APPLICATION FOR A
TIER III REGULATED MEDICAL WASTE DISPOSAL FACILITY

February 3, 2020
APPLICATION FOR A Tier III Off-Site Solid Waste Processing Facility PERMIT

Date: 2/3/2020

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: ___________________

OK Medical Waste Disposal, LLC (Applicant's Name) proposes to establish, construct, operate, and maintain
the OK Medical Waste Disposal (Facility Name), located at See Attached Legal Description

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

in Oklahoma County, Oklahoma, and hereby makes application for a permit to establish, construct, operate, and maintain a Tier III Off-Site Solid Waste Processing Facility as required by Oklahoma Solid Waste Management Act and Rules pursuant thereto.

Brief description of application:
Oklahoma Medical Waste disposal seeks a permit to build a facility to sterilize regulated medical wastes, approved non-hazardous industrial wastes before they are disposed off at an off-site, approved non-hazardous landfill.

Applicant or Authorized Agent:

Signature
Joseph Whitener

Typed Name

Address: PO Box 1833
City: Tulsa State: OK

Date signed: 1/31/2020
Phone: 405-309-7693

Facility Address (if any):
475 Neil Boulevard
Harrah, OK 73045

Preparing Engineer:

Typed Name
Orphius I. Mohammad, P.E., A&M Engineering

Address: 10010 E 16th St
City: Tulsa State: OK

Date signed: 2/3/2020
Phone: 918-865-6575

DEQ USE ONLY

July 2016
DEQ Form #515-010
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. TBD, issued by the Oklahoma State Department of Health, the predecessor in interest to the Oklahoma Department of Environmental Quality (DEQ) on February 3, 2020, OK Medical Waste Disposal, LLC, (his/her heirs and assigns) (its successors and assigns), hereinafter referred to as Grantor, does hereby grant unto the DEQ, 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 permitted area):

Lot 3 of Block 2 of the HARRAH INDUSTRIAL PARK, as shown by the final plat thereof, being a part of Section 1, Township 11 North, Range 1 East of the I.M., Oklahoma County, Oklahoma (approximately 5 acres).

more particularly described as the permitted area of (facility name) landfill, Oklahoma Department of Environmental Quality Permit Number TBD; and

This Temporary Easement for Access is given subject to the following conditions:

1. The Grantor hereby grants unto the DEQ an easement and right-of-way over and across Tract 1, above set out, for access to said Tract 1 for the purposes of conducting closure and post-closure activities and/or corrective action as prescribed by the laws of the State of Oklahoma and Rules of the DEQ;

2. The Grantor hereby grants unto the DEQ an easement and right-of-way over and across Tract 2, above set out, for access to said Tract 2 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 DEQ;

3. This Easement is temporary and shall become null and void upon certification by the DEQ 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.

IN WITNESS WHEREOF, the Grantor has hereunto set (his/her) hand this 31st day of January, 2020.

(Name, Title)

July 2016
DEQ Form #515-022
ACKNOWLEDGMENT

STATE OF OKLAHOMA )
 ) SS:
COUNTY OF Oklahoma )

Before me, the undersigned, a Notary Public within and for said County and State, on this 31st day of JANUARY, 2020 personally appeared (name, title), to me known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that (he/she) executed the same as (his/her) free and voluntary act and deed, for the uses and purposes therein set forth.

Witness my hand and official seal the date above written.

My commission expires:

10/7/23

CINDY MARSHALL
Notary Public, State of Oklahoma
Commission # 15009332
My Commission Expires 10-07-2023

July 2016
DEQ Form #515-022
OK Medical Waste Disposal, LLC – DEQ Permit Application

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1.0 Introduction

OK Medical Waste Disposal, LLC (OKMWD), is an Oklahoma-owned and registered company established to receive and sterilize regulated medical waste (RMW) prior to disposal as defined and prescribed by Oklahoma Administrative Code 252:515-1-2. This application for a Tier III Solid Waste Off-Site Processing Facility, as defined by OAC 252:4-7-60(1)(A), is being submitted as required by OAC 252:212-3-1(a)(2)(C), OAC 252:4, and in accordance with all other applicable Oklahoma Administrative Codes and Department of Environmental Quality rules and regulations. OKMWD is also seeking a variance to 252:515-23-31(b), in accordance with 252:4-7-60(3), to be able to accept other types of non-hazardous industrial waste. This variance is requested in detail in Section 34.

The facility is intended to receive regulated medical waste from approved and permitted 3rd party transporters that collect waste from regulated medical waste generators all over Oklahoma. The waste will be received from the 3rd party transporters in sealed containers, intact in the form that they pick it up from waste generators, until such time that it is received as approved waste at the facility, treated, and disposed of at an approved landfill, in accordance with all applicable regulations.

OK Medical Waste Disposal, LLC (OKMWD) understands that the duration of the permit is subject to the stipulations in OAC 252:515-3-5 and any attempt to transfer a permit is governed by OAC 252:515-3-6. Currently, OKMWD is not requesting or attempting a permit transfer.

This application is submitted as required by the Oklahoma Uniform Environmental Permit Act and with the requirements of OAC Title 252, Chapter 4, Subchapter 3 of OAC 252:515 and all Chapters and Subchapters referenced and required for a regulated medical waste (RMW) processing facility (OAC 515:252-3-31(a) and (b)).

For ease of reading, this application is organized largely in the same order as OAC 252:515 and the Application Checklist, but where necessary, the application points to additional detail that is provided in the Operational Plan, Waste Exclusion Plan, Training Plan, and the Closure and Post-Closure Plans, which are all provided in separate tabs of this application.

To facilitate application review, the following reference table is based on the Solid Waste Application Review Checklist with some additions and provides references to where each item can be found in this application or in the accompanying materials.
## 2.0 Solid Waste Checklist to Application Reference Table

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## 2.0 Solid Waste Checklist to Application Reference Table (4/4)

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<td>252:515-29-4</td>
<td>Maintain Records</td>
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<td></td>
</tr>
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</table>
3.0 **Filing**

**Required by:** 252:4-7-4(b)

OKMWD has provided one (1) printed copy and (2) electronic copies to the DEQ and has placed one (1) copy for public review in Oklahoma County at the following address:

Harrah City Hall  
19625 NE 23rd St, Harrah, OK 73045  
Harrah, OK 73045

4.0 **Proof of Publication of Notice**

**Required by:** 252:4-7-13(d)

27A O.S. 2-14-301-303

The following pages provide a copy of the Public Notice of the filing of this application as well as an affidavit from the publisher asserting that the notice was filed in *The Choctaw Times*, on the 5th of February 2020. Copies of all subsequent notices (e.g., Notice of Draft Permit, Public Review and Comment, and Notice of Proposed Permit) and similar affidavits will be provided to the DEQ as they are published.
4.1 Public Notice of Filing of Application

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 (DEQ). Interested persons now have the opportunity to meet with the DEQ and learn how and where they may participate in the permitting process.

Applicant: The applicant is Oklahoma Medical Waste Disposal, LLC, PO BOX 1833, Tulsa, OK 74101.

Type of final permit or permit action being sought: The applicant seeks a new permit for an off-site regulated medical waste processing and other non-hazardous industrial waste.

Facility location: The facility will be located in Harrah, OK, at the Harrah Industrial Park. The exact physical address of the local has not been established yet, but the legal description is Lot 3 of Block 2 of the HARRAH INDUSTRIAL PARK, as shown by the final plat thereof, being a part of Section 1, Township 11 North, Range 1 East of the I.M., Oklahoma County, Oklahoma (approximately 5 acres).

Activities to be regulated if the application is approved: The activities to be regulated if the application is approved include the sterilization and shredding of regulated medical waste and other types of non-hazardous industrial waste as defined by 27 A.O.S. § 2-10-103 to include outdated, off-specification, or mislabeled over-the-counter medicines which are not hazardous in accordance with 40 CFR 261. Subparts C or D, other pharmaceutical waste, medical records or other NHIW that requires the destruction of any personally identifiable information by shredding, as well as, medical marijuana waste as defined by 63 O.S. 428 including roots, stems, stalks and fan leaves, and seeds. With the exception of the regulated medical waste, the foregoing types of waste require a variance to O.A.C 252-512-25-31(b) which states that only regulated medical waste shall be accepted at a regulated medical waste processing facility. The variance is requested because the treatment process used by Oklahoma Medical Waste Disposal is also suitable for treating types of waste for which the variance is requested because of the complete and total shredding of personally identifiable information and for medical marijuana waste because the shredding and steam sterilization process acts as a low-temperature incinerator alternative that renders the medical marijuana waste unsuitable for use. The treatment of this waste will be done separately from regulated medical waste and will not affect treatment process’s ability to achieve the required microbial inactivation of the regulated medical waste. The new facility will be a 10,000 square-foot metal building on five acres with driveways, parking, and aesthetically-pleasing landscaping. All waste storage and processing of untreated wastes will occur entirely within the facility.

Statutes and Rules: The DEQ 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 DEQ, Oklahoma Administrative Code, Title 252, Chapters 4 and 515.

Permitting procedures explained: On request, a representative of DEQ will chair a meeting to explain the steps of DEQ’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 DEQ representative named below within 30 days after the date this notice is published. Please note 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 DEQ representative named below.

Locations where application may be reviewed:
1. Harrah Library, 1930 Church Ave., Harrah, OK 73045
2. DEQ Central Records Section, located on the 2nd floor of the DEQ building at 707 N. Robinson, Oklahoma City, OK

For more information, contact:
1. For applicant: Joseph Wignarajah, (405) 309-7693
2. For DEQ: Hillary Young, P.E., Chief Engineer, DEQ, Land Protection Division, P.O. Box 1677, Oklahoma City, OK 73101-1677; (405) 702-5100; Fax No. (405) 702-5101.
4.2 Affidavit from the Publisher

This affidavit will be provided immediately upon receipt after publication on February 5th, 2020.

5.0 Prohibition

Required by: 252:515-3-3

No waste will be accepted by the facility until a solid waste permit has been issued by the DEQ.

6.0 Closed MSWLFs

Required by: 252:515-3-4

This section is not applicable as this is not a Municipal Solid Waste Land Fill.

7.0 Duration of the Permit

Required by: 252:515-3-5(a)-(e)

A permit is requested for the life of the proposed site, beginning from the completion of the new facility. If at any time the facility ceases operations for 30 days, without prior notice to the DEQ, OKMWD understands that this will be deemed to mean the facility is in the process of final closure. If at any time OKMWD wishes to suspend operations, OKMWD will notify the DEQ in writing. At no time does OKMWD expect to suspend operations, but should it desire to do so, it understands that any suspension or cessation of operations beyond one (1) year will require DEQ approval and annual review. If the facility is closed for more than one (1) year, without DEQ approval to continue suspension, it will be deemed to be in final closure and OKMWD will be required to conduct approved closure and post-closure activities, if applicable, in accordance with the approved closure and post-closure plans. If operations are to resume after a cessation or suspension of operations, the DEQ may direct that the permit be updated to be consistent with current laws and regulations.

8.0 Permit Transfers

Required by: 252:515-3-6

OKMWD understands that if ownership of the facility is assumed by a new legal entity, the permit must be transferred from OKMWD to the new entity. If there is a
change in corporate ownership by a transfer of stock, the permit does not have to be transferred, but rather OKMWD shall notify the DEQ in writing of the change and provide the necessary disclosure statements in accordance with 252:515-3-31(g). To transfer the permit, the transferor must submit a written request to the DEQ to transfer the permit from OKMWD to a potential transferee; the transferee has submitted a disclosure statement, established the necessary financial assurance, submitted a written agreement to adhere to all permit conditions, DEQ-approved plans and specifications, all requirements in the OK Solid Waste Management Act, the rules of OAC 252:515, and any other orders relevant to the permit and facility. The transferee must also submit the DEQ-provided oath and certification form, and demonstrate that the facility complies with the requirements of 252:4-7-15, which states that no monies are owed to the DEQ, that the applicant has complied with all requirements with OAC, DEQ regulations, and the terms of any existing permits or orders, and that the applicant has not knowingly omitted any material facts from the application.

9.0 Permit Applications

Required by: 252:515-3-31(a)-(d), (f)

This permit application is submitted in accordance with the Oklahoma Uniform Environmental Permitting Act as well as the requirements of Subchapter 3 of Chapter 515. An application for a permit modification will be submitted before any changes to the approved design, construction, or operation of the facility and will contain any maps, drawings, plans or other documents identified in Subchapter 3 of Chapter 515 to ensure that the modification complies with the applicable requirements of Chapter 515. As this permit application is for a Tier III permit, any application for a permit modification will also comply with OAC 252:515-3-33.

10.0 Disclosure Statements and Oath and Certification

Required by:

252:4-7-13(b)
252:515-3-31(g)
252:515-3-33
252:515-3-36(a)(3)
27A O.S. §§ 2-10-103
27A O.S. §§ 2-10-302
The following two pages contain the Disclosure Statements for the owners of OKMWD. Due to the sensitivity of sharing social security numbers publicly, Social Security Numbers will be provided upon request by the DEQ.

The DEQ's Disclosure Statement Form and Certification and Oath are provided below in Section 10.3 following the Disclosure Statements.

10.1 **Personal Disclosure Statement for Lonnie McPheter**

I, Lonnie McPheter (SSN available on request by DEQ), an owner of OK Medical Waste Disposal, LLC, in Tulsa, OK, and operating OK Medical Waste Disposal, a facility to be located in City of Harrah, Oklahoma, in the Harrah Industrial Park (475 Neil Boulevard, Harrah, OK 73045), hereby affirm the following:

I graduated from Kansas State University with a degree in sales and marketing and have been in the medical waste transport business for nearly three years as the Vice President of Sales for Capital Waste Solutions, a medical waste transportation company.

Prior to Capital Waste Solutions, I held various roles in sales, business development, and operations.

I am not now, nor have I ever had any administrative, civil or criminal legal actions levied against me or any affiliated person resulting in a final agency order or final judgment by a court of record, including final order or judgment on appeal, in the ten (10) years immediately preceding the filing of this application. I further affirm that outside of my employment by Capital Waste Solutions, no federal environmental agency and any state environmental agency that has or has had regulatory responsibility over me or affiliated persons.

I hereby certify that the foregoing statements are true and correct to the best of my knowledge.

Sincerely,

Lonnie McPheter
10.2 Personal Disclosure Statement for Joseph Wignarajah

I, Joseph Wignarajah (SSN available on request by DEQ), an owner of OK Medical Waste Disposal, LLC, in Tulsa, OK, and operating OK Medical Waste Disposal, a facility to be located in the City of Harrah, Oklahoma, in the Harrah Industrial Park (475 Neil Boulevard, Harrah, OK 73045), hereby affirm the following:

I graduated from Tulane University with a Bachelor of Science degree in Computer Engineering, from Harvard University with a Master of Public Policy degree, and from the Massachusetts Institute of Technology with a Master of Business Administration degree. After graduating, I served as a Civil Engineering Officer in the U.S. Navy as a construction and facility manager for four years. After my military service, I worked as a strategy consultant and currently work as general operations manager for a private equity firm. In this role, I have supported the development and implementation of safety programs, led manufacturing and facility process improvements, and supported the accounting and financial management of assorted businesses.

I am the sole owner of Hercules Mulligan, LLC, and Hercules Mulligan Opportunity Zone Fund, LLC, both of which are Oklahoma-based, limited liability companies, through which my ownership in OK Medical Waste Disposal, LLC is held. Through Hercules Mulligan, LLC, I provide financing to small businesses, consulting services, and hold real property investments, and through Hercules Mulligan Opportunity Zone Fund, LLC, I make investments in businesses in Qualified Opportunity Zones.

I am not now, nor have I ever had any administrative, civil or criminal legal actions levied against me or any affiliated person resulting in a final agency order or final judgment by a court of record, including final order or judgment on appeal, in the ten (10) years immediately preceding the filing of this application. I further affirm that outside of my employment by Capital Waste Solutions, no federal environmental agency and any state environmental agency that has or has had regulatory responsibility over me or affiliated persons.

Sincerely,

[Signature]

Joseph Wignarajah
10.3 DEQ Disclosure Statement Form (1/3)

DISCLOSURE STATEMENT FORM

INFORMATION AND INSTRUCTIONS: The Solid Waste Management Act requires applicants to provide the Department of Environmental Quality with information about themselves, any officer, director or partner, any person employed by the applicant as general or key manager who directs the operations of the site which is the subject of the application, and any person owning or controlling more than five percent (5%) of the applicant’s debt or equity. By law, the “Disclosure Statement” must be completed by all applicants for the issuance or transfer of any solid waste permit.

If the applicant is a publicly held company, it does not need to submit a disclosure statement, but only need submit the most recent annual (SEC Form 10-K) and quarterly reports (SEC Form 10-Q) required by the Securities and Exchange Commission (SEC), which provide information regarding legal proceedings in which the applicant has been involved. However, the applicant must submit such other information as the Department may require that relates to the competency, reliability, or responsibility of the applicant, officers, directors, or other persons as set out above.

PLEASE PROVIDE THE FOLLOWING INFORMATION: (If additional space is required to answer any of the following questions, please make attachments as needed.)

(1) Name of facility: Oklahoma Medical Waste Disposal

(2) Applicant’s full name and social security number:
   Joseph R. Wignarajah
   (SSN Available Upon Request)

(3) Applicant’s business address:
   Mailing: PO Box 1833, Tulsa, OK 74101
   Physical: Lot 6, Block 2 of the Harrah Industrial Park (exact physical address to be determined)

(4) Applicant’s business telephone number: (405) 309-7693

(5) Applicant’s form of business: Limited Liability Company

(6) Is Applicant a publicly held company required to file annual reports with the Securities and Exchange Commission, or a wholly-owned subsidiary of such a company?
   Yes [X] No

(7) If Applicant answered “yes” to question (6) above, Applicant is required to submit copies of the most recent annual and quarterly reports required by the SEC that provide information regarding legal proceedings in which Applicant has been involved. In addition, list below, the name and business address of any person employed by the Applicant as a general or key manager who directs the operations of the site or facility which is the subject of the application.
10.3 DEQ Disclosure Statement Form (2/3)

(NOTE: If Applicant is required to submit SEC reports under this section, no further reporting is required under the disclosure statement requirement, and Applicant should skip to the "Certification and Oath" section on the last page of this form. Applicant should submit copies of any SEC reports as an attachment to this form to be submitted as part of the permit application. If Applicant answered "yes" to question (6) above, Applicant is required to complete all remaining sections of this Form.)

8. Full name, business address and social security number of all affiliated persons:
   (NOTE: "Affiliated person" means:
   (a) any officer, director, or partner of the applicant;
   (b) any person employed by the applicant as a general or key manager who directs the operations of the site or facility which is the subject of the application; and
   (c) any person (including corporations, partnerships, etc.) owning or controlling more than five percent of the Applicant's debt or equity):

   Lonnie J. McPheter (SSN Available Upon Request to DEQ)
   Mailing: PO Box 1833, Tulsa, OK 74101
   Physical: 475 Neil Boulevard, Harrah, OK 73045

9. Full name and address of any legal entity in which the Applicant holds a debt or equity interest of at least five percent, or which is a parent company or subsidiary of the Applicant, and a description of the ongoing organizational relationships as they may impact operations within the State:

   Applicant is 100% owner of Hercules Mulligan, LLC, a sole proprietorship and Hercules Mulligan Opportunity Zone Fund, LLC, which owns applicant's interest in Oklahoma Medical Waste Disposal, LLC.

10. Description of the experience and credentials of the Applicant and any "affiliated person", including any past or present permits, licenses, certifications, or operational authorizations relating to environmental facility regulation:

   Full Disclosure Statements are available in Section 10 of the Application.

11. Listing and explanation of any administrative, civil or criminal legal actions against the Applicant or any affiliated person which resulted in a final agency order or final judgment by a court of record including any final order or judgment on appeal in the ten (10) years immediately preceding the filing of the application relating to solid or hazardous waste. Such action shall include, without limitations, any permit denial or any sanction imposed by a state regulatory authority or the U.S. Environmental Protection Agency:

   None. Full Disclosure Statements are available in Section 10 of the Application.
10.3  DEQ Disclosure Statement Form (3/3)

(12) Listing of any federal environmental agency and any state environmental agency that has or has had regulatory responsibility over Applicant:
None.

CERTIFICATION AND OATH

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Joseph R. Wignarajah
(Printed or Typed) Name of Applicant or Agent

January 31, 2019
(Date)

Signature of Applicant or Agent

Owner

Title

ACKNOWLEDGMENT

State of Oklahoma )
TULSA ) ss.

Before me, the undersigned, in and for said county and state, on this 31st day of JANUARY, 2020, personally appeared JOSEPH R. WIGNARAJAH, 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.

CINDY MARSHALL
Notary Public

My commission expires: 10/7/23

CINDY MARSHALL
Notary Public, State of Oklahoma
Commission #19099322
My Commission Expires 10-07-2023
11.0 Legal Right to Property

 Required by: 252:515-3-34(a)

The site proposed for the regulated medical waste treatment facility is currently owned by OK Medical Waste Disposal, LLC. An affidavit affirming ownership of the property and permission to use the property for this purpose, as well as the warranty deed to the property are provided below.
11.1 Affidavit of Ownership (1/2)

Affidavit of Ownership

State of Oklahoma
County of Oklahoma

I, Joseph Wignarajah, Manager of Oklahoma Medical Waste Disposal, LLC, being of legal age, depose and say that:

Description Property

Oklahoma Medical Waste Disposal, LLC, is presently the owner of real property situated within the City of Harrah at the Harrah Industrial Park and legally described as:

Lot 3 of Block 2 of the HARRAH INDUSTRIAL PARK, as shown by the final plat thereof, being a part of Section 1, Township 11 North, Range 1 East of the I.M., Oklahoma County, Oklahoma (approximately 8 acres).

Ownership


Possession

Oklahoma Medical Waste Disposal, LLC, took possession of the property from the date above and has remained in continuous open, peaceful and notorious possession of the property since that date.

I have no knowledge of any facts which would indicate that my title or possession of the subject real property would be called into question or dispute.

To my knowledge, my title to the subject premises has never been disputed, rejected or questioned.

Lien and Encumbrances

No claim or action has been brought to my attention which questions my title or right to possession of the property and, to my knowledge, no actions are pending against me in any court.

There are no judgments against me which are unpaid in any court of Oklahoma or of the U.S. As of the filing of this application, the property is only subject to a lien held by the City of Harrah that states that the property will be returned to the City of Harrah should Oklahoma Medical Waste Disposal, LLC, cease operations at any time before December 17th, 2021.

No Proceedings in bankruptcy have been brought by or against me in any court, nor have I made an assignment for the benefit of creditors, nor have I made any other type of creditor arrangements.

Affidavit of Ownership
11.1 Affidavit of Ownership (2/2)

Purpose

This affidavit is being made in accordance with OAC 252:515-34(a) to affirm Oklahoma Medical Waste Disposal, LLC’s right to use the property for a Tier III Solid Waste Processing Facility that will receive regulated medical waste and other non-hazardous industrial waste as allowed by its DEQ permit, if approved.

Oath or Affirmation

I certify under penalty of perjury under Oklahoma law that I know the contents of this Affidavit signed by me and that the statements are true and correct.

[Signature]

Date

1/31/2020

STATE OF OKLAHOMA, COUNTY OF OKLAHOMA, ss.

On this 31 day of January, 2020, before me:

Before me, Debra Massengee, known to me (satisfactorily proven) to be the person whose names are subscribed to the within Affidavit.

And, being first duly sworn on oath according to law, deposes and says that he/she has read the foregoing Affidavit subscribed by him/her, and that the matters stated herein are true to the best of his/her information, knowledge and belief.

[Signature]

In witness whereof I hereunto set my hand and official seal.

Debra Massengee

My commission expires 5/18/2025
11.2 Warranty Deed (1/2)

SPECIAL WARRANTY DEED

SPECIAL WARRANTY DEED, made as of January 7, 2020, by and between City of Harrah, an Oklahoma municipal corporation ("Grantor"), and OK Medical Waste Disposal, LLC ("Grantee").

WITNESSETH:

For and in consideration of Ten Dollars ($10.00) and other good, valuable and sufficient consideration, the receipt of all of which is hereby acknowledged, Grantor hereby grants, bargains, sells, conveys and confirms to Grantee, its heirs, successors and assigns, the following tract or parcel of land located in Oklahoma County, Oklahoma, including any and all rights, title and interest in minerals and/or subsurface rights to amount other things, geological rock formations in, under and upon the land:

Lot 3, Block 2 of the HARRAH INDUSTRIAL PARK, as shown by the final plat thereof, being a part of Section 1, Township 11 North, Range 1 East of the I.M., Oklahoma County, Oklahoma, approximately five (5) acres.

TO HAVE AND TO HOLD the same, together with the rights, privileges, appurtenances and Immunities thereto belonging or in any way appertaining, unto Grantee, its heirs, successors and assigns, forever.

This Deed is made subject to all ordinances and regulations, to all restrictions, easements, right-of-way, exceptions, reservations and conditions contained in instruments of record in the chain of title to the property conveyed hereby and to any state of facts which an accurate survey would show, and subject to the Real Estate Conveyance Agreement between the parties.

Grantor covenants and warrants with Grantee that Grantor, its successors and assigns, shall warrant and defend the real property unto Grantee, its heirs, successors and assigns, against the claims and demands of Grantor and the lawful claims of all persons claiming by, through and under Grantor, but no other.

Grantor and Grantee hereby agree that ad valorem property taxes and all assessments on the real property conveyed hereby shall be prorated and allocated between Grantor and Grantee as of the date hereof, and Grantee, by his acceptance of this Deed, hereby assumes and agrees to pay the same from and after the date hereof.

The terms and provisions contained in this Deed shall be binding upon and inure to the benefit of Grantor and Grantee and their respective heirs, successors, personal representatives and assigns.
11.2 Warranty Deed (2/2)

IN WITNESS WHEREOF, Grantor has caused its name to be subscribed hereto as of the day and year first above written.

GRANTOR:

CITY OF HARRAH

By: ____________________________

Name: Larry Fryar

Its: Mayor

__ City Clerk

ACKNOWLEDGEMENT

STATE OF OKLAHOMA

COUNTY OF OKLAHOMA

Before me, a Notary Public in and for said county, personally appeared Larry Fryar, being by me duly sworn and known to me to be the person who, as the Mayor of The City of Harrah, an Oklahoma municipal corporation, which executed the foregoing instrument, signed the same, and acknowledged to me that he did so sign said instrument in the name and upon behalf of said public office; that the same is his free act and deed as such officer, and the free and corporate act and deed of said municipal corporation; and that he was duly authorized thereunto to execute such documents.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my official seal on this 21st day of January, 2020.

______________________________
NOTARY PUBLIC

My Commission No. C9626035 Expires: 01/20/21

[SEAL]

ATHENA MARTIN
Notary Public
State of Oklahoma
Commission No. 09950456
Expires 01/20/21
12.0 Temporary Easement to DEQ

Required by: 252:515-1-8(b)(1)(H)

252:515-3-34(c)

In accordance with 252:515-3-34(c), a completed copy of DEQ Form 515-22, “Temporary Easement for Access” is provided on the following page. OKMWD authorizes the DEQ and/or its contractors the right to access the property to inspect the facility, all records, and to perform closure, post-closure monitoring, or corrective action in the event of default by the owner/operator.
12.1 Temporary Easement for Access

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. TBD, issued by the Oklahoma State Department of Health, the predecessor in interest to the Oklahoma Department of Environmental Quality (DEQ) on February 3, 2020, OK Medical Waste Disposal, LLC. (its assigns and assigns) (its successors and assigns), hereinafter referred to as Grantee, does hereby grant unto the DEQ, 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 permitted area):

Lot 3 of Block 2 of the HARRAH INDUSTRIAL PARK, as shown by the final plat thereof, being a part of Section 1, Township 11 North, Range 1 East of the I.N.W. Oklahoma County, Oklahoma (approximately 5 acres).

more particularly described as the permitted area of (facility name) landfill.

Oklahoma Department of Environmental Quality Permit Number TBD; and

This Temporary Easement for Access is given subject to the following conditions:

1. The Grantee hereby grants unto the DEQ an easement and right-of-way over and across Tract 1, above set out, for access to said Tract 1 for the purposes of conducting closure and post-closure activities and/or corrective action as prescribed by the laws of the State of Oklahoma and Rules of the DEQ;

2. The Grantee hereby grants unto the DEQ an easement and right-of-way over and across Tract 2, above set out, for access to said Tract 2 for the purposes of utilizing borrow materials 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 DEQ;

3. This Easement is temporary and shall become null and void upon certification by the DEQ 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.

