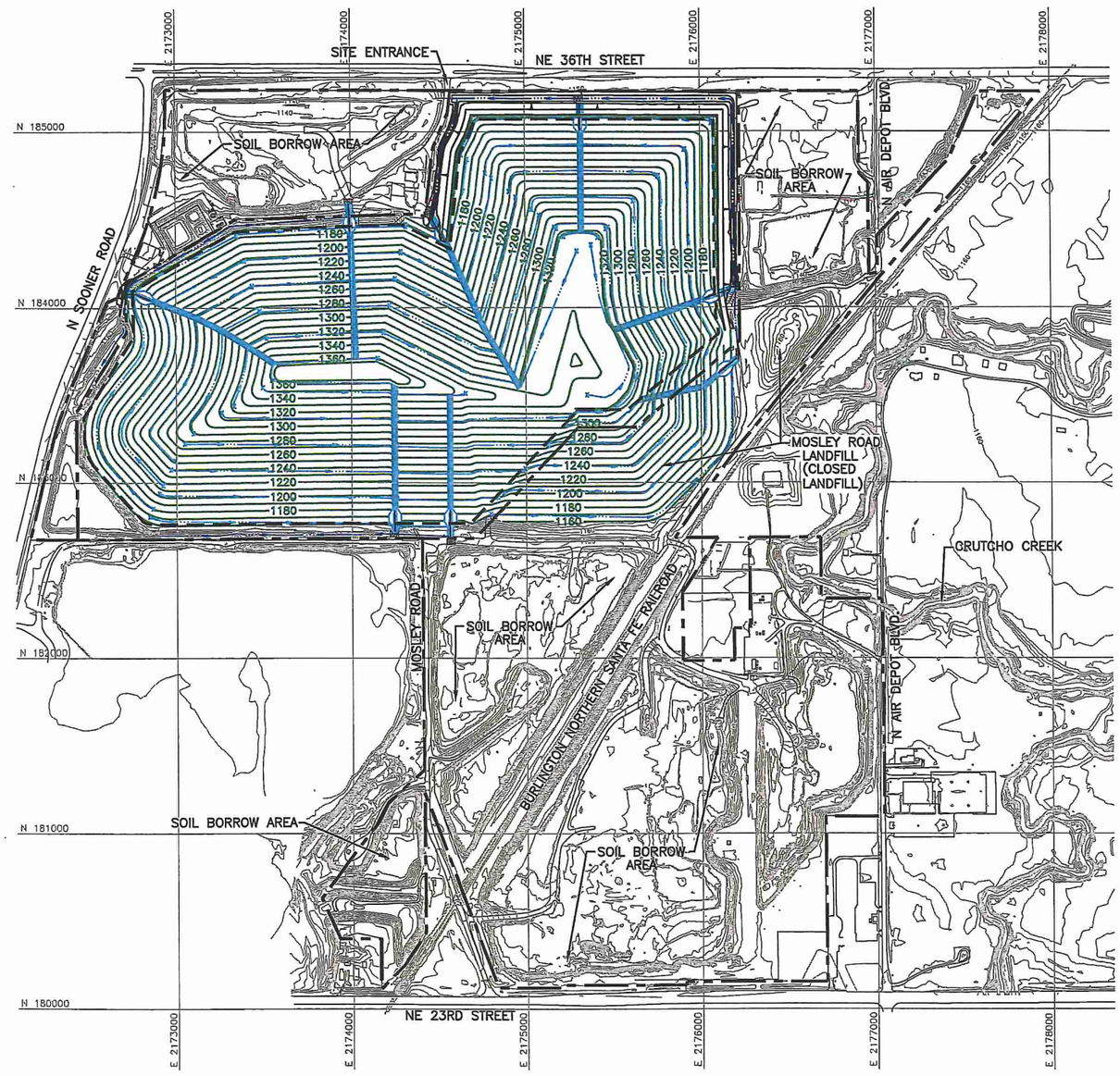
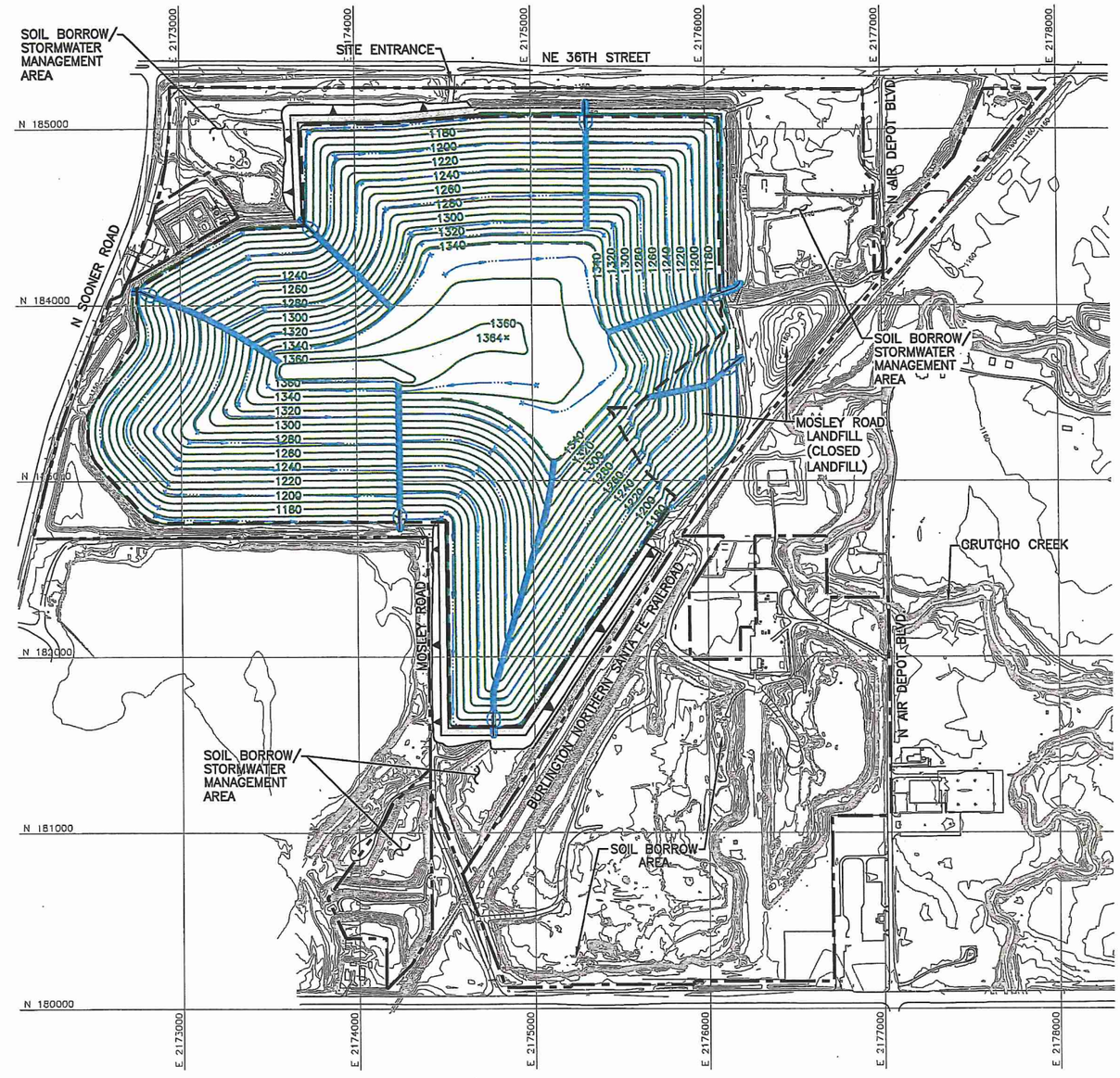
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 2-AERIAL PHOTO.dwg, 3/24/2014 10:10:14 AM, rsellers, 1:2



PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN

D-4-23

LEGEND:

- LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE

N

0 400 800
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. THE CITY OF OKLAHOMA CITY HAS APPROVED SOIL BORROW PUD's TO USE THE AREAS ADJACENT TO THE LANDFILL AS A SOIL BORROW AREA TO SUPPORT SITE OPERATIONS.

☐ DRAFT
☒ FOR INFORMATIONAL PURPOSES ONLY
☐ APPROVED FOR CONSTRUCTION
☐ CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 3-FC PLAN.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 3

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 3-PROPOSED COMPLETION PLAN.dwg, 3/24/2014 10:11:37 AM, rsellers, 1:2

WEAVER
BOOS
CONSULTANTS
LLC
SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206
FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

Chicago, IL
Naperville, IL
South Bend, IN
Griffith, IN
St. Louis, MO
Springfield, MO
Kansas City, MO
Columbus, OH
Denver, CO
Fort Worth, TX
Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

Mr. Larry Ogle
Oklahoma City Parks & Recreation Department
420 W Main
Oklahoma City, Oklahoma 73102

Re: Public Recreation or Preservation Areas
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Mr. Ogle:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to confirm that the proposed expansion of the East Oak Landfill is not located within ½ mile of a public recreation or preservation area designated by a federal, state, or local agency. The Oklahoma Department of Environmental Quality landfill location restriction regulations set forth in Oklahoma Administrative Code (OAC) §252:515-5-31(b) require that a permit applicant for an expansion of a municipal solid waste facility determine if a proposed landfill expansion lies within ½ mile of an area designated for public recreation or preservation.

Weaver Boos Consultants, LLC-Southwest, is preparing a landfill expansion permit application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill facility located in the City of Oklahoma City, Oklahoma. The landfill has been operating at this location for over 25 years. Please find attached project summary and site location maps to assist in your review.

To verify compliance with §252:515-5-31(b), we are requesting that the Oklahoma City Parks and Recreation Department confirm that the landfill is not located within ½ mile of an area dedicated and managed by a federal, state, or local government agency for public recreation or preservation. As shown on Figure 2 (included in the Attachment), the site is located south of Northeast 36th Street, east of Sooner Road, and north of Northeast 23rd Street. The nearest public recreation area, Diggs Park, is located 1.2 miles southwest of the site. The nearest preservation area, Heritage Hills East, is located 5.2 miles west of the expansion.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachment: Project Summary and Site Location Maps

cc: Guy Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

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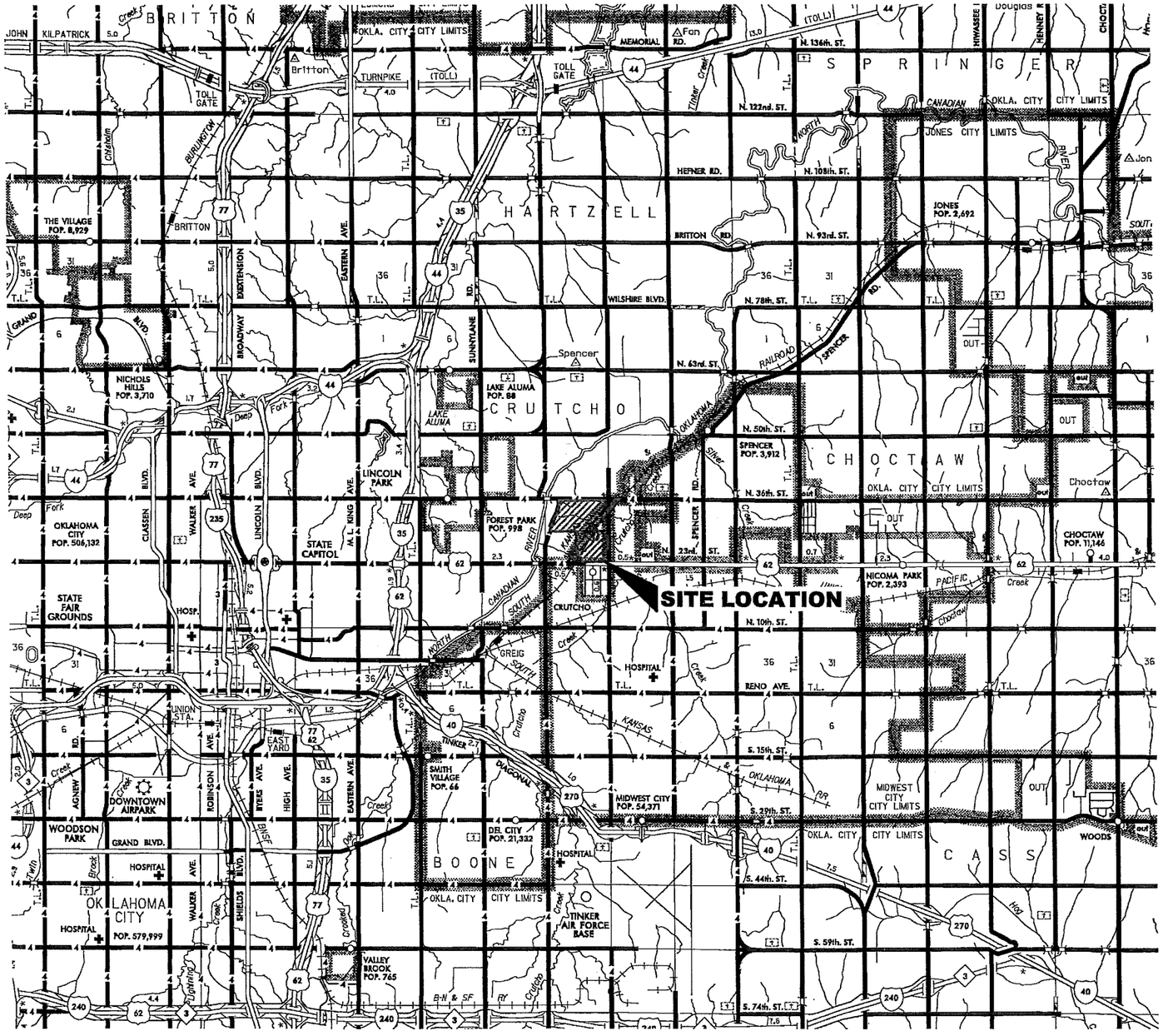

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SCALE IN MILES

LEGEND

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- WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

D-4-30

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- [ ] CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 1-GEN_LOC.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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FIGURE 1

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 1-GEN_LOC.dwg, 3/24/2014 10:09:19 AM, rsellers, 1:2

N

0 500 1000
SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08-09-2012.
2. THE EXISTING AND PROPOSED PERMIT BOUNDARIES WERE REPRODUCED FROM A LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.

D-4-31

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DATE: 04/2014
FILE: 0086-355-11
CAD: FIG 2-AERIAL.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

AERIAL PHOTOGRAPH

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 2

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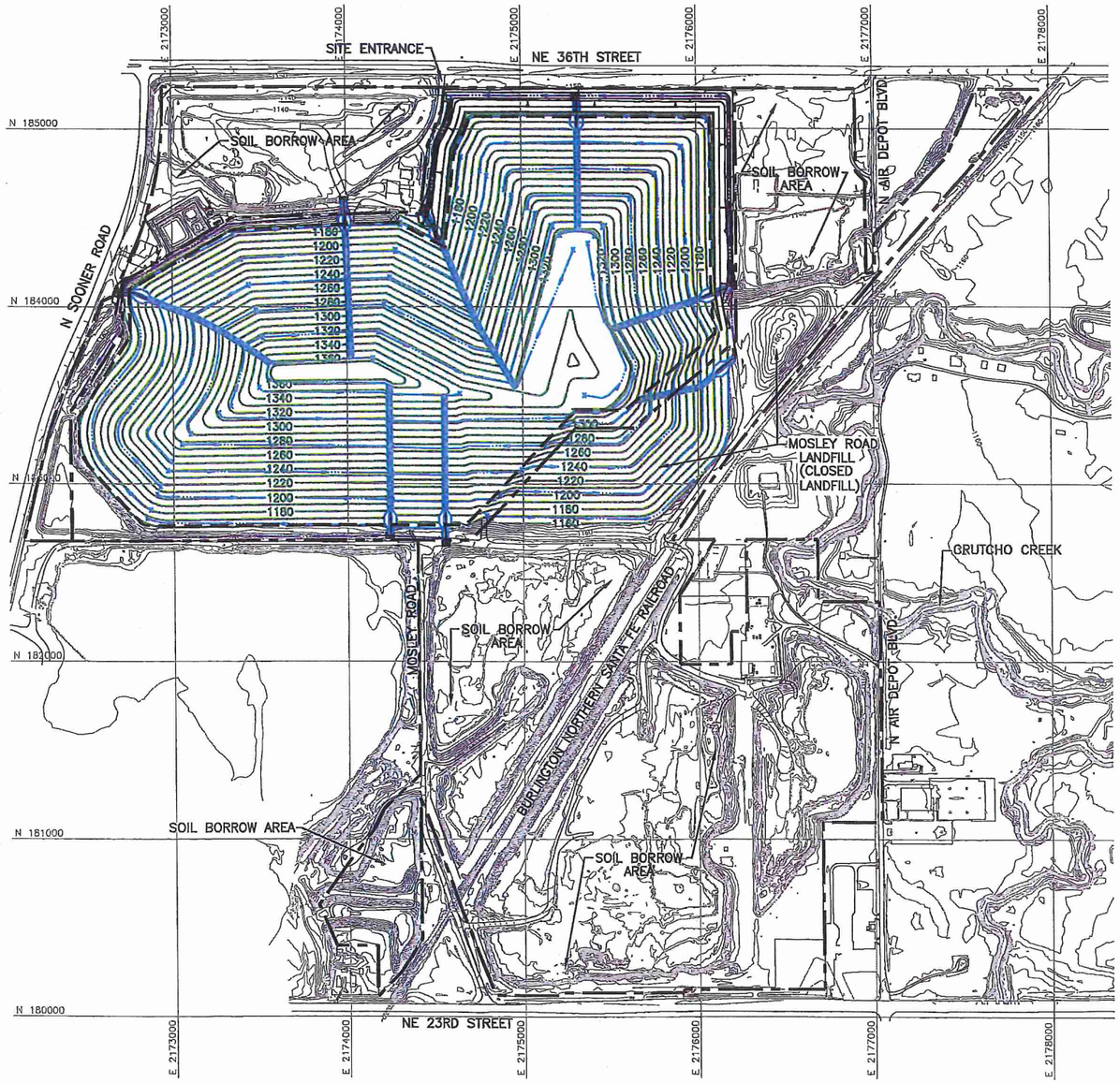
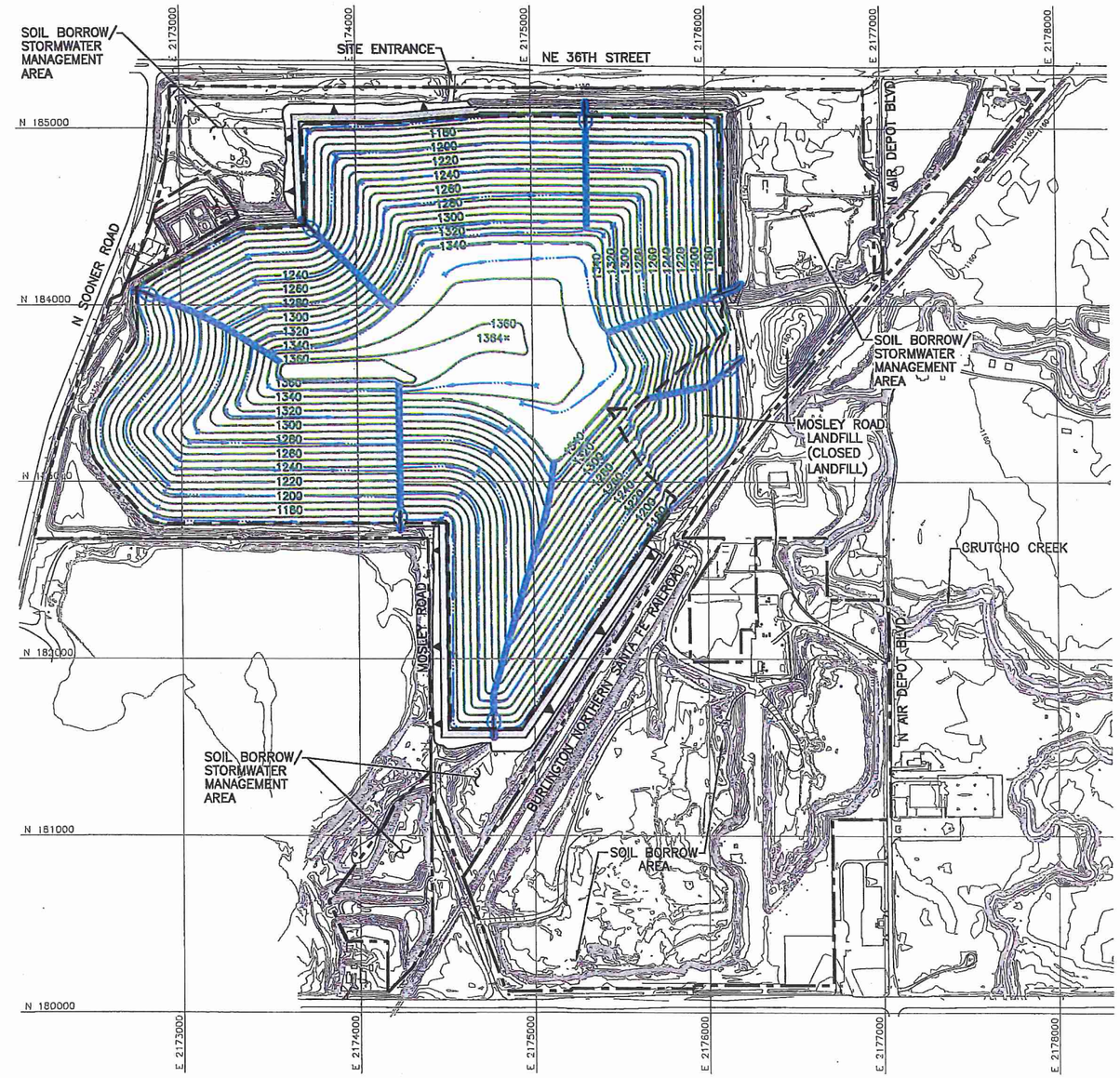
G:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 2-AERIAL PHOTO.dwg, 8/24/2014 10:10:14 AM, rsellers, 1:2



PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN

D-4-32

LEGEND:

- LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE

N

0 400 800
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. THE CITY OF OKLAHOMA CITY HAS APPROVED SOIL BORROW PUD's TO USE THE AREAS ADJACENT TO THE LANDFILL AS A SOIL BORROW AREA TO SUPPORT SITE OPERATIONS.

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☐ CLIENT APPROVAL BY:

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 3-FC PLAN.DWG
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PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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FIGURE 3

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 3-PROPOSED COMPLETION PLAN.dwg, 3/24/2014 10:11:37 AM, rsellers, 1:2

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LLC
SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206
FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

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Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

Priscilla Crawford, Conservation Specialist
Oklahoma Natural Areas Registry
111 East Chesapeake Street
Norman, Oklahoma 73019-0575

Re: Public Recreation or Preservation Area Statement
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Ms. Crawford:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to confirm that the proposed landfill expansion of the East Oak Recycling and Disposal Facility is not located within one-half mile of a public recreation or preservation area designated by a federal, state, or local agency. The Oklahoma Department of Environmental Quality landfill location restriction regulations, set forth in Oklahoma Administrative Code (OAC) §252:515-5-31(b), requires that a permit applicant for an expansion of a municipal solid waste facility determine if a proposed landfill expansion lies within one-half mile of an area designated for public recreation or preservation.

Weaver Boos Consultants, LLC–Southwest, is preparing a landfill expansion permit application, under contract with Waste Management of Oklahoma, Inc., to expand their existing landfill located in the City of Oklahoma City, Oklahoma. A landfill has operated at this location for over 25 years. Please find attached a project summary and site location maps to facilitate your review.

To verify compliance with §252:515-5-31(b), we are requesting that the Oklahoma Natural Areas Registry confirm that the landfill is not located within one-half mile of an area dedicated and managed by a federal, state, or local government agency for public recreation or preservation.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachment: Project Summary and Site Location Maps

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

Introduction

The East Oak Recycling and Disposal Facility is in the process of developing a Tier III Permit Application to expand the existing landfill to provide long-term disposal capacity for municipal solid waste that is generated in the City of Oklahoma City, Oklahoma County, and the surrounding areas. The purpose of this summary is to provide an overview of the proposed landfill expansion. The site is located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, City of Oklahoma City, Oklahoma. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The East Oak Recycling and Disposal Facility is owned and operated by Waste Management of Oklahoma, Inc., a Waste Management, Inc. company. Waste Management, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services and serves more than 20 million residential, commercial and industrial customers in North America.

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Oklahoma Department of Transportation Oklahoma County Highway Map.
- Aerial Photograph (Figure 2). This figure shows the existing recycling and disposal facility and permitted waste disposal area, as well as the proposed expansion area, on a recent aerial photograph.
- Permitted Completion Plan and Proposed Completion Plan (Figure 3). This figure shows the permitted landfill completion plan and the proposed landfill completion plan on detailed site topographic maps.

The East Oak Recycling and Disposal Facility is located approximately 8 miles east of downtown Oklahoma City and is accessed from NE 36th Street approximately 2.5 miles east of Interstate Highway 35. The address of the site is 3201 Mosley Road, Oklahoma City, OK 73141. The service area includes the City of Oklahoma City, Oklahoma

County, and other surrounding areas. The facility has operated under Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036 since 1986.

Design Summary

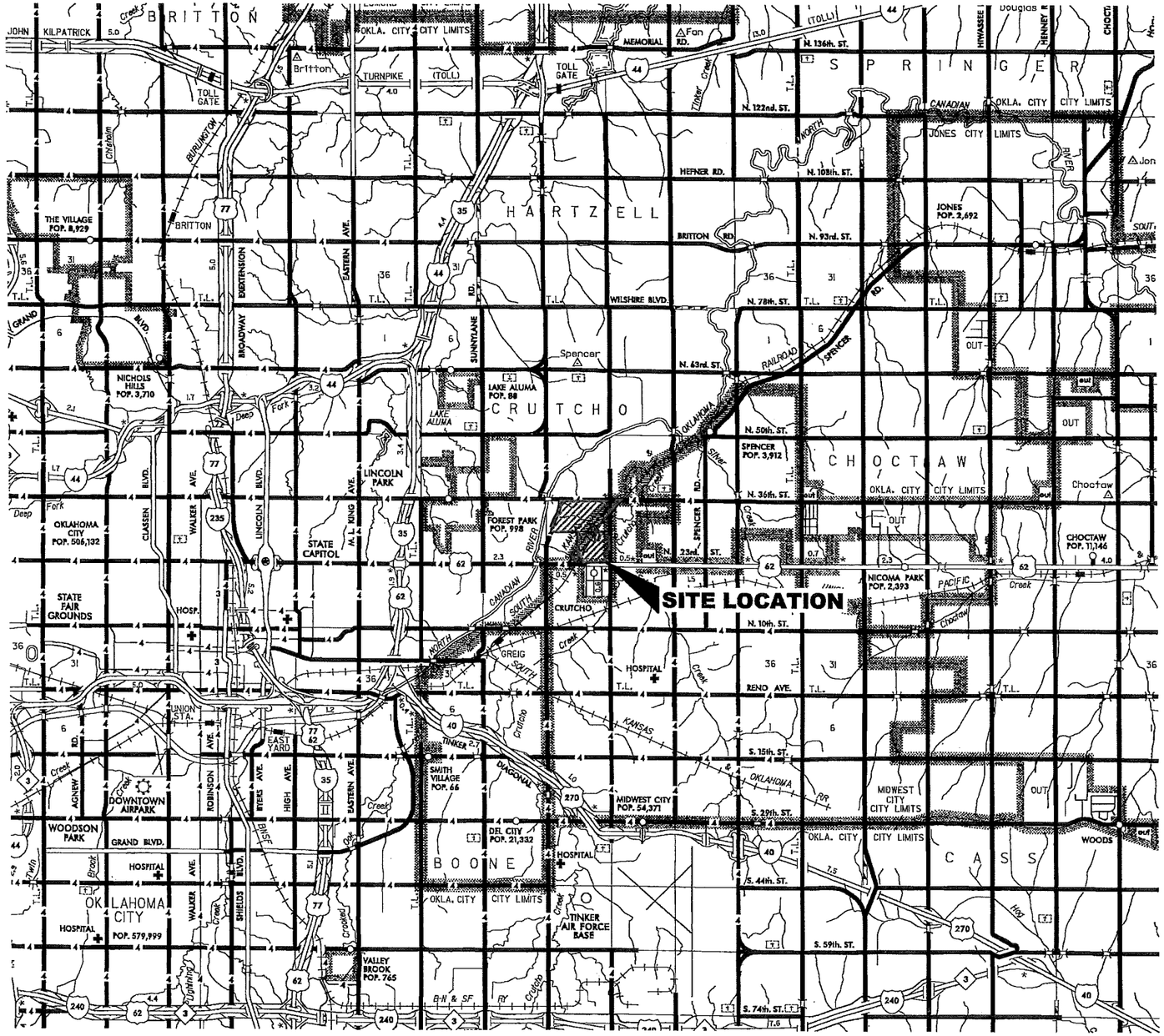
The following information presents a summary of the design and operations for the proposed East Oak Recycling and Disposal Facility expansion.

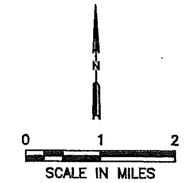
- The existing permit boundary will expand from approximately 158.8 acres to a proposed 284 acres. The waste disposal area will increase from approximately 132.0 acres to 179.5 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The facility will accept municipal solid waste, construction and demolition wastes, non-hazardous industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste, and sludges as permitted by the ODEQ.
- Access to the site will be provided via the existing site access road from NE 36th Street. Based on traffic patterns of existing landfill traffic, most vehicles bound for the landfill will access the site using NE 36th Street from Interstate Highway 35. The existing roads are capable of handling the traffic load associated with the landfill.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged offsite to the Oklahoma City Publicly Owned Treatment Works (POTW) in accordance with the Oklahoma City Industrial Wastewater Treatment/Disposal Permit No. 2865. The construction procedures of the liner and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the landfill.
- To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:
  - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
  - Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and

verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.

  - These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ and are public record.

- Site Operations. Properly trained personnel will operate the site. A detailed site operating plan will be included in the landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors. The East Oak Recycling and Disposal Facility will continue to be inspected by the ODEQ on a regular basis to ensure the site is in compliance with state regulations.





LEGEND

- U.S. NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
- UNDIVIDED HIGHWAY, 3 OR MORE LANES
- TRAFFIC CIRCLE
- HIGHWAY GRADE SEPARATION
- TRAFFIC INTERCHANGE
- STATE LINE
- COUNTY LINE
- CIVIL TOWNSHIP LINE
- SECTION LINE
- RURAL DEVELOPMENT AREA
- GOVERNMENT PROPERTY LINE
- MATCH LINE
- COUNTY SEAT
- TOWN CENTER
- CORPORATE LIMITS
- CIVIL TOWNSHIP, ROAD IN PLACE
- INSET BOUNDARY
- 1867 ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
- DRY LAKE SUBJECT TO FLOOD
- SMALL BRIDGES CLOSELY SPACED
- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE, W-WOOD, S-STEEL, C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
- WIDE STREAM OR RIVER
- TRIANGULATION STATION
- RAILROAD, ANY NUMBER OF TRACKS
- RAILROAD WITH STATION INDICATED
- GRADE CROSSING
- UNDERPASS, R.R. ABOVE
- OVERPASS, R.R. BELOW
- RAILROAD ON STREET
- MILITARY AIRFIELD
- AIRPORT WITH COMPLETE FACILITIES
- AIRPORT WITH LIMITED FACILITIES
- LANDING STRIP, PRIVATE FIELD
- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds
- PLAYGROUNDS
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- MOTEL
- CAMP OR LODGE, Permanent with buildings
- SP SMALL PARK — SP-State, CP-County, MP-Municipal, TP-Trailer Park
- FOREST RANGER STATION
- OBSERVATION OR LOOKOUT TOWER
- CAMP SITE
- FISH HATCHERY
- C GOLF COURSE OR COUNTRY CLUB
- A ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSELY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- D JUNK YARDS & DUMPS A-Automobile, B-Scrap Building Material, D-Refuse, Garbage or trash dump, F-Sanitary Fill, G-Other
- S SEWAGE DISPOSAL PLANT
- WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

D-4-39

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 1-GEN_LOC.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

REVISIONS

NO.	DATE	DESCRIPTION

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FIGURE 1

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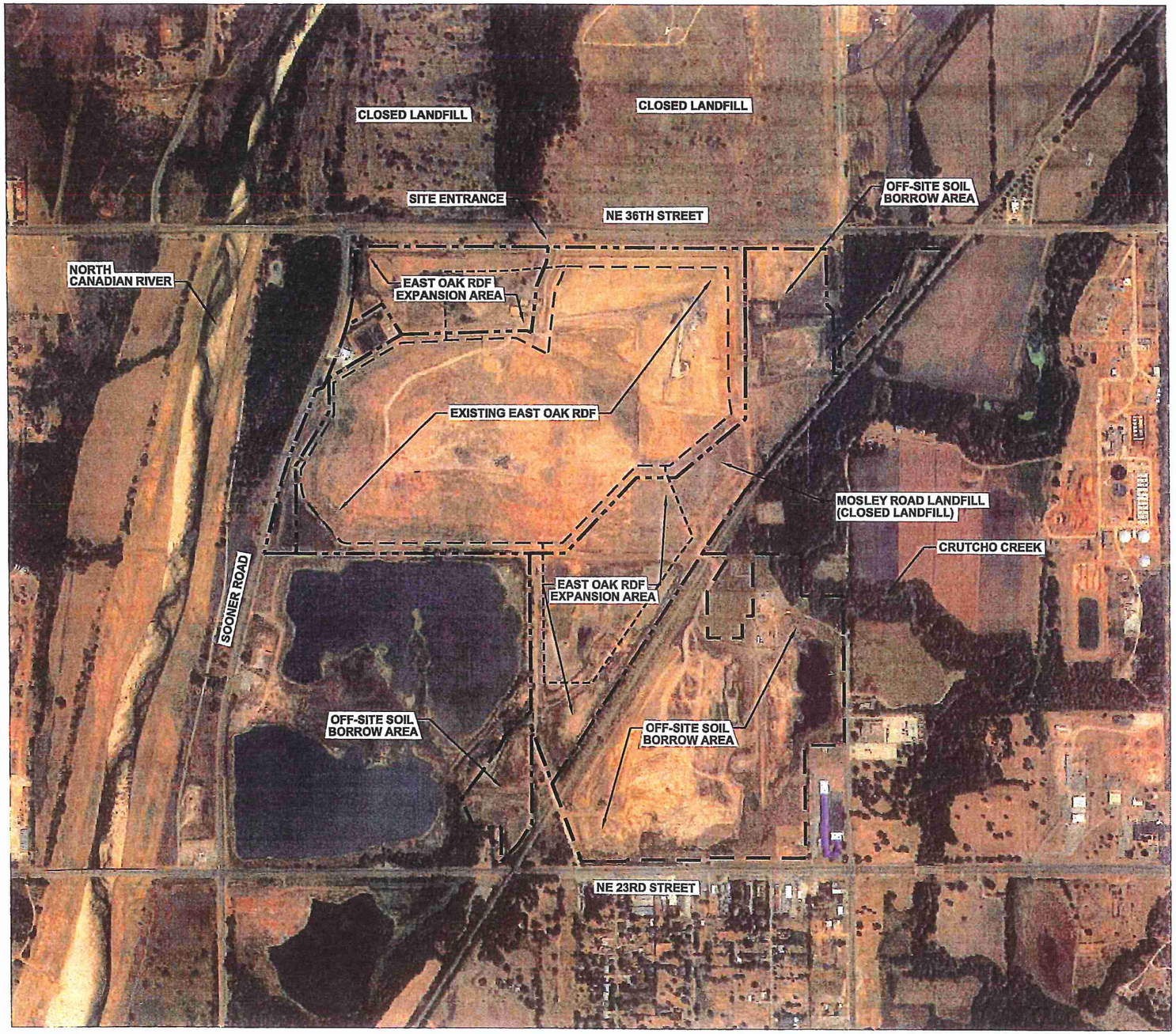
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 1-GEN_LOC.dwg, 3/24/2014 10:09:19 AM, rsellers, 1:2



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SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
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- PROPOSED LIMITS OF WASTE