IN WITNESS WHEREOF, the Grantee has hereunto set this day of January, 2020.

(Name, Title)

July 2020
OIQ Form 515-022
12.1 Temporary Easement for Access (2/2)

ACKNOWLEDGMENT

STATE OF OKLAHOMA

COUNTY OF Oklahoma

Before me, the undersigned, a Notary Public within and for said County and State, on this 31st day of January, 2020 personally appeared [name, title], to me known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that (he/she) executed the same as (his/her) free and voluntary act and deed, for the uses and purposes therein set forth.

Witness my hand and official seal the date above written.

[Signature]
Notary Public

My commission expires:

10/7/23

[Notary Seal]

July 2016
DEQ Form 8515-022
13.0 Engineer of Record

Required by: 252:515-3-35

Engineer of Record Name:

Engineer of Record Company:

This application was prepared in material by the Applicant, Joseph Wignarajah, Manager of OK Medical Waste Disposal, LLC. This includes all maps and drawings (except where indicated on each map or drawing), calculations, information, and data. The Engineer of Record has affixed his seal to the Application Page attached to the front of this document to certify that he has reviewed the contents of this application for technical completeness.

14.0 Owner/Operator Information

Required by: 252:515-3-36(a)(1)

Name: Oklahoma Medical Waste Disposal, LLC

Points of Contact: Joseph Wignarajah, joey@okmwd.com
Lonnie McPheter, lonnie@okmwd.com

Mailing Address: PO Box 1833, Tulsa, OK 74101
Phone: (405) 309-7693

15.0 Facility Information

Required by: 252:515-3-36(a)(2)

Name: Oklahoma Medical Waste Disposal

Physical Address: 475 Neil Boulevard, Harrah, OK 73045

Mailing Address: PO Box 1833, Tulsa, OK 74101

Phone Number: (405) 309-7693
16.0 Legal Description of Proposed Permit Boundary

Required by: 252:515-3-36 (a)(4)(A)

The legal description of the property is:

Lot 3 of Block 2 of the HARRAH INDUSTRIAL PARK, as shown by the final plat thereof, being a part of Section 1, Township 11 North, Range 1 East of the I.M., Oklahoma County, Oklahoma (approximately 5 acres)

17.0 Legal Description of the Proposed Waste Processing Facility

Required by: 252:515-3-36 (a)(4)(B)

Lot 3 of Block 2 of the HARRAH INDUSTRIAL PARK, as shown by the final plat thereof, being a part of Section 1, Township 11 North, Range 1 East of the I.M., Oklahoma County, Oklahoma (approximately 5 acres)

18.0 Legal Description of Both On- and Off-Site Soil Borrow Areas

Required by: 252:515-3-36 (a)(4)(C)

This section is not applicable.

19.0 Latitude and Longitude of All Corners of the Permit Boundary

Required by: 252:515-3-36 (a)(5)

The corners of the proposed permit boundary are as follows:

Northeast Corner: 35° 27' 43.10109" N, 97° 8' 53.61392" W
Southeast Corner: 35° 27’ 39.64105” N, 97° 8’ 53.66059” W
Southwest Corner: 35° 27’ 39.69451” N, 97°, 9’ 1.1747” W
Northwest Corner: 35° 27’ 43.15503” N, 97° 9’ 1.13729” W

A map showing the corners is provided in Tab 5 of the accompanying Map Supplement.

20.0 Latitude and Longitude of the Facility Entrances

Required by: 252:515-3-36 (a)(5)
The facility is primarily accessed via two driveways as shown on the site layout in Tab 5 of the accompanying Map Supplement. The northern drive is centered on the point 35° 27' 42.68394” N, 97° 8' 53.61805” W, while the southern drive is centered on 35° 27’ 40.98514 N, 97° 8’ 53.64219” W.

21.0 Location of the Site from the Nearest Town or City

Required by: 252:515-3-36 (a)(6)

The facility will be located within the City of Harrah, Oklahoma, in the Harrah Industrial Park.
22.0 Description of All Processing, Storage, and Disposal Operations and Units

Required by: 252:515-3-36 (a)(7)

This section contains a high-level description of the facility’s receiving, storage, treatment, disposal operations, and units. More detail on the full operations of the facility is given in Section 33.0 of this application and in the accompanying Operational Plan. At the highest level, OK Medical Waste Disposal will screen all waste as it unloaded from 3rd party collection vehicles, directly unload the waste, temporarily store untreated waste as it awaits treatment (for less than 24 hours), treat and sterilize the waste by mechanical and thermal processes, and dispose of the waste at an approved 3rd party land disposal site.

FIGURE 1: High-level Operations Process

STEP 1:
Regulated Medical Waste is delivered to the facility by a permitted 3rd party transporters.

STEP 2:
Waste is screened for radiologals and/or other unapproved waste.

STEP 3:
Waste is stored awaiting processing (less than 24 hours).

STEP 4:
Waste is treated and processed.

STEP 5:
Waste is deposited into a sealed compactor to be hauled to an approved landfill by a 3rd party.
STEP 1: Third Party Transporters Deliver Approved Medical Waste to Facility

OKMWD’s processes begin when a permitted 3rd party medical waste transporter arrives at our facility. OKMWD will only receive, store, process, and dispose of approved regulated medical waste, as defined by OAC 252:515 and all other state and federal regulations, and other non-hazardous industrial wastes as allowed by its permit.

STEP 2: Medical Waste is Screened Before it is Accepted by the Facility

To ensure that only approved regulated medical waste and other approved NHIW are received by the facility, each load will be screened for Prohibited Wastes as described in OAC 252:515-19-31. All prohibited wastes or improperly contained regulated medical waste will be rejected. Once acceptable wastes have been approved to be received into the facility, all waste will be measured, and the weights recorded, as required by OAC 252:515-19-33(c). All records will be available to the DEQ upon request. The full procedure for screening and accepting waste, including the exclusion of Prohibited Wastes is provided in the Operational Plan (Tab 2) and the Waste Exclusion Plan (Tab 3).

STEP 3: Waste is Stored Temporarily Before it is Processed

Once waste is received, it will be temporarily stored in a secured area inside of the facility as it awaits processing. Based on the capacity of the processing facility and rate at which waste will be processed, waste will be stored for no longer than 24 hours. If waste is expected to be stored for longer than 24 hours, the waste will be stored in refrigeration units at or below 45 degrees Fahrenheit. If any waste is expected to not be processed within 96 hours, it will be transported to one of the alternative facilities as described in the contingency plan (Tab 4) in accordance with OAC 252:515-23-35.

STEP 4: Waste is Treated and Processed

All approved regulated medical waste will be processed using a BioSAFE STI Series 2000 designed and manufactured by BioSAFE Engineering. The system begins by shredding the waste (e.g., waste containers, bags, boxes, and sharps) which ultimately increases the surface area of the waste so that all waste is exposed to high temperature steam impingement. The waste is kept at boiling temperatures for greater than 60 minutes, twice as long as typical autoclave cycles. The system is fully compliant with the standards set forth in OAC 252:515-23-4(a)(2). The full system and treatment process is described in detail in Section 19.
STEP 5: Waste is Deposited into a Compactor and Hauled to a Landfill

After the waste is fully treated and sterilized by the BioSAFE STI Series 2000, it is deposited automatically into a top-loading, sealed compactor, which will be transported to an approved municipal landfill by an approved and permitted 3rd party.

Complete descriptions of processing operations and equipment, the storage area, and disposal operations are given in the Operational Plan and the Site and Facility Layouts in Tab 5 of the accompanying Map Supplement.

23.0 Description of Anticipated Waste Streams and Amount Received per Day

Required by: 252:515-3-36 (a)(8)

OKMWD’s facility will receive regulated medical waste and other non-hazardous industrial wastes for which it is permitted from any 3rd party regulated medical waste transporter that is properly permitted to transport regulated medical waste and other non-hazardous industrial waste as described in Section 35. We anticipate receiving 4,000 pounds per day when the facility comes online and not more than 48,000 per day until such time that the anticipated waste stream necessitates adding a second processing line in the future, at which point OKMWD will work with the DEQ to apply for the necessary modifications to its permit.

24.0 Names of Municipalities and/or Counties Served

Required by: 252:515-3-36 (a)(9)

The facility anticipates receiving regulated medical waste and other approved NHIW via 3rd party transporters will deliver regulated medical waste from generators all over Oklahoma and, to a much lesser degree, from Arkansas, Texas, and Kansas. At no time will more than 200 tons per day be taken from greater than 50 miles away. As of the submission of this application, OKMWD anticipates serving the following municipalities shown below in Section 25.3.

25.0 Estimated Population Served

Required by: 252:515-3-36 (a)(10)

25.1 Populations of Each Town or City Served by the Facility

Required by: 252:515-3-36 (a)(10)(A)
The population of the States of Oklahoma and Arkansas were 3,751,351 and 2,915,918, respectively, as of the 2010 Decennial Census. Current population estimates for 2019 are 3,950,000 and 3,010,000, respectively, for a total of 6,960,000 people. As of the submission of this application, OKMWD will serve the populations shown in Section 25.3

25.2 Estimated Waste Received per Day Divided by 4.4 Pounds per Day

Required by: 252:515-3-36 (a)(10)(B)

Based on the population estimates above and the maximum capacity of the equipment, the estimated service population per day is 16,364.

Maximum Waste Processed per Day: 48,000 pounds per day
Waste Received per Person/Day: 4.4 pounds per person per day
People Served per Day: 16,364 people per day
### 25.3 Table of Initial Municipalities and Cities Served

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<td>Lawton</td>
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<td>Enid</td>
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<td>Texarkana</td>
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<td>Bartlesville</td>
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<td>Pryor</td>
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</tr>
</tbody>
</table>

Total Population Served Initially: 2,266,590
26.0 Type of Road Construction and Materials to be Used

Required by: 252:515-3-36 (a)(11)

Access roads to the facility are constructed with composite pavement. Roads within the facility will also be pavement.

27.0 List of Heavy Equipment to be Used

Required by: 252:515-3-36 (a)(12)

To install the pre-engineered metal building, the builder will use some combination of forklifts, cranes, and other power loaders. The exact mix of equipment is pending selection of the builder.

28.0 Maps and Drawings

Required by: 252:515-3-36 (a)(13)  
252-515-3-51(a),(c)-(f)

The following maps are provided in accordance with the sections above. All maps are verified to be legible, in the proper order in the same order as required in OAC 252:515, Part 5, that the scale is 1”=”100”, unless otherwise specified, and that all maps show a legend, title, north arrow, permit boundary, buffer zone, boundaries of the waste processing area, and, where applicable, the locations of groundwater monitoring wells and gas monitoring probes.

28.1 General Location Map

Required by: 252:515-3-52

A wide view and a close view of the general location are provided in Tab 1 of map supplement provided with this application to ensure that they are printed large enough to be legible.

28.2 Flood Plain Map

Required by: 252:515-3-53

A FEMA FIRMette of the proposed site are provided in Tab 2 of the map supplement provided with this application to ensure that they are printed large enough to be legible.
28.3 Quadrangle Topographic Map

**Required by:** 252:515-3-54(a), (b)

A quadrangle topographical map is contained in Tab 3 of the map supplement provided with this application to ensure that they are printed large enough to be legible.

28.4 Existing Contour Map

**Required by:** 252:515-3-55(a)-(c)

An existing contour map is contained in Tab 4 of the map supplement provided with this application to ensure that they are printed large enough to be legible.

28.5 Site Map

**Required by:** 252:515-3-56(a), (b)

A site plan showing the dimensions of the permit boundary as indicated by the legal description, the receiving, processing, storage, and disposal areas, buffer zones, fencing and gates, easements, access roads into and on the site, and employee and equipment shelters is contained in Tab 5 and 6 of the map supplement provided with this application to ensure that they are printed large enough to be legible.

There are no boreholes, monitor wells, test wells, monitoring sites, test pits, sampling sites, permanent benchmarks, gas probes, diversion ditches, dikes, dams, pits, ponds, lagoons, berms, easements, or terraces on the site.

28.6 Design Drawings

**Required by:** 252:515-3-57

Preliminary drawings of the facility (not for construction or implementation) are provided in Tab 6 of the Map Supplement.

29.0 Demonstration that the Facility Meets Location Restrictions

**Required by:** 252:515-3-36 (a)(14)(A)

29.1 Scenic Rivers
Required by: 252:515-5-31(a)

No area within the permit boundary of the proposed facility is located within the drainage basin of any river designated as a Scenic River under the Oklahoma Scenic Rivers Act. A map showing the location of the facility and the location of rivers designated as Scenic Rivers is provided in Tab 7 of the map supplement that accompanies this application.

29.2 Recreation/Preservation Areas

Required by: 252:515-5-31(b)

No area within the permit boundary of the proposed facility is located within one-half mile of any area formally dedicated and managed for public recreation or natural preservation by a federal, state, or local government agency. A map showing that there are no public parks and/or recreation areas within one-half mile of the facility is provided in Tab 8 of the accompanying map supplement to ensure that all aspects of the map are legible.

29.3 Endangered Species

Required by: 252:515-5-31(c)

The Oklahoma Natural Heritage Inventory/Oklahoma Biological Survey indicated that Bald Eagles (*Haliaeetus leucocephalus*) are known to be in the area. Sections 29.3.1 contains a letter to that effect.

After conveying the results of the ONHI/OBS search results, the Oklahoma Department of Wildlife Conservation responded that the Bald Eagle is “no longer on no longer classified as threatened or endangered under the Endangered Species Act. Furthermore, they are not listed as threatened or endangered under ODWC/State of Oklahoma regulations.” Therefore, the ODWC has asserted that “no mitigation plan would be required from ODWC for potential impacts to Bald Eagles.” Section 29.3.2 contains the full text of the email from the ODWC.

To be certain impact that the facility would not impact bald eagle nesting, OKMWD reached out to the Sutton Avian Research Center, which is tasked with mapping bald eagle nesting sites, and confirmed that no bald eagle nesting sites are within one mile of the facility. Section 29.3.3 contains the Sutton Center’s email asserting this fact.
At the urging of the ODWC, OKMWD also reached out to the US Fish & Wildlife Service, which indicated that no additional action is required unless Bald Eagle nests are encountered at the site. The email from the US Fish & Wildlife Service is also contained in Section 29.3.4. As there are very few small trees on the site, the risk of encountering a Bald Eagle nest is extremely low.
29.3.1 Oklahoma Natural Heritage Inventory

OBS Ref. 2019-003-BUS-MWD

Dear Mr. Wignarajah,

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. 1-T11N-R1E (67°00'56.1"W, 36°27'31.5"N), Oklahoma County

We found 3 occurrence(s) of relevant species within the vicinity of the project location as described.

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<thead>
<tr>
<th>Species Name</th>
<th>Common Name</th>
<th>Federal Status</th>
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<tbody>
<tr>
<td>Haliaeetus leucocephalus</td>
<td>Bald Eagle</td>
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<td>Count</td>
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<td>Pottawatomie</td>
<td>Sec. 16-T11N-R2E</td>
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</tbody>
</table>

Additionally, 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://vcepncel.ou.edu/heritage/ranking_guide.html](http://vcepncel.ou.edu/heritage/ranking_guide.html)

Information regarding the Oklahoma Natural Areas Registry: [http://www.oknaturaheritage.ou.edu/registry_faq.htm](http://www.oknaturaheritage.ou.edu/registry_faq.htm)

Todd Fagin
Oklahoma Natural Heritage Inventory
(405) 325-4700
dfagin@ou.edu
29.3.2 Oklahoma Department of Wildlife Conservation

Gmail

Joey Wignarajah <joeywigs@gmail.com>

Threatened & Endangered Species Review - Solid Waste Facility, Oklahoma County

Fullerton, Matthew <matthew.fullerton@odwc.ok.gov> Tue, Dec 3, 2019 at 3:22 PM
To: Joey Wignarajah <joeywigs@gmail.com>

Hi Joey,

Bald Eagles are no longer classified as threatened or endangered under the Endangered Species Act. Furthermore, they are not listed as state-threatened or endangered under ODWC regulations. Therefore, no mitigation plan would be required from ODWC for potential impacts to Bald Eagles. However, eagles are still regulated under the Bald and Golden Eagle Protection Act, thus consultations with the U.S. Fish and Wildlife Service (USFWS) may be required in certain cases. We do not maintain current locations of Bald Eagle nests. My assumption is that the nearest nest is located somewhere along the North Canadian River. From your description, it does not sound like the facility will have any negative impacts to eagles and/or nests. However, the USFWS would have the final say in that determination. Furthermore, there are no state-listed threatened or endangered species within the vicinity, so our review would remain unchanged from the previous response.

I have attached a 2007 document published by USFWS titled "National Bald Eagle Management Guidelines". It may help in evaluating potential impacts to eagles, though it's possible that a newer version exists out there.

I hope this helps!

Thanks,

Matt Fullerton
Wildlife Biologist - Threatened & Endangered Species
Wildlife Diversity Program
Oklahoma Department of Wildlife Conservation
Cell: 580-571-5820
Email: matthew.fullerton@odwc.ok.gov

[Attached text hidden]

NationalBaldEagleManagementGuidelines.pdf
148K
29.3.3 Sutton Aviation Research Center

Construction Project Location

Lena Larsson <llarsson@suttoncenter.org>  To: Joey Wignarajah <joeywigs@gmail.com>
Wed, Dec 4, 2019 at 4:28 PM

Joey,

The closest bald eagle nest territory that we know of is by Horseshoe Lake approximately 3.5 miles NW from the project site according to the file you provided. There is also a territory (with questionable productivity though) ~4 miles to the S by Wes Watkins Reservoir.

Of course, there may be additional nests that we do not have knowledge of. Hope this helps.

Regards,

Lena C. Larsson, Ph.D.
Executive Director
G. M. Sutton Avian Research Center
P.O. Box 2007
Bartlesville, OK 74005
918-336-7778 (office)
918-336-7783 (fax)
E-mail: llarsson@suttoncenter.org

[Signature]
29.3.4 US Fish & Wildlife Service

Bald Eagle Question
2 messages

Auto: Alisha <alisha_auto@fws.gov>  
To: JoeyWigs@gmail.com  
Cc: Daniel Fenner <daniel_fenner@fws.gov>

Wed, Dec 11, 2019 at 1:51 PM

Good afternoon Joey,

Thanks for contacting ODWC, the Sutton Center, and the U.S. Fish and Wildlife Service about your project. You certainly did your due diligence. I ran your project through our eagle experts, and they agree that your project is relatively low risk to eagles and you are not required to conduct further surveys or obtain any permits, but please consider the information below.

The Sutton Center doesn’t necessarily have a comprehensive list of nests, there may still be nests around your area. So we ask that during development, your employees should be aware of bald eagles, know how to ID one, and should be aware of the general breeding time period (Nov-Jul). If anyone sees an eagle during the breeding season, that’s an indication of an eagle nest nearby.

If a nest is located, I would recommend coordinating with the U.S. Fish and Wildlife Service’s Migratory Bird Office to either obtain an eagle disturbance permit, or for advice on how to proceed without a permit (seasonal restrictions, spatial buffers, etc).

I’ve included some links below for more information and guidance on eagle and construction project interactions.

https://www.fws.gov/northeast/ecologicalservices/eaglenationalguide.html


Thanks again for contacting the U.S. Fish and Wildlife Service!

Sincerely,
Alisha Auto-William

Alisha William
Fish and Wildlife Biologist
US Fish and Wildlife Service
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, Oklahoma 74129-1428
918-382-1507

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29.4 **100-year Flood Plain**

**Required by:** 252:515-5-32(a)

A FEMA FIRMette of the proposed site are provided in Tab 2 of the map supplement provided with this application to ensure that they are printed large enough to be legible.

29.5 **Public Water Supply**

**Required by:** 252:515-5-32(b)

The proposed facility is exempted from this requirement as no waste will be stored or placed on permeable surfaces. All waste will be processed inside approved medical waste containers entirely within the interior of facility, which will have sealed concrete floors to prevent any leaching into the ground and/or ground water. To the extent that waste will be stored outside the facility in sealed compactors, the facility will employ sealed concrete and secondary containment methods to further prevent any leaching into the ground and/or ground water.

A map showing the location of the nearest public water supply intakes and wellhead protection areas is provided in Tab 9 of the accompanying map supplement to ensure legibility.

29.6 **Wellhead Protection Area**

**Required by:** 252:515-5-32(c)

Two public water supply wells are located within two miles of the facility each well already has a Wellhead Protection Area established. The locations are shown on the map in Tab 9 provided in the accompanying map supplement.

29.7 **Wetlands**

**Required by:** 252:515-5-32(d)

The proposed facility is not located in wetland areas as designated by the Oklahoma Conservation Commission. Given that the nearest wetland is a clearly delineated creek, a wetlands determination was not sought. A map demonstrating this is provided in Tab 10 of the accompanying map supplement.
29.8 Leachate Management

Required by: 252:515-13-51
252:515-17-3

At no time will any leachate produced outside of contained, closed systems in storage and processing of the waste. In the processing equipment, liquids are evaporated as steam before the waste is deposited into a sealed compactor awaiting transportation to the MSWLF. At no time will any waste be stored on the ground or any other porous surface. Additionally, OKMWD will take all steps to prevent the discharge of contaminated stormwater unless the proper permit is obtained from the DEQ’s Water Quality Division; to prevent the discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the federal Clean Water Act, including, but not limited to, the Oklahoma Pollutant Discharge Elimination System (OPDES) requirements; to prevent the discharge of a non-point source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality management plan that has been approved in accordance with the federal Clean Water Act; and to comply with all requirements of a OPDES permit and maintain a copy in the operating record should one ever be required.

29.9 Restrictions on Waste Management and Disposal Areas

Required by: 252:515-5-52(a) – Utility Separation
252:515-5-52(b) – Fault Areas
252:515-5-52(c) – Seismic Impact Zones
252:515-5-52(d) – Unstable Areas
252:515-5-52(e) – Airports

These sections are judged to be not applicable as this is not a land disposal facility.

30.0 Operational Plan

Required by: 252:515-3-36 (a)(14)(A)

This section details select elements of OKMWD’s Operational Plan. The complete Operational Plan is provided in Tab 2 of the Application and covers prohibited
wastes, measuring waste, public access control, litter control, air monitoring, disease vector control, placement of waste, and recordkeeping, reporting, and notifications, in greater detail.

### 30.1 Prohibited Wastes

**Required by:** 252:515-19-31

OKMWD will only receive and treat regulated medical waste and other non-hazardous industrial waste for which it is permitted and will establish numerous redundant procedures for ensuring that it does not receive any Prohibited Wastes as defined by 252:515-19-31. The full procedures are described in both the Operational Plan and the Waste Exclusion Plan provided in the confidential/business proprietary portion of this application. For our purposes, any waste that is not regulated medical waste (RMW) explicitly allowed on OKMWD’s permit is a Prohibited Waste. Specifically, Prohibited Wastes include:

- **Hazardous, radioactive, regulated PCB waste** – Any wastes subject to regulation under OAC 252:205.
- **Asbestos** – Any friable or non-friable asbestos-based materials.
- **Non-Hazardous industrial waste (NHIW)** - Non-hazardous industrial solid waste, as defined at 27A O.S. § 2-10-103 except as described in the requested variance in Section 34 of this application.
- **Construction & demolition waste** – waste composed of any of the following: asbestos-free waste from construction and/or demolition projects that may include such materials as metal, concrete, brick, asphalt, glass, roofing materials, limited amounts of packing materials, sheetrock, or lumber; wood waste that may include such materials as yard waste, lumber, wood chips, wood shavings, sawdust, plywood, tree limbs, or tree stumps; yard waste that may include such materials as grass clippings, tree limbs, tree stumps, shrubbery, flowers, or other vegetative matter resulting from land clearing or landscaping operations; or residential lead-based paint waste.
- **Baled waste** – Any unsorted baled municipal solid waste.
- **Any other waste not authorized by the permit.**

### 30.2 Public Access Control

**Required by:** 252:515-19-32  
252:515-3-37
To maintain a safe and secure facility, OKMWD will take reasonable efforts to prohibit unauthorized public access to the facility.

**Signage** – All entrances to the property including road and pedestrian gates will have clear signage identifying the name of the facility, emergency contact numbers, and communicating that public access is prohibited. Within the fence and gates, all exterior doors will be marked with similar messages prohibited public access and emergency contact numbers. Within the facility, all access points to areas with medical waste will be marked with the text “Caution – Medical Waste Storage Area – Unauthorized Access Prohibited” with the biohazard symbol when applicable. All signage will have large, clearly legible text.

**Fencing and Gates** - The facility is will be surrounded by a six-foot high fence with locking pedestrian and road access gates, which will be locked outside of working hours to discourage unauthorized traffic, prevent unauthorized access to the facility, and to prevent uncontrolled dumping. The grounds of the facility will be planted with trees, shrubs, grass, and plants to enhance the visual appeal of the facility.

**Access** – Access to the facility is via one pedestrian gate and two road gates as shown on the Site Map in Tab 5 of the accompanying map supplement.

### 30.3 Measuring Waste

**Required by:** 252:515-19-33

As the facility will not be a land disposal facility, this section is not applicable. However, OKMWD measures waste using a scale integrated into the STI BioSAFE Series 2000 processing system and will pay land disposal fees to the 3rd party that picks up the treated RMW and approved NHIW for disposal at its approved land disposal site.

### 30.4 Limitations on Waste Received

**Required by:** 252:515-19-34

This section is not applicable as the facility is not a disposal facility and under no circumstances will the facility accept more than 200 tons of waste per day.

### 30.5 Litter Control

**Required by:** 252:515-19-35
The facility is likely eligible to be exempt from the requirements of this section as all waste managed at the facility is not at risk of wind dispersal as it arrives in sealed containers, which are input into the processing equipment in an enclosed chamber, then deposited into a sealed compactor after processing, and hauled to a 3rd party landfill in a sealed container.

Notwithstanding the preceding paragraph, maintaining a clean facility and grounds is critical to protecting the environment, eliminating nuisance conditions to the facility’s neighbors, and for the safety of OKMWD personnel and authorized visitors. As all waste will be confirmed to be properly stored within closed, approved bags, boxes, or containers before it is unloaded from the transporter’s trucks, the scattering of refuse during unloading should be minimal as the waste enters the facility.

All treated and sterilized waste will be deposited into a sealed compactor within the facility, which will minimize the possibility of blowing litter and scattered refuse as the waste is picked up for transport to an approved landfill.

All normal waste generated from day-to-day operations (e.g., office paper, food waste) will be tied in garbage bags before it is taken outside of the facility to be stored in a standard dumpster outside of the facility.

OKMWD personnel will also conduct “trash walks” daily to police the facility grounds, as well as the grounds in immediately outside of OKMWD’s fence, so long as such walks off OKMWD’s property can be done safely and without entering other properties. If scattered refuse or blowing litter becomes an issue, OKMWD will take additional steps to mitigate the scattering of refuse (e.g., litter fences, shrubs, etc.).

30.6 Air Criteria

Required by: 252:515-19-36 (a), (b), (c)

OKMWD will comply with the Oklahoma Clean Air Act, rules of the Air Quality Division of the DEQ, and any other requirements of an approved State Implementation Plan should one be required.

Under no circumstances will OKMWD personnel burn solid waste or any other waste at the facility.

OKMWD’s equipment emits neither dust nor other emissions that would cause the facility to exceed air standards or that would otherwise interfere with the maintenance of air quality standards. More detail on the emissions
of the equipment are highlighted in the Operational Plan provided in Tab 3 and the Operating Manual of the STI BioSAFE Series 2000 provided in Tab 7 of the Application binder.

30.7 Disease Vector Control

**Required by:** 252:515-19-37

OKMWD will employ numerous disease vector control methods to manage populations of disease control vectors (e.g., rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans). Like safety, controlling disease vectors begins with maintaining a clean facility inside and out, ensuring that all wastes are properly contained at all stages of the treatment process. Where applicable, OKMWD will use only common, environmentally-friendly control methods.

30.8 Placement of Waste

**Required by:** 252:515-19-38

All waste treated by OKMWD will be treated within the interior of the facility and within a completely enclosed processing equipment. At no time will waste be placed directly on the ground or other permeable surfaces that may allow any contamination of ground water or other waters of the state. (252:515-19-38(a)). The concrete floor of the facility will be sealed with a non-permeable sealant and maintained and reapplied according to manufacturer’s specifications. Where waste is stored outside within sealed compactors as it awaits transportation to the MSWLF, sealed concrete and secondary containment will further prevent any contamination of the ground and/or ground water or other waters of the state.

To ensure that no waste enters adjacent or adjoining properties, OKMWD maintains a waste-free buffer zone inside the fence surrounding the property (reference: 252-515-19-38(b)).

30.9 Salvage and Recycling

**Required by:** 252:515-19-39

At this time, no salvage or recycling operations will be conducted at the facility. In the future, OKMWD may recycle approved regulated medical waste containers made out of cardboard, so long as it can be done so safely and effectively.
30.10 Recordkeeping and Reporting

**Required by:** 252:515-19-40

OKMWD will maintain an operating record onsite within the facility and electronically. Such records will include all documents related to the planning, construction, operation, closing, and post-closure monitoring of the facility, as well as all records required to maintained in the operating record or submitted to the DEQ by Subchapters 3, 5, 17, 19, 25, and 27 of OAC 252:515. Such records will be maintained until the post-closure monitoring period is terminated. The types of records maintained are listed in detail in the Operational Plan in Tab 2 of the Application.

30.11 Additional Operational Requirements for Waste Processing Facilities

**Required by:** 252:515-19-91
252:515-19-92
252:515-19-93

All regulated medical waste delivered to OKMWD’s facility will be processed within 24 hours of arriving at the facility. If, for any reason, OKMWD personnel expect to not process delivered RMW within 24 hours, OKMWD will arrange for the waste to be placed into refrigerated storage at or below 45 degrees Fahrenheit. If the waste has not, or is not expected to be, processed within 96 hours of arriving at the facility, OKMWD personnel will arrange for alternative disposal. More detail on OKMWD’s Contingency Plan (as required by 252:515-23-1) is given in Tab 4 of this application binder.

OKMWD does not expect to receive any large or bulky items as all received waste must be properly packaged in approved medical waste bags, boxes, or containers. Anything other large or bulky waste will be rejected.

All processed wastes and residues generated at the facility will be non-hazardous and suitable for disposal at properly permitted municipal solid waste facilities. OKMWD will contract with a permitted 3rd party for these services.

30.12 Large or Bulky Items

**Required by:** 252:515-19-92

OKMWD does not anticipate managing any large or bulky items, but in the event such items are expected to be received at the facility, OKMWD will
submit a plan to the DEQ for approval before such time that those items are received.

30.13 Residue Management

Required by: 252:515-19-93

All processed waste and residues produced by the facility is non-infectious and non-hazardous and will be disposed of at a permitted land disposal facility.

31.0 Stormwater Management Plan

Required by: 252:515-3-36 (a)(14)(B)
252:515-17

This section is assumed to be not applicable as all waste will be processed within the facility (See Section 22 and Section 30.8 for more detail on waste storage and processing). To the extent that waste will be stored outside, it will be done so in sealed compactors protected from storm water and protected by secondary containment to prevent the discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the federal Clean Water Act, including, but not limited to, the Oklahoma Pollutant Discharge Elimination System (OPDES) requirements.

32.0 Aesthetic Enhancement Plan

Required by: 252:515-3-36(a)(14)
252:515-3-37

OKMWD plans to use plants, trees, and grass to enhance the property. Details are shown on the site layout provided in Tab 5 of the accompanying Map Supplement.

33.0 Regulated Medical Waste Management

33.1 Applicability and Exclusions

Required by: 252:515-23-1(a)

OKMWD will comply with all applicable requirements of the Federal Department of Transportation (29 CFR Part 173), as well as all Federal Occupational Safety and Health Administration requirements listed in (29 CFR 1910.1030), and any other applicable federal or state agencies.
33.2 Commercial Processing Facilities

Required by: 252:515-23-1(b)

This application addresses the requirements in 252:515-23-1 and 23-3, as well as Part 3 of OAC 252:515-19.

33.3 Commercial Incinerators

Required by: 252-515-23-1(c)

This section is not applicable because the equipment operated by OKMWD is not a traditional waste-burning incinerator. The equipment has been approved as a low-temperature incinerator alternative at another facility in Oklahoma, so this application seeks a similar approval.

33.4 Shared Services Facilities

Required by: 252:515-23-1(d)

This section is not applicable as this is not a shared services facility.

33.5 Disposal of Untreated, Regulated Medical Waste

Required by: 252:515-23-3(a)-(b)

No quantity of untreated sharps, nor any quantity of other untreated regulated medical waste, nor other non-hazardous industrial waste for which the facility is permitted will be sent to any MSWLF or municipal solid waste transfer station. A letter approving the discharge of wastewater from the facility into the City of Harrah wastewater system is included on the next page in Section 33.5.1.
33.5.1 Letter Approving Discharge of Wastewater

Approval to Discharge into Harrah Waste Water System

Jerry Chapman <jerry.chipman@cityofharrah.com>  Fri, Dec 27, 2019 at 11:39 AM
To: Joey Wignarajah <jwignarajah@gmail.com>

Joey,
I have talked to my wastewater plant operator and he has no problem with you discharge into the city sewer mains. Also the city is looking into getting sewer to your location.

Thank,
Jerry
(City Engineer)

Thanks,
Jerry Chapman
Public Works
City of Harrah

https://mail.google.com/mail/u/0/?fs=1&shar=1&pli=1&requrl=https%3A%2F%2Fmail.google.com%3Fui%3D2%26rpid%3D1275165418696988225%26sid%3D3275226588270632100%26source%3Dhp%26rd_s%3Dwww.google.com%26rd_i%3D110131528055226336713181398946408241378686012831
### 33.6 Treatment

**Required by:** 252:515-23-4

The STI BioSAFE Series 2000 is a system specifically designed to treat regulated medical waste and other non-hazardous industrial waste by achieving consistent microbial inactivation through high-temperature steam with small amounts of household bleach. The waste is processed through a shredder to reduce the material in size by up to 90% to increase surface area per volume. This allows constant uniform steam penetration to ensure all material is treated consistently. The shredded waste enters a stainless-steel steam auger chamber where low pressure steam is injected through multiple ports quickly bringing all material to proper treatment conditions of 205-212°F. A diluted (2500ppm) sodium hypochlorite solution is sprayed onto the shredded waste material. This solution both contributes to microbial inactivation and odor control so the processed material does not entice pests. The STI System steam jacket provides continued heating of the waste. While heating, waste is treated for a minimum of 60 minutes at the treatment temperature prior to discharge from the auger. The system is already approved for use in Oklahoma and has met all required criteria by the DEQ’s Air Quality Division. All untreated sharps will be treated as described above, which involves no human intervention or contact after it is deposited into the STI Biosafe System in approved regulated medical waste bags and boxes inside regulated medical waste containers. More detail is available in the STI BioSAFE Operating Manual provided in Tab 7 of the Application.

### 33.7 Compacting Prohibited

**Required by:** 252:515-23-5

No untreated regulated medical waste shall be compacted at the facility.

### 34.0 General Requirements for Commercial RMW Processing Facilities

**Required by:** 252:515-23-31

This section is addressed in detail in the accompanying Operational Plan. In accordance with 252:4-7-60(3), OKMWD is requesting a variance to 252:515-23-31(b) to allow the acceptance of other non-hazardous industrial wastes (NHIW) to include:
1) Outdated, off-specification, or mislabeled over-the-counter medicines which are not hazardous in accordance with 40 CFR 261, Subparts C or D;
2) Pharmaceutical waste not included above;
3) Medical marijuana waste 63 O.S. 428 including roots, stems, stalks and fan leaves, and seeds;
4) Medical records or other NHIW that requires the destruction of any personally identifiable information

OKMWD will use appropriate testing methods to demonstrate that microbial Inactivation will not be affected by the addition of the above Non-Hazardous Industrial Waste to the waste stream. If any of the Non-Hazardous Industrial Waste extractants or laboratory wastes impede the process to treat the medical waste to standards described in OAC 252:515:23-2, OKMWD will immediately cease accepting these types of waste until such time that treatment methods can safely and reliably achieve the necessary microbial inactivation.

35.0 Radiation

Required by: 252:515-23-32

This section is addressed in the accompanying Operational and Waste Exclusion Plans.

36.0 Contingency Plan

Required by: 252:515-23-33

This section is addressed in the accompanying Operational Plan.

37.0 Emergency Response Plan

Required by: 252:515-23-34

This section is addressed in the accompanying Emergency Response Plan given in Tab 5 of the application binder and will be maintained in the operating record. Emergency response agreements with the City of Harrah Police Department and the Fire Department are included in Sections 37.1 and 37.2 on the following pages.
37.1 Letter of Acknowledgment from Harrah Fire Department

Emergency Response Plan

Robert Young <firechief@cityofharrah.com>
To: joeywigs@gmail.com

Wed, Dec 11, 2019 at 12:21 PM

I have read and all I think it should read proper (decontamination) procedures in the part of

Post-Emergency Equipment Maintenance

and document that the proper contamination procedures (e.g., pressure-washing, steam cleaning, scrubbed with water soluble, compatible cleaners) were followed for all reusable equipment.

With that correction made would approve as written.

Robert Young
Fire Chief
Harrah Fire Dept.
485-554-2111

Joey Wignarajah <joeywigs@gmail.com>
To: Robert Young <firechief@cityofharrah.com>

Sat, Dec 14, 2019 at 8:42 AM

Chief,

Thank you for the careful review and insightful feedback. I will make the changes. Have a great weekend!

Best, 

Joey
37.2 Letter of Acknowledgement from the Harrah Police Department

Hello, I have reviewed this plan and it is satisfactory for the Harrah Police department.

Thank you,

Chief Gary Morgan

Chief,

Could you review Mr. Wignarajah's Emergency Response Plan and email him back any suggestions or your approval? His email is JoeyWignarajah@gmail.com

Thank you!

Chief,

My name is Joey Wignarajah and I have been discussing the possibility of opening a medical waste treatment facility in the Harrah Industrial Park with Clayton Lucas. As part of that effort I have to submit an application to the OK Department of Environmental Quality, which is responsible for issuing the applicable permits.
38.0 Storage

Required by: 252:515-23-35

All waste received by the facility will be processed within 24 hours of arriving at the facility. If waste is not expected to be processed within 24 hours, it will be placed into refrigerated storage at 45 degrees Fahrenheit and either processed within 96 hours or taken to one of the alternate disposal facilities listed in the Contingency Plan.

39.0 Facility Closure Plan

Required by: 
- 252:515-3-36(a)(14)(C)
- 252:515-25-2(a), (b)
- 252:515-25-3(a), (b)
- 252:515-25-32(a)
- 252:515-25-33(a)-(c)
- 252:515-25-34(a),(c)
- 252:515-25-35(a), (b)
- 252:515-25-36(a),(b),(d)

This closure plan is submitted in accordance with 252:515-25-2(a). The plan describes the actions necessary to close the facility in a manner that minimizes the need for further maintenance and controls and minimizes the post-closure escape of waste and waste constituents into the environment (252:515-25-31).

The closure and post-closure management of the facility is relatively simple from health, safety, and environmental aspects as no waste is disposed of on-site and no hazardous chemicals are used on site in any significant quantities (e.g., the facility will only use diluted sodium hypochlorite to treat RMW and other approved NHIW and general office cleaning supplies). This plan will be reviewed annually, at a minimum, and will be amended when a cost estimate adjustment is required, if an application for a modification to this permit will affect closure or post-closure duties or requirements, or as necessary to ensure that the facility can be closed in a safe and environmentally-friendly way at no cost to the State.

39.1 Records Retention

Required by: 252:515-25-3

Copies of all closure documentation will be maintained in the operating record on site, electronically, and at an alternate location until the DEQ approves the completion of the final closure plan. If post-closure monitoring
is required, final closure documentation will be maintained throughout the full post-closure monitoring period.

### 39.2 Corrective Action

**Required by:** 252:515-25-4

At no time does OKMWD anticipate the release of contaminants into the environment, but if at any time during closure activities or post-closure monitoring, inspection of the facility and/or review of monitoring data indicates an actual release of contaminants into the environment, OKMWD will notify the DEQ and comply with any corrective action the DEQ prescribes to eliminate or mitigate such a release.

### 39.3 Performance Standard

**Required by:** 252:515-25-31

OKMWD will adhere to the approved closure plan and in a manner that minimizes the need for further maintenance and controls and minimizes post-closure escape of waste and waste constituents into the environment. As no waste and waste constituents will remain on-site after the facility closure, OKMWD is confident that the closure plan will readily meet this performance standard.

### 39.4 Site-Specific Closure Activities

**Required by:** 252:515-25-32(a)(1)  
252:515-25-32(4)(A)-(J)

The following paragraphs identify the site-specific closure activities, a description of how each is expected to be performed, and the timing of the activities.

1. Sixty (60) days before final closure, OKMWD will notify in writing the DEQ, local agencies, and customers of its intent to close the facility and the proposed date of closure. The facility will also post signs alerting customers making deliveries of the facility’s intent to close and the final closure date.

2. The facility will stop receiving new deliveries of regulated medical waste no later than two weeks (14 days) in advance of the proposed closure date.
3. All RMW already at the facility will be treated and disposed of consistent with normal business operations. If the remaining waste cannot be treated at the facility, it will be transported to an alternative, approved treatment facility via a permitted 3rd party transporter.

4. The processing equipment will be disinfected, sterilized, and disassembled for resale, use at another properly permitted facility, recycling, or disposal.

5. All remaining waste containers will be disinfected, sterilized, and returned to 3rd party transporters or producers.

6. Once all equipment and containers have been removed, the facility will be disinfected and sterilized. This includes all areas where waste was stored or processed (e.g., storage area, processing area).

7. Once the facility has been cleaned thoroughly, the cleaned areas will be tested to verify that they are safe.

8. Within thirty (30) days after the final closure date and the completion of these activities, OKMWD will provide written notification to the DEQ and local agencies that all closing activities have taken place (e.g., that all waste has been treated and disposed of in accordance with all applicable regulations and that all facility closure requirements have been satisfied).

Because all waste is processed inside the facility and never placed outside or on permeable surfaces, detailed plans for reworking or replacing defective ground water monitor wells, gas wells, and other defective monitoring equipment, monitoring ground and surface water, collecting and analyzing soil and water samples, and disposing of final wastes and affected soils are not necessary.

39.5 Closure Cost Estimates

Required by: 252:515-25-32(a)(2)

252:515-25-32(a)(3)

252:515-27

This section gives the estimates for closure activities only. The full Financial Assurance Plan is given in Section 43.
Processing Remaining Waste at Facility – Due to the requirement to process waste within 24 hours and the maximum capacity of the processing equipment, the maximum amount of waste to be stored on site would be 48,000 pounds with one processing unit. Should OKMWD install a second processing unit at the site, the maximum expected waste will increase to 96,000, and this cost estimated will be modified and submitted to the DEQ. Realistically, OKMWD will only receive waste for 16 hours per day and expects equipment utilization of 80% after accounting for loading and unloading, maintenance, and other downtime, making the maximum waste on-site 25,600 with one unit. At a cost to process of $0.40/pound by a 3rd party processor, the cost to process the maximum amount of waste remaining is $10,240. After the waste is treated, it will cost $250 to dispose of at an approved solid waste facility making the total cost $10,490. An estimation of the cost per pound to dispose of the waste by a 3rd party processor is provided below in Section 39.5.1.

Cleaning the Processing Equipment – The interior of the processing equipment is sterilized each time it cycles. The exterior can be sterilized using a bleach solution of 1,000ppm applied for 20 minutes. This can be done at no additional cost as the materials will be available on-site and will be done with OKMWD personnel. Should this be required by a 3rd party, the cost will be $4,000 and is included in the price to clean the storage and processing areas as referenced below. A cost estimate is provided in Section 39.5.2.

Cleaning Remaining Waste Tubs – The cost to clean any remaining waste tubs is included in the cost to dispose of the waste.

Cleaning the Storage and Processing Areas – The storage and processing areas are approximately 8,000 square feet. The area will be pressure washed with a high-pressure commercial cleaner. As OKMWD expects to buy this equipment to maintain a clean and sterile facility, the additional cost is expected to be negligible. Should this need to be done by a third party, it will cost approximately $4,000. A quote from a 3rd party is provided in Section 39.5.2.

Verification and Testing – Although testing will likely not be required, OKMWD seeks to exceed standards and will conduct the testing at a cost of $1,000 to sample four random areas within the facility to ensure that the facility has been properly sterilized.
The total costs of closing activities, assuming no additional requirements from the DEQ, will not exceed $16,000. A summary of these activities and costs is provided in Section 39.5.3.
### 39.5.1 Estimate to Transport and Treat Remaining Waste

![Service Agreement Image]

#### Capital Waste Solutions Service Agreement

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Oklahoma Medical Waste Disposal, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address 1</td>
<td>Harrah Industrial Park</td>
</tr>
<tr>
<td>Address 2</td>
<td></td>
</tr>
<tr>
<td>City/State/ZIP</td>
<td>Harrah, OK 73045</td>
</tr>
<tr>
<td>Contact Person</td>
<td>Joey Wignarianh</td>
</tr>
<tr>
<td>Contact Email</td>
<td><a href="mailto:jocv@okmed.com">jocv@okmed.com</a></td>
</tr>
<tr>
<td>Contact Phone</td>
<td>(405) 399-7953</td>
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</table>

<table>
<thead>
<tr>
<th>Services to be Provided</th>
<th>Compliance Training: N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment Schedule: One-Time</td>
<td>Sharps Containers Size &amp; Quantity: N/A</td>
</tr>
<tr>
<td>Service Frequency: One-Time</td>
<td>Type of Waste Generated: RMW</td>
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<tr>
<td>RMW Container Size: N/A</td>
<td>Preferred Invoice Method: Email</td>
</tr>
<tr>
<td>Add'l Pickup Cost: N/A</td>
<td></td>
</tr>
</tbody>
</table>

**Service Fee:** $10,000

**Customer:**

**Print Name:**

**Title:**

**Date:**

**CWS:** Lonnie McPheeter

**Print Name:** Lonnie McPheeter

**Title:** VP of Sales

**Date:** 12/4/2019

---

#### Capital Waste Use Only

<table>
<thead>
<tr>
<th>Type of Agreement: New</th>
<th>Frequency: One-Time</th>
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<tbody>
<tr>
<td>Container Setup Date:</td>
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<tr>
<td>Effective Date:</td>
<td>1st Pickup Date: RMW</td>
</tr>
<tr>
<td>Account #:</td>
<td>Facility Hours:</td>
</tr>
<tr>
<td></td>
<td>Special Closing Dates:</td>
</tr>
</tbody>
</table>
### 39.5.2 Estimate to Clean Facility and Exterior of Processing Equipment

**APARTMENT FACILITY SERVICES**

15310 S Memorial Dr
Bixby, OK 74008
918-280-8416

**Name / Address**

Joseph Wignarajah  
OK Medical Waste Disposal, LLC  
PO Box 4833  
Tulsa, OK 74101  
(405) 309-7093

<table>
<thead>
<tr>
<th>Description</th>
<th>Qty</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Exterior of processing equipment</td>
<td>1</td>
<td>4,000.00</td>
<td>4,000.00</td>
</tr>
<tr>
<td>2) Pressure wash interior floor (Approx 15 sq ft)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This estimate is a lump sum estimate. Any changes from the scope defined in the agreement between the parties would result in a change order. 50% due at the time of contract award and 50% due at the time of completion of the project. Please allow 2 weeks for mobilization.

All estimates are good for 30 days. Additional terms and conditions apply. Any change orders for the work are not included in this estimate.

**Total**  
$4,000.00
### Estimated Cost Summary

<table>
<thead>
<tr>
<th></th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Processing Remaining Waste</td>
<td>$10,240</td>
</tr>
<tr>
<td>2) Sterilizing the Processing Area and Bldg</td>
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</tr>
<tr>
<td>3) Sterilizing Exterior of Equipment</td>
<td>Included Above</td>
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<tr>
<td>4) Verification and Testing</td>
<td>$1,000</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>$15,240</strong></td>
</tr>
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</table>
39.6 Timelines

Required by: 252:515-25-33

OKMWD will notify the DEQ of its intent to close the facility sixty (60) days before the proposed closure date. Upon receiving approval from the DEQ, closure activities will begin immediately. All closure activities will happen within 180 days after the DEQ approves closure and closure activities have begun. In the event extensions are required to prevent threats to human health or the environment, OKMWD will request an extension from the DEQ in writing and with full explanations of the necessity.

39.7 Certification of Final Closure

Required by: 252:515-25-34(a), (c)

Upon completing closure activities, OKMWD will provide a Certification of Final Closure to the DEQ that is signed by the owner/operator, state that the facility was closed according to the approved closure plan, the permit, and applicable rules. OKMWD will also submit a closure report with related drawings, plans or specifications describing how closure was performed, and indicate the results of any testing performed in conjunction with closure activities. The Certification of Final Closure shall be prepared and sealed by an independent professional engineer licensed in the State of Oklahoma.

40.0 Final Closure

Required by: 252:515-25-35

If post-closure activities are required, the post-closure period will begin when the DEQ approves the final closure of the facility.

41.0 County Land Records Notice

Required by: 252:515-25-36(a), (b), (d)

Upon approval of final closure by the DEQ, OKMWD will take such action as to cause a notice to be recorded in the land records of Oklahoma County that will give notice in perpetuity that the site was used for the processing or disposal of solid waste and has been closed. The notice will specify the type, location, and quantity of wastes processed. Once the notice has been filed, a file-stamped copy shall be provided to the DEQ.
42.0 Post-Closure Plan

Required by: 252:515-3-36(a)(14)(C)

Unless specifically required by the DEQ, this facility does not require post-closure monitoring as all waste will be removed from the site before closure.

43.0 Financial Assurance Plan

Required by: 252:515-3-36 (a)(15)
252:515-27

43.1 Applicability

Required by: 252:515-27-1

This financial assurance plan is submitted in accordance with 252:515-27-1.

43.2 Effective Date

Required by: 252:515-27-2

OKMWD will not accept waste until it receives the DEQ’s approval of its financial assurance plan. In the event any corrective action is required, OKMWD will seek approval from the DEQ for the selected corrective action remedy within 120 days of its selection. Should OKMWD seek a modification to its permit, it will revisit this financial assurance plan and ensure that this plan and the established financial assurance is funded sufficiently to accommodate any changes in closure or post-closure cost estimates.

43.3 Duty to Maintain Financial Assurance

Required by: 252:515-27-3

OKMWD understands that financial assurance for closure, post-closure, and/or corrective action, as applicable, must be maintained continuously until released from the requirement to maintain such assurance until the post-closure plan is completed and final certification accepted by the DEQ, and, if applicable, a post-closure period and/or corrective actions are completed.

43.4 Updating the Financial Assurance
Required by: 252:515-27-4

OKMWD will review its cost estimates and financial assurance plan annually, at a minimum, and provide the results of the review to the DEQ via an updated financial assurance plan or a confirmation that the existing plan remains unchanged. In the event greater financial assurance is needed due to a change in cost estimates, OKMWD will fund the difference in financial assurance and provide notice to the DEQ.

43.5 Permit Transfers

Required by: 252:515-27-5

In the event OKMWD seeks to transfer its permit to another owner/operator, the transferor OKMWD will work with the transferee to provide new financial assurance or to assume the existing financial assurance before seeking a release of its financial assurance.

43.6 Effect of Non-Renewal of or Failure to Maintain Financial Assurance

Required by: 252:515-27-6

In the event OKMWD fails to renew, maintain, or provide financial assurance, it understands that the DEQ shall begin proceedings to summarily suspend or revoke OKMWD’s permit.

43.7 Substitute Financial Assurance

Required by: 252:515-27-7

OKMWD understands that substitute financial assurance may be provided as long as it meets the requirements of Subchapter 27, and that it has a duty to maintain the current financial assurance mechanism until such time that the DEQ has approved the substitution.

43.8 Economic Life of Disposal Facility

Required by: 252:515-27-8

This section is not required as OKMWD intends to provide a Letter of Credit as its financial assurance.

43.9 Cost Estimates for Closure
The cost estimates for closure are provided in the Closure Plan in Section 39.5 of this application. The cost estimate is composed of a combination of unit costs and cost per activity, so estimated costs and an estimated cost summary are provided in Section 39 of the Application binder. A copy will also be placed in the operating record. Should an increase be required due to a change in the Closure Plan, a change in the cost of an activity, the cost estimates will be updated and submitted to the DEQ.

43.10 Cost Estimates for Post-Closure Care

This section is not applicable, unless otherwise specifically indicated by the DEQ, as no post-closure care is expected to be necessary.

43.11 Cost Estimates for Corrective Action

If at any time the DEQ should require corrective action at the facility, OKMWD will submit cost estimates for the correction action remedy to the DEQ for approval. The detailed cost estimates will describe the scope of work and be supported by cost estimates from third parties who can safely and effectively conduct the corrective action. Once the DEQ has set the required amount, OKMWD will establish and fund any additional required financial assurance.

43.12 Annual Adjustments to Cost Estimates

OKMWD will review and adjust its cost estimates for closure activities and, if applicable, post-closure and/or any required corrective actions and submit them to the DEQ for approval no later than April 9th of each year. The estimates will be recalculated using an inflation factor (derived from the most recent annual “Implicit Price Deflator for Gross National Product” or the “Implicit Price Deflator for Gross Domestic Product” public by the US Department of Commerce) for unit costs and for cost estimates where a meaningful change in cost is anticipated. The approved adjusted costed

43.13 Financial Assurance Mechanism
OKMWD intends to provide financial assurance via an irrevocable standby letter of credit. The letter of credit will be issued by OKMWD’s state-chartered bank, where OKMWD’s operating accounts are held, before the permit is issued. OKMWD will ensure that the financial assurance mechanism meets the requirements of 252:515-27-71 and 252:515-27-79.

OKMWD will submit an original and one (1) copy of the financial assurance mechanism to the DEQ for approval and a copy will be maintained in the operating record.

### 44.0 Waste Exclusion Plan

**Required by:**

252:515-29-3(a) – Random Inspections  
252:515-29-3(b) – Inspection Records  
252:515-29-3(c) – Personnel Training  
252:515-29-3(d) – Trained Personnel On-Site  
252:515-29-3(e) – Notification of Rejected Waste  
252:515-29-3(f) – Safe Storage  
252:515-29-3(g) – Proper Disposal  
252:515-29-3(h) – Verification of Disposal  
252-515-29-4 – Maintain Records

OKMWD maintains and adheres to a comprehensive Waste Exclusion Plan (WEP) that describes how OKMWD and its personnel will detect and prevent the acceptance of prohibited wastes as identified by 252:515 or within OKMWD’s approved permit. The plan also specifies what other non-prohibited wastes will not be accepted at the facility. When the plan is modified, OKMWD will submit the amended WEP to the DEQ within 30 days for approval.

At the highest level, the WEP contains procedures for inspection of incoming loads and provisions for how OKMWD will maintain records of each inspection. It does not describe a random inspection procedure because OKMWD personnel will inspect 100% of incoming loads that arrive at the facility before they are accepted into the facility.

OKMWD personnel will maintain detailed records about each load that is either accepted or rejected. At a minimum, the records will contain the date and time of inspection, the person conducting the inspection, and the results of the inspection. The WEP also contains a description of how OKMWD will train its personnel including the training curriculum, which includes a review of regulatory...
definitions and requirements for handling of waste, as well as OKMWD’s facility-specific produces for implementing the WEP, the cadence for training (e.g., an eight-hour initial training and four-hour annual refreshers at a minimum), as well as the procedures by which OKMWD will document employee training. In addition to the foregoing, the WEP also contains specific procedures employees will follow to notify the DEQ of any rejected waste, how to safely store untreated, treated, and rejected waste, how to dispose of rejected waste, how to verify that it was disposed of properly, and how records will be maintained. The complete Waste Exclusion Plan is provided in Tab 3 of the Application binder as an attachment to this application.
OK Medical Waste Disposal

Tab 2
Operational Plan

February 2020
OK Medical Waste Disposal

Operational Plan

February 2020
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Purpose

The purpose of this Operational Plan is to describe in detail OK Medical Waste Disposal's processes and procedures to safely receive, treat, and dispose of acceptable regulated medical waste (as defined by OAC 252:515-1-2) safely and in accordance with all applicable regulations and laws.