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REVISIONS

NO.	DATE	DESCRIPTION

AERIAL PHOTOGRAPH

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 2

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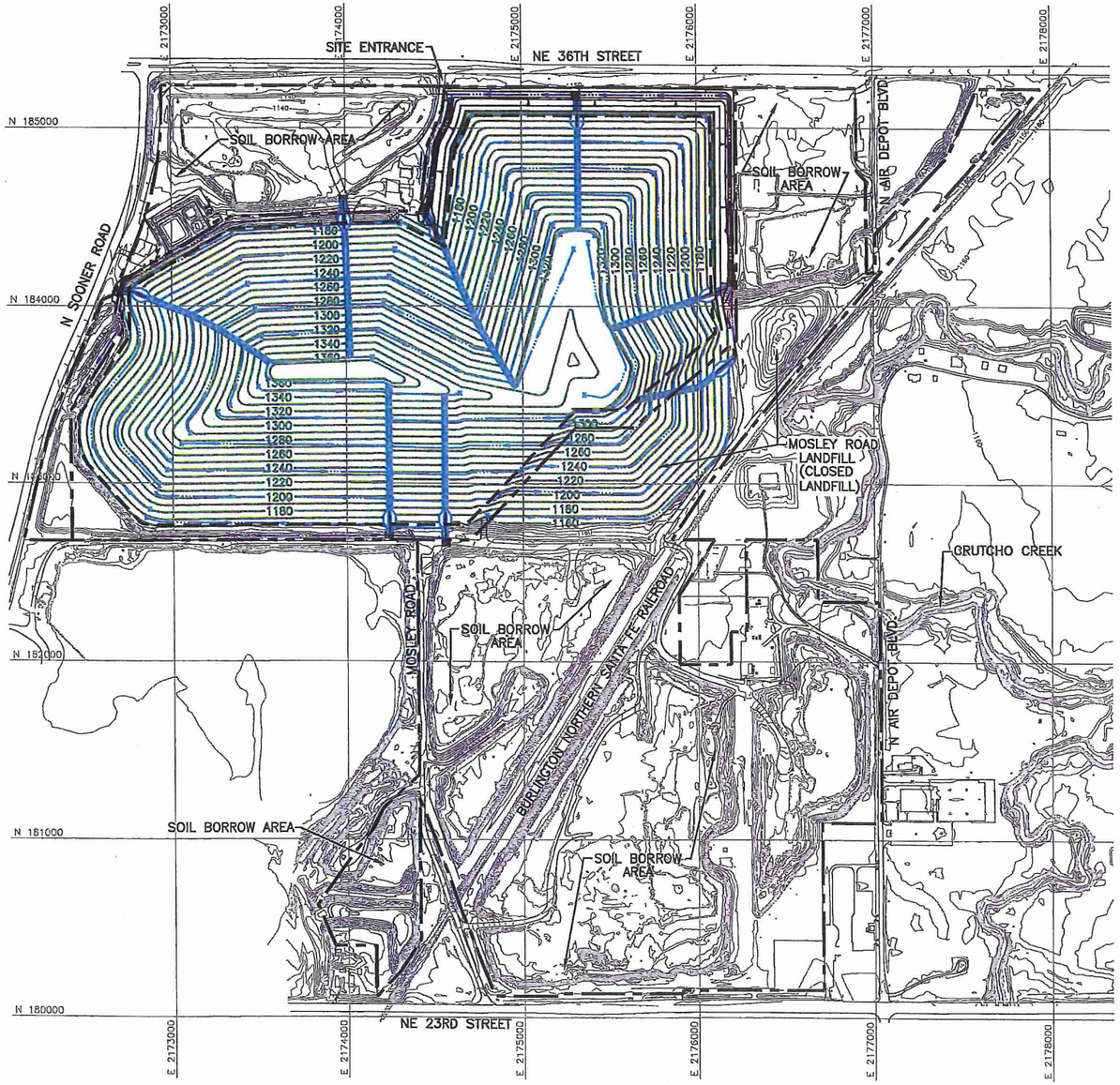
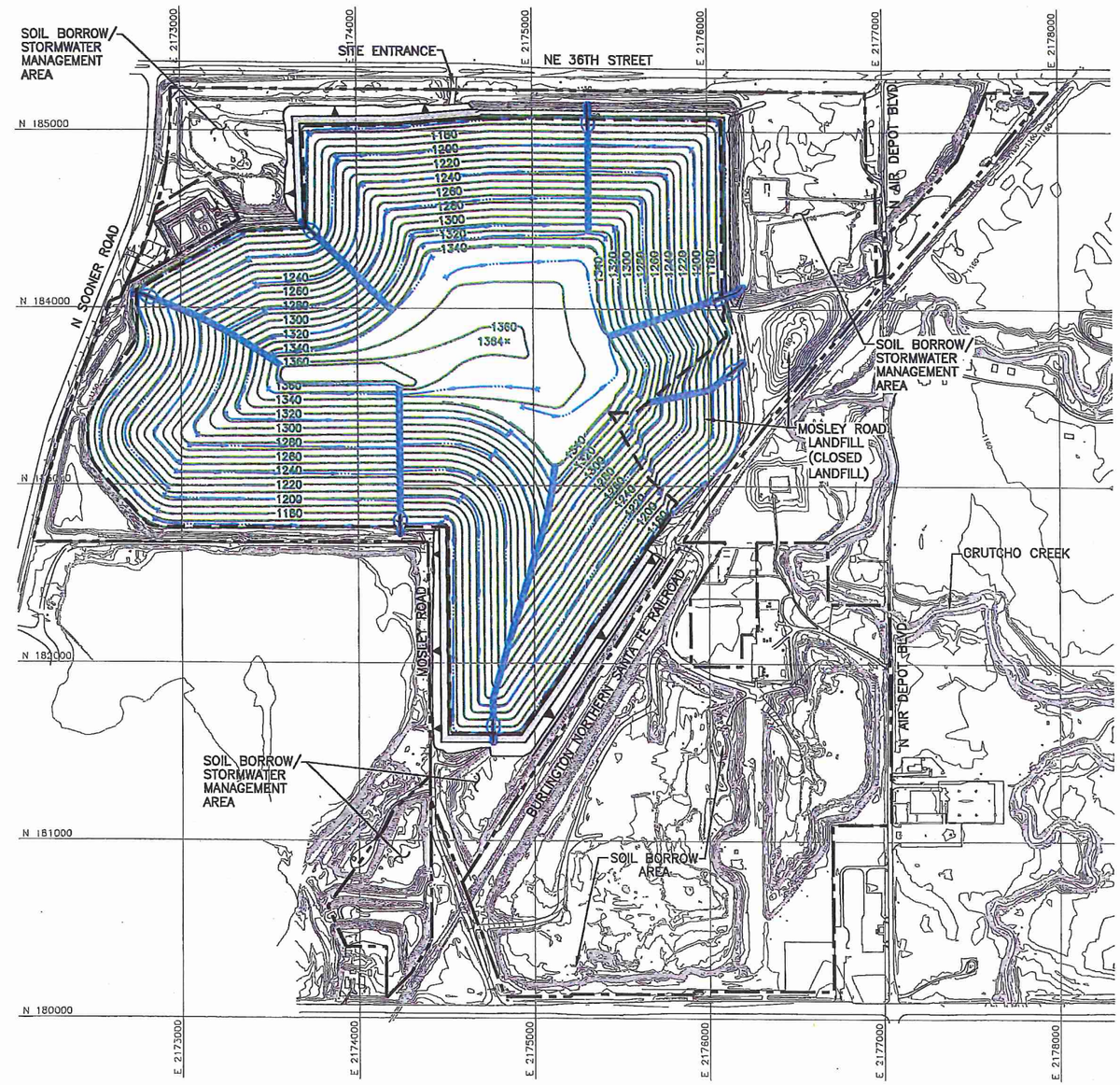
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 2-AERIAL PHOTO.dwg, 3/24/2014 10:10:14 AM, rsellers, 1:2



PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN

D-4-41

LEGEND:

- LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE

N

0 400 800
SCALE IN FEET

NOTE:

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PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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FIGURE 3

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APPENDIX D-5

SURFACE WATER INTAKE

CONTENTS

This appendix provides surface water intake documentation for the required coordination with the Oklahoma Water Resources Board. This appendix includes:

- April 17, 2014 Oklahoma Water Resources Board confirmation letter.
- April 9, 2014 Weaver Boos Consultants, LLC – Southwest request for surface water intake review by the Oklahoma Water Resources Board.

J. D. STRONG
EXECUTIVE DIRECTOR

MARY FALLIN
GOVERNOR

STATE OF OKLAHOMA
WATER RESOURCES BOARD
www.owrb.ok.gov

April 17, 2014

Jonathon V. Queen, P.E.
Weaver Boos Consultants, LLC-Southwest
6420 Southwest Blvd., Ste 206
Fort Worth, TX 76109

Re: Request for Location(s) of Existing or Planned Public Surface Water Intake(s) downstream within One Mile or Less of East Oak Recycling and Disposal Facility Expansion, Oklahoma City, OK – Project No. 0086-356

Dear Mr. Queen:

The Oklahoma Water Resources Board (Board) has reviewed the information submitted by Weaver Boos Consultants regarding the East Oak Recycling and Disposal Facility Expansion (ODEQ Permit No. 3555036) in Oklahoma City, Oklahoma. In the cover letter you requested whether or not the subject facility is located within one mile or less upstream of any existing or planned public surface water intake site(s).

Review by staff of the available information at the Board indicates that the facility is not located within one mile or less upstream from an existing or proposed public surface water intake. Please contact Mr. Kent Wilkins at 405-530-8852 of the Board's Planning and Management Division should you require further information.

Best Regards,

Kent Wilkins

for Julie Cunningham, Chief
Planning & Management Division

3800 N. CLASSEN BOULEVARD • OKLAHOMA CITY, OKLAHOMA 73118
TELEPHONE (405) 530-8800 • FAX (405) 530-8900

Rudy Herrmann, Chairman • Tom Buchanan, Vice-Chairman • Linda P. Lambert, Secretary
Bob Drake • F. Ford Drummond • Marilyn Feaver • Ed Fite • Jason W. Hitch • Richard C. Sevenoaks

WEAVER
BOOS
CONSULTANTS
LLC
SOUTHWEST

6420 SOUTHWEST BLVD, SUITE 206
FORT WORTH, TEXAS 76109
PHONE: 817.735.9770
FAX: 817.735.9775
www.weaverboos.com

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Denver, CO
Fort Worth, TX
Clermont, FL
Grand Rapids, MI

April 9, 2014
Project No. 0086-356-11-38-02

Mr. Kent Wilkins
Permitting Section, Surface Water and Groundwater
Oklahoma Water Resources Board
3800 North Classen Boulevard
Oklahoma City, Oklahoma 73118

Re: Public Water Supply Surface Water Intake Statement
East Oak Recycling and Disposal Facility Expansion
Oklahoma City, Oklahoma

Dear Mr. Wilkins:

The purpose of this letter, submitted on behalf of Waste Management of Oklahoma, Inc., is to confirm existing Oklahoma Department of Environmental Quality (DEQ) information that the proposed landfill expansion of the East Oak Recycling and Disposal Facility is not one mile or less upstream from an existing or planned public water supply surface water intake. The Oklahoma Department of Environmental Quality (DEQ) landfill location restriction regulation regarding public water supply intakes set forth in Oklahoma Administrative Code (OAC) §252:515-5-32(b), requires that a permit applicant for an expansion of a municipal solid waste facility determine if a proposed landfill expansion is one mile or less upstream from an existing or planned public water supply surface water intake.

Weaver Boos Consultants, LLC–Southwest, is preparing a permit application, under contract with Waste Management of Oklahoma, Inc., to expand the existing landfill located in Oklahoma City, Oklahoma. Our review of the DEQ website indicates the nearest public water supply intake is approximately 7.0 miles north of the site at Lake Arcadia. Please find attached a project summary and site location maps to facilitate in your review.

To verify compliance with §252:515-5-32(b), we are requesting that the Oklahoma Water Resources Board confirm that the landfill is not located within one mile or less upstream from an existing or planned public water supply surface water intake.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Weaver Boos Consultants, LLC–Southwest

Jonathan V. Queen, P.E.
Project Engineer

Attachment: Project Summary and Site Location Maps

cc: Guy R. Campbell, Waste Management of Oklahoma, Inc.
Pete Schultze, Waste Management of Oklahoma, Inc.

PROJECT SUMMARY AND SITE LOCATION MAPS

Project Summary

East Oak Recycling and Disposal Facility Expansion
Waste Management of Oklahoma, Inc.
Oklahoma City, Oklahoma

Introduction

The East Oak Recycling and Disposal Facility is in the process of developing a Tier III Permit Application to expand the existing landfill to provide long-term disposal capacity for municipal solid waste that is generated in the City of Oklahoma City, Oklahoma County, and the surrounding areas. The purpose of this summary is to provide an overview of the proposed landfill expansion. The site is located in Section Twenty-One (21) of Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, City of Oklahoma City, Oklahoma. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The East Oak Recycling and Disposal Facility is owned and operated by Waste Management of Oklahoma, Inc., a Waste Management, Inc. company. Waste Management, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services and serves more than 20 million residential, commercial and industrial customers in North America.

Site Information

The following drawings are attached to this summary.

- Site Location Map (Figure 1). This figure shows the site location on a standard Oklahoma Department of Transportation Oklahoma County Highway Map.
- Aerial Photograph (Figure 2). This figure shows the existing recycling and disposal facility and permitted waste disposal area, as well as the proposed expansion area, on a recent aerial photograph.
- Permitted Completion Plan and Proposed Completion Plan (Figure 3). This figure shows the permitted landfill completion plan and the proposed landfill completion plan on detailed site topographic maps.

The East Oak Recycling and Disposal Facility is located approximately 8 miles east of downtown Oklahoma City and is accessed from NE 36th Street approximately 2.5 miles east of Interstate Highway 35. The address of the site is 3201 Mosley Road, Oklahoma City, OK 73141. The service area includes the City of Oklahoma City, Oklahoma

County, and other surrounding areas. The facility has operated under Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036 since 1986.

Design Summary

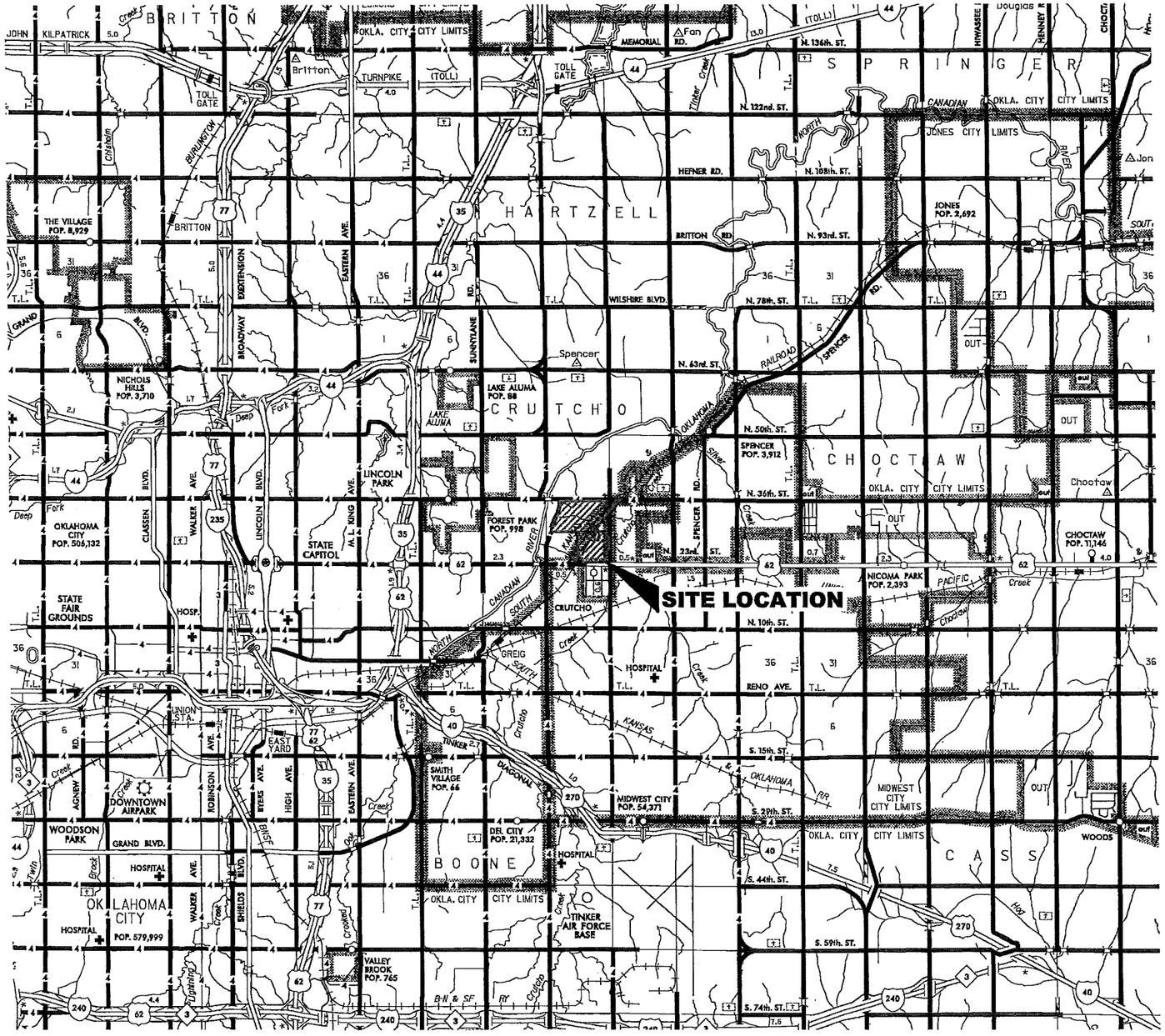
The following information presents a summary of the design and operations for the proposed East Oak Recycling and Disposal Facility expansion.

- The existing permit boundary will expand from approximately 158.8 acres to a proposed 284 acres. The waste disposal area will increase from approximately 132.0 acres to 179.5 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The facility will accept municipal solid waste, construction and demolition wastes, non-hazardous industrial waste, encapsulated asbestos waste, vegetative waste, semi-solid waste, and sludges as permitted by the ODEQ.
- Access to the site will be provided via the existing site access road from NE 36th Street. Based on traffic patterns of existing landfill traffic, most vehicles bound for the landfill will access the site using NE 36th Street from Interstate Highway 35. The existing roads are capable of handling the traffic load associated with the landfill.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged offsite to the Oklahoma City Publicly Owned Treatment Works (POTW) in accordance with the Oklahoma City Industrial Wastewater Treatment/Disposal Permit No. 2865. The construction procedures of the liner and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the landfill.
- To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:
  - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
  - Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and

verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.

  - These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ and are public record.

- Site Operations. Properly trained personnel will operate the site. A detailed site operating plan will be included in the landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors. The East Oak Recycling and Disposal Facility will continue to be inspected by the ODEQ on a regular basis to ensure the site is in compliance with state regulations.



0 1 2
SCALE IN MILES

LEGEND

- U.S. NUMBERED HIGHWAY
- STATE NUMBERED HIGHWAY
- INTERSTATE HIGHWAY ROUTE
- PAVED ROAD
- GRAVEL ROAD
- GRADED & DRAINED ROAD
- UNIMPROVED ROAD
- PRIMITIVE ROAD
- PROJECTED ROAD
- RESIDENTIAL ROAD
- N0001 COUNTY ROAD ID NO.
- MILEAGE BETWEEN POINTS
- DIVIDED HIGHWAY, 4 OR MORE LANES
- UNDIVIDED HIGHWAY, 3 OR MORE LANES
- TRAFFIC CIRCLE
- HIGHWAY GRADE SEPARATION
- TRAFFIC INTERCHANGE
- STATE LINE
- COUNTY LINE
- CIVIL TOWNSHIP LINE
- SECTION LINE
- RURAL DEVELOPMENT AREA
- GOVERNMENT PROPERTY LINE
- MATCH LINE
- COUNTY SEAT
- TOWN CENTER
- CORPORATE LIMITS
- CIVIL TOWNSHIP, ROAD IN PLACE
- INSET BOUNDARY
- 1867 ELEVATION ABOVE SEA LEVEL
- MOUNTAIN RANGE, BUTTE OR MESA
- SMALL MONUMENT
- MARSH OR SWAMP LANDS
- DRAINAGE DITCH
- IRRIGATION DITCH
- LAKE, RESERVOIR OR POND WITH DAM
- ROAD OVER DAM
- DRY LAKE SUBJECT TO FLOOD
- SMALL BRIDGES CLOSELY SPACED
- HIGHWAY BRIDGE, OVER 20FT. IN LENGTH
- GENERAL BRIDGE, LONG CROSSING
- ARCH BRIDGE
- TRUSS BRIDGE, W-WOOD, S-STEEL, C-CONCRETE
- CONCRETE DIP OR FORD
- FORD ROAD ESTABLISHED
- INTERMITTENT STREAM
- NARROW STREAM
- DOCK PIER OR LANDING
- NAVIGABLE STREAM WITH LOCK & DAM
- WIDE STREAM OR RIVER
- TRIANGULATION STATION
- RAILROAD, ANY NUMBER OF TRACKS
- RAILROAD WITH STATION INDICATED
- GRADE CROSSING
- UNDERPASS, R.R. ABOVE
- OVERPASS, R.R. BELOW
- RAILROAD ON STREET
- MILITARY AIRFIELD
- AIRPORT WITH COMPLETE FACILITIES
- AIRPORT WITH LIMITED FACILITIES
- LANDING STRIP, PRIVATE FIELD
- AIRPORT, GENERAL OUTLINE OF FIELD RUNWAYS SHOWN IN POSITION
- ROADSIDE PARK Picnic Grounds
- PLAYGROUNDS
- BATHING BEACH OR SWIMMING POOL
- SCENIC SITE
- MOTEL
- CAMP OR LODGE, Permanent with buildings
- SMALL PARK SP-State, CP-County MP-Municipal, TP-Trailer Park
- FOREST RANGER STATION
- OBSERVATION OR LOOKOUT TOWER
- CAMP SITE
- FISH HATCHERY
- GOLF COURSE OR COUNTRY CLUB
- ATHLETIC FIELD OR AMUSEMENT PARK
- FAIGROUNDS, RACE COURSE
- DWELLING
- NUMBER OF DWELLINGS CLOSELY SPACED
- COMBINED BUSINESS AND DWELLING
- POST OFFICE
- POST OFFICE COMBINATIONS
- SEASONAL DWELLINGS
- CHURCH OR OTHER RELIGOUS BUILDING
- CEMETERY
- CHURCH WITH CEMETERY ADJACENT
- REST HOME
- HOSPITAL
- SMALL BUSINESS
- INDUSTRY
- SAW MILL
- MINE SHAFT OR DRIFT
- OIL OR GAS FIELD
- GAUGING OR PUMPING STATION
- WAREHOUSE
- GRAVEL PIT
- QUARRY
- SCHOOL
- COMMUNITY HALL OR LODGE
- DRIVE-IN THEATER
- CORRECTIONAL INSTITUTION
- HIGHWAY GARAGE
- JUNK YARDS & DUMPS A-Automobile, B-Scrap Building Material, D-Refuse, Garbage or trash dump, F-Sanitary Fill, G-Other
- SEWAGE DISPOSAL PLANT
- WATER SUPPLY STAND PIPE
- POWER PLANT
- BOOSTER STATION
- POWER SUBSTATION
- KOMA TELEVISION OR RADIO STATION
- MILITARY INSTALLATION

NOTES:

1. REPRODUCED FROM OKLAHOMA'S GENERAL HIGHWAY MAP, OKLAHOMA COUNTY, OKLAHOMA (OKLAHOMA DEPARTMENT OF TRANSPORTATION PLANNING DIVISION AUGUST 2007).