Governing Regulations

252:515-3-36 (a)(14)(A)
252:515-19-31 – Prohibited Wastes
252:515-19-32 – Public Access Control
252:515-19-33 – Measuring Waste
252:515-19-34 – Limitations on Waste Received
252:515-19-35 – Litter Control
252:515-19-36 – Air Criteria
252:515-19-37 – Disease Vector Control
252:515-19-38 – Placement of Waste
252:515-19-40 – Recordkeeping and Reporting
252:515-23-31 – General
252:515-23-32 – Radiation
252:515-23-33 – Contingency Plan
252:515-23-34 – Emergency Response
252:515-23-35 - Storage
General Operations Overview

OKMWD’s facility will only accept regulated medical waste for which it is permitted. To ensure that Prohibited Wastes (as defined by OAC 252:515-19-31 and in the Definitions Section of this document) are not accepted by the facility, all OKMWD personnel will receive initial and routine training in how to safely follow the procedures below. Additional details on the training program are provided in the accompanying Training Plan in Tab 5 of the Application.

High-Level Operations Process

1. Transporters
2. Receiving and Screening
3. Temporary Storage of Waste
4. Treatment and Sterilization
5. Compacting and Disposal

3rd Party Regulated Medical Waste Transporters

Because OKMWD does not intend to pick up waste directly from the waste generators initially, OKMWD has developed an audit process to ensure that all 3rd party transporters who deliver to the facility are properly permitted to do so, and that they follow all procedures required by applicable state and federal regulations. At a high level, all 3rd party transporters must provide copies of their permits before they begin delivering regulated medical waste to the facility. Once a 3rd party carrier is approved, they will be required to provide a manifest, bill of lading, or similar document that includes information on the waste generator, transporter, the volume of waste, and the time of pick up. Following these audit and documentation procedures is the first step in ensuring that only permitted wastes are processed at the facility. All documentation will be maintained on-site for a minimum of three years.

Receiving and Screening (Procedures for Screening for Prohibited Wastes)

1. Visual Inspection

When 3rd party regulated medical waste transporters arrive at the facility, OKMWD will examine the documentation provided by the 3rd party transporter to ensure that the producer is known to the facility and the waste as described contains no Prohibited Wastes. If the documentation describes Prohibited Wastes or is incomplete, the load will be rejected by OKMWD personnel, who will then complete a record of the rejection, and notify the DEQ by the end of the next business day. A sample of a Record of Rejection Form is included in Appendix A of this Operational Plan.
If the documentation is in order, OKMWD personnel conduct a visual inspection of the containers to ensure that the waste is permitted waste and that it is safe to offload into the facility. During the visual inspection, OKMWD employees look for any improperly packaged waste including wrong bags (color and type), untied red bags or otherwise improperly closed containers, leaking containers, objects protruding from bags and containers, overfilled containers, or bags and containers that are improperly marked. All improperly packaged wastes will be rejected by the employee, who will then complete a Record of Rejection Form. If the transporter is unable to immediately remove the waste from the facility, OKMWD personnel will assist the transporter or generator with identifying alternative options for disposal or arrange for a safe and lawful disposition of the waste in accordance with all regulations. A visual inspection checklist and rejection form are provided in Appendix B and Appendix A of this Operational Plan respectively. All records of visual inspections and rejections will be kept in the operating record electronically and at the facility for a minimum of three years.

If any amount of waste is rejected, OKMWD personnel will notify the DEQ no later than by the end of the next working day. The notification will include a description of the reason for rejecting the waste, the name, address, phone number, and contact person of the waste generator and 3rd party transporter, as well as the name of the driver, tag number of the vehicle. A sample of a Record of Rejection Form is included in Appendix A of this Operational Plan.

2. Radiological Detection Systems – Fixed Detection, Handheld Scanning, and Interlock

OKMWD uses three different methods - a fixed detection system, handheld scanners, and an interlock system on the processing equipment - to inspect incoming waste for radiological materials (DEQ 525:515-23-31(b)).

After a successful visual inspection of incoming loads, OKMWD personnel unload the medical waste into the facility. As personnel unload the waste containers onto the loading dock, a fixed detection system capable of detecting radiation sources as small as 0.25 millicuries of Cs137 will be constantly monitoring for any signs of radiological waste (Reference: DEQ 525:515-23-31(b)). Whether or not the fixed detection system alerts to the presence of radiological materials, the employee scans the load using handheld scanners. If the handheld scanners alert to the presence of radiological materials, employees will notify the transporter to immediately return the waste the generator, assist in identifying safe and legal alternative disposal options, or arrange for safe and lawful transport and disposal in compliance with all applicable regulations.
OKMWD personnel will notify the transporter to immediately return the waste the generator, assist in identifying safe and legal alternative disposal options, or arrange for safe and lawful transport and disposal in compliance with all applicable regulations. OKMWD will notify the DEQ no later than by the end of the next working day. The notification will include a description of the reason for rejecting the waste, the name, address, phone number, and contact person of the waste generator and 3rd party transporter, as well as the name of the driver, tag number of the vehicle. A sample of a Record of Rejection Form is included in Appendix A of this Operational Plan.

Temporary Storage

The OKMWD disposal facility is designed to keep various types of waste clearly separated and organized to ensure a safe work environment and that only the appropriate types of waste are processed at the facility. The three safe storage areas are 1) untreated regulated medical waste, 2) accepted, untreated, Prohibited Wastes, and 3) treated waste.

**Accepted, Untreated RMW Storage**

Before any waste is accepted into the facility, it will be visually inspected and scanned with handheld radiation detectors. Once the undelivered waste is determined to be packaged properly and free of radiation and other prohibited wastes, the waste will be moved into the storage area for “Untreated Regulated Medical Waste.” The untreated waste will be stored in order of when it arrived at the facility to ensure that waste is treated and processed in the order it is received to ensure that it is destroyed within 24 hours of delivery to the facility.

The Untreated Regulated Medical Waste Storage Area is shown on the facility layout in Tab 5 of the map supplement. In the event waste cannot be treated within 24 hours of delivery, it will be refrigerated at or below 42 degree Fahrenheit until such time that it can be treated safely. Any waste that is expected to remain unprocessed for 96 hours will be sent to another approved facility for treatment and disposal. Alternative facilities are listed in the Contingency Plan in Tab 4 of the application binder.

**Accepted, Untreated Prohibited Waste Storage**

In the rare case that any Prohibited Waste is found after waste is accepted into the facility, they will be separated from the acceptable wastes and stored securely in a clearly marked area to ensure that no Prohibited Wastes are processed at the facility. After Prohibited Wastes are identified and stored securely, OKMWD
personnel will either notify the 3rd party transporter to return the waste to the producer and fill out a Record of Rejection Form (provided in Appendix A), or OKMWD will arrange for disposal at an appropriate facility permitted to dispose of the Prohibited Waste. OKMWD will notify the DEQ by the end of the next working day according to the notification procedures described below. The location for temporary storage of Prohibited Wastes is shown on the building layout in Tab 6 of the map supplement.

**Treated Solid Waste Storage**

Treated/Sterilized waste is automatically deposited into top-loading, sealed compactors. The compactors are located on the exterior of the east end of the building where the processing equipment deposits the treated waste. Although the compactors are fully sealed, they will be within secondary containment and covered with an awning to prevent infiltration of rainwater and leakage of their contains onto the site. Other than where the sterilized waste enters, the compactor is fully enclosed to prevent the blowing of waste on the property and locked to prevent access by unauthorized personnel to the sterilized waste. Based on the expected waste to be processed at the facility per day and the capacity of the compactor, OKMWD anticipates that the compactors will be hauled to the landfill two times per week.

The location of the compactors is shown on the building layout in Tab 5 of the map supplement.

**Treatment and Sterilization**

The STI Series 2000 by BioSAFE Engineering is the workhorse of OKMWD’s treatment and sterilization process. The STI Series 2000 is a fully-integrated regulated medical waste processing system that combines mechanical destruction and thermal treatment, with minimal human intervention, to be one of the safest and most effective systems on the market. The following section describes the high-level treatment process, while the entire process is included in Tab 6 of the Application which contains the STI BioSAFE Series 2000 Operating Manual.

**High-level Treatment Process**

<table>
<thead>
<tr>
<th>STEP 1:</th>
<th>STEP 2:</th>
<th>STEP 3:</th>
<th>STEP 4:</th>
<th>STEP 5:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure Waste</td>
<td>Load Waste into Series</td>
<td>Shred</td>
<td>Steam and Agitate</td>
<td>Deposit in Compactor</td>
</tr>
</tbody>
</table>
1. After the waste is confirmed to be approved regulated medical waste, OKMWD personnel roll waste container carts onto the scale and capture the weight. After the weight is recorded, personnel roll the cart into the hydraulic lift bucket. More detail on recordkeeping and reporting is provided below.

2. Once the cart is in the hydraulic lift bucket, and all safety checks are cleared, the system begins by drawing air in from the surrounding area through HEPA filters to create a negative air pressure within the system to ensure that any potential airborne pathogens are contained within the STI Series 2000’s closed system. After waste is dumped, the system activates a high temperature spray rinse cycle to clean residual waste left in the container.

3. After the waste is dumped and the container is cleaned, the waste drops onto a heavy-duty shredder and is pushed into the cutting chamber by a hydraulic ram system. As the waste is processed through the shredder, the material is broken down in a fashion that leaves the remaining waste completely unrecognizable and such that each piece of shredded waste has greater surface area by mass so that a maximum amount of waste is exposed to the steam injection system.

4. The shredded waste enters a stainless-steel steam auger chamber where low pressure steam is injected through multiple ports ensuring that constant, uniform steam penetrates the material. Because of the high surface area to mass ratio, the material reaches treatment temperatures of 205-212 degrees Fahrenheit quickly, with minimal steam, thereby accomplishing sterilization by adding minimal liquid to the material. During this phase, a diluted sodium hypochlorite solution is sprayed onto the shredded waste material to eliminate any odors that may result. As steam and diluted sodium hypochlorite are applied, the waste is continuously agitated by an auger and held at constant high temperatures for a minimum of 60 minutes.

5. After 60 minutes, the waste is discharged to a low-pressure, flash-off chamber where the material is dehydrated almost completely, where any excess wastewater is captured in a sump and harmless, clean water vapor is vented to the atmosphere.

6. The nearly dry residue exits the end of the augur into a standard self-contained compactor and is ready to be picked up and disposed of at an approved solid waste landfill by a 3rd party waste management company.

Compacting

The STI BioSAFE Series 2000 automatically deposits the shredded and sterilized waste into one of two compactors as the last step in the treatment process. The
Disposal

Sterilized waste will be hauled to the landfill in the enclosed compactor by a 3rd party for disposal at a permitted landfill authorized to receive sterilized regulated medical waste. OKMWD will provide written documentation to the 3rd party transporter and disposal facility that the regulated medical waste has been treated and sterilized according to OAC 252:515, as well as all other applicable laws and regulations, and is safe (non-infectious) for disposal at the disposal site.

General Operating Conditions

This section describes the general operating conditions of the facility as well as directly addressing the required elements of the Operational Plan listed in Subchapter 19 of OAC 515:252.

1.1 Hours

The facility will be open to accept waste from 8:00am to 6:00pm to process waste. These hours are subject to the amount of waste the facility receives and may change in the future.

1.2 Staffing

The facility will be staffed by a general manager and/or operators during working hours.

1.3 Contingency Plan

A full Contingency Plan is provided in Appendix F of this application.

1.4 Emergency Response Procedures

A full Emergency Response Plan is provided in Tab 4 of the Application.

1.5 Procedures for Public Access Control

To maintain a safe and secure facility, OKMWD needs to take reasonable efforts to prohibit unauthorized public access to the facility.

Signage – All entrances to the property including road and pedestrian gates will have clear signage identifying the name of the facility, emergency contact numbers, and communicating that public access is prohibited.
Within the fence and gates, all exterior doors will be marked with similar messages prohibiting public access and emergency contact numbers. Within the facility, all access points to areas with medical waste will be marked with the text “Caution – Medical Waste Storage Area – Unauthorized Access Prohibited” with the biohazard symbol when applicable. All signage will have large, clearly legible text.

**Fencing and Gates** - The facility is will be surrounded by a six-foot high fence with locking pedestrian and road access gates, which will be locked outside of working hours to discourage unauthorized traffic, prevent unauthorized access to the facility, and to prevent uncontrolled dumping. The grounds of the facility will be planted with trees, shrubs, grass, and plants to enhance the visual appeal of the facility.

**Access** – Access to the facility is via one pedestrian gate and two road gates as shown on the Site Map in Tab 6 of the map supplement.

1.6 **Procedures for Measuring Waste**

Waste is measured using a scale integrated into the STI BioSAFE Series 2000 processing system. The weights are recorded within the system’s software and will be recorded in our compliance software.

1.7 **Procedures for Adhering to Limitations on Waste Received**

OKMWD does not anticipate receiving enough waste to exceed any of the limitations on waste received, however, to be certain, OKMWD personnel will use the software tracking system to generate reports on waste received to ensure that tonnage received per day does not exceed limitations.

1.8 **Procedures to Control Litter**

Maintaining a clean facility and grounds is critical to protecting the environment, eliminating nuisance conditions to the facility’s neighbors, and for safety of OKMWD personnel and authorized visitors. As all waste will be confirmed to be properly stored within closed, approved bags, boxes, or containers before it is unloaded, the scattering of refuse during unloading should be minimal as the waste enters the facility.

All treated and sterilized waste will be deposited into a sealed compactor within the facility, which will minimize the possibility of blowing litter and scattered refuse as the waste is picked up for transport to an approved landfill.
All normal waste generated from day-to-day operations (e.g., office paper, food waste) will be tied in garbage bags before it is taken outside of the facility to be stored in a standard dumpster outside of the facility.

OKMWD personnel will also conduct “trash walks” daily to police the facility grounds, as well as the grounds in immediately outside of OKMWD’s fence, so long as such walks off OKMWD’s property can be done safely and without entering other properties. If scattered refuse or blowing litter becomes an issue, OKMWD will take additional steps to mitigate the scattering of refuse (e.g., litter fences).

### 1.9 Procedures for Adhering to Air Criteria

**Required by:** [252:515-19-36](#) (a), (b), (c)

OKMWD will comply with the Oklahoma Clean Air Act, rules of the Air Quality Division of the DEQ, and any other requirements of an approved State Implementation Plan should one be required.

Under no circumstances will OKMWD personnel burn solid waste or any other waste.

OKMWD’s equipment emits no dust or other emissions that would cause the facility to exceed air standards or that would otherwise interfere with the maintenance of air quality standards. More detail on the emissions of the equipment are highlighted in the Operational Plan and the Operating Manual of the STI Series 2000 provided as an attachment to this application.

### 1.10 Procedures for Disease Vector Control

**Required by:** [252:515-19-37](#)

OKMWD will employ numerous disease vector control methods to manage populations of disease control vectors (e.g., rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans). Like safety, controlling disease vectors begins with maintaining a clean facility inside and out, ensuring that all wastes are properly contained at all stages of the treatment process. Where applicable, OKMWD will use only common, environmentally-friendly control methods.

### 1.11 Procedures for Placing Waste

All regulated medical waste delivered to OKMWD’s facility will be processed within 24 hours of arriving at the facility. If, for any reason, OKMWD personnel expect to not process delivered RMW within 24 hours, OKMWD will arrange for the waste to be placed into refrigerated storage at or below 45 degrees Fahrenheit. If the waste has not, or is not expected to be, processed within 96 hours of arriving at the facility, OKMWD personnel will arrange for alternative disposal. More detail on OKMWD’s Contingency Plan (as required by 252:515-23-1) is given in the accompanying Operational Plan.

OKMWD does not expect to receive any large or bulky items as all received waste must be properly packaged in approved medical waste bags, boxes, or containers. Anything other large or bulky waste will be rejected.

All processed wastes and residues generated at the facility will be non-hazardous and suitable for disposal at properly permitted municipal solid waste facilities. OKMWD will contract with Waste Management for these services.

1.12 Procedures for Salvage and Recycling

OKMWD will not immediately conduct any salvage or recycling operations. In future OKMWD may choose to recycle the cardboard boxes used by some regulated medical waste generators.

1.13 Procedures for Recordkeeping and Reporting

OKMWD will maintain an operating record onsite within the facility and electronically. Such records will include all documents related to the planning, construction, operation, closing, and post-closure monitoring of the facility, as well as all records required to maintained in the operating record or submitted to the DEQ by Subchapters 3, 5, 17, 19, 25, and 27 of OAC 252:515. Such records will be maintained until the post-closure monitoring period is terminated.

1.14 Other Monitoring and Routine Testing Procedures

The STI BioSAFE Series 2000 is proven to destroy harmful pathogens that exist in regulated medical waste and other non-hazardous industrial waste. Our specific unit will be tested upon commissioning. To ensure the system always effectively achieves effective microbial inactivation as defined by 252:515-23-2 and other applicable regulations, the STI Series 2000 is equipped with a programmable controller that continuously monitors
operational parametric including: waste temperature; negative pressure; HEPA filter operation; steam delivery; equipment operation and sub-component status. Temperature sensors provide the programmable controller with continuous data reflecting the environment within the STI Series 2000.

OKMWD will monitor the waste treatment performance by placing biological indicators (*Bacillus atrophaeus* spores) into the shredded waste below the system shredder at least once per disposal roll-off or every 40 hours of machine operation in accordance with the manufacturer’s recommendations. This testing will use a biological indicator (BI) such as *Bioci* or equivalent that has an incubation period of 24 hours. The BI testing will be conducted to allow a full 24-hour incubation and evaluation period before the challenged load is verified and shipped off site for disposal. After steam treatment, the biological indicators are incubated and monitored for microbiological growth in accordance with the manufacturer’s instructions (i.e. no-growth indicates that effective waste treatment has been achieved). The infectious waste will be treated to achieve at least a $4\log_{10}$ reduction in *Bacillus subtilis* or *Bacillus atrophaeus* endospores and at least a $6\log_{10}$ reduction in *Mycobacterium phlei* or *Mycobacterium bovis*. The biological ampoules are inspected and signed off by the supervisor in charge before they are discarded for treatment in the STI system.

The STI BioSAFE Series 2000 is operates within very specific parameters that are always monitored and recorded. In the event that any parameter falls outside of the specified values for safe and effective operation of the equipment, the system will halt operations and will not resume until all systems have been checked, the errant parameter is corrected, and verified automatically by the system. Verifications include temperature monitoring, negative pressure monitoring, equipment safety switches monitoring, and actual steam flow verification. Waste treatment dwell times within the system are fixed at a minimum of 60 (sixty) minutes at the treatment temperature. Quality assurance Validation and testing protocols including identification of self-contained biological indicators (SCBI’s), testing procedures/protocols, and contingency measures are included in the new STI BioSAFE Series 2000 Operating Manual provided in Tab 6 of the Application.

Should the equipment fail to pass any of the testing procedures, OKMWD will repair the equipment, validate that the equipment is operating effectively via spore testing, and re-process the previously treated waste in the waste container so long as the repairs and testing can be done within the required treatment timelines. If the equipment cannot be repaired within the specified
treatment timeline, OKMWD personnel will package and ship untreated wastes to an alternative permitted treatment facility per the contingency plan.

OKMWD will maintain the STI BioSAFE Series 2000 production and quality assurance records in the operating record onsite and electronically until the post-closing and post-closure monitoring of the facility is completed in accordance with DEQ 252:515-19-40.

**Recordkeeping and Reporting**

OKMWD will maintain an operating record as required by 252:515-39-40 near the facility that will contain all records concerning the planning, construction, operation, closing, and post-closure monitoring of the facility. The complete operating record will be maintained until the post-closure monitoring period is terminated and will include, but are not necessarily limited to, those records required to be maintained in the operating record and/or submitted to DEQ by Subchapters 3, 5, 17, 19, 25, and 27 of Chapter 252:515.

Required Records include, but are not limited to, the permit, modifications, and approvals, (including the OPDES permit, if necessary); records concerning waste received; any sampling or analyses performed by the facility; closure, post-closure and corrective action plans (including annual cost updates to closure estimates); financial assurance records; inspection and compliance evaluation correspondence; reports; the Emergency Response Plan; the Training Plan and all associating training records; and all reports and forms related to Waste Exclusion.
Definitions

**Etiologic Agent** – A substance that causes or contributes to the spread of disease or medical condition.

**Operating Record** – All of the collective records of the facility relating to the site. Such records include, but are not limited to: the permit, modifications, and approvals; records concerning waste received; any sampling or analyses performed by the facility; closure, post-closure and corrective action plans; financial assurance records; inspection and compliance evaluation correspondence; reports; and scale tickets and related fee payment documentation.

**Prohibited Wastes** – Prohibited wastes are any wastes that are not permitted to be disposed at the facility as defined by OAC 252:515-19-31. For our purposes, any waste that is not regulated medical waste (RMW) and approved non-hazardous industrial wastes (NHIW) are prohibited wastes. Specifically, Prohibited Wastes include:

- **Hazardous, radioactive, regulated PCB waste** – Any wastes subject to regulation under OAC 252:205.
- **Asbestos** – Any friable or non-friable asbestos-based materials.
- **Non-Hazardous industrial waste (NHIW)** - Non-hazardous industrial solid waste, as defined at 27A O.S. § 2-10-103 and not authorized by any granted variances requested in this Application.
- **Construction & demolition waste** – Waste composed of any of the following: asbestos-free waste from construction and/or demolition projects that may include such materials as metal, concrete, brick, asphalt, glass, roofing materials, limited amounts of packing materials, sheetrock, or lumber; wood waste that may include such materials as yard waste, lumber, wood chips, wood shavings, sawdust, plywood, tree limbs, or tree stumps; yard waste that may include such materials as grass clippings, tree limbs, tree stumps, shrubbery, flowers, or other vegetative matter resulting from land clearing or landscaping operations; or residential lead-based paint waste.
- **Baled waste** – Any unsorted baled municipal solid waste.
- **Any other waste not authorized by the permit.**

**Regulated Medical Waste** – Waste or reusable material that contains an etiologic agent and is generated in the diagnosis, treatment or immunization of human beings or animals; research pertaining to the diagnosis, treatment or immunization of human beings or animals; or the production or testing of biological products. Such waste includes, but is not limited to:
A. cultures and stocks of etiologic agents or live vaccines, and culture dishes, devices, paper, and cloth that has come into contact with such cultures, stocks or live vaccines;

B. human blood, blood products, and human body fluids, except urine or feces;

C. pathological wastes consisting of human tissues, organs, and body parts removed during surgery, autopsy, biopsy and other medical procedures;

D. untreated sharps;

E. used blood collection bags, tubes, and vials;

F. contaminated carcasses, body parts and bedding of animals intentionally exposed to pathogens in research, in the production of biologicals or the "in vivo" testing of pharmaceuticals;

G. items contaminated with blood or other human body fluids which drip freely or would release such materials in a liquid or semi-liquid state if compressed or are caked with dried blood or body fluids and are capable of releasing these materials;

H. isolation wastes unless determined to be non-infectious by the infection control committee at the health care facility;

I. HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV;

J. all disposable materials that have come in contact with cytotoxic or antineoplastic agents during the preparation, handling, and administration of such agents. Such wastes include, but are not limited to, masks, gloves, gowns, empty IV tubing and bags, vials, and other contaminated materials; and

K. Any other material or equipment which, in the determination of the health care facility staff, infection control committee or other responsible party, presents a significant danger of infection because it is contaminated with, or may reasonably be expected to be contaminated with, etiologic agents

**Acceptable Non-Hazardous Industrial Wastes (NHIW)** – Pending approval of the variance request by the DEQ and inclusion in OKMWD’s permit, the following NHIW will not be Prohibited Wastes:

A. Outdated, off-specification, or mislabeled over-the-counter medicines which are not hazardous in accordance with 40 CFR 261, Subparts C or D;

B. Pharmaceutical waste not included above;
C. Medical marijuana waste 63 O.S. 428 including roots, stems, stalks and fan leaves, and seeds;

D. Medical records or other NHIW that requires the destruction of any personally identifiable information
Appendix A – Record of Rejected Prohibited Waste Form (Sample)

OK Medical Waste Disposal
Record of Rejected Prohibited Waste

Date:
Person Identifying Prohibited Waste:

Generator Information:
Name:
Address:
Phone:

Driver Information:
Name: ____________________________ Vehicle Tag #: ____________________________
Address: ____________________________ Phone: ____________________________
Company: ____________________________ Contact Person: ____________________________

Please describe the Prohibited Waste identified:

Was the waste accepted into the facility?  YES  NO
If yes, is the waste properly and safely stored?  YES  NO

_____ Facility supervisor notified by phone (Date: __________, Time: __________)
_____ Form scanned and sent to facility supervisor by email

For Supervisor:
_____ DEQ notified (Date: __________, Time: __________)
_____ Carrier notified as a courtesy (Date: __________, Time: __________)
Appendix B – Visual Inspection Checklist

OK Medical Waste Disposal
Visual Inspection Checklist

Manifest #: __________________________

Questions  Yes  No
1. Is the floor of the truck around the containers clean and dry?  □  □
2. Are the lids of the containers free of signs of liquid or spillage?  □  □
3. Are all of the containers in good condition?  □  □
4. Do all containers appear to be properly packed (i.e., lids close easily)?  □  □
5. Are all of the containers properly marked and is the information legible?  □  □
6. Is the waste reaching the facility within 24 hours of being picked up at the producer?  □  □
7. Are there any identifiable prohibited wastes?  □  □

Please describe any “No” answers you’ve checked. ______________________________________

_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

Please describe any correction actions required. ______________________________________

_________________________________________________________________________________
_________________________________________________________________________________
OK Medical Waste Disposal

Tab 3
Waste Exclusion Plan

February 2020
Waste Exclusion Plan

February 2020
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1.0 Purpose ........................................................................................................................... 3
2.0 Governing Regulations.................................................................................................. 3
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1.0 Purpose

The purpose of this Waste Exclusion Plan (WEP) is to describe Oklahoma Medical Waste Disposal’s processes and procedures to detect and prevent the disposal of prohibited wastes other than Regulated Medical Waste or other wastes specifically authorized by OKMWD’s permit. This plan is provided in accordance with 252:515-29-2. When conditions of the approved Waste Exclusion Plan change, OKMWD will file an amended WEP with the DEQ for approval within 30 days of the change in conditions (252:515-29-2(b)).

2.0 Governing Regulations

252:515-29-3(a) – Random Inspections
252:515-29-3(b) – Inspection Records
252:515-29-3(c) – Personnel Training
252:515-29-3(d) – Trained Personnel On-Site
252:515-29-3(e) – Notification of Rejected Waste
252:515-29-3(f) – Safe Storage
252:515-29-3(g) – Proper Disposal
252:515-29-3(h) – Verification of Disposal
252:515-29-4 – Maintain Records

3.0 Definitions

Etiologic Agent – A substance that causes or contributes to the spread of disease or medical condition.

Prohibited Wastes – Prohibited wastes are any wastes that are not permitted to be disposed at the facility. For our purposes, any waste that is not regulated medical waste (RMW) or other Non-Hazardous Industrial Waste (NHIW) that is specifically listed as acceptable in OKMWD’s approved permit is a prohibited waste.

Regulated Medical Waste – Waste or reusable material that contains an etiologic agent and is generated in the diagnosis, treatment or immunization of human beings or animals; research pertaining to the diagnosis, treatment or immunization of human beings or animals; or the production or testing of biological products. Such waste includes, but is not limited to:

A. cultures and stocks of etiologic agents or live vaccines, and culture dishes, devices, paper, and cloth that has come into contact with such cultures, stocks or live vaccines;

B. human blood, blood products, and human body fluids, except urine or feces;
C. pathological wastes consisting of human tissues, organs, and body parts removed during surgery, autopsy, biopsy and other medical procedures;

D. untreated sharps;

E. used blood collection bags, tubes, and vials;

F. contaminated carcasses, body parts and bedding of animals intentionally exposed to pathogens in research, in the production of biologicals or the "in vivo" testing of pharmaceuticals;

G. items contaminated with blood or other human body fluids which drip freely or would release such materials in a liquid or semi-liquid state if compressed or are caked with dried blood or body fluids and are capable of releasing these materials;

H. isolation wastes unless determined to be non-infectious by the infection control committee at the health care facility;

I. HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV;

J. all disposable materials that have come in contact with cytotoxic or antineoplastic agents during the preparation, handling, and administration of such agents. Such wastes include, but are not limited to, masks, gloves, gowns, empty IV tubing and bags, vials, and other contaminated materials; and

K. Any other material or equipment which, in the determination of the health care facility staff, infection control committee or other responsible party, presents a significant danger of infection because it is contaminated with, or may reasonably be expected to be contaminated with, etiologic agents

Acceptable Wastes – Any Regulated Medical Waste (RMW) or other Non-Hazardous Industrial Waste (NHIW) specifically allowed by OKMWD’s approved permit.