D-5-9

- [ ] DRAFT
- [x] FOR INFORMATIONAL PURPOSES ONLY
- [ ] APPROVED FOR CONSTRUCTION
- [ ] CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 1-GEN_LOC.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SITE LOCATION MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 1

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O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 1-GEN_LOC.dwg, 3/24/2014 10:09:19 AM, rsellers, 1:2

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0 500 1000
SCALE IN FEET

LEGEND

- EXISTING PERMIT BOUNDARY
- PROPOSED PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- PERMITTED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08-09-2012.
2. THE EXISTING AND PROPOSED PERMIT BOUNDARIES WERE REPRODUCED FROM A LEGAL DESCRIPTION PREPARED BY LEMKE LAND SURVEYING, INC.

D-5-10

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- [x] FOR INFORMATIONAL PURPOSES ONLY
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- [ ] CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 2-AERIAL.DWG

DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

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PREPARED FOR

WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

AERIAL PHOTOGRAPH

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 2

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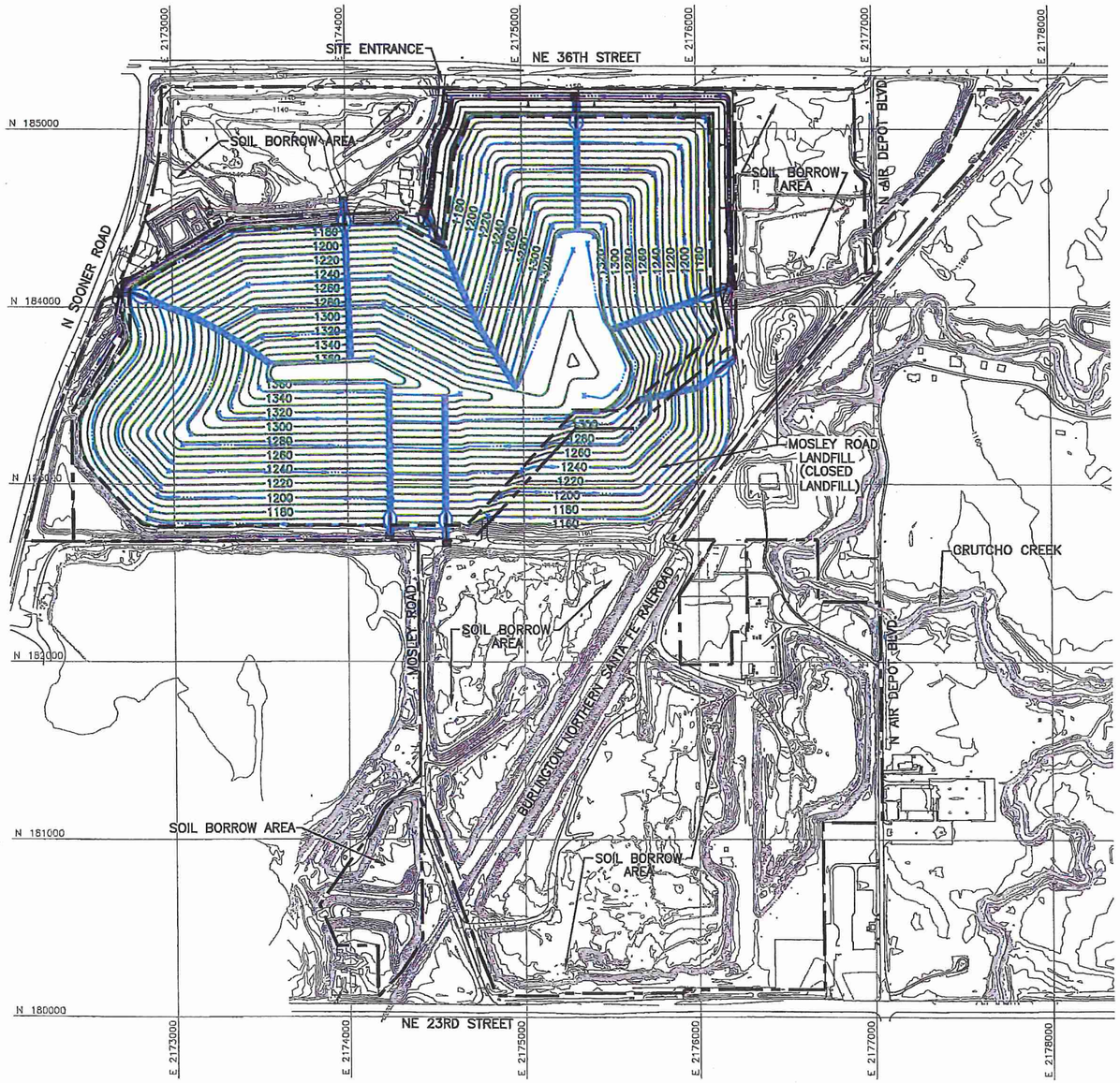
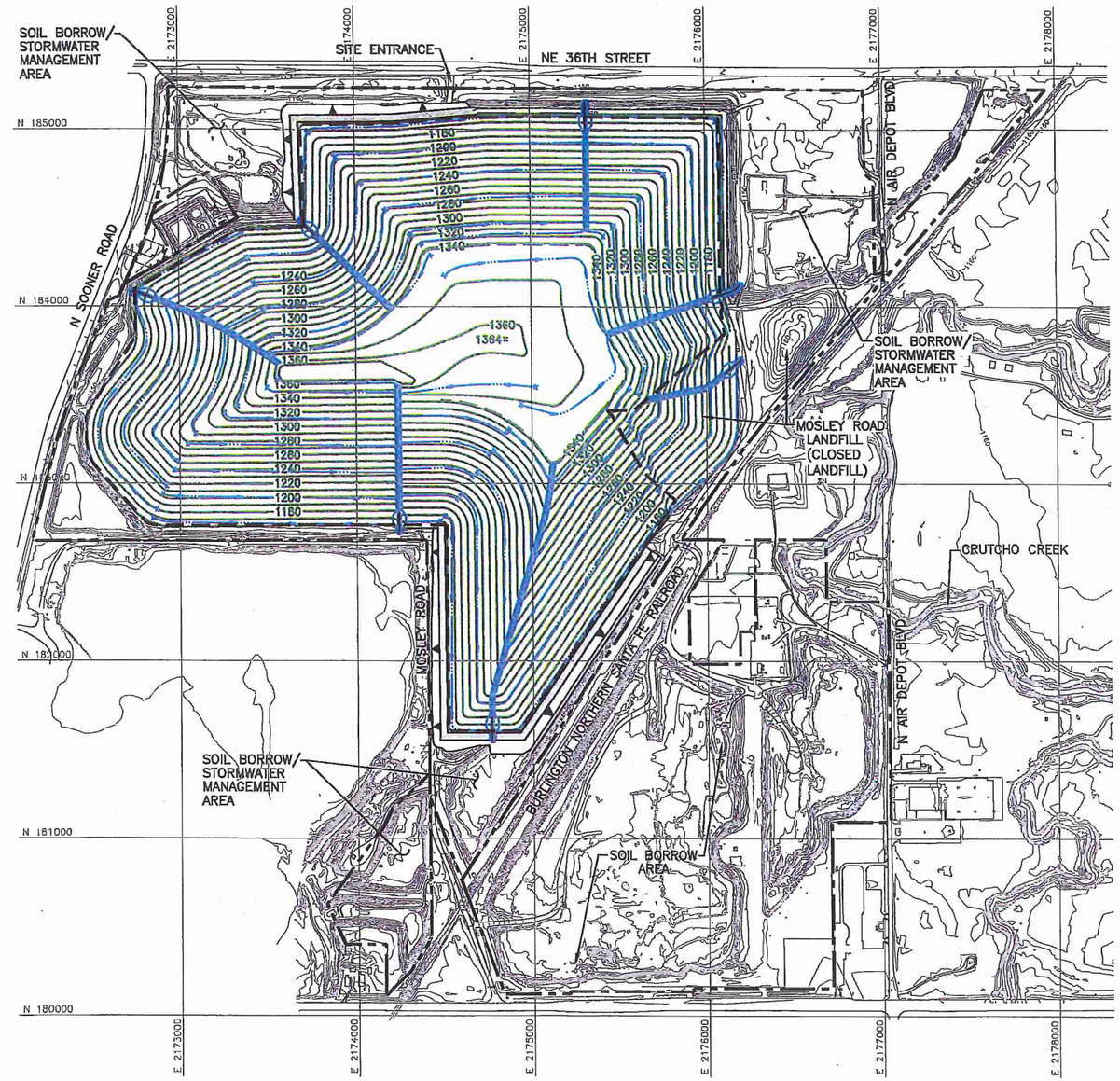
O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 2-AERIAL PHOTO.dwg, 3/24/2014 10:10:14 AM, rsellers, 1:2



PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN

D-5-11

LEGEND:

- LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LIMITS OF WASTE
- 1180 EXISTING CONTOUR
- 1320 FINAL CONTOUR
- DRAINAGE SWALE
- DRAINAGE CHUTE

N

0 400 800
SCALE IN FEET

NOTE:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. THE CITY OF OKLAHOMA CITY HAS APPROVED SOIL BORROW PUD's TO USE THE AREAS ADJACENT TO THE LANDFILL AS A SOIL BORROW AREA TO SUPPORT SITE OPERATIONS.

☐ DRAFT
☒ FOR INFORMATIONAL PURPOSES ONLY
☐ APPROVED FOR CONSTRUCTION
☐ CLIENT APPROVAL BY: _____

DATE: 04/2014
FILE: 0086-356-11
CAD: FIG 3-FC PLAN.DWG
DRAWN BY: SRF
DESIGN BY: RJS
REVIEWED BY: JVQ

PREPARED FOR
WASTE MANAGEMENT OF OKLAHOMA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

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PERMITTED COMPLETION PLAN AND PROPOSED COMPLETION PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

FIGURE 3

COPYRIGHT © 2014 WEAVER BOOS CONSULTANTS, LLC – SOUTHWEST. ALL RIGHTS RESERVED.

O:\0086\356\EXPANSION 2013\LOCATION RESTRICTIONS\PROJECT SUMMARY\FIG 3-PROPOSED COMPLETION PLAN.dwg, 3/24/2014 10:11:37 AM, rsellers, 1:2

APPENDIX D-6

EXCERPTS FROM PUD-1534

CONTENTS

This appendix includes excerpts from the City of Oklahoma approved (July 30, 2014) Planned Unit Development (PUD-1534) for the proposed modifications to the site.

PUD-1534

Published in The Journal Record July 30, 20 14

ORDINANCE NO. 24,934

AN ORDINANCE AMENDING CHAPTER 59, SECTION 5150 OF THE OKLAHOMA CITY MUNICIPAL CODE, 2010, TO INCLUDE ADDITIONAL TERRITORY WITHIN THE PUD PLANNED UNIT DEVELOPMENT DISTRICT ~~AND DECLARING AN EMERGENCY~~. FK

~~EMERGENCY~~ ORDINANCE

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF OKLAHOMA CITY:

SECTION 1. That Chapter 59, Section 5150 of The Oklahoma City Municipal Code, 2010, be amended to change the boundaries of the PUD Planned Unit Development District, as shown upon the District Map to include therein the following described property:

LEGAL DESCRIPTION (TRACT 1)

A part of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows: Commencing at the Northeast Corner of said Section 21 THENCE N89°47'56"W, along the North line of said Section 21, a distance of 2435.65 feet; THENCE S00°12'04"E, perpendicular to said North line, a distance of 100.00 feet to the POINT OF BEGINNING; THENCE S48°15'41"E a distance of 231.02 feet; THENCE S37°32'51"E a distance of 758.06 feet; THENCE S89°51'53"E a distance of 284.15 feet; THENCE S12°11'24"E a distance of 835.40 feet; THENCE S00°56'11"E a distance of 318.12 feet; THENCE S22°26'50"E a distance of 623.59 feet to a point on the present West Right-of-Way line of the St. Louis & San Francisco Railroad; THENCE S33°28'06"W, along said West Right-of-Way line, a distance of 97.90 feet to a point on the South line of the Northeast Quarter of said Section 21; THENCE continuing S33°28'06"W, along said West Right-of-Way line, a distance of 2301.78 feet; THENCE N20°49'00"W a distance of 498.92 feet to a point on the West line of the Southeast Quarter of said Section 21; THENCE N00°21'36"W, along said West line a distance of 1450.26 feet to the Northwest corner of said Southeast Quarter; THENCE continuing N00°21'36"W, along the West line of the Northeast Quarter of said Section 21, a distance of 812.24 feet; THENCE N51°27'41"W a distance of 273.48 feet; THENCE N76°22'42"W a distance of 445.75 feet; THENCE N12°39'25"W a distance of 758.59 feet; THENCE N00°00'00"E a distance of 727.41 feet; THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 990.03 feet to the POINT OF BEGINNING, containing 5,404,194.10 square feet or 124.06 acres more less.
Basis of Bearing is Oklahoma State Plane Grid Bearings. This legal description prepared by Robby L. Johnson, PLS 1539, on October 14, 2013.

LEGAL DESCRIPTION (TRACT 2)

A tract of land located in the Northeast Quarter (NE/4) of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:
Commencing at the Northeast Corner of the Northeast Quarter of said Section 21; THENCE N89°47'56"W, along the North line of said Northeast Quarter, a distance of 100.00 feet; THENCE S00°30'38"E, parallel to and 100 feet west of the East line of said Northeast Quarter, a distance of 100.00 feet to the POINT OF BEGINNING; THENCE continuing S00°30'38"E a

distance of 464.72 feet; THENCE S45°30'38"E a distance of 70.71 feet; THENCE N90°00'00"W a distance of 735.30 feet; THENCE N00°11'17"E a distance of 516.64 feet; THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 679.02 feet to the POINT OF BEGINNING, containing 352,851.86 square feet or 8.10 acres more less. Basis of Bearing is Oklahoma State Plane Grid Bearings. This legal description prepared by Robby L. Johnson, PLS 1539, on October 14, 2013.

LEGAL DESCRIPTION (TRACT 3) Warranty Deed Book 6178, Page 1287

A part of the Northwest Quarter of Section Twenty-Two (22), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as Beginning at a point on the West line of said Section 22, said point being 918.00 feet S00°29'01"E of the Northwest corner of said Northwest Quarter:
THENCE N43°28'59"E, a distance of 596.95 feet; THENCE N23°34'59"E a distance of 499.67 feet; THENCE N00°00'00"E a distance of 31.12 feet to a point on the North line of said Northwest Quarter, said point being 618.45 feet N89°36'31"E of said Northwest corner; THENCE N89°36'31"E a distance of 416.83 feet to a point on the West right-of-way of the S.L.& S.F Railroad; THENCE S40°59'06"W, along said right-of-way, a distance of 1563.38 feet to a point on the West line of said Northwest Quarter; THENCE N00°29'01"W, along said West line, a distance of 255.14 feet to the point or place of Beginning, said tract to contain 263,127.86 square feet (6.041 acres) more or less.

~~SECTION 2. (EMERGENCY) WHEREAS, it being immediately necessary for the preservation of the peace, health, safety, and public good of Oklahoma City and the inhabitants thereof that the provisions of the ordinance be put into full force and effect, an emergency is hereby declared to exist by reason whereof this ordinance shall take effect, and be in full force from and after its passage as provided by law.~~

INTRODUCED AND READ in open meeting of the Council of The City of Oklahoma City, Oklahoma, on this 1st day of July, 2014.

PASSED by the Council of The City of Oklahoma City, Oklahoma, on the 29th day of July, 2014.

SIGNED by the Mayor of The City of Oklahoma City, Oklahoma, on this 29th day of July, 2014.

ATTEST:

CITY CLERK

SEAL OF THE CITY OF OKLAHOMA CITY

MAYOR

REVIEWED for form and legality.

ASSISTANT MUNICIPAL COUNSELOR

APPROVED
7-29-14

BY THE CITY COUNCIL
CITY CLERK

Prepared for

Waste Management of Oklahoma, Inc.

March 2014
Revised June 2014

Prepared by

Weaver Boos Consultants, LLC–Southwest
6420 Southwest Blvd, Suite 206
Fort Worth, Texas 76109
817-735-9770 (Office) 817-735-9775 (Fax)
jqueen@weaverboos.com

WBC Project No. 0086-356-11-38-05

THE CITY OF OKLAHOMA CITY
PLANNED UNIT DEVELOPMENT

PUD –1534

DESIGN STATEMENT FOR
EAST OAK RECYCLING AND DISPOSAL FACILITY

Prepared for

Waste Management of Oklahoma, Inc.

March 2014
Revised June 2014

Prepared by

Weaver Boos Consultants, LLC–Southwest
6420 Southwest Blvd, Suite 206
Fort Worth, Texas 76109
817-735-9770 (Office) 817-735-9775 (Fax)
jqueen@weaverboos.com

WBC Project No. 0086-356-11-38-05
D-6-5

CONTENTS

1	DESIGN STATEMENT INTRODUCTION	1-1
	1.1 Purpose	1-1
	1.2 Location	1-1
	1.3 Definitions	1-2
2	LEGAL DESCRIPTION	2-1
3	OWNER/DEVELOPER	3-1
4	SITE AND SURROUNDING AREAS	4-1
	4.1 Zoning of PUD Area	4-1
	4.2 Zoning of Surrounding Area	4-1
5	PHYSICAL CHARACTERISTICS	5-1
6	CONCEPT	6-1
	6.1 Project Overview and Final Landfill Configuration	6-1
	6.1.1 Concept – North Area	6-1
	6.1.2 Concept – South Area	6-1
	6.2 Landfill Design and Operation Information	6-2
	6.2.1 Solid Waste Containment System	6-2
	6.2.2 Environmental Monitoring Systems	6-2
	6.2.3 Stormwater Controls and Site Vegetation Requirements	6-2
	6.2.4 Air Quality and Odor Control Plan (Dust Control Plan)	6-3
	6.2.5 Site Operations	6-3
7	SERVICE AVAILABILITY	7-1
	7.1 Streets	7-1
	7.2 Sanitary Sewer	7-1
	7.3 Water	7-1
	7.4 Fire Protection	7-1
	7.5 Gas Service, Electrical Service, and Telephone Service	7-2
	7.6 Public Transportation	7-2
	7.7 Drainage	7-2
8	SPECIAL DEVELOPMENT REGULATIONS	8-1
	8.1 Use and Development Regulations	8-1

CONTENTS (Continued)

	8.2	Special Provisions	8-2
9	**SPECIAL CONDITIONS**		**9-1**
	9.1	Façade Regulations	9-1
	9.2	Landscaping Regulations	9-1
		9.2.1 Landscape Buffer	9-1
		9.2.2 Landscape Buffer Vegetation	9-1
	9.3	Lighting Regulations	9-3
	9.4	Screening Regulations	9-3
	9.5	Platting Regulations	9-3
	9.6	Drainage Regulations	9-3
	9.7	Dumpster Regulations	9-4
	9.8	Access Regulations	9-4
	9.9	Parking Regulations	9-4
	9.10	Signage Regulations	9-4
	9.11	Roofing Regulations	9-4
	9.12	Sidewalk Regulations	9-4
	9.13	Height Regulations	9-5
	9.14	Setback Regulations	9-5
	9.15	Permit Requirements	9-7
	9.16	Public Improvements	9-7
	9.17	Common Areas	9-7
	9.18	General Design and Development Guidelines	9-7
	9.19	Specific Plan and Preliminary Plat	9-7
10	**DEVELOPMENT SEQUENCE**		**10-1**
11	**EXHIBITS**		**11-1**

EXHIBIT A
Master Development Plan

EXHIBIT B
Legal Description

EXHIBIT C
PUD Area Zoning Map

EXHIBIT D
Topographic Map

CONTENTS (Continued)

EXHIBIT E
Site Aerial Photograph

EXHIBIT F
PUD Concept

EXHIBIT G
Planting Plan

1 DESIGN STATEMENT INTRODUCTION

1.1 Purpose

The purpose of this Planned Unit Development (PUD) is to provide an updated Master Development Plan that will allow the existing East Oak Recycling and Disposal Facility to continue to provide a safe and environmentally protective solid waste disposal facility for the City of Oklahoma City (City) and surrounding communities. This PUD includes three different areas across the East Oak Recycling and Disposal Facility. These areas are designated as Areas 1, 2, and 3, and are discussed below. For over the past 25 years the East Oak Recycling and Disposal Facility has been an integral part of the City's solid waste management system. The expansion plan included in this PUD for the East Oak Recycling and Disposal Facility will ensure that long-term solid waste disposal capacity is available for the City to support future economic growth and development.

The development and operation of the existing landfill is governed by Oklahoma Department of Environmental Quality (ODEQ) Permit No. 3555036. SP-387 (landfill) and PUD-1419 (soil borrow) have been approved by the City since 2007. The soil borrow areas support the operation of the landfill by providing soil that is used to cover solid waste on a daily basis and for the landfill's liner and final cover systems. This PUD will take advantage of buffers, natural buffers, and landscape buffers previously established in accordance with PUD-1419.

The currently permitted landfill is 132 acres. The proposed expansion will add approximately 47.5 acres. The permitted height of the landfill will not change. The concept of the PUD is discussed in Section 6 and depicted on Exhibit F. This expansion will allow the landfill to continue to provide solid waste disposal services to the area for the next 15 to 20 years.

A summary of the three proposed PUD areas is as follows.

- Area 1 – The 124.06-acre area will be utilized for sanitary landfill and auxiliary uses including leachate, gas collection, and stormwater management facilities.
- Area 2 – The 8.10-acre area will be used for the future site entrance, equipment maintenance facilities, and auxiliary uses including maintenance, repair, fueling, and washing of site operation equipment.
- Area 3 – The 6.041-acre area will serve as soil borrow and stormwater management area. The minerals and raw materials from this area will be utilized to facilitate site operations including, but not limited to, liner construction, final cover, and drainage structure construction.
- The three proposed PUD areas (Area 1, 2, and 3) total approximately 138.201 acres.

1.2 Location

The site is located south of Northeast 36th Street, east of N. Sooner Road, and north of Northeast 23rd Street within the Oklahoma City limits. This location is approximately 8 miles east of downtown Oklahoma City. Specifically, the site is located in Section Twenty-One (21), Township Twelve North (T-12-N), Range Two West (R-2-W) of the Indian Meridian, Oklahoma County, Oklahoma. The address for the facility is:

East Oak Recycling and Disposal Facility
3201 Mosley Road
Oklahoma City, Oklahoma 73141

1.3 Definitions

Buffer
The area between the portion of the site that is used for waste disposal and/or soil borrow and the property line/easement/right of way/fence line.

Established and Maintained
Established and maintained means existing and proposed buffer areas will meet the standards (i.e. rows, height, spacing, distance) shown on the Planting Plan –Exhibit G as well as the vegetation (grasses) establishment discussed in Section 9.2.2.

Landfill Buffer
An area designated between the limit of waste fill area and permit boundary that is free of waste materials.

Landfill Gas Collection and Control System
A GCCS, which consists of vertical extraction wells, a piping network, condensate management system, and flare facilities, utilized to remove the landfill gas (LFG) from within the landfill before it reaches the landfill surface and enters the atmosphere, thereby reducing the potential for odors from LFG emissions.

Landscape Buffer
An area designated between a property line/easement/right of way/fence line and landfill/drainage structure/soil borrow activities consisting of trees and native and/or introduced grasses. The landscape buffer is part of the buffer defined above.

Natural Buffer
An area designated between a property line/easement/right of way/fence line and landfill/drainage structure/mining activities. The natural buffer includes mature trees and natural woodland vegetation.

Litter Fence
A fence, not more than 35 feet in height from finished grade, consisting of poles with netting stretched between. This litter fence is similar to large golf fence seen at golf course and/or golf driving ranges adjacent to roadways.

2 LEGAL DESCRIPTION

The legal description of the property comprising the PUD is described below, as well as in Exhibit B, and is made a part of this Design Statement.

LEGAL DESCRIPTION (TRACT 1)

A part of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Northeast Corner of said Section 21

THENCE N89°47'56"W, along the North line of said Section 21, a distance of 2435.65 feet;

THENCE S00°12'04"E, perpendicular to said North line, a distance of 100.00 feet to the POINT OF BEGINNING;

THENCE S48°15'41"E a distance of 231.02 feet;

THENCE S37°32'51"E a distance of 758.06 feet;

THENCE S89°51'53"E a distance of 284.15 feet;

THENCE S12°11'24"E a distance of 835.40 feet;

THENCE S00°56'11"E a distance of 318.12 feet;

THENCE S22°26'50"E a distance of 623.59 feet to a point on the present West Right-of-Way line of the St. Louis & San Francisco Railroad;

THENCE S33°28'06"W, along said West Right-of-Way line, a distance of 97.90 feet to a point on the South line of the Northeast Quarter of said Section 21;

THENCE continuing S33°28'06"W, along said West Right-of-Way line, a distance of 2301.78 feet;

THENCE N20°49'00"W a distance of 498.92 feet to a point on the West line of the Southeast Quarter of said Section 21;

THENCE N00°21'36"W, along said West line a distance of 1450.26 feet to the Northwest corner of said Southeast Quarter;

THENCE continuing N00°21'36"W, along the West line of the Northeast Quarter of said Section 21, a distance of 812.24 feet;

THENCE N51°27'41"W a distance of 273.48 feet;

THENCE N76°22'42"W a distance of 445.75 feet;

THENCE N12°39'25"W a distance of 758.59 feet;

THENCE N00°00'00"E a distance of 727.41 feet;

THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 990.03 feet to the POINT OF BEGINNING, containing 5,404,194.10 square feet or 124.06 acres more less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on October 14, 2013.

LEGAL DESCRIPTION (TRACT 2)

A tract of land located in the Northeast Quarter (NE/4) of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Northeast Corner of the Northeast Quarter of said Section 21;

THENCE N89°47'56"W, along the North line of said Northeast Quarter, a distance of 100.00 feet;

THENCE S00°30'38"E, parallel to and 100 feet west of the East line of said Northeast Quarter, a distance of 100.00 feet to the POINT OF BEGINNING;

THENCE continuing S00°30'38"E a distance of 464.72 feet;

THENCE S45°30'38"E a distance of 70.71 feet;

THENCE N90°00'00"W a distance of 735.30 feet;

THENCE N00°11'17"E a distance of 516.64 feet;

THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 679.02 feet to the POINT OF BEGINNING, containing 352,851.86 square feet or 8.10 acres more less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on October 14, 2013.

LEGAL DESCRIPTION (TRACT 3) Warranty Deed Book 6178, Page 1287

A part of the Northwest Quarter of Section Twenty-One (22), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as Beginning at a point on the West line of said Section 22, said point being 918.00 feet S00°29'01"E of the Northwest corner of said Northwest Quarter:

THENCE N43°28'59"E, a distance of 596.95 feet;

THENCE N23°34'59"E a distance of 499.67 feet;

THENCE N00°00'00"E a distance of 31.12 feet to a point on the North line of said Northwest Quarter, said point being 618.45 feet N89°36'31"E of said Northwest corner;

THENCE N89°36'31"E a distance of 416.83 feet to a point on the West right-of-way of the S.L.& S.F Railroad;

THENCE S40°59'06"W, along said right-of-way, a distance of 1563.38 feet to a point on the West line of said Northwest Quarter;

THENCE N00°29'01"W, along said West line, a distance of 255.14 feet to the point or place of Beginning, said tract to contain 263,127.86 square feet (6.041 acres) more or less.

3 OWNER/DEVELOPER

The owner/developer of the PUD is as follows:

Waste Management of Oklahoma, Inc.
Attention: Guy R. Campbell
3201 Mosley Road
Oklahoma City, Oklahoma 73141
405-417-8124

Waste Management of Oklahoma, Inc., is a subsidiary of Waste Management, Inc. The company employs more than 44,000 employees worldwide and is the largest environmental solutions provider in North America. For over 25 years, the landfill has been a part of the community and is one of the main recipients of waste from the residents and businesses in the City and surrounding areas. Waste Management's interest and involvement in the City does not end at their property line. Waste Management continues to support local communities through its active participation with local school districts. The landfill also serves as a key community resource during disaster relief efforts, as demonstrated during recent severe storm events such as the tornadoes and flooding that occurred in the City and surrounding areas in 2013.

4 SITE AND SURROUNDING AREAS

4.1 Zoning of PUD Area

As shown on Exhibit C, the subject property is currently zoned SP-387, PUD-1419, I-2, A-A, and R-1. A topographic map and aerial photo that shows the existing conditions of the PUD area and surrounding areas is shown on Exhibit D and Exhibit E.

4.2 Zoning of Surrounding Area

The land use and zoning immediately adjacent to most of the proposed PUD areas is related to landfill operations due to the majority of the proposed PUD area boundaries being located internal to the East Oak Recycling and Disposal Facility property. Land use and zoning of the surrounding area is shown on Exhibit A (Master Development Plan) and Exhibit C (PUD Area Zoning Map) and summarized below.

North – Located along the northern boundary of the East Oak Recycling and Disposal Facility is the Northeast 36th Street right-of-way, which is the access route to the facility. A closed landfill owned by the City exists to the immediate north. The area north of Northeast 36th Street area is zoned "R-1" Residential.

East – Located directly east of the East Oak Recycling and Disposal Facility is the Burlington Northern Santa Fe Railroad right-of-way and predominately agricultural and soil mining use within the City of Midwest City.

West, Northern Portion – Located directly west of the northern portion of the East Oak Recycling and Disposal Facility is the N. Sooner Road right-of-way and an undeveloped woodland property owned by the City of Oklahoma City that extends to the North Canadian River. This area west of N. Sooner Road is zoned "R-1" Residential.

West, Southern Portion – Located directly west of the southern portion of the East Oak Recycling and Disposal Facility includes the Mosley Road right-of-way, property that is used as a sand mining operation, and undeveloped property owned by the City of Oklahoma City that extends to the North Canadian River. The sand mining property is zoned "A-A" Agricultural and SP-266 Special Permit. The City of Oklahoma City property is zoned "R-1" Residential.

South – Located directly south of the southernmost portion of the East Oak Recycling and Disposal Facility is a single residency, Northeast 23rd Street right-of-way and a variation of uses within the City of Midwest City.

5 PHYSICAL CHARACTERISTICS

The existing configuration of the 138.201-acre PUD areas and additional Waste Management of Oklahoma, Inc. property is shown on Exhibit D (Topographic Map) and Exhibit E (Aerial Photograph).

With regard to the elevation of the property, the topography of the site generally slopes from west to east. The natural elevation of the site varies from 1,140 to 1,160 ft-msl. The existing landfill continues to be developed in accordance with the existing permitted grading plans and environmental regulations and permits. The site is borrowing soil on-site as needed from approved soil borrow areas in accordance with PUD-1419. Due to the ongoing landfill activity (i.e., the depositing of solid wastes and cover material) the elevation of any given portion of the landfill will be in constant change until the site reaches its permitted capacity.

Several landfill operational support facilities; including the site entrance facility, wheel wash, maintenance shop, and landfill gas flare; are located in PUD Area 1. These site facilities may be relocated in the future to facilitate site operations.

The North Canadian River 100-year floodplain is shown on Exhibit D. The proposed site development will ensure that the solid waste disposal area is protected from the 100-year floodplain.

With regard to natural resource areas on this property, there are no native rock outcroppings, steep slopes, environmentally sensitive lands, wildlife habitats, significant mature trees, or tree canopies.

6 CONCEPT

6.1 Project Overview and Final Landfill Configuration

The concept for this PUD is to provide a Master Development Plan that will allow for the expansion of the East Oak Recycling and Disposal Facility. As the site reaches permitted capacity, this PUD allows for the eventual transition of portions of the soil borrow areas to a state-of-the-art landfill that will be operated, regulated, tested, and maintained in a safe and environmentally responsible manner for Area 1. This PUD will allow the site to utilize Areas 2 and 3 as future site entrance and soil borrow areas, respectively. This PUD will also take advantage of buffers, natural buffers, and landscape buffers to previously established in accordance with PUD-1419.

6.1.1 Concept – North Area

The northern area of the site has been developed consistent with SP-387 and PUD-1419 including the buffer areas, natural buffer areas, and landscaped buffer areas. The entrance to the site is currently located on Northeast 36th Street about 1,700 feet east of N. Sooner Road. As the currently permitted landfill configuration reaches capacity, the entrance facility will be relocated approximately 2,500 feet to the east in Area 2. Waste Management of Oklahoma, Inc. will submit road improvement and ingress/egress design plans for review and approval by the City Public Works Department prior to entrance facility construction/recollection. Traffic patterns are not expected to change with this PUD, even with the future relocation of the site entrance facility. The landfill support facilities are also located in this portion of the site. The facilities include a site entrance facility, wheel wash, maintenance shop, and landfill gas flare. The paved entrance road and wheel wash minimize the potential for mud tracking onto area roads. Waste Management of Oklahoma, Inc. also retains a 3rd party street sweeper who sweeps Northeast 36th Street near the landfill property twice a week. The design of the landfill includes an extensive landfill gas collection and control system that removes landfill gas (LFG) before it reaches the surface and enters the atmosphere. The collected LFG is transferred to the Waste Management Gas to Liquid (GTL) Facility located on the west side of the site. The GTL Facility was approved as part of SPUD-531 and SPUD-703.

6.1.2 Concept – South Area

The southern area of the site has been developed consistent with PUD-1419, including the existing buffer areas, natural buffer areas, and landscaped buffer areas. As discussed above, the site entrance will remain along Northeast 36th Street. There is an access point to the landfill property along Northeast 23rd Street that is controlled by a locked gate. The

site does periodically utilize this access point as a means to access their roll off box storage areas, however no municipal solid waste haul on soil borrow operation trucks utilize this access point.

6.2 Landfill Design and Operation Information

6.2.1 Solid Waste Containment System

A liner, leachate management, and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (liner, leachate management, and final cover system) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that collects on the liner system. Leachate that is removed from the landfill will be discharged to an off-site, permitted treatment facility. The construction procedures of the liner, leachate collection, and final cover systems follow strict ODEQ approved quality control and quality assurance procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the ODEQ before solid waste is placed in the future constructed portion of the landfill.

6.2.2 Environmental Monitoring Systems

To verify that the highest levels of environmental protection are maintained, the following landfill monitoring systems are provided:

- Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells, located on the perimeter of the landfill, which are screened in the uppermost saturated zone to monitor groundwater quality. The water samples are tested at an off-site laboratory.
- Landfill Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify the integrity of the containment system and verify that methane gas, produced from the decomposing waste material, has not migrating beyond the permit boundary. This is accomplished by obtaining subsurface air samples from the landfill gas probes, located on the perimeter of the landfill, which are screened across potential migration pathways. The samples are tested on-site with a portable landfill gas analyzer.
- These monitoring systems are sampled and tested periodically. The results are filed with the ODEQ.

6.2.3 Stormwater Controls and Site Vegetation Requirements

Stormwater controls that meet all regulatory requirements will be used to prevent discharge of pollutants into waters of the State or waters of the United States.

A Surface Water Management Plan will be developed and approved by ODEQ. The Surface Water Management Plan will include the design of a stormwater management system. The stormwater management system will include swales, letdowns, a perimeter drainage system, and detention ponds that will convey stormwater to existing drainage features. The stormwater management system will be designed so that the landfill expansion will not significantly alter existing drainage patterns.

The site Vegetation Plan that sets forth the procedures to establish interim and permanent vegetation, pursuant to regulatory requirements will be updated and utilizes to establish vegetation on the landfill and borrow areas. Establishment of vegetation will assist with dust control and erosion control. Additional landscaping requirements for buffers around the perimeter of the site are discussed in Section 9.2.

6.2.4 Air Quality and Odor Control Plan (Dust Control Plan)

East Oak Recycling and Disposal Facility is subject to New Source Performance Standard (NSPS) Subpart WWW for landfills and is currently operating under a Title V permit. Under the NSPS, the site is required to install a landfill gas collection and control system (GCCS).

In addition to using the GCCS to control potential landfill gas (LFG) odors, potential odors for landfill operations will be controlled through means of earthen material daily cover or approved Alternative Daily Cover (ADC). Earthen material or ADC will be placed over exposed solid waste at the end of each operating day or more frequently, if needed.