4.0 Inspections

Required by: 252-515-29-3(a)

Employing multiple types of inspections is critical to ensuring that OKMWD does not accept Prohibited Wastes at its facility. OKMWD will inspect 100% of incoming loads, so random inspections are not addressed here. OKMWD’s inspection procedures are as follows:

Inspection Procedures
1) Before any waste is offloaded from 3rd party transporter vehicles, OKMWD personnel will visually inspect the load and containers to ensure that all regulated medical waste is packaged properly. It is the responsibility of the producer to package waste according to all applicable State and Federal law, but it is the responsibility of OKMWD to reject any waste that is improperly packaged. Under no circumstances will any OKMWD open any container or repackage a container that as arrived at the facility improperly packaged.

2) Once the waste has been visually inspected and found to be properly packaged, it will be offloaded from the 3rd party transporters’ vehicles. As the waste is being offloaded, a fixed radiation detection system will monitor the waste as it is received to scan for any indications of radiological materials. The fixed radiation detection system will be sensitive to sources of radiation that emit 0.25 millicuries or more of Cs 137. If any waste triggers the sensors, OK MWD personnel will scan each container with a hand scanner, also sensitive to 0.25 millicuries or more of Cs 137, to identify the source of the radiation.

3) Once the source of the radiation is identified, OK MWD personnel will reject the waste, fill out a Record of Rejected Prohibited Waste Form (a sample is provided in Appendix A of this plan), and follow the Notification Procedure in Section 7.0 below.

4) If any loads are identified as containing Prohibited Wastes, OKMWD personnel will follow the procedures in the next section to reject the waste, record the rejection, and notify the DEQ before the end of the next working day.

5.0 Inspection Records

OKMWD will record the date and time of each inspection of every incoming load, the person conducting the inspection, and the results of each inspection. The results of each inspection will be kept in the operating record. A sample of this form is included in Appendix B of this plan, but OKMWD anticipates using Compliance Solutions, a software package that will automate record-keeping.

6.0 Personnel Training

Required by:

252:515-29-3(c) – Personnel Training
252:515-29-3(c)(1) – Curriculum
252:515-29-3(c)(2) – Documentation
252:515-29-3(c)(3) – Refresher
252:515-29-3(d) – Trained Personnel On-Site
All employees of OKMWD who work at the facility will receive, at a minimum, eight (8) hours of basic training in waste exclusion and radioactivity, before they are approved to be onsite. All personnel will also receive four (4) hours of refresher training on waste exclusion annually, or whenever conditions require. The full training curriculum is provided in Appendix C. OKMWD is working with Eastern Oklahoma Technology Center to conduct all necessary training programs. Full details on training are available in the Training Plan that accompanies this application. All training will be documented, and such documentation will be kept in the operating record of the facility on-site and electronically. A sample documentation form is provided in Appendix D. Trained personnel shall be on-site during all hours the facility is receiving waste.

7.0 Notification of Rejected Waste

Required by: 252:515-29-3(e)

When Prohibited Wastes are identified by OKMWD personnel, they will follow the following procedures:

1) Ensure that the prohibited or improperly packaged waste is not a danger to personnel or the environment.

2) If the Prohibited Waste has not yet been accepted by the facility, OKMWD personnel will reject the waste and complete the Record of Rejected Prohibited Waste form (provided in Appendix A) with the date of rejection, the name, address, phone number, and contact number of the waste generator, and the name of the driver, tag number, address, phone number, contact person, and carrier name, before the driver leaves the facility.

   a. OKMWD personnel will notify the facility supervisor by phone and email with the Record of Rejected Prohibited Waste attached.

   b. OKMWD will notify the DEQ before the end of the next working day via phone and provide the Record of Rejected Prohibited Waste form via email.

   c. OKMWD will provide a courtesy notice to the manager at the 3rd party waste transporter to discuss opportunities to prevent further attempted deliveries of Prohibited Wastes.

3) If the Prohibited Waste is discovered after it has been accepted by OKMWD, the processing equipment is equipped with detectors that will automatically shut down the equipment when it detects radiological signatures.

   a. OKMWD will use handheld detectors to determine which container or box contains radiological materials.
b. OKMWD will notify the responsible 3rd party transporter of the Prohibited Waste.

c. OKMWD personnel will complete a Record of Rejected Prohibited Waste using the information from the original Waste Receipt form.

d. The waste will be stored within a secured area until the 3rd party transporter returns to pick up the Prohibited Waste and return it to the generator.

e. OKMWD personnel will notify the facility supervisor by phone and email with the Record of Rejected Waste form attached.

f. OKMWD will notify the DEQ before the end of the next working day via phone and provide the Record of Rejected Prohibited Waste form via email.

8.0 Safe Storage

Required by: 252:515-29-3(f)

The OKMWD disposal facility is designed to keep various types of waste clearly separated and organized to ensure a safe work environment and that only the appropriate types of waste are processed at the facility. The three safe storage areas are 1) untreated regulated medical waste, 2) untreated, rejected, Prohibited Wastes, and 3) treated waste.

Untreated Waste

Before any waste is accepted into the facility, it will be visually inspected and scanned with handheld radiation detectors. Once the undelivered waste is determined to be packaged properly and free of radiation and other prohibited wastes, the waste will be moved into the storage area for “Untreated Regulated Medical Waste.” The untreated waste will be stored in order of when it arrived at the facility to ensure that waste is treated and processed in the order it is received to ensure that it is destroyed within 24 hours of delivery to the facility. The Untreated Regulated Medical Waste Storage Area is shown on the facility layout in Tab 6 of the map supplement. In the event waste cannot be treated within 24 hours of delivery, it will be refrigerated at or below 42 degree Fahrenheit until such time that it can be treated safely. Any waste that is expected to remain unprocessed for 96 hours will be sent to another approved facility for treatment and disposal. Alternative facilities are listed in Appendix E.

Prohibited Waste Storage
Every effort will be made to reject any Prohibited Wastes during the visual and radiological inspections before the Prohibited Wastes are accepted into the facility by OKMWD personnel. In the event that Prohibited Wastes are received into the facility, the Prohibited Waste will be stored in the Prohibited Waste Storage Area shown in Tab 6 of the map supplement.

**Treated Waste Storage**

After waste has been sterilized, it is automatically deposited into a self-contained waste compactor. The compactor are located on the exterior of the east side of the building under an awning and within secondary containment. The exact location is shown in Tab 6 of the map supplement. The compactor is fully contained so that the sterilized and dried waste cannot leach into the facility or the environment. Once the compactor is full, it will be locked and placed in the pickup area shown on the facility as it awaits 3rd party transportation to an approved disposal site. The location of the pickup area is shown on the facility layout in Tab 6 of the map supplement.

**9.0 Proper Disposal of Treated Waste**

**Required by:** 252:515-29-3(g)

In the event that Prohibited Wastes are not returned to the producer, OKMWD will maintain a list of approved providers for various types of Prohibited Wastes to ensure that they are disposed of properly. In the event OKMWD does not have a service provider identified, it will either find one or work with the OKDEQ to find an appropriate solution for ensuring Prohibited Wastes are disposed of properly and at a facility permitted to accept the waste.

**10.0 Verification of Disposal**

**Required by:** 252:515-29-3(h)

Once the Prohibited Wastes have been disposed of, OKMWD will maintain a Record of Proper Disposal of Prohibited Wastes in the operating record.

**11.0 Maintain Records**

**Required by:** 252:515-29-4

OKMWD will maintain all relevant records discussed in this WEP in the operating record.
Appendix A – Record of Rejection Form (Sample)

OK Medical Waste Disposal
Record of Rejected Prohibited Waste

Date: ________________
Person Identifying Prohibited Waste: ________________________________

Generator Information:
Name: ____________________
Address: ____________________
Phone: ____________________

Driver Information:
Name: ____________________  Vehicle Tag #: ____________________
Address: ____________________  Phone: ____________________
Company: ____________________  Contact Person: ____________________

Please describe the Prohibited Waste identified: ____________________

Was the waste accepted into the facility?   YES   NO
If yes, is the waste properly and safely stored?   YES   NO

_____ Facility supervisor notified by phone (Date: ___________, Time: ___________)
_____ Form scanned and sent to facility supervisor by email

For Supervisor:
_____ DEQ notified (Date: ___________, Time: ___________)
_____ Carrier notified as a courtesy (Date: ___________, Time: ___________)
## Appendix B – Record of Inspection (Sample)

<table>
<thead>
<tr>
<th>OK MEDICAL WASTE DISPOSAL</th>
</tr>
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<tbody>
<tr>
<td>Harrah Industrial Park, Harrah, OK 73045</td>
</tr>
<tr>
<td>(405) 309-3693   okmwd.com</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME(S) COLLECTING, TRANSPORTING OR UNLOADING WASTE</th>
<th>INITIALS</th>
<th>REGISTRATION NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPANY NAME</td>
<td>IPHONE NUMBER</td>
<td></td>
</tr>
<tr>
<td>ADDRESS</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>VISUAL INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do all containers appear to be packaged properly? YES NO</td>
</tr>
<tr>
<td>If not, please describe improperly packaged containers and record manifest ID #</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RADIOLICAL DETECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the fixed radiation detectors alarm? YES NO</td>
</tr>
<tr>
<td>If yes, did you use the hand scanners to find the source? YES NO</td>
</tr>
<tr>
<td>Record the manifest ID #s with radiological materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONSOLIDATED MANIFESTS</th>
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10
Appendix C – Training Curriculum

OKMWD Training Curriculum

1) Introduction to the OKMWD (Employee Handbook)
2) Introduction to Regulated Medical Waste
3) Introduction to Prohibited Wastes
4) OKMWD Standard Operating Procedures
   a. Waste Acceptance
   b. Recognizing and Excluding Prohibited Wastes
5) OSHA Basics for Personal Awareness
6) Bloodborne Pathogens
7) Safe Handling of Chemicals
8) Regulated Medical Waste Spill Concerns
9) Prohibited Waste Recognition and Exclusion
10) Emergency Response
    a. Contacting Emergency Providers
    b. Operation of Safety Equipment
    c. Basic First Aid
    d. CPR
11) Personal Protective Equipment
12) Safe Operation of the Processing Equipment
13) Safe Operation of the Washing Equipment
# Appendix D – Record of Training

## TRAINING AND INSTRUCTION RECORD

<table>
<thead>
<tr>
<th>Date:</th>
<th>Location:</th>
<th>Hours:</th>
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<tbody>
<tr>
<td>Trainers:</td>
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<td></td>
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<tr>
<td>Subject of Training:</td>
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<td></td>
</tr>
<tr>
<td>Training Format:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- [ ] Verbal
- [ ] Video
- [ ] Audio
- [ ] Other

<table>
<thead>
<tr>
<th>Name:</th>
<th>Signature:</th>
<th>Employee ID</th>
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</tbody>
</table>

**Trainer Certification**

I certify that this training was conducted in accordance with all OKMWD corporate policies, that all training topics were covered thoroughly, and any performance evaluations accurately reflect the understanding and capabilities of the person being evaluated.

Trainer Signature

Trainer Signature
Appendix E – Alternative Disposal Facilities

In the event OKMWD is unable to properly dispose of waste in the prescribed manner or timeframe, OKMWD will use the following backup facilities:

**Sooner Medical Waste Management**
1753 S Caddo St,
Muldrow, OK 74948

**Oncore Technology**
8751 E Amarillo Blvd,
Amarillo, TX 79108
Contingency Plan

February 2020
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Purpose

The purpose of this Contingency Plan is to describe in detail OK Medical Waste Disposal’s processes and procedures for responding to contingent situations safely and effectively.

Governing Regulations

252:515-23-33 – Contingency Plan

General Overview

This Contingency Plan lays out the procedures by which OKMWD personnel will respond to the following situations:

1. Visual Inspection of Containers
2. Over-packing
3. Decontaminating Containers
4. Safely Storing Improper Wastes and Poorly Packaged Wastes
5. Re-packaging Defective, Problematic or Leaking Waste Containers
6. Alternative Management of Wastes

Visual Inspection of Containers

Producers of regulated medical waste have the first responsibility to ensure that waste is packaged properly. After the producer, the transporter is tasked with only transporting properly packaged waste. Understanding that improperly packaged waste or leaking containers will sometimes arrive at the facility, OKMWD personnel will conduct a visual inspection of all containers before any waste is unloaded at the facility. OKMWD personnel will be trained to look for signs of leakage, cracked or torn containers and boxes, or overpacked containers. A Visual Inspection Checklist is provided in Appendix A of this plan.

Over-packing Procedures

In the event received waste requires over-packing, OKMWD personnel will notify a supervisor. Before conducting any over-packing, personnel will don all necessary personal protective equipment, including, but not limited to, glove, eye protection, face protection, and coveralls. Over-packing will be performed by placing a new biohazard bag into a 95-gallon container, carefully lifting the damaged bag out of the existing container, and lowering it into the new bag. The new bag will be sealed in accordance with proper procedures. Over-packing will only be performed with two personnel present.

Decontaminating Containers

OKMWD decontaminates its waste containers and those of its clients using a purpose-built wash tunnel by Douglas Machines that washes, rinses, and sanitizes the containers
using near boiling temperatures and a low concentration bleach wash that is similar to that used by the STI BioSAFE Series 2000.

**Safely Storing Improper Wastes and Poorly Packaged Wastes**

OKMWD will segregate improper wastes and poorly packaged wastes in designated areas as shown on the building layout in Tab 6 of the map supplement. Poorly packaged wastes will undergo the corrective action prescribed in the Over-packing section of this plan.

**Re-packaging Defective, Problematic or Leaking Waste Containers**

OKMWD will reject any waste that requires over-packing before it is unloaded at the facility. In the event that waste received at the facility requires over-packing, only trained and qualified personnel or trainees under direct supervision of a trained and qualified supervisor may over-pack waste containers. To over-pack waste, personnel will take the following steps:

1) Don all appropriate personal protective equipment including, but not limited to, eye protection, face shields, gloves, and disposable coveralls.

2) Place a fresh hazardous waste bag into a clean and sterile 95-gallon container.

3) Align the improperly packaged container and the empty 95-gallon container.

4) Slowly and carefully remove the waste-containing bag and lower it into the new hazardous waste bag in the 95-gallon container.

5) Tie the new bag securely and store the new 95-gallon container in the appropriate storage area.

6) Visually inspect the previous container. If the container is still serviceable, move it to the storage area for containers awaiting washing by the wash tunnel. If it is not serviceable, mark the exterior of the container as “Do Not Use” and move it to the wash area to be sterilized before it is disposed of at a municipal solid waste landfill.

**Alternative Management of Wastes**

If OKMWD is unable to process waste during the required treatment timeline due to a failure of the equipment or other causes, OKMWD will cease receiving waste until such time that correct action is taken and operations can resume safely and effectively in accordance with all regulations and the permit. If processing operations are expected to be stopped for longer than 24 hours, all waste already received at the facility will be stored in cold storage (45 degrees Fahrenheit) and processed when the equipment is operational again. OKMWD will use refrigerated trucks onsite to store such waste. If the shutdown is expected to be longer than 96 hours, OKMWD will arrange for waste to be transported to one of the following alternate locations:
OK Medical Waste Disposal – Contingency Plan

Oncore Technologies, 8751 E Amarillo Blvd, Amarillo, TX 79108

Sooner Medical Waste Management, 1753 S Caddo St, Muldrow, OK 74948
## Appendix A – Visual Inspection Checklist

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is the floor of the truck around the containers clean and dry?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Are the lids of the containers free of signs of liquid or spillage?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Are all of the containers in good condition?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. Do all containers appear to be properly packed (i.e., lids close easily)?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Are all of the containers properly marked and is the information legible?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Is the waste reaching the facility within 24 hours of being picked up at the producer?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Are there any identifiable prohibited wastes?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Please describe any "No" answers you’ve checked.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Please describe any correction actions required.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

OK Medical Waste Disposal
Visual Inspection Checklist

Manifest #: ______________________

6
Emergency Response Plan

In Case of Life-Threatening Emergency, Dial 911
475 Neil Boulevard, Harrah, OK 73045
Then call Emergency Coordinator at 405-309-7693

Operations Manager: Rusty Miskovsky
Emergency Coordinator: Joseph Wignarajah
Plan Date: February 2020
## Contents

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Introduction

Purpose
The purpose of this plan is to describe procedures for how OKMWD personnel will respond safely in emergent situations to ensure the safety and wellbeing of the community and the environment. The procedures in this plan comply with all state and federal regulations, as well as the requirements in OKMWD’s permit.

This plan describes procedures how to react in the event of a fire, spills, or the release of hazardous waste. It also contains all necessary information required to allow emergency responders (e.g., fire departments, police departments) and area hospitals on the facility’s operations so that they may respond to any emergent situation at the OKMWD facility safely.

Governing Regulations

OAC 252:515-23-33
OAC 252:515-23-34

Facility Information
The facility’s physical address is:

Oklahoma Medical Waste Disposal, LLC
475 Neil Boulevard
Harrah, OK 73045

The property is located South of Reno Avenue 1/4 mile east of Harrah Road (Highway 270). Highway 270 is four lanes and connects with Interstate Highway 40.

The facility is permitted to dispose of regulated medical waste.

Contact Information
Operations Manager: Rusty Miskovsky, (405) 309-7693
Emergency Coordinator: Joey Wignarajah, (405) 309-7693

* Note phone number rings both contacts.
Notification Procedures

In the event of an emergency at the OKMWD facility, the person identifying the emergent conditions will notify all personnel at the facility and then notify the Emergency Coordinators in the order listed in Appendix A. If the situation is life-threatening, he or she will call 911 to alert emergency responders before notifying the facility’s emergency coordinator.

Assessing the Hazard

To the extent that it is safe to do so, personnel at the facility will work to safely assess the character of the hazard (e.g., fire or spill), the source of the hazard, and the amount/extent of the hazard. Once OKMWD personnel have characterized the hazard, they will implement the appropriate control procedure.

The following control procedures are designed to protect human health, the surrounding community, and the environment.

Control Procedures

Control Procedure: Fire

In the event of a fire at the facility, OKMWD personnel will take the following actions:

1) Turn on the facility emergency alarm to notify all personnel of the emergency. This will stop all work in all areas.

2) If there are no injuries, OKMWD personnel will proceed with the following steps. If there are injuries or the fire poses an immediate threat to human health, OKMWD personnel will call emergency responders listed in Appendix B and notify the Emergency Coordinator.

3) To the extent that it can be done so safely, OKMWD will assess the nature of the fire by noting what the source of the fire is, what material or chemical is burning, how large the fire is, and how fast it may be spreading.

4) To the extent it can be done so safely, trained OKMWD personnel will attempt to extinguish the fire using available firefighting equipment to contain the fire.

5) If the fire cannot be contained safely, OKMWD personnel will call the emergency responders listed in Appendix B, communicate the location and nature of the fire, and evacuate the facility.

6) Once safely out of the facility, OKMWD personnel will contact the Emergency Coordinator.
7) During an emergency, the emergency coordinator will take all reasonable steps to ensure that fires do not occur, recur, or spread including stopping all operations and removing and isolating waste.

8) Once the emergency has been resolved, the Emergency Coordinator will make all required reports listed in Appendices C and D.

**Control Procedure: Spills**

The first control mechanism for containing spills at the facility is that all storage and work areas are sealed with a non-porous sealant to ensure that no spills leak into the environment. This sealant is reapplied as specified by the manufacturer and records of the reapplication and maintenance are kept onsite.

The facility further mitigates the risk of spills by limiting the quantities of hazardous chemicals onsite. Chemicals used at the facility are limited to small quantities of sodium hypochlorite (bleach) used in the sterilization process and miscellaneous household cleaners used to keep the facility clean.

In the event of a spill, OKMWD personnel will take the following steps:

1) The OKMWD personnel identifying the spill will turn on the alarm or notify all personnel on site. Work in all areas will stop immediately.

2) If there are no injuries and the spill is not life-threatening, OKMWD personnel will call the Emergency Coordinator. If there are injuries or the spill poses an immediate threat to human health, OKMWD will call the emergency responders listed in Appendix B and contact the Emergency Coordinator.

3) To the extent that it can be done so safely, OKMWD personnel will assess the nature of the spill by noting the substance released, the source, and extent of the release.

4) If emergency responders were called, OKMWD personnel and the Emergency Coordinator will pull MSDS sheets for the substances spilled.

5) If the spill is minor and no injuries have occurred, trained OKMWD personnel will don the proper PP&E and take the following corrective action to resolve the spill immediately:

   a. Cordon off the area to prevent access by personnel during the clean up
   b. Eliminate the source of the spill or leak
   c. Place an absorbent material on the spill
   d. Set up a decontamination zone and follow decontamination procedures
e. Use the appropriate equipment to place contaminated absorbent into approved DOT drums. (All DOT drums containing contaminated absorbent should be treated as hazardous until proven otherwise.)

f. Continue clean up until all residue of contamination hazards have been eliminated.

6) For major spills that OKMWD personnel cannot safely remediate, the Emergency Coordinator will:

a. Assess further hazards to human health and the environment that may result from the spill

b. Contact the Fire Department and other emergency response personnel in Appendix B.

7) After cleanup is complete, the Emergency Coordinator must ensure that all emergency equipment, materials, and PP&E is replaced in its proper condition and ready to use again before resuming normal operations. Any disposal equipment or material must be replaced. (More on this below.)

8) Once the spill is contained and cleaned up, the Emergency Coordinator will make the necessary reports listed in Appendices C and D.

**Post-Emergency Equipment Maintenance**

Immediately after an emergent situation has been resolved using the foregoing control procedures, all emergency equipment will be inspected for proper function and general condition to ensure that its readiness to use for the next emergency.

All equipment used for fire or spill mitigation and cleanup will be documented on the emergency report form in Appendix C. The Emergency Coordinator will also record the condition of the equipment, how any disposable equipment was disposed of, and document that the proper decontamination procedures (e.g., pressure-washing, steam cleaning, scrubbed with water soluble, compatible cleaners) were followed for all reusable equipment. Decontamination will be determined visually or via specific sampling and testing, where applicable.

All rinse water from decontamination efforts will be collected in clearly marked containers and treated as hazardous waste until testing confirms otherwise.
Coordination Agreements

In order to safely and effectively enact this Contingency and Emergency Response Plan, it is crucial that OKMWD maintains a close working relationship with local emergency responders. To that end, OKMWD has sent this plan to the City of Harrah Police and Fire Departments as well as the closest medical treatment facility.

In the event of a fire, the City of Harrah Fire Department (HFD) is the responding agency. The HFD is invited to make routine inspections of the facility and will have full authority when they are called onto the site to respond to an emergency or otherwise.

In accordance with SARA Title III, OKMWD will submit an emergency and hazardous waste chemical inventory form to the local, county, and state agencies.

Plan Amendments

This plan will be revisited and amended anytime as follows:

1) After an incident or emergency
2) Applicable rules, regulations, or codes change
3) The facility design and/or layout change
4) The operations, processes, or storage areas change
5) The information related to Emergency Coordinators changes
6) The list emergency equipment changes
7) Annually, at a minimum
Appendix A – Emergency Response Coordinators

**Emergency Response Coordinators**

<table>
<thead>
<tr>
<th>Emergency Response Coordinator</th>
<th>Phone Number</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rusty Miskovksy</td>
<td>(405) 309-7693</td>
<td>OKC</td>
</tr>
<tr>
<td>Joseph Wignarajah (Primary)</td>
<td>(405) 309-7693</td>
<td>Tulsa</td>
</tr>
<tr>
<td>Lonnie McPheter (Secondary)</td>
<td>(405) 309-7693</td>
<td>Tulsa</td>
</tr>
</tbody>
</table>

* Note phone number rings all contacts
## Emergency Telephone List

**In life-threatening emergencies, dial 911**

<table>
<thead>
<tr>
<th>Emergency Responder</th>
<th>Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police Department</td>
<td>911 or (405) 454-1203</td>
</tr>
<tr>
<td>Fire Department</td>
<td>911 or (405) 454-2111</td>
</tr>
<tr>
<td>Oklahoma County Sheriff</td>
<td>911 or (405) 713-1000</td>
</tr>
<tr>
<td>Oklahoma DEQ (To Report a Spill)</td>
<td>800-522-0206</td>
</tr>
<tr>
<td>Oklahoma Poison Control Center</td>
<td>405-271-5454</td>
</tr>
</tbody>
</table>
Appendix C – Emergent Event Report

Operator Information
Name: ___________________     Telephone: ____________
Address: ____________________________________________

Facility Information
Name: ___________________     Telephone: ____________
Address: ____________________________________________

Incident Information
Date: ___________      Time: ___________
Type of Incident: Fire/Explosion     Spill
Describe Incident (If fire, describe source, material burned, etc. If spill, describe substance, amount, hazardous/caustic, etc.)
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Was anyone injured?     Yes     No
If yes, describe injuries (name of injured, extent of injuries, treatment, etc.) ____________
________________________________________________________________________
________________________________________________________________________

Was there or is there a threat to human health and the environment?     Yes     No
If yes, describe the threats __________________________________________________________________________
________________________________________________________________________
Please describe the clean up and the estimated quantity and disposition of the material recovered from the incident.

Has a copy of this form been sent to the DEQ?  Yes  No
If so, to whom (name, title)
Appendix D – Emergency Report Form

OK Medical Waste Disposal Emergency Report Form

Date: ________  Time: ________

Type of Emergency:  Fire  Spill  Other _________________

Alarm Sounded:  Yes  No

Alarm Sound By: ________________________________

Where in the facility was the emergency?
______________________________________________________________________________

Describe the Emergency:
______________________________________________________________________________
______________________________________________________________________________

Describe property and material involved:
______________________________________________________________________________
______________________________________________________________________________

What caused the emergency?
______________________________________________________________________________
______________________________________________________________________________

If the emergency was a fire, what started the fire?
______________________________________________________________________________

If the emergency was a spill, what was spilled? Why?
______________________________________________________________________________

What did you do to control the fire or spill?
______________________________________________________________________________
______________________________________________________________________________
Did you use any chemicals or materials to attempt to extinguish the fire or control the spill? Please list all chemicals or materials used.
______________________________________________________________________________
______________________________________________________________________________

What equipment did you use to control the fire or spill or to address another emergency?
______________________________________________________________________________
______________________________________________________________________________

When was the all clear announced? ____________________________________________
Who announced the all clear? ________________________________________________

Has all equipment been cleaned and/or restored to proper working order so that it is ready in the event of another emergency? Yes No

Any other comments or remarks (e.g., how can we avoid this in the future)?
______________________________________________________________________________
______________________________________________________________________________

Report submitted by ________________________ Title _________________________

Report reviewed by ________________________ Title _________________________
Appendix E – List of PPE and Emergency Equipment

Personal Protective Equipment

- Disposable Coveralls
- Gloves
- Eye Protection
- Face Shields
- Hardhats
- Hearing Protection
- Duct Tape
- Air Purifying Respirators and Disposable Cartridges
- Boots
- Fire Blanket
- First Aid Supplies
- Safety showers and Eye Washes

Fire Response Equipment

- Fire Extinguishers

Spill Response Equipment

- Sorbent Booms, Pads & Pillows
- Brooms, Mops, Buckets, Squeegees
- Spark-proof Shovels
- Sorbent Sand
- Speedi-Dry
- Acid Neutralizers
- Base Neutralizers
- Empty 30-gallon Open Head Drums

Communication Equipment

- Telephones
- Alarm System
OK Medical Waste Disposal

Tab 6
Training Plan

February 2020
Oklahoma Medical Waste Disposal

Training Plan

February 2020
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<tr>
<td>Documenting Training</td>
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<tr>
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<td>10</td>
</tr>
</tbody>
</table>
Purpose

The purpose of this training plan is to outline the required training for OK MWD personnel, the training cadence, and the training documentation procedures so that all OK MWD personnel are well prepared to operate the facility in safe and efficient way that is fully compliant with all state and federal regulations.

References

This plan is prepared in accordance with OAC 252:515-29-3, OK MWD’s corporate philosophy of safety first, OSHA guidance, and general best practices in safety and training.

Training Overview and Goals

This plan contains guidance on the training requirements for all employees, position-specific training topics, procedures for selecting qualified instructors, how the training will be conducted, how employees will be certified in various training topics, and how training will be documented.

OKMWD developed this program with three primary goals in mind:

1) All personnel on-site will be trained to proactively mitigate any potential risks in managing regulated medical waste and other non-hazardous wastes such that the welfare of all people and the environment is paramount;

2) All personnel on-site will be trained to operate the facility safely and in a way that ensures compliance with all aspects of OKMWD’s permit;

3) All personnel on-site will be trained to respond safely and effectively during emergencies in a way that safeguards human health and the environment.