Dust resulting from vehicular traffic construction activity and landfill operations will be kept to a minimum within the property through the utilization of a water truck, road base material, and/or vegetation establishment. The site water truck is utilized throughout the day to apply water to various haul roads throughout the site. The water truck typically utilizes a connection to a City water utility line; however, the site periodically utilizes stormwater collected on-site. During the life of the landfill and soil borrow areas, water will be applied to the access roads to control dust on a daily basis, except on days of measurable precipitation or when temperatures are at or below freezing.

In addition, several of the site haul roads are covered with various road base materials, including the main site entrance road which is paved with concrete and the top deck access road which has been covered with gravel. Finally, as portions of the landfill are developed to final grade, final or temporary vegetation is established through means of seeding or sodding.

6.2.5 Site Operations

A detailed site operating plan will be included in the ODEQ landfill expansion permit application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with ODEQ regulations. The site will continue to provide solid waste disposal service six days a week and the active landfill area will be covered at the end of each workday to prevent potential nuisance conditions such as odors and vectors.

7 SERVICE AVAILABILITY

7.1 Streets

Northeast 36th Street, Northeast 23rd Street and North Sooner Road, are adjacent to the site. However, only Northeast 36th Street is adjacent to PUD Areas 1, 2, and 3. Access to the site will be limited to entrance from the existing access road located on Northeast 36th Street. As previously discussed, the entrance to the site is currently located on Northeast 36th Street about 1,700 feet east of N. Sooner Road. As the currently permitted landfill configuration reaches capacity, the entrance facility will be relocated approximately 2,500 feet east in Area 2. Waste Management of Oklahoma, Inc. will submit road improvement and ingress/egress design plans for review and approval by the City Public Works Department prior to entrance facility construction/recollection. There is an access point to the landfill property along Northeast 23rd Street that is controlled by a locked gate. The site does periodically utilize this access point as a means to access their roll off box storage areas, however no municipal solid waste haul on soil borrow operation trucks utilize this access point.

The landfill owner/developer will remove dirt and debris caused by vehicles/equipment using the landfill/soil borrow from Northeast 36th Street adjacent to the site entrance. Waste Management of Oklahoma, Inc. also retains a 3rd party street sweeper who sweeps Northeast 36th Street near the landfill property twice a week.

7.2 Sanitary Sewer

Sanitary sewer utilities are available to serve the existing site entrance facilities and maintenance shop through means of an existing septic tank. The site also has a City sanitary sewer connection for leachate and condensate disposal.

7.3 Water

Water utilities are available to serve the PUD areas at the existing site entrance facilities and maintenance shop through means of an existing septic tank. The site also has a City water connection for leachate and condensate disposal.

7.4 Fire Protection

Fire protection is presently available from the Forest Park Fire Department located at 4203 N. Coltrane Road. Back-up fire protection is also available from the Spencer Fire Department located at 8310 Northeast 36th Street, Spencer, Oklahoma, and the Midwest City Fire Department located at 1124 North Douglas Boulevard, Midwest City, Oklahoma, and the Oklahoma City Fire Department located at 820 NW 5th, Oklahoma City, Oklahoma.

7.5 Gas Service, Electrical Service, and Telephone Service

Proper coordination with the various utility companies will be made in conjunction with this development.

7.6 Public Transportation

There are no bus stops in this PUD area.

7.7 Drainage

East Oak Recycling and Disposal Facility is currently operating consistent with the approved FEMA Conditional Letter of Map Revision (CLOMR) that was approved by the City and FEMA (FEMA Case No. 08-06-0163R) in March 2008. The proposed development does include a modification of the current 100-year floodplain. Prior to development in this area, a CLOMR will be submitted to the Oklahoma City Floodplain Administrator to obtain a floodplain permit and FEMA approval of the proposed design.

8 SPECIAL DEVELOPMENT REGULATIONS

The following Special Development Regulations and/or limitations are placed upon the development of the PUD. Planning and zoning regulations will be those, which are in effect at the time of development of this PUD. Certain zoning districts are referred to as a part of the Special Development Regulations of this PUD. For purpose of interpretation of these Special Development Regulations, the operative and controlling language and regulations of such zoning districts shall be the language and regulations applicable to the referenced zoning districts as contained in the City of Oklahoma City's Planning and Zoning Code as such exists at the time this PUD is approved. In the event of conflict between provisions of this PUD and any of the provisions of the Oklahoma City Municipal Code, the provisions of this PUD will apply and be controlling; provided however that in the event of a conflict between the Special Use and Development Regulations specifically negotiated as a part of this PUD and the provisions of the Code in effect at time a permit is applied for with respect to any lot, block tract and/or parcel of land subject to this PUD, such Special Use and Development Regulations of this PUD shall prevail and be controlling.

Notwithstanding Section 59-14250.1 of the Oklahoma City Municipal Code, 2010, as amended, pertaining to administrative approval of minor amendments, the following special conditions listed in Sections 8.1 through 10.0 shall not be changed or amended in any way except by action of the City Council, after review and recommendation by the Planning Commission.

8.1 Use and Development Regulations

The use and development regulations of the I-2 Moderate Industrial District as of the date of approval of the PUD shall govern this PUD, except as herein modified, including accessory uses subject to their appropriate conditions and review procedures for public hearings where applicable, unless otherwise noted herein.

The following represents variations to the City of Oklahoma City Subdivision Regulations proposed in this PUD: None.

The following represents variations to the I-2 Moderate Industrial base zoning district and/or other sections of the Oklahoma City zoning ordinance.

- All setbacks are shown on Exhibit A.
- Hard surface paving is not required for internal drives, required parking and/or outdoor storage.

- Recyclable material will be stored in rolloffs and in a manner to control vectors, prevent odors, prevent windblown material/litter, prevent fires and ensure safety.

8.2 Special Provisions

The following additional uses are permitted by right within this PUD:

- Sanitary landfill (8350.12) and auxiliary uses including leachate, gas collection, and stormwater management. Leachate, gas collection and stormwater management facilities may be relocated in the future to facilitate site operations.
- Uses accessory to the sanitary landfill use, including recycling and reuse of materials, equipment maintenance/repair/washing/fueling, office/scalehouse facilities (including relocation of existing facilities), fuel storage, etc.
- Recycling Collection and Processing Facility (8350.11) and auxiliary uses including the collection, storage, processing, and transfer of recycling and reuse materials.
- Mining and processing: Minerals and raw materials (8450.1) to be utilized to facilitate site operations including but not limited to liner construction, final cover construction, drainage structure construction, etc.
- Heavy Public Protection and Utility (8250.9) and auxiliary uses including landfill gas flare facilities. The landfill gas flare facilities may be relocated in the future to facilitate site operations.
- Automotive and Equipment: Heavy Repairs, Heavy Equipment (8300.15) and auxiliary uses including maintenance, repair, fueling, washing of site operation equipment.
- Above Ground Flammable Liquid Storage: General (8350.1) and auxiliary uses including storage in portable or permanent above ground tanks at volumes above 10,000 gallons for maintenance and operation of site equipment.

Sanitary landfill use is allowed within this PUD; application for a special use permit is not required when an additional part of the PUD property is developed as a solid waste disposal area. The solid waste disposal areas will be designed and constructed consistent with the Master Development Plan shown in Exhibit A. However, each solid waste disposal area shall meet the following conditions:

- All setbacks are shown on Exhibit A.
- A fence or natural barrier shall be provided at the perimeter of the PUD property.
- Site will remain open during business hours but access will be denied after hours with a locked gate.

- Minimum setbacks between any solid waste disposal area and any highway, drainage canal, lake, stream, navigable waterway, regulatory floodway or property line shall be as shown on Exhibit A, Master Development Plan.
- All buildings and structures accessory to the operation shall comply with all applicable city codes with the exception that hard surface paving is not required.
- After the solid waste disposal areas have reached their proposed grades, the solid waste disposal site will be closed in accordance with regulatory closure and postclosure requirements consistent with the Master Development Plan shown on Exhibit A.

Recycling collection and processing is allowed within this PUD; application for a special use permit is not required if the collection and processing of reusable materials is done with the intent for reuse, remanufacture, or reconstruction. Recycling collection and processing will meet the following conditions

- The materials will not be displayed for sale.
- Recyclable materials will not include refuse or hazardous materials.
- Recyclable materials will not be stored in a quantity exceeding that which could be reasonably expected to be used or recycled.

Mining and processing: Minerals and raw materials use is allowed within this PUD; application for a special use permit is not required as long as the area that is developed for a soil borrow area is developed consistent with the grades of a future excavation for a solid waste disposal area or an area that is used for a stormwater management structure. The solid waste disposal area and related stormwater management facilities will be designed and constructed consistent with the Master Development Plan shown on Exhibit A. However, each soil borrow area shall meet the following conditions:

- After the soil borrow area is completed it will be converted to its final intended use as either a solid waste disposal area or stormwater management structure, consistent with the Master Development Plan in Exhibit A. Soil borrow areas shall be closed in accordance with regulatory closure and postclosure requirements.
- No excavation, stockpiling of material or accessory or incidental use of the mining operation shall be permitted within 75 feet of any property line, street right of way line or drainage or utility easement, except in areas that received previous approval for soil borrow operations (PUD-1419) as shown on the Master Development Plan marked as Exhibit A, in which case the boundary will be 30 feet.

The soil borrow areas support the operation of the landfill by providing soil that is used to cover solid waste on a daily basis and for the landfill's liner and final cover systems.

Heavy public protection and utility use is allowed within this PUD; application for a special use permit is not required for a landfill gas flare facilities. The landfill gas flare facility shall meet the following conditions:

- All maintenance, repair, and mechanical work shall be performed in enclosed buildings.
- There shall be a 50-foot setback from any Residential District for any off-street parking or loading spaces.
- No heavy public protection and utility use shall be permitted within 500 feet of an occupied dwelling.

Automotive and equipment repair/maintenance is allowed within this PUD; application for a special permit is not required if the repair/maintenance is for site operation equipment purposes.

Aboveground flammable liquid storage is allowed within this PUD; application for a special use permit is not required if the liquid stored is for site operation purposes. Aboveground flammable liquid storage tanks will meet the following conditions:

- The setback for any aboveground storage tank shall be not less than one-hundred (100) feet from any property boundary.
- The aboveground tanks will be used for maintenance and operation of site equipment only.
- The aboveground tanks will meet all local, state, and federal requirements and standards.

9 SPECIAL CONDITIONS

The special conditions included in the following section shall be made part of this PUD.

9.1 Façade Regulations

Future constructed building facades will be in accordance with regulations of the "I-2" Moderate Industry District.

9.2 Landscaping Regulations

The following landscaping provisions shall apply to this PUD:

9.2.1 Landscape Buffers

This PUD will take advantage of buffers, natural buffers, and landscape buffers previously established in accordance with PUD-1419. Landscape buffers as depicted on the Master Development Plan (Exhibit A) and Planting Plan (Exhibit G), shall be established and/or maintained as a part of the development of this PUD.

9.2.2 Landscape Buffer Vegetation

If trees in the existing landscaped buffers need to be replaced, the following are typical trees that are recommended for planting per "Landscape Guideline for The Selection, Care and Maintenance of Trees In Central Oklahoma" provided by the City of Oklahoma City.

- Bald Cypress-Taxodium distichum
- Cottonwood, Cottonless-Populus deltoids
- Ginkgo (male)-Ginkgo biloba
- Hackberry-Celtis occidentalis
- Honeylocust, Thornless-Gleditsia triacanthos
- Kentucky Coffee Tree-Gymnocladus dioica
- Linden, Greenspire-Tilia cordata
- Chittamwood-Bumelia lanuginose
- Elm, Lacebark-Ulmus parvifolia
- Hawthorn, Washington-Crataegus phaenopyrum
- Japanese Pagoda Tree-Styphnolobium japonicum
- Maple, Caddo-Acer saccharum
- Maple Hedge-Acer campestre
- Mulberry, Fruitless-Morus alba
- Oak, Sawtooth-Quercus acutissima

- London Planetree-Platanus x acerifolia
- Oak, Bur-Quercus macrocarpa
- Oak, Chinquapin-Quercus muehlenbergii
- Oak, Shumard-Quercus shumardii
- Oak, Water-Quercus nigra
- Sweetgum, Fruitless-Liquidambar styraciflua
- Zelkova, Japanese-Zelkova serrata
- Birch, River-Betula nigra
- Chinese Pistache-Pistacia chinensis
- Osage Orange-Maclura pomifera
- Russian Olive-Eleagnus angustifolia
- Western Soapberry-Sapindus drummondii
- Deciduous Holly-Ilex decidua
- Euonymus, Winterberry-Euonymus bungeana
- Maple, Amur-Acer tataricum ssp. ginnala
- Maple Shantung-Acer truncatum
- Willow, Desert-Chilopsis linearis

Other trees (particularly evergreens) may be planted given that climatological factors, maintenance, plant care, and/or soil testing show that the trees are adequate for the area.

Native and introduced grasses, if not already established, will be established within the buffer zones and excavation sideslopes. The grasses will be maintained until the seeded areas provide for coverage of 85 percent ground cover and no bare areas larger than one square foot of the established species.

After vegetation is established in an area it will be inspected on an annual basis. The vegetation cover will be capable of self-regeneration and will require no maintenance. If bare spots develop, then the area will be re-seeded and maintained (e.g., watered and fertilized).

A typical seed mixture is presented in Table 9-1.

Table 9-1
Typical Seeding Mixtures[(1),(2)]
Spring/Summer Planting Season
(Optimal Time for Planting-April 1 through May 30)

Spring Seeding Mixture	Minimum Percent Pure Live Seed Required	Pounds Per Live Seeds Required Per Acre
Common Bermuda Grass	85	12
Blue Stem	65	4
Side Oats Grama	65	6
Rye	85	4
Dormant Seeding	85	27
	Total	53

(1) The mixtures shown in Table 9-1 are for reference purposes only. Other mixtures may also be used.
(2) To assure that permanent vegetation is established, dormant seeding will be included in the seeding mixture used on the facility (i.e., if planting a fall seeding mixture, a portion of the mixture will include dormant seeds for spring).

Vegetation will be planted on the landfill's final cover system in accordance with the ODEQ approved site vegetation plan.

9.3 Lighting Regulations

No residential properties are adjacent to the PUD Area near the site entrance facilities to the north, nor are the current site entrance facilities adjacent to the Northeast 36th Street. No residential properties are currently adjacent to the future site entrance location as well. Therefore, no light spillover into residential uses is and/or will occur.

9.4 Screening Regulations

A sight-proof fence will not be required along any property line. The landscape buffer as depicted on the Master Development Plan (Exhibit A) and Planting Plan (Exhibit G) shall be established and/or maintained as part of the development of this PUD.

9.5 Platting Regulations

A specific plan and final plat pursuant to Chapter 59, Section 14150C of the Oklahoma City Municipal Code, 2010, as amended are not required for Sanitary Landfill use and/or Mining and Minerals Processing use. The Master Development Plan (Exhibit A) is provided in place of the specific plat.

9.6 Drainage Regulations

Private drainage ways are allowed within the East Oak Recycling and Disposal Facility PUD area.

Drainage improvements, if required, will be in accordance to the applicable sections of the Oklahoma City Code of Ordinances. Private drainageways will be permitted and constructed in accordance with Chapter 16 of the Oklahoma City Municipal Code which includes certain allowances in construction standards for PUDs. Such private drainageways must be designed to handle adequate flows and cannot be built without specific approval of the City Engineer and the ODEQ. The maintenance will be the responsibility of the property owner(s).

As a solid waste disposal area develops, additional detention/ sedimentation ponds may be added around the perimeter. Such ponds shall meet applicable city, state and federal regulations.

Development of this parcel will comply with Chapter 16 of the Oklahoma City Municipal Code, 2010, as amended.

Development within the 100-year floodplain is subject to approval from FEMA and the Oklahoma City Floodplain Administrator.

9.7 Dumpster Regulations

Dumpsters shall be located within an area screened by a fence or masonry wall of sufficient height that screens the dumpster from public streets and residences and shall be placed no closer than 50 feet from all property lines adjacent to residential use.

9.8 Access Regulations

Northeast 36th Street, North Sooner Road, and Northeast 23rd Street are adjacent to the site. However, only Northeast 36th Street is adjacent to PUD Areas 1, 2, and 3. Access to the site will be limited to the access road located on Northeast 36th Street. In addition, vehicles/equipment used to borrow/transport soil from the soil borrow area to the adjacent landfill area for operational purposes (i.e., daily/intermediate cover, final cover, and liner materials) will not access any public street but rather will be limited to internal site haul roads. Internal access drives and storage areas are not required to have hard surface paving and may consist of gravel, asphalt millings and/or other alternative surfacing materials. There is an access point the landfill property along Northeast 23rd Street that is controlled by a locked gate. The site does periodically utilize this access point as a means to access their roll-off box storage areas; however, no municipal solid waste or soil operation haul trucks utilize this access point.

9.9 Parking Regulations

The design and number of all future parking facilities within this PUD shall be in accordance with Chapter 59 Article X of the Oklahoma City Municipal Code 2010, as amended, provided that required parking aisles and spaces are permitted to have gravel surfacing or other surface as described in Section 9.8.

9.10 Signage Regulations

Freestanding signs that are used to convey information associated with the operation of the landfill are limited to 1 in number at the entrance of the facility on Northeast 36th Street, with a maximum 8 foot height, 100 square foot size.

9.11 Roofing Regulations

Any newly constructed structures in the PUD will have a class C roofing or better.

9.12 Sidewalk Regulations

5-foot sidewalks along NE 36th Street in each tract are required.

9.13 Height Regulations

Maximum height of the sanitary landfill area at completion shall not exceed an elevation of 1,365 ft-msl feet as shown on the landfill completion plan attached as Exhibit A.

9.14 Setback Regulations

Minimum setback for waste disposal areas from the perimeter of the PUD area development is shown on the Master Development Plan in Exhibit A.

10 DEVELOPMENT SEQUENCE

Development phasing shall be allowed as part of this PUD.