Program Design

To develop an effective program that will consistently achieve the goals set forth above, OKMWD followed the following high-level outline:

1) Identify appropriate training topics regarding the management of regulated medical waste and other approved non-hazardous industrial waste, the safe operation of all equipment within the facility, the safe use of all chemicals stored at the site, and other topics necessary to safeguard human health and the environment.

2) Select experienced, qualified training instructors to ensure that all topics are covered thoroughly, and that training considers any idiosyncrasies of the facility, equipment, and operations.
3) Conduct all training professionally, to a high standard, and at a cadence that ensures that all personnel are always performing their job functions safely.

4) Develop testing and evaluation methods to verify that the training program is achieving the desired outcomes of safe management of regulated medical waste and other non-hazardous industrial waste, safeguarding human health and welfare, and that of the environment.

5) Establish clear and thorough documentation and record-keeping procedures so that OKMWD management can verify the proper implementation of the training program.

The Director of Environmental, Health, and Safety will oversee the development and implementation of this training program, but ultimate accountability for program lies with the Chief Executive, whose primary duty is to ensure the safety of all personnel.

No employee of OKMWD shall work under reduced supervision until he or she has been fully trained in all topics and satisfactorily passed all performance evaluations on the training topics. If an employee can demonstrate proficiency in all training topics via other methods (e.g. passing written or oral examinations or by providing existing training certificates or records) before receiving all of OKMWD’s training programs, this requirement can be waived by the EHS Director with final approval by the CEO.

All employees at OKMWD are expected to provide feedback on training topics and unsafe work conditions without fear of any retribution. This feedback and input on working conditions and potential hazards is critical in ensuring that the training program evolves to be safer and more effective over time.

Training Curriculum

The training program will cover, at a minimum, the following training topics:

1) Introduction to OKMWD (Employee Handbook)
2) Introduction to Regulated Medical Waste
3) Introduction to Prohibited Wastes
4) OKMWD Standard Operating Procedures
   a. Waste Acceptance
   b. Recognizing and Excluding Prohibited Wastes
5) OSHA Basics for Personal Awareness
6) Bloodborne Pathogens
7) Safe Handling of Chemicals
8) Regulated Medical Waste Spill Concerns
9) Prohibited Waste Recognition and Exclusion
10) Emergency Response
   a. Familiarization with the Emergency Response Plan
   b. Contacting Emergency Providers
   c. Operation of Safety Equipment
   d. Basic First Aid
   e. CPR

11) Personal Protective Equipment
12) Electrical Safety
13) Back/Lifting Safety
14) Fire Safety
15) Defensive Driving/Motor Vehicle Safety
16) Safe Operation of the Processing Equipment
17) Safe Operation of the Washing Equipment

Training Topics Detail

This section provides more detail on the training topics listed above.

*Introduction to the OKMWD (Employee Handbook)* – This training will cover administrative topics specific to starting employment at OKMWD such as new hire paperwork, compensation and benefits, attendance and leave, employee conduct, safety and security, job responsibilities, required training, and the general organizational structure.

*Facility Orientation* – This segment of training will cover topics such as facility layout including entrances and exits, hours of operation, access to the facility, location of safety equipment, location of the various storage and processing areas, and other topics as necessary.

*OSHA Basics for Personal Awareness* – This training will cover introductory workplace safety topics such as common workplace hazards, recognizing and mitigating workplace safety hazards, understanding OKMWD’s safety rules, using PPE, reporting hazardous conditions, and employee rights in unsafe conditions.

*Introduction to Regulated Medical Waste* – The training will familiarize the employee with the various types of regulated medical waste and other non-hazardous industrial wastes that the facility is approved to accept. It will be the first introduction into recognizing acceptable wastes, safe packaging, and prohibited wastes. This training will also cover how to respond in the event of spilled waste.

*Introduction to Prohibited Wastes* – This training segment will cover the types of prohibited wastes, how to identify prohibited wastes, how to handle prohibited wastes safely, rejection and notification procedures, proper storage of prohibited wastes, proper disposal and verification of disposal, and other topics covered in the Waste Exclusion Plan.
**OKMWD Standard Operating Procedures** – This topic will cover how OKMWD are expected to receive waste into the facility including inspection procedures (e.g., visual and radiological detection), recognizing and excluding prohibited wastes, and proper storage of wastes until they are processed.

**Bloodborne Pathogens** – This training will cover OSHA’s Bloodborne Pathogens standard training so that employees understand safeguards to protect workers against the health hazards from exposure to blood and other potentially infectious materials, and to reduce their risk from this exposure.

**Safe Handling of Chemicals** – This training will familiarize all employees with hazards arising from the use of the chemicals in the facility including identifying potential chemical hazards, understanding common hazard warning systems used at the facility, knowing sources of data on the chemicals and reading material safety data sheets, and safe handling of chemicals in the facility.

**Emergency Response** – This training will familiarize employees with how to respond in emergencies using the Emergency Response Plan and will cover topics such as recognizing emergencies, first response, contacting emergency responders, first aid and CPR, evacuation procedures, and post-emergency activities such as returning equipment to working order, filling out emergency report forms, and providing feedback on how emergencies can be avoid in the future.

**Electrical Safety** – This course will cover how to work safely around electricity and in compliance with all OSHA regulations.

**Back/Lifting Safety** – This course will cover safe lifting procedures and load-carrying techniques to help prevent injuries.

**Fire Safety** – This course includes covers general workplace fire safety with a focus on preventing fires, understanding emergency plans, and fire extinguisher use in accordance with OSHA standards 29 CFR 1910.38 and 39.

**Defensive Driving/Motor Vehicle Safety** – This course will cover how to improve driver safety by covering topics such as reducing driving risks by assessing road conditions, anticipating situations and making safe well-informed decisions.

**Safe Operation of the Processing Equipment** – This training will be held by the equipment manufacturer and will cover topics such as safe start up and shut down, operating the equipment, safe handling of the treatment chemical, lock-out and interlocks, and other topics as necessary.

**Safe Operation of the Washing Equipment** – This training will be held by the equipment manufacturer and will cover safe operations of the container washing equipment.

**Program Administration**
OKMWD’s training program will be administered by the Environmental, Safety, and Health Director, with ultimate responsibility remaining with the Chief Executive Officer. The EHS Director will be responsible for identifying training topics, selecting qualified instructors, developing the training cadence such that it complies with all federal, state, and local regulations, at a minimum, selecting effective training programs, evaluating employees understanding of training topics and maintaining proper records of all training.

**Selecting Qualified Instructors**

The EHS Director will be responsible for ensuring that he or she is properly qualified to hold all training sessions, while the CEO will be responsible for auditing the EHS Director’s training and qualifications. If the EHS Director is not qualified to lead a training topic, the EHS Director will be responsible for finding qualified 3rd party instructors. All personnel at OKMWD will be encouraged to seek outside training classes, seminars, meetings, conference and workshops to continually educate themselves and improve their instructional ability in relevant topics. OKMWD is working with Eastern Oklahoma Technology Center to design a training program that will meet all applicable regulations, as well as to engage their highly qualified trainers to conduct all sessions.

**Selecting Effective Training Formats**

Understanding that people learn differently, the EHS Director will be responsible for identifying various training formats and incorporating them into the training program so that employees receive the maximum value out the program. These formats include visual presentations, video, audio, interactive learning, on-the-job training, emergency drills, discussions, reading materials, and others as necessary to ensure effective training.

**Evaluating Training Comprehension**

The EHS Director is responsible for ensuring that a variety of methods is used to evaluate training effectiveness such as oral and written examinations, online or electronic tests, job performance observations, or by one-on-one discussion of safety topics.

**Setting the Cadence**

The training cadence will comply with all federal, state, and local regulations at a minimum, but the EHS Director has the authority to develop a training cadence that trains employees more frequently than is required to ensure that the training program effectively delivers the training topics. For example, the EHS Director may elect to (and is expected to) hold a training whenever he or she, or another employee, identifies unsafe or potentially unsafe situations.

**Documenting Training**

The EHS Director is responsible for maintaining all records of training in the operating record. The records will include a written description of the content of each training
session or a copy of the hand-out(s) used to conduct the training, the list of attendees and trainer(s), the dates and times of the training session, and the signatures of trainers and attendees, as well as a final certification that the training completed in its entirety. An example of record is included in Appendix A of this training plan.

In addition to the general training record, the EHS Director will maintain a “training transcript” for each employee in the employee’s record. The original copies of all training documentation will be maintained in a file at the facility until closure. Training records will be retained at the corporate offices and electronically for at least three years after facility closure. Employees will be able to request copies of their training transcripts at anytime.

The employee’s training history record will be sent to the training coordinator of any other facility owned or operated by the company to which the employee may be transferred or to a new company at the written request of the employee. Training files of those who leave the employment of the company will be retained for three years at the facility and electronically. Appendix B contains a copy of a blank training transcript.

Appendix A – Training Record
# TRAINING AND INSTRUCTION RECORD

<table>
<thead>
<tr>
<th>Date:</th>
<th>Location:</th>
<th>Hours:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trainers:</td>
<td></td>
<td></td>
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</tbody>
</table>

**Subject of Training:**

**Training Format:**
- __ Verbal __ Video
- __ Audio __ Other __________

<table>
<thead>
<tr>
<th>Name:</th>
<th>Signature:</th>
<th>Employee ID</th>
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**Trainer Certification**

I certify that this training was conducted in accordance with all OKMWD corporate policies, that all training topics were covered thoroughly, and any performance evaluations accurately reflect the understanding and capabilities of the person being evaluated.

Trainer Signature ____________ Trainer Signature ____________
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Section 1: System Overview

The STI Series 2000 Addresses Every One of These Issues

• Includes a negative pressure H.E.P.A. filtration system assures that no potential airborne pathogens that may have been released by the STI system.

• Shredding allows for the material to be broken down in a fashion that leaves the remaining waste completely exposed to the steam injection system and unrecognizable. This process is also designed to destroy sharps by crushing the container and allowing the steam to neutralize any pathogens.

• Steam at 205-212° F is applied to the material in multiple locations along the auger to quickly and efficiently expose all surfaces to the steam.

• The equipment is designed to ensure compliance with current local, state and federal regulations.

• The “fully exposed waste” allows rapid temperature increases and minimizes the amount of steam used and moisture added to the waste. The steam jacketed section of the system, following the direct steam injection in the eight ports on the augur, promotes dehydration of liquids. This, in combination with our low pressure flash-off chamber, allows the material to exit the machine virtually free of running liquids.

• The system provides accurate testing by placing a self-contained biological indicator inside of an “egg” and having it run the length of the auger with the treated waste. Once it reaches our spore test retrieval door, the “egg” and spore samples inside can be removed and incubated to make sure the machine is functioning properly.

Combining these features with heavy duty construction and superior components creates a system that has a long life with a low operating and maintenance cost profile.
Process Flow Summary

The STI SERIES 2000 medical waste treatment system combines the best attributes of mechanical and thermal (steam) treatment technologies. This Series 2000 unit is manufactured to meet your commercial throughput, space location, and material handling needs. The process residue is decontaminated and generally classified as Municipal Solid Waste.

Step 1

GN Low Waste is loaded into the system in bags, boxes, sharps containers, trace carts, or is automatically fed by an enclosed cart dumper.

Step 2

Air is drawn from around the feed hopper area through HEPA filters, to capture potential airborne pathogens that could be released during the waste dumping and shredding process.

Step 3

After the dumping of material, a high temperature water jet will automatically activate a spray rinse cycle to clean residual waste left in the container.

Step 4

Once the waste drops onto the heavy duty shredder, the hydraulic ram system pushes the waste into the cutting chamber and covers 98% of the opening.

Step 5

The waste is then processed through the shredder, reducing the material by up to 90%. This allows constant uniform steam penetration to ensure all material is treated.

Step 6

Shredded waste enters the stainless steel steam auger chamber where low pressure steam is injected through multiple ports quickly bringing all material to proper treatment conditions of 205-212°F. A diluted (2500ppm) sodium hypochlorite solution is sprayed onto the shredded waste material. This solution is for odor control so the processed material does not entice pests.

Step 7

The STI System steam jacket provides continued heating of the waste. While heating, waste is treated for a minimum of 60 minutes at the treatment temperature prior to discharge from the auger. The dehydration chamber allows harmless moisture to vent to the atmosphere.

Step 8

The residue exits the end of the augur into a standard self-contained compactor and may be disposed of at the landfill or recycled as desired.
Utility Connection Requirements

Electricity: 150 Amps @ 480 VAC 3 Phase
Steam Max: 400 lbs/Hr @ 14 psig/1 Bar (Regulated)
Sewer: 4” Flush trapped floor drain
Vents (qty 2): 4” (Steam) & 8” (HEPA), through roof (by others)
Communications: Ethernet Cat5 dedicated I.P. address
Transport Containers: Supplied by others
Personal Protective Equipment (PPE)

Processing of Regulated Medical Waste (Healthcare clinical waste) and maintenance of this equipment suggests the wearing of Personal Protective Equipment (PPE). Your facility’s Exposure Control Plan as required by OSHA Bloodborne Pathogen Regulations should be reviewed by your Infectious Control Practitioner and Safety Committee to ensure it addresses any new issues introduced by the on-site treatment of RMW and the use of this equipment. The following are recommended as PPE requirements:

Operator:

- Needle stick resistant, gauntlet gloves
- Uniforms with full length sleeves and trousers
- Full face shield
- Chemical resistant apron
- Shoulder length gloves

Maintenance personnel entering the machine to clear a shredder jam:

- Needle stick resistant, gauntlet gloves
- Uniforms with full length sleeves and trousers
- Hard hat
- N95 rated dust mask
- Eye protection
- Chemical resistant apron
- Any additional items your supervisor recommends

Technicians entering and retrieving Spore Samples:

Note: See Spore Test Procedures for test sequence and guidelines.
- Full face shield
- Shoulder length gauntlet gloves
- Uniforms with full length sleeves and trousers

NOTE: Hand washing with disinfectant soap following removal of protective apparel is recommended. Frequent hand washing with a disinfectant soap will help to prevent the transmission of most infectious agents. Install an eye wash station close to the machine.

NOTE: Check with your facilities local health and safety officer for STD protocol procedures
**Burns**

The steam conveyor and associated piping reach temperatures greater than or equal to 205 degrees Fahrenheit. Although the piping is insulated to keep temperature loss at a minimum and to keep operators safe, we recommend that personnel exercise extreme caution when working around this machine in order to avoid burns. Any metal surface on this machine may be hot and could cause severe burns. Operators must use proper PPE at all times.

Exiting waste from the steam conveyor is HOT. External surfaces where the waste exits and enters may rise in temperature to the near boiling point of water! Exercise caution around these surfaces while operating the equipment and during maintenance procedures.

**NOTE:** The STI system is a LOW PRESSURE device and must NOT be subjected to pressures/temperatures exceeding fifteen (15) psi (1 BAR) and 250 degrees F (110C).

**Spill Response and Clean-up Procedures**

Note: The following procedures were benchmarked by the Princeton University Environmental Health and Safety department and can be found at http://web.princeton.edu/sites/ehs/emergency/spills.htm. These are only to be used as guidelines. Ensure compliance with your facilities standard SOP (Standard Operating Procedures) and local or state regulations.

In the event of a chemical spill, the individual who caused the spill is responsible for prompt and proper clean-up. It is also their responsibility to have spill control and personal protective equipment appropriate for the chemicals being handled readily available.

The following are general guidelines to be followed for a chemical spill. More detailed procedures may be available in your Departmental Chemical Hygiene Plan or Spill Response Plan.

- Immediately alert area occupants and supervisor, and evacuate the area, if necessary.
- If there is a fire or medical attention is needed, contact Public Safety at 911.
- Attend to any people who may be contaminated. Contaminated clothing must be removed immediately and the skin flushed with water for no less than fifteen minutes. Clothing must be laundered before reuse.
- If a volatile, flammable material is spilled, immediately warn everyone, control sources of ignition and ventilate the area.
- Don personal protective equipment, as appropriate to the hazards. Refer to the Material Safety Data Sheet or other references for information.
- Consider the need for respiratory protection. The use of a respirator or self-contained breathing apparatus requires specialized training and medical surveillance. Never enter a contaminated atmosphere without protection or use a respirator without training. If respiratory protection is needed and no trained personnel are available, call EHS at x8-5294 or Public Safety at 911. If respiratory protection is used, be sure there is another person outside the spill area in communication, in case of an emergency. If no one is available, contact Public Safety.
- Using the chart below, determine the extent and type of spill. If the spill is large, if there has been a release to the environment or if there is no one knowledgeable about spill clean-up available, contact EHS at x8-5294 or Public Safety at 911.
<table>
<thead>
<tr>
<th>Category</th>
<th>Size</th>
<th>Response</th>
<th>Treatment Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>Up to 300cc</td>
<td>Chemical treatment or</td>
<td>Neutralization or absorption spill kit</td>
</tr>
<tr>
<td>Medium</td>
<td>300cc – 5 Liters</td>
<td>Absorption</td>
<td>Absorption spill kit</td>
</tr>
<tr>
<td>Large</td>
<td>More than 5 Liters</td>
<td>Call public safety</td>
<td>Outside help</td>
</tr>
</tbody>
</table>

- Protect floor drains or other means for environmental release. Spill socks and absorbents may be placed around drains, as needed.
- Contain and clean-up the spill according to the table above.

Loose spill control materials should be distributed over the entire spill area, working from the outside, circling to the inside. This reduces the chance of splash or spread of the spilled chemical. Bulk absorbents and many spill pillows do not work with hydrofluoric acid. POWERSORB (by 3M) products and their equivalent will handle hydrofluoric acid. Specialized hydrofluoric acid kits also are available. Many neutralizers for acids or bases have a color change indicator to show when neutralization is complete.

- When spilled materials have been absorbed, use brush and scoop to place materials in an appropriate container. Polyethylene bags may be used for small spills. Five gallon pails or 20 gallon drums with polyethylene liners may be appropriate for larger quantities.
- Complete a hazardous waste sticker, identifying the material as Spill Debris involving XYZ Chemical, and affix onto the container. Spill control materials will probably need to be disposed of as hazardous waste.
- Decontaminate the surface where the spill occurred using a mild detergent and water, when appropriate.
- Report all spills to your supervisor or the Principal Investigator.

**Developing a Spill Response Plan**

An effective spill response procedure should consider all of the items listed below. The complexity and detail of the plan will, of course, depend upon the physical characteristics and volume of materials being handled, their potential toxicity, and the potential for releases to the environment.

- Review Material Safety Data Sheets (MSDSs) or other references for recommended spill cleanup methods and materials, and the need for personal protective equipment (e.g., respirator, gloves, protective clothing, etc.)
- Acquire sufficient quantities and types of appropriate spill control materials to contain any spills that can be reasonably anticipated. The need for equipment to disperse, collect and contain spill control materials (e.g., brushes, scoops, sealable containers, etc.) should also be reviewed.
- Acquire recommended personal protective equipment and training in its proper use. For example, if an air purifying respirator or self-contained breathing apparatus are needed, personnel must be enrolled in the Respiratory Protection Program and attend annual training and fit-testing.
- Place spill control materials and protective equipment in a readily accessible location within or immediately adjacent to the laboratory.
Develop a spill response plan that includes:

- Names and telephone numbers of individuals to be contacted in the event of a spill.
- Evacuation plans for the room or building, as appropriate.
- Instructions for containing the spilled material, including potential releases to the environment (e.g., protect floor drains).
- Inventory of spill control materials and personal protective equipment.
- Means for proper disposal of cleanup materials (in most cases, as hazardous waste) including contaminated tools and clothing.
- Decontamination of the area following the cleanup.

Discuss the spill response plans with all employees in the area.

**Recommended Spill Control Material Inventory**

Your laboratory or work area should have access to sufficient quantity of absorbents or other types of materials to control any spill that can be reasonably anticipated. Vermiculite, lined 5-gallon pails and limited spill control materials are available at the loading docks of Lewis Thomas Lab, Frick, and E-Quad. Additional materials may be found in certain laboratories and the chemical stockrooms.

**Personal Protective Equipment**

- 2 pairs chemical splash goggles
- 2 pairs of gloves (recommend Silver Shield or 4H)
- 2 pairs of shoe covers
- 2 plastic or Tyvek aprons and/or Tyvek suits

**Absorption Materials**

- 4 3M POWERSORB spill pillows (or equivalent)
- 1 3M POWERSORB spill sock
- 2 DOT pails (5 gallon) with polyethylene liners
  - 1 filled with loose absorbent, such as vermiculite or clay
  - 1 with minimum amount of loose absorbent in the bottom

**Neutralizing Materials**

- Acid Neutralizer
- Caustic Neutralizer
  - Commercial neutralizers, such as Neutrasorb (for acids) and Neutracit-2 (for bases) have built-in color change to indicate complete neutralization.
- Solvent Neutralizer
  - Commercial solvent neutralizers, such as Solusorb, act to reduce vapors and raise the flashpoint of the mixture.
Clean-up Tools

- Polypropylene scoop or dust pan
- Broom or brush with polypropylene bristles
- 2 polypropylene bags
- Sealing tape
- pH test papers
- Waste stickers
- Floor sign – “DANGER Chemical Spill - Keep Away”

First Aid Procedures for Chemical Exposure

The following procedures should be followed in the event of chemical exposure. In all cases, the incident should be reported to your laboratory manager, supervisor or principal investigator, regardless of severity. Consult your department manager to determine whether or not a First Report of Accidental Injury or Occupational Illness form should be completed.

Chemicals on Skin or Clothing

- Immediately flush with water for no less than 15 minutes (except for Hydrofluoric Acid, Flammable Solids, or >10% Phenol). For larger spills, the safety shower should be used.
- While rinsing, quickly remove all contaminated clothing or jewelry. Seconds Count. Do not waste time because of modesty.
- Use caution when removing pullover shirts or sweaters to prevent contamination of the eyes.
- Check the Material Safety Data Sheet (MSDS) to determine if any delayed effects should be expected.
- Discard contaminated clothing or launder them separately from other clothing. Leather garments or accessories cannot be decontaminated and should be discarded.

Do not use solvents to wash skin. They remove the natural protective oils from the skin and can cause irritation and inflammation. In some cases, washing with a solvent may facilitate absorption of a toxic chemical.

For flammable solids on skin, first brush off as much of the solid as possible, then proceed as described above.

For hydrofluoric acid, rinse with water for 5 minutes and apply calcium gluconate gel, then get immediate medical attention. If no gel is available, rinse for 15 minutes and go immediately to health services.

For phenol concentrations more than 10%, flush with water for 15 minutes or until the affected area turns from white to pink. Apply polyethylene glycol, if available. Do not use ethanol. Proceed as described above.
Chemicals in Eyes

- Immediately flush eyes with water for at least fifteen minutes. The eyes must be forcibly held open to wash, and the eyeballs must be rotated so all surface area is rinsed. The use of an eye wash fountain is desirable so hands are free to hold the eyes open. If an eye wash is not available, pour water on the eye, rinsing from the nose outward to avoid contamination of the unaffected eye.

- Remove contact lenses while rinsing. Do not lose time removing contact lenses before rinsing. Do not attempt to rinse and reinsert contact lenses.

- Seek medical attention regardless of the severity or apparent lack of severity. If an ambulance or transportation is needed, contact Public Safety at 911.

Chemical Inhalation

- Close containers, open windows or otherwise increase ventilation, and move to fresh air.

- If symptoms, such as headaches, nose or throat irritation, dizziness, or drowsiness persist, seek medical attention by calling Public Safety at 911. Explain carefully what chemicals were involved.

- Review the MSDS to determine what health effects are expected, including delayed effects.

Accidental Ingestions of Chemicals

- Immediately contact the Poison Control Center at 800-222-1222 for instructions.

- Do not induce vomiting unless directed to do so by a health care provider.

Accidental Injection of Chemicals

- Wash the area with soap and water and seek medical attention, if necessary.

- What chemicals were involved?

- Immediately contact the Poison Control Center at 800-222-1222 for instructions.
Section 2: Operating Instructions

Quality Assurance Testing (QAT)

The following steps are designed for use with SGM’s self-contained biological indicator (SCBI). QAT should be performed once the unit is operational and has begun processing waste.

1. Prepare three (3) SCBIs according to the manufacturer’s instructions for use:
   a. **1 Control**: mark the control with a permanent marker accordingly
   b. **2 Treated**: mark the treated with a permanent marker #1 and #2

2. Place the **treated** SCBI into the spore test carrier (the “egg”)
3. Launch the egg by placing it in the running unit through the SCBI insertion door below the shredder (see section 4). Once “egg” is loaded, press “Acknowledge” on the Touch Screen Display. Continue to load the STI system with waste materials during this process.

**EXERCISE EXTREME CAUTION AND WEAR PPE, ALL SURFACES MAY BE HOT ENOUGH TO BURN, AND WASTE HAS NOT BEEN TREATED AT THIS STAGE.**
4. Put on full length gauntlet gloves and face protection. After approximately 30-45 minutes, place the spore test carrier collection rack on top of the rails at the discharge end of the steam auger (above the compactor). This is done by un-latching the spore test retrieval door and sliding the rack into place. Close the door and tighten the latches. **EXERCISE EXTREME CAUTION AND WEAR PPE, ALL SURFACES MAY BE HOT ENOUGH TO BURN AND STEAM EXHAUST CAN BURN ON CONTACT**

5. Insure that the spore test carrier collection rack is in place at the end of the auger
6. Note the time of day the “egg” is launched into the auger.

7. Continue to load the system with medical waste continuously. If not enough medical waste is present to treat, continue to press the GREEN FLASHING LOAD LIGHT until the “EGG” drops out onto the collection rack. This could take a minimum of one hour or more.

8. Put on full length gauntlet gloves and face protection. Remove the egg from the rack once it has fallen out of the conveyor. Take care as the egg will be very hot! **EXERCISE EXTREME CAUTION AND WEAR PPE, ALL SURFACES MAY BE HOT ENOUGH TO BURN AND STEAM EXHAUST CAN BURN ON CONTACT**

9. Follow the manufactures instructions for use to analyze the two SCBIs

10. Make the necessary entries into your record keeping log entering date, machine hour meter reading, time the SCBI was launched, time the SCBI was taken out, the LOT # of the SCBI, the technicians name performing the test, and the upper temperature reading from the touch screen.

**Keep all validation testing log sheets for the duration of the time you own and operate the machine-you may legally be required to provide proof of regular quality assurance testing**
<table>
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<tr>
<th>Test Date</th>
<th>Machine Hour Meter</th>
<th>Time In</th>
<th>Time Out</th>
<th>Lot #</th>
<th>Technician’s Name</th>
<th>Inspection Day</th>
<th>Upper Temp.</th>
<th>Lower Temp.</th>
<th>Treated Y/N?</th>
<th>Control Growth?</th>
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Start-Up/Shut-Down Procedure

Pre-Start Checklist

Put on PPE (Personal Protective Equipment)

1. Hopper, shredder, transition doors and inspection ports should be closed and secured.
2. Turn on Main Fused Disconnect and STI equipment disconnects located on the electrical panel next to the unit.
3. Main Electrical Panel Power should be energized (Place disconnect in the ON position)
4. The hydraulic pump unit used to operate the lift and hopper ram should be serviced and ready to operate.
5. Energize Hydraulic Compactor
6. Ensure that there are no active alarms on the Touch Screen

System Controls Start-Up (Including Initial Start-Up)

NOTE: Ancillary Equipment (Boiler Steam, Power are energized and ready).

1. Make sure the selector switch on the control panel is set to “RUN”.
2. Push the START button on the front of the control panel.
3. The unit will automatically start up.
4. Open the manual valve in the steam supply line to the unit, if it is not already open.
5. The unit is in warm-up mode and will remain in this mode until the temperature in the top of the auger reaches 205 degrees F as indicated on the touch screen.
6. When the temperature in the top and bottom of the auger reaches 205 degrees F, the warm-up portion of the cycle is complete. The HEPA blower will start up. The auger will start up and begin turning. The shredder will begin running in reverse (clean out mode). Both motors will run in reverse, then one in reverse and the other in forward, then switch the forward and reverse direction between motors, and finally both motors will run in forward. (This will be shown on the process overview screen on the Touch Screen control panel) Once the clean out cycle is complete, the system can process waste.
7. Roll the first container onto the scale; ensuring the proper container tare is selected on the touch screen.
8. Press the CAPTURE WEIGHT button.
9. Roll the cart off of the scale and into the hydraulic lift bucket.
10. After a 10-second delay, the green light in the LOAD button will illuminate and flash. The vertical roll door will not close if its path is obstructed or if it encounters any resistance. The unit can accept a cart load and will close the roll up door once the flashing green LOAD button is pressed. NOTE: The green flashing light will not come on until the system is on and the auger is at operating temperature, the compactor is not on and ready, or if the container is overweight. The cycle will not begin the process until the correct process temperature is reached and the clean out cycle is complete.

11. Exit the loading area of the machine; Push the flashing green LOAD pushbutton to start the automatic cycle. The enclosure door will close automatically and the internal light will go off and the dumper will begin to rise inside of the lift enclosure. The enclosure door is equipped with integral safety switches and light curtains. If these safety switches are tripped, the cycle will abort and must be re-initiated.

12. Once the automatic cycle is initiated, the cart will rise to an elevated position and wait until the auger is ready to process more waste. This time is set at 6 minutes, regardless of amount of waste in the auger.

NOTE: If another load sequence is not started within 7 minutes of the previous load having been processed, the system will go into hibernation mode. The motors will shut down (fans, auger, and shedder) and the load light will remain flashing. Before the next cycle, the system will first go through a clean out cycle before resuming waste processing. Keep in mind that process cycles will not run if the upper and lower auger temperature drops below set point of 205 degrees F. If the system remains inactive for more than an hour, the auger will automatically start to rotate for 1 minute every hour it is idle.

System Controls: Automatic Shut Down

1. When machine is idle for at least 3 days, or if the operator wants to clean out the machine, it is best to place the unit into its Shutdown mode of operation. It is especially important to perform this task during winter months if equipment is installed outdoors to prevent damage to the STI system. This is done by placing the selector switch on the front of the control panel into “SHUTDOWN”. You will notice that the timer on the touch screen will start counting down.

2. For 60 minutes all components will continue running until the final load has been fully processed and the machine is empty.

3. After 60 minutes have passed all components will shut off within a 1 minute time frame.
The Main electrical disconnect turns power on and off for the entire unit.

The emergency E-STOP button must be pulled out in order for the machine to operate. When the machine is powered and running, the E-STOP will light up red when pressed. The E-STOP can be pushed at any time to stop the process immediately.

The START button will start up the unit.

The SHUTDOWN/RUN switch selects the method of operation for the unit.

The CAPTURE WEIGHT button stores the weight of the waste to be processed.

The LOAD button will flash a green light when the unit is ready to load (after a 10 second delay from CAPTURE WEIGHT being pressed). Push this button to initiate the load cycle once the container has been loaded in the hopper.

The bottom USB port provides data collection access.
System Screens

Process Overview

This screen shows the active status of the unit sub-components. Green circles indicate active features (e.g. the left and right shredders running in ‘forward’ mode); while red circles indicate inactive features (e.g. the red circle indicating that the dumper lift mechanism is NOT in the home position).

This screen also shows the upper and lower auger temperatures in the bottom left corner.

Waste and cart weights are displayed in the bottom left. The current cart type in use can be selected by using the ‘Cart 1’, ‘Cart 2’, and ‘Cart 3’ buttons. Each cart type has a different tare weight. It is important to select the type of wheelie bin/cart being used.

The buttons at the bottom of the screen allow the user to navigate between screens and will always be visible.

If the ‘Alarms’ selector button is red (as shown in the screenshot), there are active alarms. Alarms become active when the system is operating outside of preset temperature parameters and other parameters like negative pressure, shredder jam, etc.
Transmitter Status

This screen shows the status of the assorted transmitters reporting from within the unit.
IO Status

*Inputs*

This screen shows the status of the unit’s inputs. It utilizes the same system as seen previously, where green indicates active and red indicates inactive. For example, in this screenshot the ‘Auger VFD Running’ indicator is green, showing that the auger is rotating.
This screen is essentially the same as the Input-Output Status screen. It displays the current status of the unit’s outputs.
This screen displays the logon window when an employee or engineer tries to enter manual mode. It is password protected and only a select few people will have access to this mode including: BioSAFE’s engineering team, your maintenance team, your facility manager and whoever else you may want to give access to this machine. **When you enter manual mode you are in complete control of the machine, it will NOT run automatically.** Entering manual mode takes the machine out of automatic mode and the machine will not run without specific commands from this mode screen. **Take special care when in this mode to protect life. Do not attempt to process waste in Manual Mode.**
Manual Screen

(2)

This screen displays the main manual operation screen personnel will see when entering manual mode. From this menu you can manually control subcomponents of the unit. Also, on the right of the screen, you can access multiple other menus with various command functions for other subcomponents of this machine. Finally, you can exit manual mode by pressing the Stop Manual Mode button on the top right hand side of the screen.
This screen displays the second Manual Operation screen which can be accessed by pressing the “next screen” button on the main Manual Operation screen. On this screen you have the same capabilities that you had on the main Manual Operation screen, but with different subcomponents of the machine.
This screen displays the Runtime Menu. From this screen you can reset the runtimes on various components of the machine and monitor the time between maintenance of a specific component. It may not be wise to reset run times unless a specific component like a motor is replaced.
Manual Screen

(5)

This screen displays the System Tools screen. On this screen you can save/delete the data stored on this machine.
This screen displays the archived temperatures (temperature history) of various components of this machine. From this screen you can monitor the temperatures for the various steam injectors along the steam treatment auger as well as the upper and lower auger temperatures.
This screen displays the current system sub-component status. From this screen you can see the current status of many different components on the machine.
Alarms

This screen displays any active alarms. An alarm can be triggered if the unit detects a problem at any point during operation. If an alarm is triggered, the unit will immediately stop and a flashing red light will be observed. The unit **WILL NOT** return to normal function until the alarms are reset and acknowledged by pressing the yellow ‘Reset & Acknowledge Alarms’ button. This will **ONLY** reactivate the unit if the issue has been resolved, otherwise the alarm **WILL NOT** clear and the unit will not recommence operation. Acknowledged and resolved alarms can be cleared from the alarm log by selecting them and pressing the alarm clear button. This is a helpful aid in system status troubleshooting.

Alarm Key:
I: Active, Not Acknowledged
I/A: Active, Acknowledged
I/O: Inactive, Not Acknowledged
Manual Test of Devices
(Maintenance Purposes ONLY)

This section discusses the need to manually operate devices included in your system. The STI unit is designed to allow for manual test of certain individual devices after maintenance replacement.

To manually operate devices, use the following steps:

1. Lock-out Operator control for the system using a specific access code. Caution should be taken in Manual Mode to restrict further access to the Touch Screen Controls while maintenance personnel are performing maintenance tasks due to the fact that it is not possible to employ a lock-out/tag-out procedure which totally isolates electricity from the machine.

2. Touch Manual Screen button on Touch Screen. Enter your personal code.


4. Depress the appropriate Touch Screen button switch to operate a specific component of the system. You will note that many switches are “momentary” and must be physically held in place to operate a component. This is for safety purposes. (NOTE: USE GREAT CARE WHILE IN THIS MODE OBSERVING ALL SAFETY PROTOCOLS WITH INDIVIDUALS AROUND YOU)

5. When manual testing is completed, touch the button labeled “Stop Manual Mode”.

6. The machine is now placed back in automatic mode.
Suggested Contingency Plan for Emergency Procedures

(an on-site plan will need to be drafted and approved separately to this suggestion)

**STI Series 2000 CONTINGENCY PLAN FOR EMERGENCY PROCEDURES**

**PREPAREDNESS, PREVENTION AND CONTINGENCY PLAN**

**Thermal Sterilization Systems**

This Preparedness, Prevention, and Contingency Plan (PPC Plan) provides the basic conditions for potential purchasers of the STI Series 2000® to comply with State requirements under a general permit for a thermal treatment system for sterilization of Regulated Medical Waste. The Purchaser of the system will supply an addendum outlining the names and telephone numbers of its Emergency Coordinator(s), local Fire Company, and all other Emergency Response personnel. It shall be the Purchaser's responsibility to notify the State when the facility permit is revised, if the PPC Plan fails in an emergency situation, if the name of the Emergency Response Coordinator changes, if the list of emergency equipment changes, or as required by the State.

**General Description of the Process and Equipment**

The STI Series 2000® is designed to be installed either indoors or outdoors at an existing loading dock. The entire system environment is under negative pressure to contain all vapors and exhausts through a vent pipe after passing through a 99.97% min. efficient HEPA filter. The process is controlled by a Programmable Logic Controller (PLC) to ensure that safety interlocks are in place during the processing cycle. The PLC displays all system alarms and status on a display to alert the trained operator of any operating changes or conditions. The automatic controls ensure that proper start-up, operation and shut-down of the system occur at all times. The waste processed in the STI Series 2000® has been tested and is treated in accordance with regulations and may be transported to an approved landfill or recycling facility

Waste is brought to the Series 2000 in packaging consistent with regulations and may be in sealed cardboard boxes, sealed heavy plastic bags, reusable containers, or wheelie bins. The waste is first weighed on a scale then dumped into the lift bucket. If the steam section of the unit is at proper operating temperatures, and the negative pressure air system is at proper levels, the lift bucket/dumper will start to transport the waste to the feed hopper at the top of the unit. If any conditions are not within proper settings, the feed conveyor will stop until such time that conditions are met. Processing times are approximately 4 to 5 minutes for loading and residence in the shredding chamber, and a minimum of 60 minutes in the steam section.

The processed waste will discharge directly into a compactor disposal container which is suitable for transport to a Municipal Waste landfill. The STI system is a LOW PRESSURE device and should NOT be operated in excess of fifteen (15) psi (1 BAR)

Specific details of all operations and required maintenance are outlined in the STI Operations and Instruction Manual. All operators of the system are trained by BioSAFE Engineering factory personnel in the proper operation of the system prior to initial startup of the system.
Description of Existing Emergency Response Plan
The Purchaser of the STI system may incorporate this PPC Plan into their existing Emergency Response Plan, augmenting it with the proper names and telephone numbers of all Emergency Response personnel and agencies.

Organizational Structure for Implementation of the PPC Plan
The Purchaser of the system will integrate the special requirements of the system into their existing organization structure, and may name additional Emergency Response Coordinators as deemed necessary.

Material and Waste Inventory
The waste that is treated in the STI system is Regulated Medical (infectious) Waste from your medical facilities and satellite operations, including doctors' offices and clinics. The waste is bagged and placed in suitable transport containers or carts for delivery to the loading area of the system. The STI system has a processing rate listed in the STI Operation and Instruction Manual. Any waste not processed immediately shall be stored in accordance with State regulations.

Steam is used to treat the waste prior to release into the compactor. Processed waste will be stored in a suitable covered container for proper transport to a Municipal Waste Landfill.

Spill and Leak Prevention and Response
The waste is delivered to the STI system in suitable leak-proof containers, boxes or carts. Any spills or leaks shall be immediately cleaned up using approved decontamination materials and methods. The Purchaser's standard clean-up procedures and materials will be posted near the processing area of the system. An emergency eye-wash/shower station is located in the immediate area. Any spill of significant volume is to be handled using approved methods.

Material Compatibility
The Clinical Healthcare (infectious) Waste is the only material being delivered to the STI system for disposal. NO other hazardous waste or waste that may create risk of fire, explosion or hazardous vapors is stored, processed, or disposed of in this system. Specific materials that are not to be processed in the system are listed in the General Permit and the Operation and Instruction Manual. Under no circumstances shall the operator of the STI system attempt to treat Chemotherapeutic wastes or hazardous wastes including solvents of any nature.

Inspection and Monitoring
The system is designed for ease of inspection and monitoring. All instrumentation is digital and a touch screen display is located on the face of the control panel, providing a message center to inform the trained operator of the status of operation and all alarms.

The operator has been trained by STI factory personnel in the proper operation of the system. Part of this training is to allow the operator complete inspection of the system for leaks and other problems prior to daily start-up and during operation of the system. The operator will inspect all piping prior to start-up. In addition, the operator will inspect the system and will ensure cleanliness of the installed unit. Any truck docks, yard and parking areas are inspected several times throughout the day. Any irregularities with potential for spill or other emergency are immediately taken care of if they are small; any major problem is reported to the Emergency Response Coordinator to implement the PPC Plan.

Preventative Maintenance
The Purchaser will use the preventive maintenance schedules outlined in the STI Operation and Instruction Manual as an example.

The preventive maintenance program has been designed to keep all of the STI systems in good working
order for safety and for continuous operation. Major repairs and maintenance are done during scheduled outages. In order to minimize unscheduled system shut-downs, the STI program is designed to identify equipment to be maintained, provide periodic inspections; provide monitoring as needed, repair parts when needed, and to provide complete records of all maintenance procedures and operations.

**Housekeeping Program**
The waste that is treated in the STI Series 2000 arrives at the system in sealed containers (bags, boxes, reusable containers, or bins) so there are very few spills or leaks from the waste. Those that do occur are cleaned up immediately using hospital-grade disinfectants and procedures. The boxes, containers or carts in the storage or processing area are neatly stacked with aisles between rows (walkways/pathways) for periodic inspection.

The resultant processed waste from the STI system is stored in compactors, until it is removed by the licensed disposal service. Any processed waste granules that are spilled during this process will be cleaned up promptly.

**Security**
The system is installed in a specifically designated area with proper signage in accordance with State regulations. The general area of the system is secured by limited access and being in a restricted area.

**External Factors**
Should a power outage occur, the unit must be restarted by initiating the proper start buttons. Operation is not fully restored until the temperature of the waste and the steam sections of the unit have returned to proper operating temperature. The steam-jacketed section is insulated to maintain temperature for long periods of time to prevent cool down during power outages, however the system will eventually attempt to cool down without electricity and steam to the machinery.

**Internal and External Communication or Alarm Systems**
Internal communications include a built in Ethernet to be accessed if a malfunction occurs. The Ethernet is included in the PLC controller so that Biosafe Engineering factory personnel may interface with the unit to diagnose problems or make suitable changes to the control logic. The Ethernet connection is also networked through the STI server and may be accessed via system folders (see STI IT personnel).

**Employee Training Program**
The operators and maintenance personnel have been trained in the operation and maintenance of the equipment manufactured and supplied by Biosafe Engineering, LLC. The training program will be conducted by Biosafe Engineering factory personnel using a specifically designed course. The objective of this course is to give all personnel an overview of the principles, operation and maintenance of the equipment. All operators will be trained in the proper handling of Healthcare Clinical (infectious) Waste and in proper record keeping.

Throughout these programs and in on-going safety programs, employees are initially and continuously trained in emergency procedures, use of emergency equipment, communication and alarm systems, evacuation procedures, and emergency shut-down procedures.

Maintenance employees are trained in all aspects of preventive maintenance, inspection and monitoring, and housekeeping practices. Up-to-date engineering drawings and operational and maintenance manuals for the system are kept on the premises for use by the operating and maintenance personnel. Certificates of Qualifications are normally provided.

**List of Emergency Coordinators**
At all times, the Emergency Response Coordinator or his designated replacement is either on-site or on call. The Emergency Response Coordinator and Shift Operator/Supervisor are familiar with all aspects of
the PPC Plan, all operations and activities of the system, the location and characteristics of the waste and any other materials used in the processing of the waste, location of records, and the layout of the installation. They have the authority to commit any resources necessary to carry out the PPC Plan.

On-site, the Emergency Response Coordinator can be reached by the internal telephone system or by the Public Address system. The names, addresses, and telephone numbers of all emergency contacts should be posted near the system and the local telephone. They are also included as an addendum to this PPC Plan.

**Duties and Responsibilities of the Emergency Coordinator**

The Emergency Coordinator is responsible for the implementation of the PPC Plan when an emergency or other potentially dangerous situation arises. As required by the particular emergency, he identifies the problem, activates the alarm systems, notifies emergency response agencies, assesses the health and environmental hazards, and takes all reasonable measures to stabilize the situation. He is also responsible for all necessary follow-up activities such as clean-up, decontamination, maintenance of emergency equipment, and submission of any reports.

**Chain of Command**

Persons to be contacted in the event of an emergency at the site are listed in the addendum to this PPC Plan for the specific site. This list is to be posted near the processing area and will include the names, addresses and telephone numbers of these people.

**List of Agencies to be Notified**

In the event of an emergency, the following is an example of the agencies to be notified as required by the particular emergency (or the particular list of your choice):

- Bureau of Waste Management; Department of Environmental Management, DNR
- Bureau of Air Quality Control (if appropriate)
- City Health Department
- City Emergency Management Agency
- County Health Department
- County Emergency Management Agency
- City/Local Fire Department or Police

Their telephone numbers are included in the addendum of this Plan for use by the Emergency Coordinator and shift Supervisor. They are also to be posted where appropriate.

**Emergency Equipment**

Emergency equipment in the immediate processing area include dry chemical fire extinguishers, water hose bibs and hoses, eye-wash and emergency shower, bags of absorbent material for building dikes, first aid kits, and a telephone for summoning assistance. In addition, a complete set of maintenance tools are kept in the Maintenance Department. All emergency equipment is cleaned after use and maintained in proper operating condition.

**Evacuation for Installation Personnel**

A drawing showing evacuation routes should be posted in the processing area. The persons so affected will assemble in a parking lot or designated area near the system to ascertain that all are accounted for.

**Arrangements with Emergency Contractors**

Most equipment maintenance will be performed by Hospital employees. When further help is needed, the BioSAFE Engineering Service Department is contacted. A list of additional independent contractors with telephone numbers will be included in the site specific addendum of this PPC Plan and posted in the area of the telephone.
Arrangements with Local Emergency Response Agencies and Hospitals
The local police and fire department will be familiar with the equipment and layout of the system. A site specific list of emergency response agencies and hospitals will be included in the addendum to this PPC Plan and posted near the telephone.

Pollution Incident History
Records of any pollution incidents will be kept by the Purchaser and attached to this PPC Plan as a separate addendum.

Implementation Schedule
The provisions of the PPC Plan are implemented whenever an emergency situation arises that might endanger public health and safety, the environment, or the health and safety of the Purchaser’s employees.

Practical Loading Instructions
(this will vary based upon specific cart types used by your facility)

The following are items commonly received and run through the STI-2000CV unit. This page tells you how to place the waste in the lift/dumper to optimize efficiency of the unit. Please follow these instructions.

<table>
<thead>
<tr>
<th>Acceptable Container Type</th>
<th>Size</th>
<th>Orientation</th>
<th>Quantity/Containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box</td>
<td>18x18x22</td>
<td>side to side</td>
<td>2</td>
</tr>
<tr>
<td>Box</td>
<td>8x18x22</td>
<td>side to side</td>
<td>3</td>
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<tr>
<td>Trace Carts</td>
<td>20x20x36</td>
<td>side to side</td>
<td>1</td>
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<tr>
<td>Sharps Containers</td>
<td>10x20x30</td>
<td>side to side</td>
<td>3</td>
</tr>
<tr>
<td>Sharps Containers</td>
<td>8x12x12</td>
<td>side to side</td>
<td>8</td>
</tr>
<tr>
<td>Red Bags</td>
<td>30 Gallon</td>
<td>as desired</td>
<td>Full 96 gallon or 1 Yard Cart</td>
</tr>
</tbody>
</table>

Drums/loose sharps: **DO NOT EMPTY LOOSE SHARPS INTO DUMPER/LIFT**

Chemo. Waste: **DO NOT PUT IN THIS MACHINE - INCINERATE ONLY**

Gross anatomical Waste: **DO NOT PUT IN THIS MACHINE - INCINERATE ONLY**

NOTE: LARGE METALLIC ITEMS SHOULD BE MANUALLY DISINFECTED AND DISCARDED IN THE TRASH. BALL JOINTS, FIRE extinguishers, ETC. SHOULD NOT BE PUT INTO THE EQUIPMENT’S SHREDDING CHAMBER.
# Section 3: MAINTENCE

## Required Maintenance Schedule

### STI Series 2000

#### Recommended Periodic Maintenance Schedule

<table>
<thead>
<tr>
<th>Item</th>
<th>Daily</th>
<th>Weekly</th>
<th>Bi-Weekly</th>
<th>Monthly</th>
<th>Quarterly</th>
<th>Semi-Annually</th>
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<tr>
<td>Clean-out Pan (sump)</td>
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<td>Clean</td>
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<tr>
<td>Auger Condition</td>
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<td>I</td>
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<tr>
<td><strong>HEPA Filter Assembly</strong></td>
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<tr>
<td>Pre-Filter**</td>
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<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>HEPA Filter**</td>
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<td></td>
<td>R</td>
</tr>
<tr>
<td>Blower Motor</td>
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<td>G</td>
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<tr>
<td>Hoses</td>
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<tr>
<td>Demisting Filters</td>
<td>Clean</td>
<td></td>
<td></td>
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<tr>
<td>HEPA Housing</td>
<td></td>
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<td>I</td>
</tr>
</tbody>
</table>

**NOTE:** Wear Personal Protective Equipment (Breathing Protection and gloves) when replacing or inspecting the pre-filter and HEPA filter. DANGER: Airborne contaminants such as tuberculosis may exist. Dispose of filters as Medical Waste in the STI machine.
7.8 Steps to take after operation

After each use and prior to switching off the machine:
1. Ensure that the hopper and the cutting unit are run until completely empty.
2. Ensure that all components that serve to remove the final granules are run until completely empty.
3. Put the main switch in the "OFF" position to disconnect the power supply.
4. Protect the switch against unauthorised restarts with a padlock.
5. Clean the machine and its environment as needed, taking into account dust development and material residue.

8. Maintenance

NOTE: During the warranty period, all maintenance work must be performed by the manufacturer or authorised agents.

8.1 Safety

Staff
- All maintenance work must be performed by specially trained professionals or by the manufacturer.
- All work on the electrical system must be carried out by qualified electricians.

Electrical installation

DANGER! Danger of death - risk of electrocution!
Contact with live components may cause death. Live electrical components may perform sudden jerky movements and cause extremely serious injuries.
To avoid safety risks, please follow the instructions below:
- Ensure that all power supplies are switched off before work commences and that a safeguard against unintentional restart is provided.

Preventing accidental or unauthorised restarts

DANGER! Unauthorised restart may result in death!
During the installation process, there is a risk that the power supply is unintentionally switched back on. This puts the persons in the hazard area at risk of death.
To avoid safety risks, please follow the instructions below:
- Ensure that all power supplies are switched off before work commences and that a safeguard against unintentional restart is provided.
Improper maintenance

**WARNING!**
Risk of injuries resulting from improper maintenance work!
Improper maintenance may cause serious bodily or material damage.
To avoid safety risks, please follow the instructions below:
- Comply with the specified maintenance intervals.
- At least once per shift, check the machine for externally visible damage and ensure that it is in good working order and safe to run. Also check for noise and heat development.
- Exchange damaged parts and deal with faults straight away.
- Keep entire machine clean - excessive dirt may cause malfunctions.
- Perform all operational steps according to the instructions of this manual. Follow the order of the operational steps given in the manual.
- Read the electrical documentation in the appendix before commencing work on the machine.
- Ensure that all machine components that might have to be touched during operation have cooled down to room temperature before commencing work.
- Ensure that all work areas are easily accessible before starting the installation process.
- Keep the installation area clean and tidy. Loosely stacked or scattered components and tools are accident hazards.
- Always use a service platform that complies with Health and Safety Regulations. Never climb on the machine.
- Never hit hardened components (e.g. cutters) with tools as this may cause flying splinters.
- If components were previously removed, ensure that they have been remounted correctly, that all tightening elements are reinstalled and all specified tightening torques are complied with.
- Only use approved operating materials and supplies.
- Never run the machine without protective features.
- After servicing and maintenance, check that all safety and protective features are reinstalled and functioning correctly.
- Ensure that the cutters are able to freely rotate before operation.

Cutter unit run-down period

**WARNING!**
Danger of injuries resulting from the run-down period of the cutter unit!
Reaching into the cutter unit during the motor run-down period may cause extremely severe injuries.
To avoid safety risks, please follow the instructions below:
- Make sure that the machine has come to a complete standstill before carrying out maintenance work.
- Make sure that the machine has come to a complete standstill before removing the protective covers.

Falling material

**WARNING!**
Danger of injuries resulting from falling material!
Falling material to be shredded may lead to extremely serious injuries.
To avoid safety risks, please follow the instructions below:
- Ensure that the machine has run until completely empty and that no more material is being fed into the machine before carrying out maintenance work.
Jammed material

**WARNING!**
Danger of injuries resulting from jammed material!
Jammed material in the cutting unit may become compressed. During removal, it may perform sudden jerky movements and cause extremely serious injuries.
To avoid safety risks, please follow the instructions below:
- Be extremely cautious when removing jammed material from the cutting unit.
- Always wear protective goggles, a helmet and protective gloves.

Prestressed components may be dangerous!

**WARNING!**
Danger of injuries resulting from prestressed components!
Prestressed or moveable components may cause serious injuries.
To avoid safety risks, please follow the instructions below:
- Always apply caution when removing prestressed components.

Cutting unit components

**WARNING!**
The components of the cutting unit may cause injuries!
When carrying out work on the cutting unit, there is a risk of limbs being crushed or cut.
To avoid safety risks, please follow the instructions below:
- Always wear protective gloves.
- Always apply caution.

 Unsuitable replacement parts and accessories

**WARNING!**
Unsuitable replacement parts and accessories constitute a safety risk!
Unsuitable or faulty replacement parts and incorrect accessories may constitute a safety risk or cause damage, malfunction or total failure.
To avoid safety risks, please follow the instruction below:
- Only use original replacement parts and accessories authorised by the manufacturer.

Harmful operating materials and supplies

**WARNING!**
Operating materials and supplies may be harmful to your health!
Long-term exposure to gases may cause lung damage. Long-term skin contact with the operating materials may be harmful to your health.
To avoid safety risks, please follow the instructions below:
- Always consult the safety data sheets for operating materials and supplies. If necessary, request the appropriate safety data sheets from the manufacturer.
- Always follow local directives and regulations for handling the process materials.
- If in doubt, wear a light breathing mask.
- If in doubt, wear protective gloves.
Non-approved operating materials

**CAUTION!**
Danger of material damage resulting from non-approved operating materials and supplies!
Using non-approved operating materials and supplies may cause damage, malfunction or total machine failure.
To avoid safety risks, please follow the instructions below:
- Use only the specified oil.
- Do not mix the oil with other oil types or change brands.
- Never rinse gears with petroleum or other cleaning agents.
- Use only the specified grease.

Environmental protection

Please follow these instructions regarding environmental protection when carrying out maintenance work:
- Collect exchanged oils in appropriate containers and dispose of in accordance with local regulations.

8.2 Maintenance work: preparatory steps

Always complete the following steps before performing maintenance work on the machine:
1. Ensure that the hopper is not being fed.
2. Run machine until hopper and/or conveyor belt are completely empty.
3. Ensure that the machine is empty of material to be shredded.
4. Put the main switch in the "OFF" position to disconnect the power supply.
5. Protect the switch against unauthorised restarts with a padlock.
6. Ensure that all machine components that might have to be touched during maintenance have cooled down to room temperature before commencing work.
8.3 Removing/Installing loose bearing cover

**WARNING**
There is a danger of hands/limbs getting caught and crushed in the space between the machine and the cover.
If handled carelessly, there is a danger of hands/limbs getting caught and crushed in the space between the machine and the loose bearing cover.
To avoid safety risks, please follow the instructions below:
- Always apply caution.
- Always wear protective gloves.

**Removing the loose bearing cover:**
1. Put the main switch in the "OFF" position to disconnect the power supply.
2. Protect the switch against unauthorised restarts with a padlock.
3. Loosen securing screws (1).
4. Remove the loose bearing cover (2).

**Attaching the loose bearing cover:**
1. Hold the loose bearing cover in place.
2. Tighten securing screws.

Fig. 43: Loose bearing cover
8.4 Maintenance schedule

The following sections specify the maintenance activities required for optimal and failure-free operation. Please contact the manufacturer if you have any questions on maintenance work and intervals. For contact details, see page 2.

NOTE!
The specified values are the maximum intervals between maintenance activities and apply to normal usage. If a higher level of wear and tear is detected during the regular check-ups, the maintenance intervals must be shortened in accordance with the actual wear and tear.

NOTE!
Maintenance of the accessories and electrical system must be handled by professionals in accordance with the intervals and instructions contained in the documentation.

NOTE!
During the warranty period, all maintenance work must be performed by the manufacturer or authorised agents.

NOTE!
If the specified operating hours are not reached, refer to the "Minimum" column.