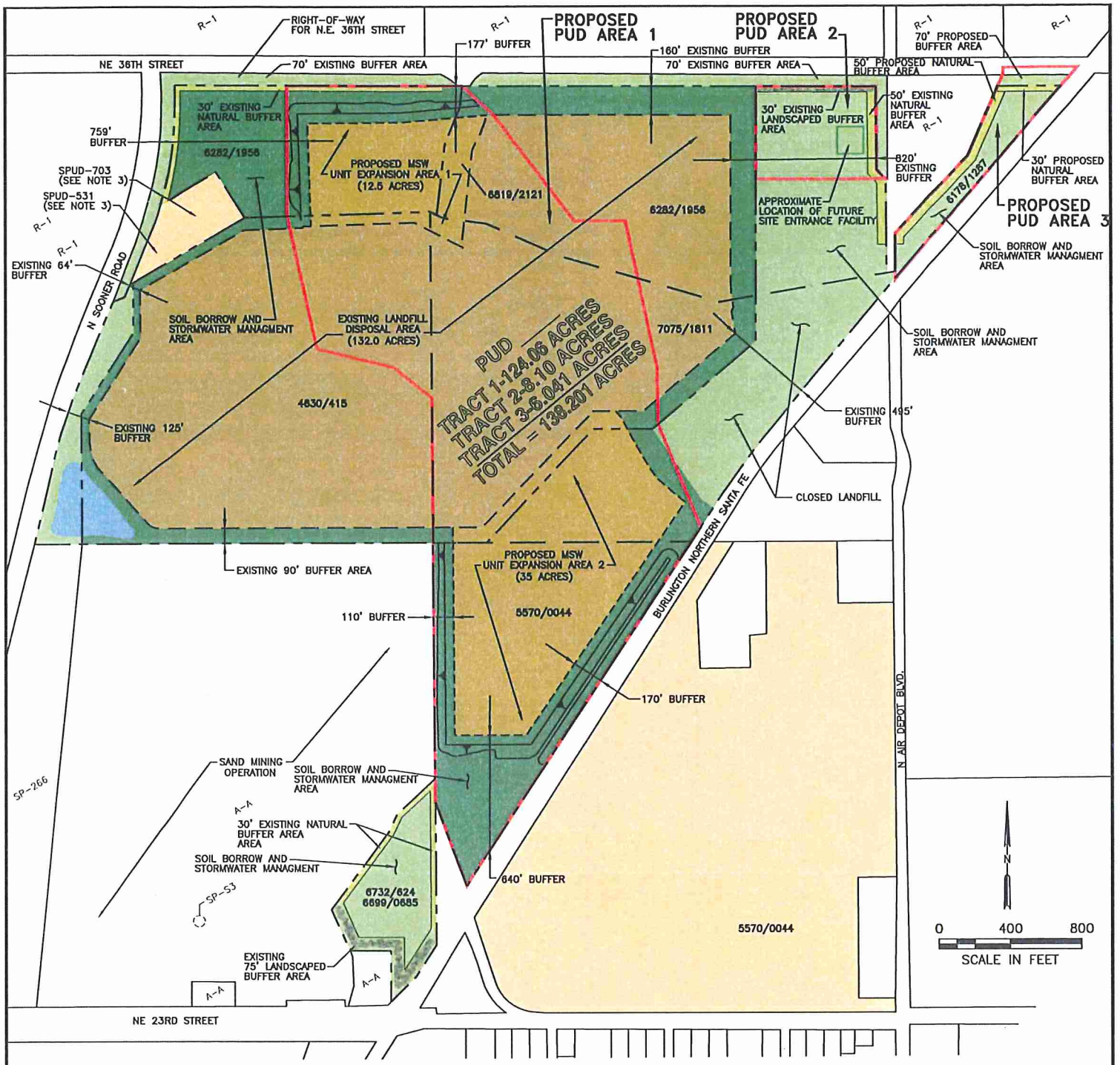
11 EXHIBITS

The following exhibits are hereby attached and incorporated into this PUD. These exhibits are:

EXHIBIT A	Master Development Plan
EXHIBIT B	Legal Description
EXHIBIT C	PUD Area Zoning Map
EXHIBIT D	Topographic Map
EXHIBIT E	Site Aerial Photograph
EXHIBIT F	PUD Concept
EXHIBIT G	Planting Plan

EXHIBIT A

MASTER DEVELOPMENT PLAN
(10 COPIES 8-1/2" X 11")
(10 COPIES 11" X 17")
(10 COPIES 24" X 36")



LEGEND

PROPOSED PUD BOUNDARY	
PROPERTY BOUNDARY	
PROPOSED LANDFILL PERMIT BOUNDARY	
EXISTING LANDFILL PERMIT BOUNDARY	
MOSLEY ROAD SANITARY LANDFILL PERMIT BOUNDARY (SEE NOTE 5)	
PERMITTED LIMIT OF WASTE FILL AREA	
EXPANSION LIMIT OF WASTE FILL AREA	
A-A	ZONING DESIGNATION A-A (SEE NOTE 1)
R-1	ZONING DESIGNATION R-1 (SEE NOTE 1)
C-3	ZONING DESIGNATION C-3 (SEE NOTE 1)
SP-266	SPECIAL USE PERMIT (SEE NOTE 1)
SPUD-703	SIMPLIFIED PLANNED UNIT DEVELOPMENT (SEE NOTE 1)
	ADJACENT PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
	EXISTING LANDSCAPED BUFFER AREA (SEE NOTE 4)
	LANDFILL BUFFER AREA
	BUFFER AREA
	NATURAL BUFFER AREA (SEE NOTE 4)
	PERMITTED LANDFILL DISPOSAL AREA
	EXPANSION LANDFILL DISPOSAL AREA
4630/415	WARRANTY DEEDS (ID NUMBER – REFER TO APPENDIX C FOR ADDITIONAL INFORMATION)

NOTES:

1. ZONING DESIGNATION INFORMATION REPRODUCED FROM THE CITY OF OKLAHOMA CITY ONLINE ZONING LOCATOR, FEBRUARY 2014.
2. PROPERTY BOUNDARIES REPRODUCED FROM OKLAHOMA ASSESSOR'S ONLINE INTERACTIVE GIS MAP, FEBRUARY 2014.
3. SPUD-531 AND SPUD-703 HAVE SPECIFIC SCREENING/BUFFER REQUIREMENTS ADJACENT TO N. SOONER ROAD.
4. LANDSCAPED AND NATURAL BUFFER AREAS ESTABLISHED AS PART OF PUD-1419.
5. THE MOSLEY ROAD SANITARY LANDFILL PERMIT BOUNDARY WAS REPRODUCED FROM FIGURES INCLUDED IN THE RECORD OF DECISION, DATED 1992, PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC. THE LANDFILL WAS CLOSED IN NOVEMBER 1987.

EXHIBIT A
MASTER DEVELOPMENT PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

WWW.WEAVERBOOS.COM

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REVIEWED BY: JVQ	CAD: DRAWING_A.DWG	DRAWING A

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EXHIBIT B

LEGAL DESCRIPTION
(3 COPIES)

Legal Description for 2013 PUD

LEGAL DESCRIPTION (TRACT 1)

A part of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Northeast Corner of said Section 21

THENCE N89°47'56"W, along the North line of said Section 21, a distance of 2435.65 feet;

THENCE S00°12'04"E, perpendicular to said North line, a distance of 100.00 feet to the POINT OF BEGINNING;

THENCE S48°15'41"E a distance of 231.02 feet;

THENCE S37°32'51"E a distance of 758.06 feet;

THENCE S89°51'53"E a distance of 284.15 feet;

THENCE S12°11'24"E a distance of 835.40 feet;

THENCE S00°56'11"E a distance of 318.12 feet;

THENCE S22°26'50"E a distance of 623.59 feet to a point on the present West Right-of-Way line of the St. Louis & San Francisco Railroad;

THENCE S33°28'06"W, along said West Right-of-Way line, a distance of 97.90 feet to a point on the South line of the Northeast Quarter of said Section 21;

THENCE continuing S33°28'06"W, along said West Right-of-Way line, a distance of 2301.78 feet;

THENCE N20°49'00"W a distance of 498.92 feet to a point on the West line of the Southeast Quarter of said Section 21;

THENCE N00°21'36"W, along said West line a distance of 1450.26 feet to the Northwest corner of said Southeast Quarter;

THENCE continuing N00°21'36"W, along the West line of the Northeast Quarter of said Section 21, a distance of 812.24 feet;

THENCE N51°27'41"W a distance of 273.48 feet;

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C.A. No. 2054 (Expires 6/30/14)

THENCE N76°22'42"W a distance of 445.75 feet;

THENCE N12°39'25"W a distance of 758.59 feet;

THENCE N00°00'00"E a distance of 727.41 feet;

THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 990.03 feet to the POINT OF BEGINNING, containing 5,404,194.10 square feet or 124.06 acres more less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on October 14, 2013.

REGISTERED PROFESSIONAL LAND SURVEYOR
BOBBY L. JOHNSON
1539
OKLAHOMA

3226 Bart Conner Drive - Norman, OK 73072 Ph (405)366-8541 Fax (405)366-8540 E-mail: robbyj@lemke-ls.com
C.A. No. 2054 (Expires 6/30/14)

LEGAL DESCRIPTION (TRACT 2)

A tract of land located in the Northeast Quarter (NE/4) of Section Twenty-One (21), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as follows:

Commencing at the Northeast Corner of the Northeast Quarter of said Section 21;

THENCE N89°47'56"W, along the North line of said Northeast Quarter, a distance of 100.00 feet;

THENCE S00°30'38"E, parallel to and 100 feet west of the East line of said Northeast Quarter, a distance of 100.00 feet to the POINT OF BEGINNING;

THENCE continuing S00°30'38"E a distance of 464.72 feet;

THENCE S45°30'38"E a distance of 70.71 feet;

THENCE N90°00'00"W a distance of 735.30 feet;

THENCE N00°11'17"E a distance of 516.64 feet;

THENCE S89°47'56"E, parallel to and 100.00 feet South of the North line of said Section 21, a distance of 679.02 feet to the POINT OF BEGINNING, containing 352,851.86 square feet or 8.10 acres more less.

Basis of Bearing is Oklahoma State Plane Grid Bearings.

This legal description prepared by Robby L. Johnson, PLS 1539, on October 14, 2013.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

3226 Bart Conner Drive - Norman, OK 73072 Ph (405)366-8541 Fax (405)366-8540 E-mail: robbyj@lemke-ls.com
C.A. No. 2054 (Expires 6/30/14)

LEGAL DESCRIPTION (TRACT 3) Warranty Deed Book 6178, Page 1287

A part of the Northwest Quarter of Section Twenty-One (22), Township Twelve (12) North, Range Two (2) West of the Indian Meridian, Oklahoma County, Oklahoma, being more particularly described as Beginning at a point on the West line of said Section 22, said point being 918.00 feet S00°29'01"E of the Northwest corner of said Northwest Quarter:

THENCE N43°28'59"E, a distance of 596.95 feet;

THENCE N23°34'59"E a distance of 499.67 feet;

THENCE N00°00'00"E a distance of 31.12 feet to a point on the North line of said Northwest Quarter, said point being 618.45 feet N89°36'31"E of said Northwest corner;

THENCE N89°36'31"E a distance of 416.83 feet to a point on the West right-of-way of the S.L.& S.F Railroad;

THENCE S40°59'06"W, along said right-of-way, a distance of 1563.38 feet to a point on the West line of said Northwest Quarter;

THENCE N00°29'01"W, along said West line, a distance of 255.14 feet to the point or place of Beginning, said tract to contain 263,127.86 square feet (6.041 acres) more or less.

REGISTERED PROFESSIONAL LAND SURVEYOR
ROBBY L. JOHNSON
1539
OKLAHOMA

3226 Bart Conner Drive - Norman, OK 73072 Ph (405)366-8541 Fax (405)366-8540 E-mail: robbyj@lemke-ls.com
C.A. No. 2054 (Expires 6/30/14)

EXHIBIT C

PUD AREA ZONING MAP
(10 COPIES 8-1/2" X 11")
(10 COPIES 11" X 17")

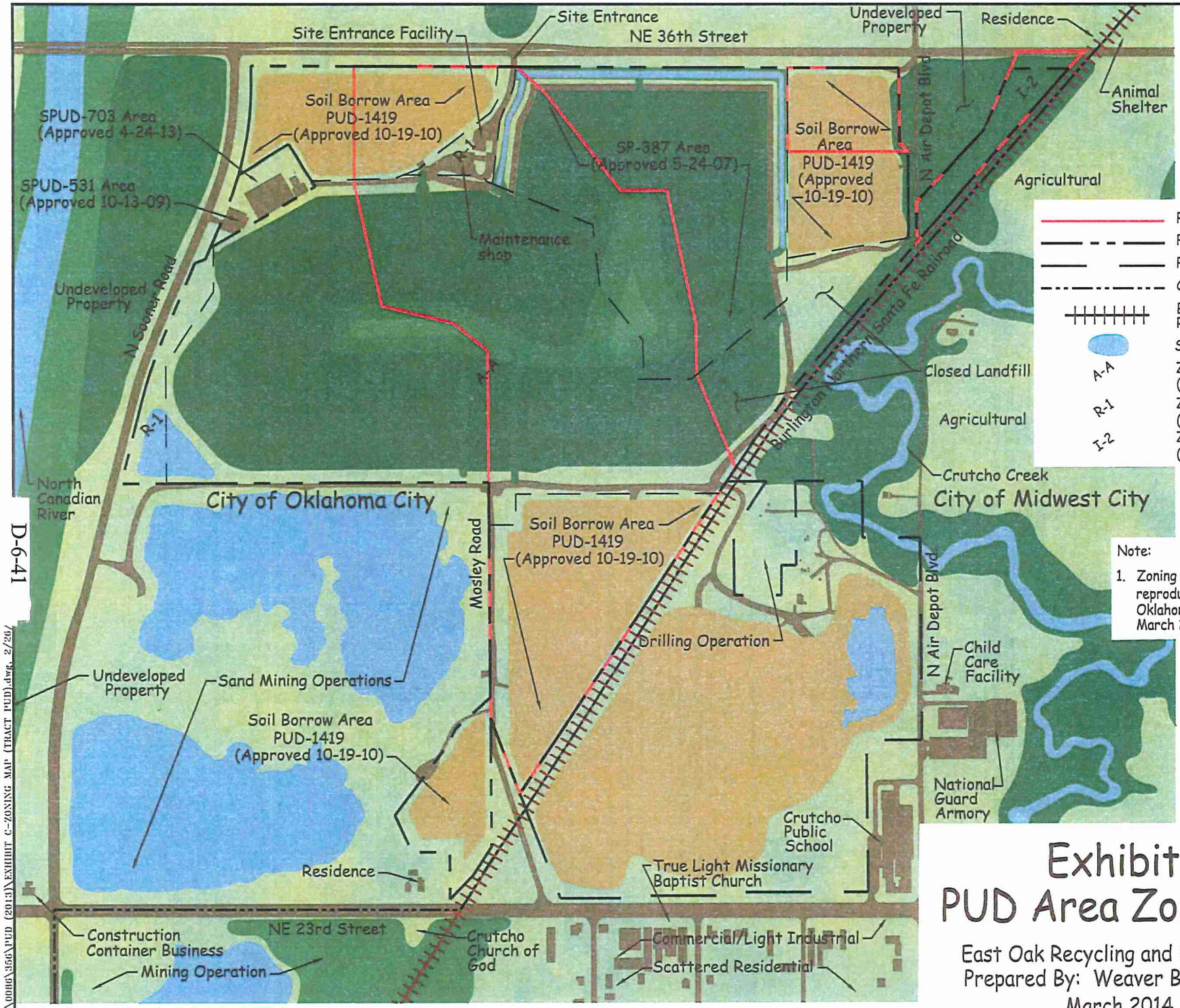

Exhibit C
PUD Area Zoning Map

East Oak Recycling and Disposal Facility
Prepared By: Weaver Boos Consultants
March 2014

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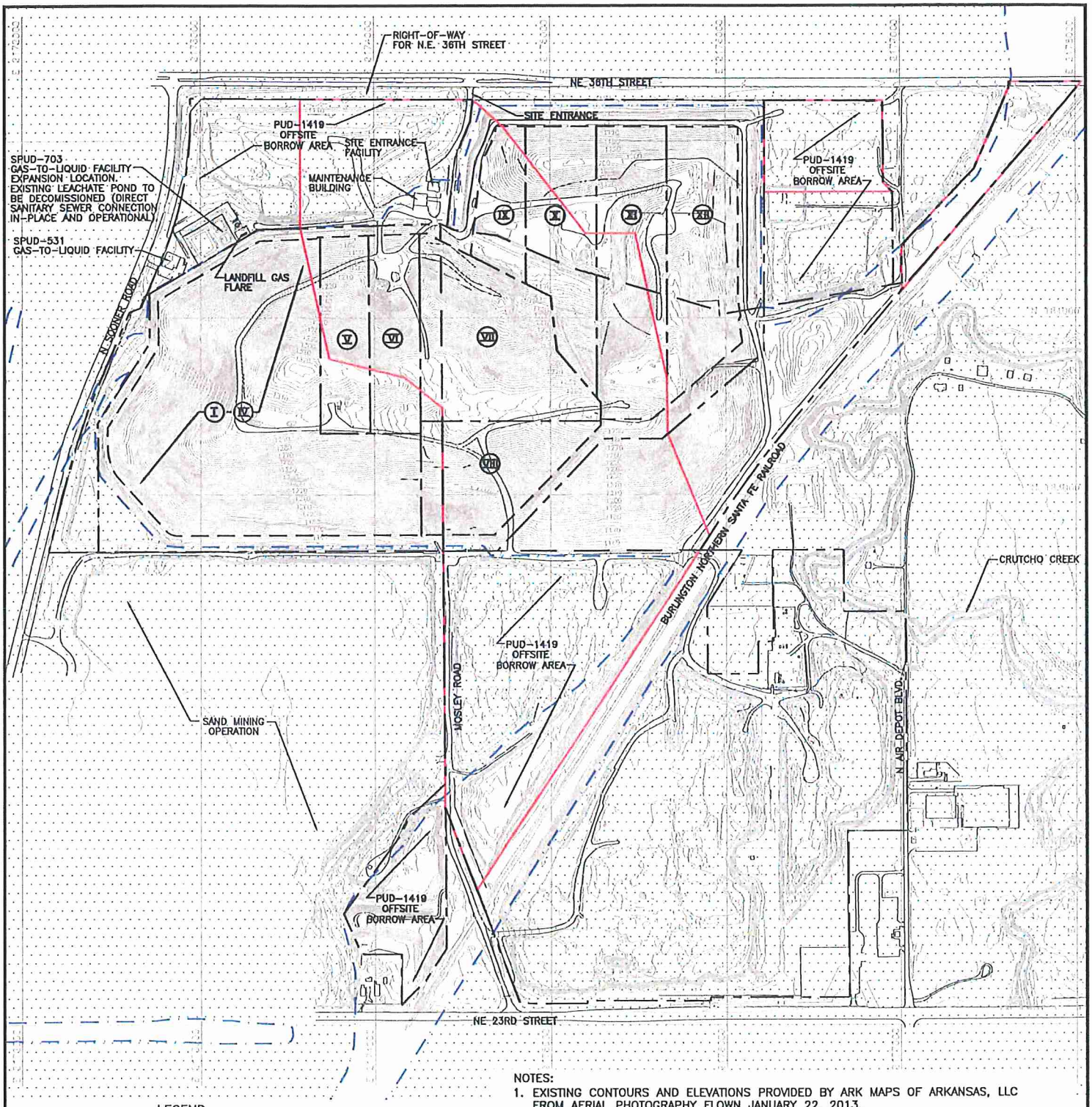
EXHIBIT D

TOPOGRAPHIC MAP
(10 COPIES 8-½" X 11")
(10 COPIES 11" X 17")



LEGEND

- PROPOSED PUD BOUNDARY
- EXISTING LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- MOSLEY ROAD SANITARY LANDFILL PERMIT BOUNDARY (SEE NOTE 4)
- PERMITTED LIMIT OF WASTE FILL AREA
- EXISTING CONTOUR
- STATE PLANE COORDINATE SYSTEM
- SECTOR AREA
- (X) LANDFILL SECTOR DESIGNATION
- 100-YEAR FLOODPLAIN (SEE NOTE 3)

NOTES:

1. EXISTING CONTOURS AND ELEVATIONS PROVIDED BY ARK MAPS OF ARKANSAS, LLC FROM AERIAL PHOTOGRAPHY FLOWN JANUARY 22, 2013.
2. THE EXISTING LANDFILL PERMIT BOUNDARY AND PERMITTED LIMITS OF WASTE WAS REPRODUCED FROM THE TIER III PERMIT MODIFICATION LATERAL EXPANSION APPLICATION FOR EAST OAK RDF APPROVED IN MAY 2008.
3. 100-YEAR FLOODPLAIN WAS REPRODUCED FROM THE CONDITIONAL LETTER OF MAP REVISION REQUEST FOR EAST OAK RDF APPROVED BY FEMA IN MARCH 2008.
4. THE MOSLEY ROAD SANITARY LANDFILL PERMIT BOUNDARY WAS REPRODUCED FROM FIGURES INCLUDED IN THE RECORD OF DECISION DATED 1992, PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC. THE LANDFILL WAS CLOSED IN NOVEMBER 1987.

N

0 400 800

SCALE IN FEET

EXHIBIT D
TOPOGRAPHIC MAP

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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REVIEWED BY: JVQ	CAD: EXHIBIT D.DWG	DRAWING D

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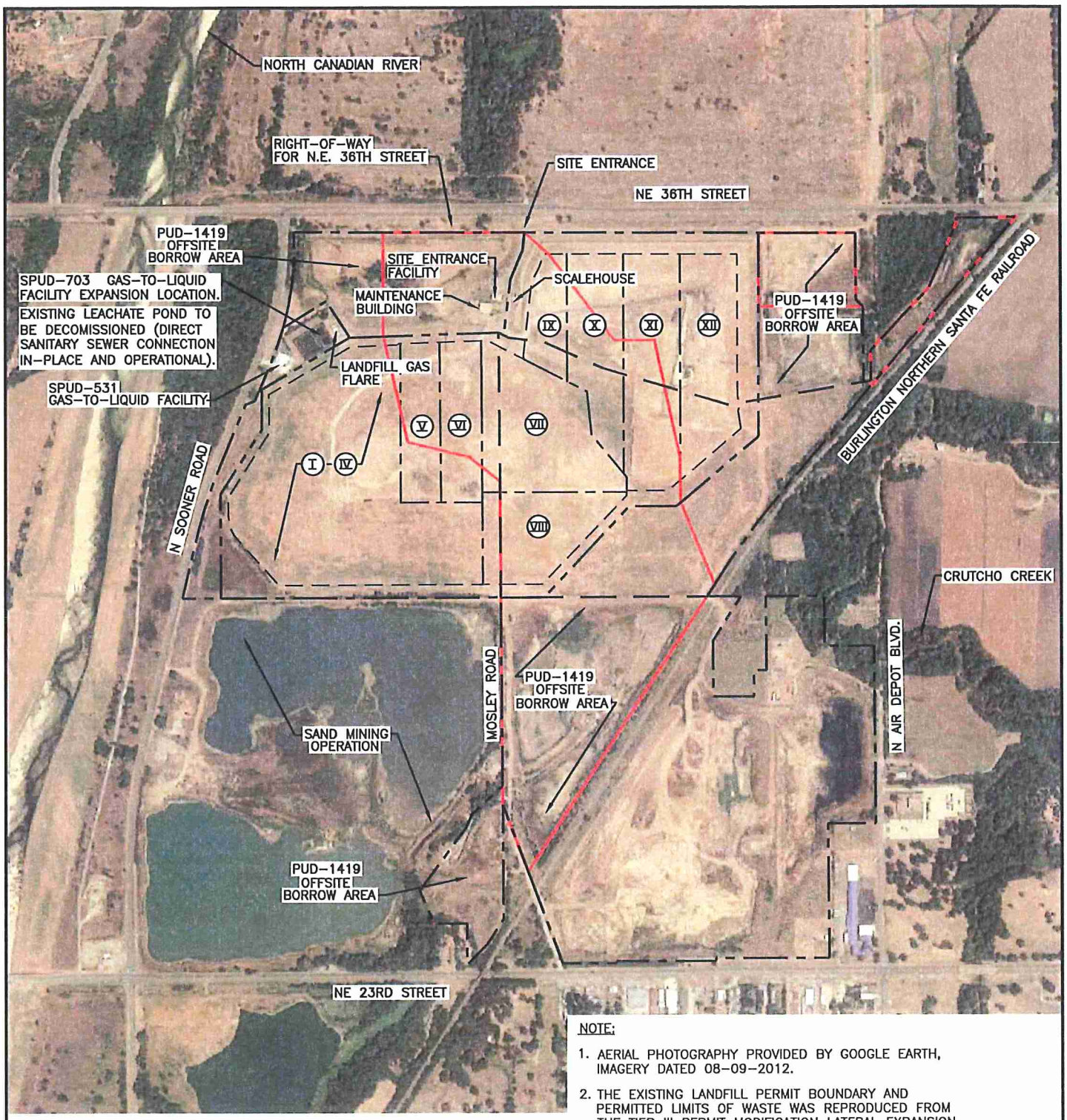
EXHIBIT E

SITE AERIAL PHOTOGRAPH
(10 COPIES 8-½" X 11")
(10 COPIES 11" X 17")



NOTE:

1. AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE EARTH, IMAGERY DATED 08-09-2012.
2. THE EXISTING LANDFILL PERMIT BOUNDARY AND PERMITTED LIMITS OF WASTE WAS REPRODUCED FROM THE TIER III PERMIT MODIFICATION LATERAL EXPANSION APPLICATION FOR EAST OAK RDF APPROVED IN MAY 2008.
3. THE MOSLEY ROAD SANITARY LANDFILL PERMIT BOUNDARY WAS REPRODUCED FROM FIGURES INCLUDED IN THE RECORD OF DECISION DATED 1992, PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC. THE LANDFILL WAS CLOSED IN NOVEMBER 1987.

LEGEND

- PROPOSED PUD BOUNDARY
- EXISTING LANDFILL PERMIT BOUNDARY
- PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- MOSLEY ROAD SANITARY LANDFILL PERMIT BOUNDARY (SEE NOTE 3)
- PERMITTED LIMIT OF WASTE FILL AREA
- 1300 EXISTING CONTOUR
- N 18.5000 STATE PLANE COORDINATE SYSTEM
- SECTOR AREA
- (X) LANDFILL SECTOR DESIGNATION

N

0 500 1000
SCALE IN FEET

EXHIBIT E
SITE AERIAL PHOTOGRAPH

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

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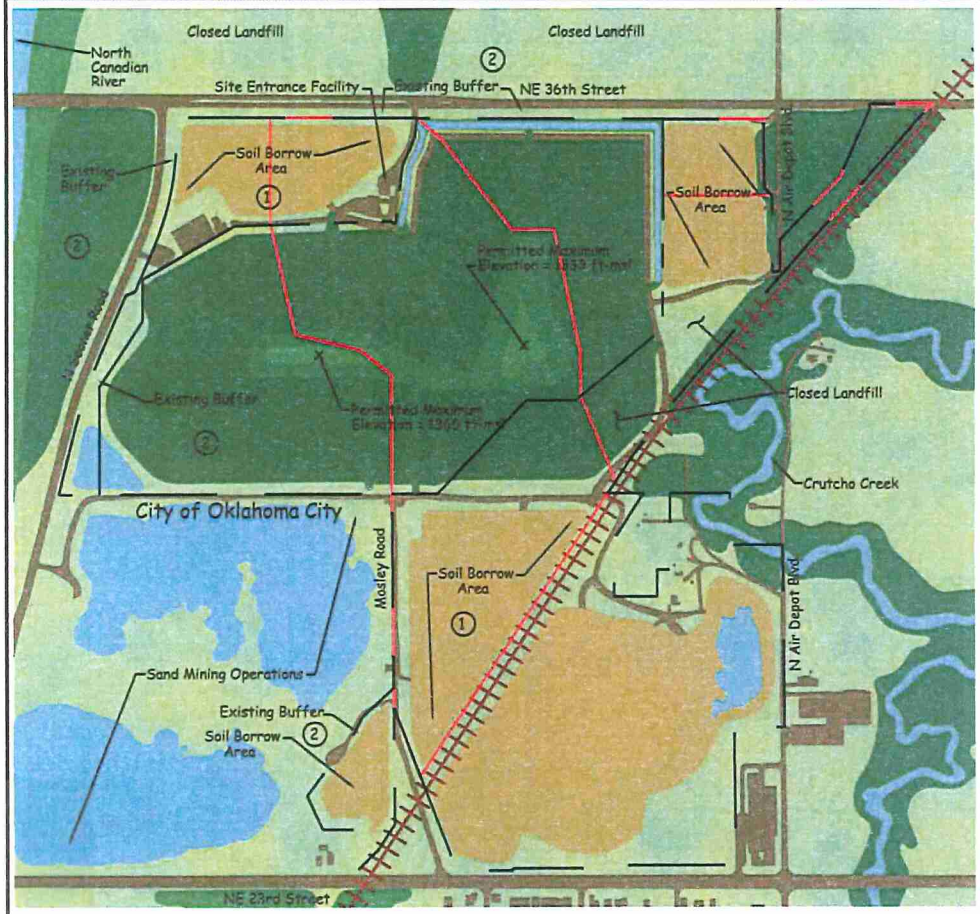
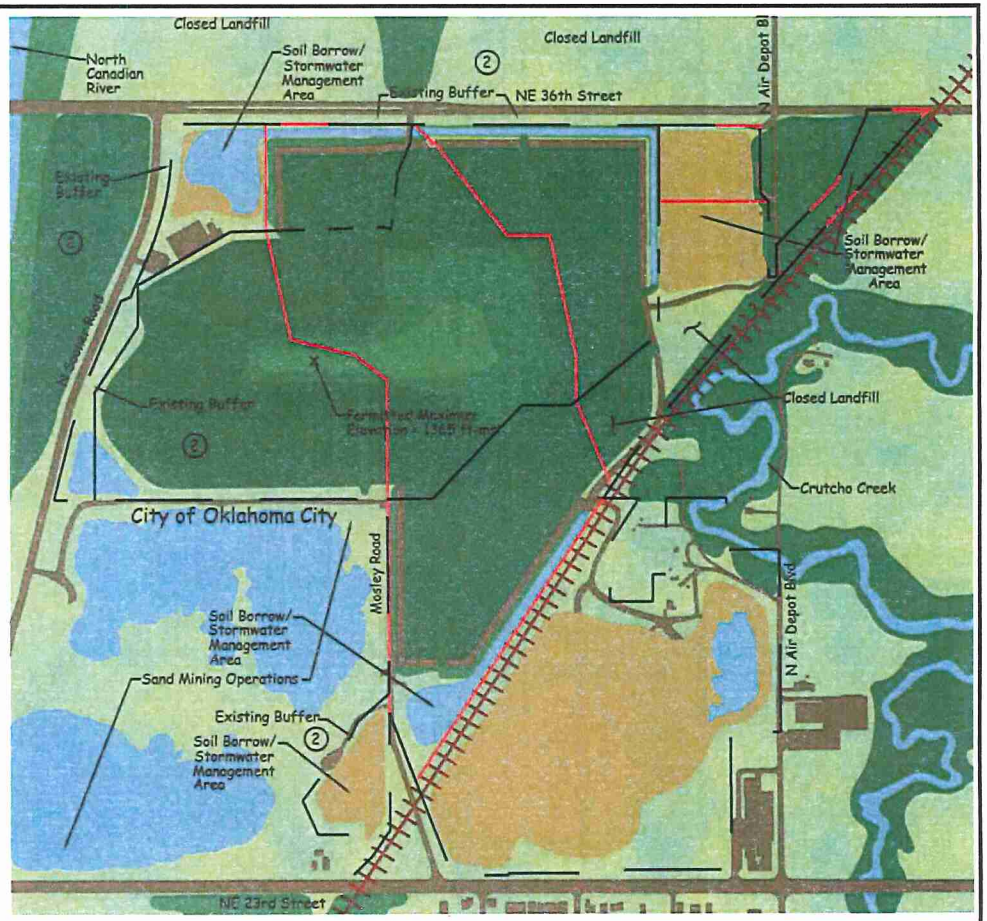
EXHIBIT F

PUD CONCEPT
(10 COPIES 8-½" X 11")
(10 COPIES 11" X 17")



Existing Permitted Condition



Proposed Condition

D-6-47

Legend

- Proposed PUD Boundary
- Existing Permit Boundary
- Property Boundary
- City of Oklahoma City Limits
- Burlington Northern Santa Fe Railroad
- Landfill Perimeter Road
- Stormwater Detention Ponds

N

① The existing soil borrow areas to the northwest and south will transition to the landfill expansion area.

② As shown on Exhibit G the existing buffer, natural buffer and, landscape buffer area will continue to provide a visual buffer between the landfill and the PUD boundary.

Exhibit F
PUD Concept

East Oak Recycling and Disposal Facility

Prepared By: Weaver Boos Consultants

March 2014

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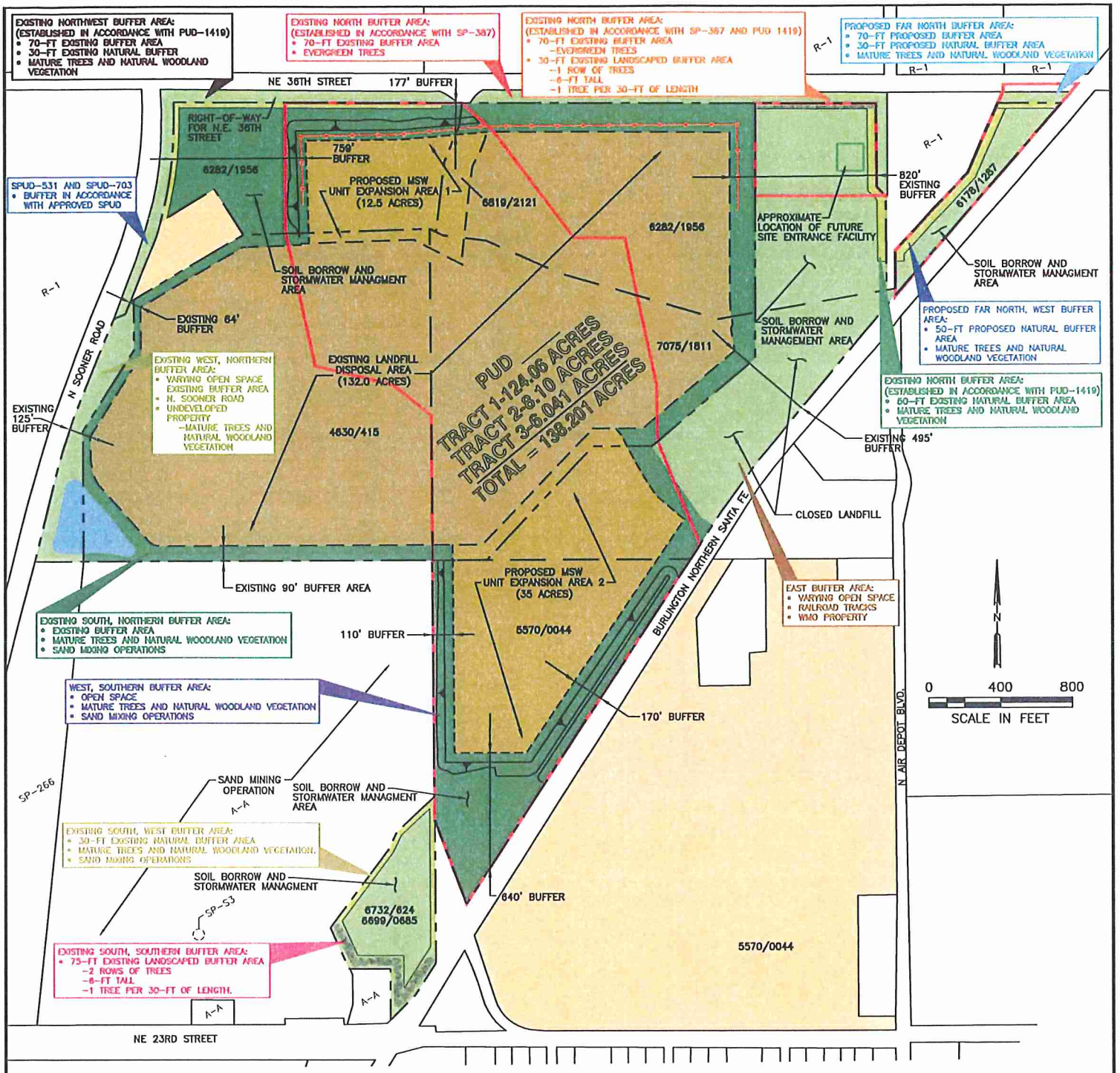
O:\006\356\PUD (2013)\EXHIBIT F-PUD CONCEPT (TRACT PUD).dwg, 2/26/2014 1:47:15 PM, 1:1

EXHIBIT G

PLANTING PLAN
(10 COPIES 8-1/2" X 11")
(10 COPIES 11" X 17")



LEGEND

- PROPOSED PUD BOUNDARY
- PROPERTY BOUNDARY
- EXISTING LANDFILL PERMIT BOUNDARY
- MOSLEY ROAD SANITARY LANDFILL PERMIT BOUNDARY (SEE NOTE 3)
- PERMITTED LIMIT OF WASTE FILL AREA
- EXPANSION LIMIT OF WASTE FILL AREA
- LITTER FENCE (SEE NOTE 4)
- A-A — ZONING DESIGNATION A-A (SEE NOTE 1)
- R-1 — ZONING DESIGNATION R-1 (SEE NOTE 1)
- C-3 — ZONING DESIGNATION C-3 (SEE NOTE 1)
- SP-266 — SPECIAL USE PERMIT (SEE NOTE 1)
- SPUD-703 — SIMPLIFIED PLANNED UNIT DEVELOPMENT (SEE NOTE 1)
- ADJACENT PROPERTY OWNED BY WASTE MANAGEMENT OF OKLAHOMA, INC.
- LANDSCAPED BUFFER AREA
- LANDFILL BUFFER AREA
- EXISTING BUFFER AREA
- NATURAL BUFFER AREA
- PERMITTED LANDFILL DISPOSAL AREA
- EXPANSION LANDFILL DISPOSAL AREA
- 4630/415 — WARRANTY DEEDS (ID NUMBER – REFER TO APPENDIX C FOR ADDITIONAL INFORMATION)

NOTES:

1. ZONING DESIGNATION INFORMATION REPRODUCED FROM THE CITY OF OKLAHOMA CITY ONLINE ZONING LOCATOR, FEBRUARY 2014.
2. PROPERTY BOUNDARIES REPRODUCED FROM OKLAHOMA ASSESSOR'S ONLINE INTERACTIVE GIS MAP, FEBRUARY 2014.
3. THE MOSLEY ROAD SANITARY LANDFILL PERMIT BOUNDARY WAS REPRODUCED FROM FIGURES INCLUDED IN THE RECORD OF DECISION DATED 1992, PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC. THE LANDFILL WAS CLOSED IN NOVEMBER 1987.
4. A LITTER FENCE HAS BEEN INSTALLED ALONG THE NORTHERN PERMITTED LIMIT OF WASTE ADJACENT TO THE NORTHEAST 36TH STREET. THE LITTER FENCE WILL BE EXTENDED TO THE WEST AS THE NORTHWEST EXPANSION AREA IS DEVELOPED.

EXHIBIT G
PLANTING PLAN

EAST OAK RDF
OKLAHOMA COUNTY, OKLAHOMA

Weaver Boos Consultants

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REVIEWED BY: JVQ	CAD: DRAWING_G.DWG	DRAWING G

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G:\0086\356\PUD (2013)\EXHIBIT G-PLANTING PLAN (TRACT PUD).dwg, 2/26/2014 1:48:51 PM, 1:2