<table>
<thead>
<tr>
<th>Maintenance activity</th>
<th>Interval</th>
<th>Chapter</th>
<th>To be performed by</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Operating hours</td>
<td>Minimum</td>
<td></td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check machine for visible external damage</td>
<td>Every day</td>
<td></td>
<td>Trained staff</td>
</tr>
<tr>
<td>and fluid loss</td>
<td></td>
<td></td>
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<tr>
<td>Check that all safety and protective features</td>
<td>Every day</td>
<td></td>
<td>Trained staff</td>
</tr>
<tr>
<td>are functioning properly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean entire machine</td>
<td>Every day</td>
<td>8.5.1.2</td>
<td>Trained staff</td>
</tr>
<tr>
<td><strong>Cutting unit</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Visually check cutting unit for damage and</td>
<td>Every day</td>
<td></td>
<td>Trained staff</td>
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<tr>
<td>material build-up</td>
<td></td>
<td></td>
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<tr>
<td>Check that cutting unit is sitting tightly</td>
<td>200</td>
<td>Every month</td>
<td>8.5.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Trained staff</td>
</tr>
<tr>
<td><strong>Drive unit</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Check gear oil level</td>
<td>Every two weeks</td>
<td>8.5.2</td>
<td>Trained staff</td>
</tr>
<tr>
<td>Clean drive motors</td>
<td>Every month</td>
<td>8.5.1.3</td>
<td>Trained staff</td>
</tr>
<tr>
<td>First gear oil exchange</td>
<td>500</td>
<td>8.5.3</td>
<td>Trained staff</td>
</tr>
<tr>
<td>Gear oil exchange</td>
<td>1000</td>
<td>Every year</td>
<td>8.5.3</td>
</tr>
<tr>
<td><strong>Grease lubrication</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Lubricate the side of the loose bearing.</td>
<td>50</td>
<td>Every two weeks</td>
<td>8.5.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Trained staff</td>
</tr>
</tbody>
</table>
8.5 Maintenance work

8.5.1 Cleaning

8.5.1.1 General

**WARNING!**
Cleaning hot components with pressurised air is a fire hazard!
Highly flammable material, material to be shredded, liquids or gases may catch fire and cause severe injuries or death.
To avoid safety risks, please follow the instructions below:
- Check the temperature of all machine components before cleaning them. Let them cool down if necessary.
- Keep an appropriate fire extinguisher ready.
- In case of fire, stop all work immediately and disconnect the machine from the mains.
- Act in accordance with the internal emergency plan in case of fire.

Follow these instructions when cleaning machine components:
- Do not use aggressive cleaning agents.
- Do not rinse electrical components and cables with water.
- Avoid excessive dust build-up on the machine. Remove dust on a regular basis using appropriate tools.

8.5.1.2 Cleaning the machine

Clean the machine and its environment as often as necessary to avoid dust build-up. Only clean the machine when it is standing still.
If the machine is not cleaned sufficiently, a dangerous dust/air mixture can build up inside and around the machine (explosion hazard).

8.5.1.3 Cleaning the drive motors

To ensure that the drive motors are cool enough for cleaning, please follow these steps:

1. Put the main switch in the "OFF" position to disconnect the power supply.
2. Protect the switch against unauthorised restarts with a padlock.
3. Remove dust and dirt from the motors using pressurised air.

Fig. 44: Drive motors
8.5.2 Checking the gear oil level

**CAUTION!**
No gear oil or low gear oil levels may cause material damage.
If the gear oil level is low, there is a risk of the gear being damaged and the machine breaking down.
To avoid safety risks, please follow the instructions below:
- Monitor the oil level through the oil gauge glass.
- Regularly top up the gear oil level.

**CAUTION!**
Mixing different types of oil may cause material damage.
Using non-approved operating materials and supplies may cause damage, malfunction or total machine failure.
To avoid safety risks, please follow the instructions below:
- Use only the specified gear oil.
- Do not mix the gear oil with other oil types or change brands. In particular, do not mix synthetic with mineral oils.

**NOTE!**
The shredder is equipped with an electrical oil level monitor.
For more detailed information, see the "Electrical Control Unit" manual.

**NOTE!**
For approved gear oil brands, see chapter 3.7.1.

To check the oil level manually, follow the steps below:

1. Put the main switch in the "OFF" position to disconnect the power supply.
2. Protect the switch against unauthorised restarts with a padlock.
3. Ensure that the oil gauge glass is completely filled with oil.
4. If necessary, top up the gear oil (see chapter 8.5.3).

Fig. 45: Oil gauge glass
8.5.3 Changing the gear oil

**WARNING!**
Hot gear oil may cause burns.
When the oil is being changed, the gear oil is at operating temperature. In case of contact with the gear oil, there is a risk of burns.
To avoid safety risks, please follow the instructions below.
- Always wear protective gloves.

**CAUTION!**
Mixing different types of oil may cause material damage.
Using non-approved operating materials and supplies may cause damage, malfunction or total machine failure.
To avoid safety risks, please follow the instructions below.
- Use only the specified gear oil.
- Do not mix the gear oil with other oil types or change brands. In particular, do not mix synthetic with mineral oils.
- Never rinse gears with petroleum or other cleaning agents.

**CAUTION!**
Infrequent oil changes may cause physical damage.
Using non-approved operating materials and supplies may cause damage, malfunction or total machine failure.
To avoid safety risks, please follow the instructions below.
- Bear in mind that the oil change intervals depend on several factors, such as the degree of ageing and contamination.

**NOTE!**
For approved gear oil brands and volumes, see chapter 3.7.1.

Required tools:
- Collecting container

To change the oil, follow the steps below:

1. Put the main switch in the "OFF" position to disconnect the power supply.
2. Protect the switch against unauthorised restarts with a padlock.
3. Open the filling screw (1).
4. Position an appropriate container underneath the bleed screw (2) to collect the old gear oil.
5. Open the bleed screw and drain all the gear oil at operating temperature. Collect the gear oil and dispose of it in accordance with local rules and regulations.
7. Pour new gear oil into the filling hole until the oil gauge glass (see chapter 8.5.2) is completely filled with oil.
8. Close the filling screw.
9. Put the machine into operation for a short period.
10. Check the oil level (see chapter 8.5.2).
8.5.4 Grease lubrication

CAUTION!
Insufficient lubrication may cause material damage!
Insufficient lubrication may cause damage to the bearings and machine failure.
To avoid safety risks, please follow the instructions below:
- Ensure that the lubrication intervals specified in the maintenance plan are complied with.
- Ensure sufficient grease lubrication.

NOTE!
For approved grease brands and volumes, see chapter 3.1.2.

Required tools:
- Soft rag

To lubricate the bearings, follow the steps below:

1. Put the main switch in the "OFF" position to disconnect the power supply.
2. Protect the switch against unauthorised restarts with a padlock.
3. Operate the grease gun (see Fig. 47).

The following steps must be performed at regular intervals:
4. Remove the loose bearing cover (see chapter 8.3).
5. Remove excess grease from the emission points using a rag.
6. Check the lubrication lines for leak tightness and visible damage.
7. Attach loose bearing cover (see chapter 8.3).
8.5.5 Changing the grease cartridge

**CAUTION!**
Insufficient lubrication may cause material damage.
Insufficient lubrication may cause damage to the bearings and machine failure.
To avoid safety risks, please follow the instruction below:
- Ensure that there is palpable pressure when the lever is operated and grease is applied to the bearings.

**NOTE!**
For approved grease brands, see chapter 8.7.2.

**NOTE!**
If the clamp piston is not secured prior to opening the grease cartridge cylinder, all the grease will leak from the grease cartridge.

**Required tools:**
- Grease cartridge
- Soft rag

To exchange the grease cartridge, follow the steps below:

1. Put the main switch in the "OFF" position to disconnect the power supply.
2. Protect the switch against unauthorised restarts with a padlock.
3. Remove the loose bearing cover (see chapter 8.3).
4. Pull out clamp piston (1).
5. Lightly depress latch (2) so that it clicks into place.
6. Release and remove grease cartridge cylinder (3).
7. Remove empty grease cartridge and replace with a full one.
8. Put securing screws in place and tighten.
9. Release latch and push clamp piston slightly forward if necessary.
10. Carefully loosen and then re-tighten (approx. 1 turn) grease cartridge cylinder to remove air from the grease gun.
11. Push the lever (4) several times until the remaining air has been removed from the lubrication system and you can feel resistance.
12. Remove excess grease from the emulsion points using a rag.
13. Attach loose bearing cover (see chapter 8.3).
8.5.6 Checking that the cutters are sitting tightly

**WARNING!**
Danger of injuries caused by the cutting discs!
When checking the cutting unit, there is a risk of cuts caused by the cutting discs.
To avoid safety risks, please follow the instructions below:
- Always wear protective gloves.
- Always apply caution.

**Required tools:**
- Appropriate lifting tools (e.g. crane)
- Soft-head hammer
- If necessary, hook wrench or pneumatic screw.

**NOTE!**
Running-in marks, abrasive wear etc. may be caused by a loosely sitting cutting unit.

Follow these steps to make sure that the cutting unit is sitting tightly.

1. Put the main switch in the "OFF" position to disconnect the power supply.
2. Protect the switch against unauthorised restarts with a padlock.
3. Use the soft-head hammer to check whether the cutting discs can be moved axially or radially.
4. If necessary, remove the loose bearing cover (see chapter 8.3).
5. Tighten the loosened groove nut with a hook wrench.
6. Attach loose bearing cover (see chapter 8.3).

Fig. 51: Cutters
8.5.7 Exchanging the cutters

The cutting unit must be exchanged when the desired throughput rate is no longer achieved. This may be due to wear and tear or broken-off cutting edges.

**WARNING!**
The components of the cutting unit may cause injuries!
When exchanging the cutters, there is a risk of its components cutting or crushing fingers and hands.
To avoid safety risks, please follow the instructions below:
- Always wear protective gloves.
- Always apply caution.

**NOTE!**
If the cutting unit is blunt, the cutting discs of the main cutters can be turned over so that the desired throughput is achieved with the cutting edges that are still unused.

**NOTE!**
Before exchanging the cutters, write down the order in which the cutter components are arranged and which external discs are mounted on what drive shaft.

**NOTE!**
We recommend that the cutters are exchanged by the manufacturer.

**Required tools:**
- Crane and load hook, forklift
- Hook wrench or pneumatic screw
- Torque wrench
- Medium-strength threadlocker (e.g. Loctite®)
- Groove nuts with plastic insert
- If necessary, shaft seals

**NOTE!**
All special tools are available from the manufacturer (for contact data, see page 2).

**Cross section of the loose bearing**

![Cross section of the loose bearing](image)

1. Sealing disc
2. Drive seal
3. Ball-joint bearing
4. Shaft seal
5. Groove nut

Fig. 52: Cross section of the loose bearing
Tightening torque for groove nuts

<table>
<thead>
<tr>
<th>Machine type</th>
<th>Groove nut</th>
<th>Main shaft [Nm]</th>
<th>Auxiliary shaft [Nm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS40</td>
<td>M80x2 GUK</td>
<td>1500 - 2000</td>
<td>1500 - 2000</td>
</tr>
<tr>
<td></td>
<td>M80x2</td>
<td>2500 (2000*)</td>
<td>1500</td>
</tr>
</tbody>
</table>

* Tightening torque, if the cutters clamp.

8.5.7.1 Removing the cutters

To remove the cutters, follow the steps below:

1. Put the main switch in the "OFF" position to disconnect the power supply.
2. Protect the switch against unauthorised restarts with a padlock.
3. Remove the loose bearing cover (see chapter 8.3).
4. Loosen and remove the securing screws (1) of the loose bearing cover plate.
5. Remove the loose bearing cover plate (2).
6. Loosen and remove groove nuts (3).
7. Secure loose bearing plate (4) with appropriate lifting tools (see chapter 5.2.1)
8. Loosen and remove securing screws (5) on the loose bearing plate.
9. Remove angle plates (6).
10. Use the draw-off threads (7) to push the loose bearing plate away from the machine.
11. Remove loose bearing plate.
12. Remove cutting discs.
8.5.7.2 Cleaning and checking components
- Clean all components thoroughly.
- Check the shaft seals for damage. Replace shaft seals if necessary.
- Always replace groove nuts with plastic inserts.

8.5.7.3 Installing the cutting unit
To install the cutting unit, follow these steps:
1. Complete the steps for removing the cutting discs (1) and the loose bearing plate in reverse order (see chapter 8.5.7.1)
2. Before mounting the groove nuts, apply medium-strength threadlocker to the threads of the shafts and the groove nuts.
3. Put loose bearing cover plate in place and tighten securing screws.
4. Attach the loose bearing cover (see chapter 8.3).

Fig. 56: Installing the cutting discs

8.6 Steps to be taken after maintenance is completed
Before restarting the machine after maintenance is completed, follow these steps:
1. Check that all screw joints that were loosened during maintenance are sitting tightly.
2. Check that all protective features and covers that were removed during maintenance have been reinstalled correctly.
3. Ensure that all safety features were mounted correctly and are functioning properly.
4. Ensure that all tools, materials and other aids that were used during maintenance have been removed from the work area.
5. Clean work area and remove leaked liquids, grease, shredding materials or similar.

WARNING:
Premature restarts may result in death!
Premature restarts put persons in the hazard area at risk of death.
To avoid safety risks, please follow the instructions below:
- Before restarting the machine, make sure that no other persons remain in the hazard area.

6. Ensure that no other persons remain in the hazard area around the machine to avoid accidents during machine start-up.
7. Remove the padlock and put the main switch in the "ON" position to connect the power supply.
8. Press the start button to start a new shredding process.
Clean-Up Procedure

This section is designed to guide users of the STI Series 2000 system in the proper cleaning and disinfection of the system. Frequent cleaning and disinfection will not keep only your system in top operational condition, but lower possibilities of surface contamination and ultimately increase the overall good health of the users.

The recommended clean-up procedures are as follows:

1. Periodically spray the loading area of the Dumper/Lift with a good high quality disinfectant. This may be achieved by using a pump-up sprayer for portability and a wet disinfectant solution (Consult your Hospital’s safety or infection control officer for the recommended disinfectant). If the feed area becomes soiled by the contents from the waste, put on the proper protective apparel, wipe clean, and wet disinfect as described above. As a rule of thumb, clean this surface once per day of operation with the disinfecting solution.

2. Clean all surfaces of the STI Series 2000 system once every month by putting on the appropriate protective apparel, and wet disinfect all surfaces that are soiled or appear dirty in any way. Wipe these surfaces clean with a clean towel and/or mop. Dispose of soiled towels by introducing it with the rest of the untreated RMW or by placing the mop or towel in the soiled laundry for cleaning.

3. The interior of the shredding chamber and auger are automatically disinfected with steam during operation and should require no further cleaning.
### Troubleshooting Guide

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IF:</strong></td>
<td><strong>THEN:</strong></td>
</tr>
</tbody>
</table>
| 1. Lights do not illuminate upon power up | -Check main power to unit.  
-Check fuses in ST1 electrical panel.  
-Check Breakers in electrical panel.  
-Make sure disconnect is turned on.  
-Check compactor for errors in operation. |
| 2. Lift / Dumper will not start up | -Refer to #1 above.  
-Make certain nothing is jammed in the lift guides or hoses.  
-Make certain that hydraulic unit is powered.  
-Check oil temperature and level in tank.  
-Check for active alarms |
| 3. Lift / elevator runs, but stops periodically | -See if Green Light is flashing.  
-See if door is fully closed.  
-Check hydraulics for oil.  
-Check auger temperature.  
-See #2 above.  
-Check for active alarms |
| 4. Shredder does not operate | -Check for obstruction in shredder.  
-Check main power.  
-Check Fuses for shredder drive.  
-Check lubrications for shredder.  
-See #1, 2, 3 above.  
-Check for active alarms |
| 5. Auger does not rotate | -Temperature is below factory setting of 205 degrees F.  
-Check gear reducer or chain drive components for wear.  
-Check current sensor settings for auger.  
-Check compactor operation. Waste may have backed up into auger from compactor.  
-Check filters (pre-filter and HEPA) for loading.  
-Check #1, 2, 3, 4 above  
-Check for active alarms |
| 6. Unit does not heat up properly or heats slowly | -Check steam injectors for obstructions.  
-Clean out ports.  
-Check steam pressure.  
-Check thermocouple connections.  
-Check steam pressure on gauge.  
-Check condensate trap screen for clogging.  
-Check for active alarms |
| 7. Unit has water on the floor | -Check for a broken water line.  
-Check seals on doors.  
-Check hose connections for leaks.  
-Check for roof leakage.  
-Check for active alarms |
| 8. Shredder reverses often | -Check for metallic obstruction.  
-Check lubricant for all bearings.  
-Check for excessive cutter wear.  
-Adjust screen proximity to cutting chamber.  
-Check for active alarms |
| 9. Shredder will not run in forward | -See #1, 8 above  
-Object jammed between cutters; turn power off, lock-out/tag-out system and remove obstruction.  
-See #10 below |
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
</table>
| 10.  HEPA filter dirty | -Replace pre-filter  
-Replace HEPA filter  
-Clean demisting filter |
| 11.  Unit fails to start-up | -See #1, 5, 6, 10 above |
# Recommended Spare Parts List

**BioSAFE Engineering, LLC.**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Subcomponent Listing</th>
<th>Manufacturer Part #</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>VALVE, SS 1-1/2&quot; NPT HAND BALL</td>
<td>20072</td>
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<tr>
<td>1</td>
<td>VALVE, SS 1-1/2&quot; SWING CHECK FLANGED</td>
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<tr>
<td>1</td>
<td>VALVE, BR 1/2&quot; SOLENOID 24V NC LP STEAM</td>
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<td>VALVE, SS 1-1/2&quot; HAND BALL FLANGED</td>
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<td>VALVE, SS 3/4&quot; NPT SPRING CHECK</td>
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<tr>
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<td>VALVE, SS 1/2&quot; NPT SPRING BALL CHECK</td>
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<td>VALVE, BRASS 1/2&quot; HAND BALL NPT</td>
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<td>VALVE, BRASS 3/4&quot; HAND BALL NPT</td>
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<td>VALVE, BRASS 3/4&quot; GATE NPT</td>
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<td>VALVE, BRASS 1/2&quot; BACKFLOW PREVENTER</td>
<td>22431</td>
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<td>1</td>
<td>SWITCH, SAFETY INTERLOCK TOP ROLL NO,NC</td>
<td>23248</td>
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<td>VALVE, FLOW CONTROL FOR HYDRAULICS</td>
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<td>SWITCH, PNP SS CYLINDER LIMIT READ</td>
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<td>SWITCH, PNP STEEL CYLINDER ALS WITH BRKT</td>
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<td>VALVE, CPVC 8&quot; MANUAL BUTTERFLY EPDM</td>
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<td>VALVE, CPVC 4&quot; MANUAL BUTTERFLY EPDM</td>
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<td>VALVE, BRASS 1-1/2&quot; NPT GLOBE</td>
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<td>2 AMP FUSES</td>
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<td>ANALOG MODULE, INPUT 4PT</td>
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<td>RTD MODULE, INPUT 4PT</td>
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<td>1</td>
<td>DIFFERENTIL PRESSURE TRANSMITTER</td>
<td>616W-3-LCD</td>
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<td>DIRECTIONAL VALVE, HYDRAULIC SOLENOID</td>
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<td>DOUBLE WALL RTD SENSOR</td>
<td>RBF185L3-DTS-63</td>
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<td>HYDRAULIC PILOT/OP CHECK VALVE</td>
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<td>INDUCTIVE PROXIMITY SENSOR, 15mm SENSING RANGE, 30mm DIAMETER METAL HOUSING</td>
<td>IIKC015BASKG/M-US-104-DRS/2LED</td>
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<td>2</td>
<td>PANEL STYLE HEPA FILTER</td>
<td>HVAC152 HEPA FILTER</td>
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<td>PO CHECK VALVE</td>
<td>CKCB-XCN-W3Y</td>
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<td>ROCKER STYLE LIMIT SWITCH TELEMECANIQUE</td>
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<td>RTD PROBE, SS 6MM DIAMETER X 100MM LENGTH, 4 PIN MICRO DC CONNECTOR</td>
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<td>TUBING, MARPRENE 3.2MM ID X 1.6MM WT 15M PACK</td>
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<td>3</td>
<td>STAINLESS STEEL BRISTLES</td>
<td>63595T3</td>
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<td>Type 316 Stainless Steel Globe Valve, 1/2&quot; NPT Female</td>
<td>4742K13</td>
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<td>Versa-Mnt Dial-Indicating Flowmeter for Water Brass, 1/2&quot; NPT Female, 2-1/2&quot; Dial, 0-10 GPM</td>
<td>41995K54</td>
<td></td>
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</tbody>
</table>

Contact BioSAFE Engineering to order spare or replacement parts:

**888-858-8099**
Section 4: Subcomponent Photographs and Descriptions

Hydraulic Lift System

The unit is loaded via the hydraulic lift system. A pre-tarred container is loaded onto the scale (‘d’). The weight of the unit is measured and captured by pushing the “capture weight” button (on panel ‘a’). The container is then loaded onto the lift system (‘b’). When the loading area is clear, pushing the “load” button (panel ‘a’) will shut the door and begin the automated loading process, which results in the waste being dumped into the shredder feed hopper (‘c’). The ‘Load’ button will not function until the ‘Weight Captured’ indicator (‘e’) turns green after a 10-second delay.
Control Panel

The control panel touch screen is described in more detail in section 2.

The control panel has some duplicate function to the hydraulic lift control board. The ‘Capture Weight’ and ‘Load’ buttons have the same functionality as those on the other side of the lift. The only difference is the ‘Load’ button here is also the ‘Weight Captured’ indicator light (‘e’ from the Hydraulic Lift).

To start the machine, turn the Run/Shut Down selector to ‘Start’ and press the green start button. Likewise, to shut the machine down, turn the selector to ‘Shut Down’ and press the green start button.

The USB programming port is not required for standard use of the machine, and should only be used by trained BioSAFE Engineering personnel.
Air is drawn from the lift enclosure and enters the mist eliminator chamber where moisture is separated by a wire mesh. The air then exits and goes through a pipe toward the HEPA filter cabinet.

During normal operation, regardless of whether the unit is in a cycle or not, the air is drawn through pre-filters (Ahead of the HEPA filter) and into the induced draft fan. The fan discharges through a roof top exhaust vent.
Steam Vent and Exhaust

Sterile condensate is vented from the auger negative pressure blower to minimize moisture in the processed waste. Excess liquid is drawn from the auger by the negative pressure blower and is released into the atmosphere. Re-condensed water which does not vent through the roof is drained into the sump under the auger where it will be reapplied to the shredded materials in further attempts to vent the condensate to the atmosphere.
Steam Injection and Distribution

Low pressure steam (less than 15 psi) is supplied to the unit through the brass steam injection valve. A portion of the steam is fed into the insulated steam jacket surrounding the auger (larger pipe running to the bottom of the photograph). This steam is on at all times, keeping the unit hot and ready to process waste when it is brought to the unit.

The steam is also sent to the injection nozzles mounted on the side of the auger via the upper two solenoid valves. The manual ball valves are used for manual shutoff or flow adjustment. Injection steam is on during most of the processing cycle. Thee valves are set by BioSAFE engineers and should not be adjusted.
This is a picture of the shredding chamber; the motor end is the left picture. The two electric motors are connected to 480VAC, 3Ph. 60 Hz. power. Each motor has thermal overload protection which will stop the motor if it becomes too hot. The motors transfer power via a multi-groove v-belt drive. Power is transmitted to the input shafts of the gear chamber integral to the shredder, which in turn drive the gear train within the shredder. If a motor must be removed, pay attention to the wiring detail to correctly re-wire a replacement motor. Make certain that the 3-phase power to each motor is wired to provide the correct direction of rotation for operation.
Shredder Oil Level Indicator

The left picture shows the oil level indicator for the planetary drive for the shredding chamber gear cavity. Please make certain that the oil level is within the operating lines and is a clear looking solution. Dark oil indicates that the oil should be drained at the bottom of the gearbox and refilled by removing the fill cap on the top of the shredder. You should periodically check for leaks in the gearbox and repair if necessary. Refer to the shredder manual for additional details on maintenance of the oil. Be advised that the shredder main gear box also contains oil which must be maintained and replaced periodically.

The main drain plug is located between the two shredder belts.

NOTE: Refer to SSI manual
This is a side view of the shredding chamber. The equipment has been fitted with easy access grease points (zerks) to allow for easy maintenance. With the POWER OFF, use a grease gun and lubricate these bearings at the start of each shift with a 3 of PUMPS of grease. For additional information on the shredding unit, refer to the supplied shredder manual.
The spore test carrier "egg" should be inserted into the unit by opening this small door (refer to image) under the shredder and placing the carrier “egg” containing the self contained biological indicators inside. Keep the door closed at all times during the cycle and only use approved PPE when opening the door. Follow periodic spore testing procedure outlined in this manual to complete this important procedure.

This photo shows the self contained biological indicator egg retrieval door. To open the door, loosen the two clamps and swing them out of the way. Take care that eye protection and shoulder length gauntlet gloves are worn to ensure that you are not burned during the retrieval process and that nothing falls out in your face. A special grate is supplied with the unit that is designed to slip into this opening and "catch" the SCBI eggs during the on-going quality assurance procedure. The person performing the procedure should insert this grate prior to inserting the carrier into the unit. Care should be taken that waste does not build up on the grate. If this happens, gently shake the grate to remove waste pieces. The waste will fall through the grate, but the carrier will not.
Auger Motor and Gearbox

The auger is driven by a motor attached to a gearbox at the end of the auger jacket. There are two lubrication points that should regularly be inspected for oil loss and topped up as required.

**NOTE:** Refer to motor/gearbox user manual
Chemical Pump

This pump controls the amount of chemical injected into the system.
Hydraulic Power Unit

This unit maintains hydraulic pressure for the ram and the dumper/lift assembly.
Ram Assembly

This assembly (top left) encloses the ram (bottom right) which drives waste into the shredder. This is powered by the hydraulic actuator (top right).
Recirculation Pump

This pump takes runoff water from the sump area and re-circulates it through the unit.
Section 5: Appendix
Map Supplement Tab 1
General Location Maps:
Wide View and Close View

February 2020
General Location Map (ODOT County Highway Map)
OK Medical Waste Disposal, LLC

Map Supplement Tab 2
Flood Plain FIRMetted

February 2020
Map Supplement Tab 3
Quadrangle Topographical Map

February 2020
OK Medical Waste Disposal, LLC

Map Supplement Tab 4
Existing Contours and Easements

February 2020
OK Medical Waste Disposal, LLC

Map Supplement 5
Site Layout (Wide),
Site Layout (Detail),
Facility Entrance Coordinates,
And Aesthetic Enhancement Plan

February 2020
## Parking Requirements / Provisions

<table>
<thead>
<tr>
<th>Type</th>
<th>Gross Building Area</th>
<th>Parking Spaces</th>
<th>Per Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>10,000 sq ft</td>
<td>4 spaces</td>
<td>1000</td>
</tr>
<tr>
<td>Warehouse</td>
<td>3,500 sq ft</td>
<td>2 spaces</td>
<td>1000</td>
</tr>
</tbody>
</table>

**Total Parking Provided:** 6 spaces

**Total Parking Required:** 6 spaces

- **Total Accessible Parking Spaces Provided:** 6 spaces
- **Total Accessible Parking Spaces Required:** 6 spaces

---

**Overall Site Plan**

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"PRELIMINARY"
"NOT FOR CONSTRUCTION OR IMPLEMENTATION"
"PRELIMINARY"
"NOT FOR CONSTRUCTION OR IMPLEMENTATION"
Map Supplement Tab 6
Design Cover Sheet,
Building Floor Plan,
Process Floor Plan,
and Building Elevation

February 2020
"PRELIMINARY"
"NOT FOR CONSTRUCTION OR IMPLEMENTATION"
Map Supplement Tab 7
Scenic Rivers

February 2020
Oklahoma Scenic Rivers (252:515-5-31(a))

Oklahoma's Wild & Scenic Rivers

Source information from:
- Oklahoma Scenic Rivers Act 82:1451 (Nov-11-13)
- National Wild and Scenic Rivers System
  (http://www.rivcrs.gov/index.php)
- National Park Service - Nationwide Rivers Inventory
  (http://www.nps.gov/ncrc/programs/rca/nri/index.html)
Parks & Recreational Areas
Map Supplement Tab 9
Public Water Supply
and Wellhead Protection Areas

February 2020
Map Supplement Tab 10
Wetlands

February 2020