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US ECOLOGY TULSA • 2700 SOUTH 25TH WEST AVENUE • TULSA, OKLAHOMA 74107 • *tel* 918-582-9595 • *fax* 918-560-5252

Hillary Young, P.E.
Chief Engineer
Department of Environmental Quality
Land Protection Division
707 North Robinson Ave.
Oklahoma City, OK 73102

RECEIVED
FEB 21 2025
LAND PROTECTION DIVISION
DEPT. OF ENVIRON. QLTY

Subject: Additional Information Regarding Proposed Permit Modification

Dear Ms. Young,

US Ecology Tulsa (USE Tulsa) is providing additional information on the proposed permit modification application for the USE Tulsa facility. Specifically, this letter includes:

- A summary of the requested changes to permit conditions as required by 40 CFR 270.42(b)(1)(i), including descriptions of demolition, construction, new equipment for pre-treatment, and process changes;
- Explanations on why the modifications are needed as required by 40 CFR 270.42(b)(1)(iii);
- A summary of the requested changes to the supporting documents (i.e., permit sections and attachments) referenced by the permit as required by 40 CFR 270.42(b)(1)(i); and
- The modification class of the requested changes and the rationale for this as required by 40 CFR 270.42(b)(1)(ii).

REQUESTED CHANGES TO PERMIT CONDITIONS AND EXPLANATIONS ON WHY THEY ARE NEEDED

Demolition

- USE Tulsa is proposing to remove tanks and other infrastructure no longer used at the facility and replace currently used hazardous waste tanks T-101, T-102, T-103, T-107 (i.e., Tank Farm 1 tanks) and hazardous waste treatment tank TA-2b with new tanks. The General Facility Layout (Demolition Plan) for the facility is shown on Figure A-2a in Section A. The demolition is necessary to remove unused infrastructure and to increase the efficiency of facility operations.

Construction

- USE Tulsa is proposing to expand Container Management Area 1 (CMA-1) and replace the Tank Farm 1 tanks with new hazardous waste tanks at modified Tank Farm 4. The new tanks are designated as T-407, T-408, T-409, and T-410 and are located closer to current operations than the tanks in Tank Farm 1. In addition, existing treatment tank TA-2b will be replaced

with a new treatment tank TA-2b, and new treatment tank TA-2c will be added. The General Facility Layout (Proposed Site Plan) for the facility is shown on Figure A-2b in Section A. The proposed construction is necessary to increase the efficiency of facility operation and expand the facilities treatment capabilities.

New Equipment for Pre-Treatment

- USE Tulsa is currently a large quantity handler of universal lamp waste and receives universal lamp waste designated for recycling. Under the permit modification, USE Tulsa is proposing to add the option to treat universal lamp waste on-site. Universal lamp waste designated for on-site treatment would be crushed using a bulb crusher with a built-in filter and then stabilized on-site in a treatment tanks. Adding this pre-treatment process to the facility permit would allow USE Tulsa to crush and stabilize universal lamp waste on-site in the event that recycling of the waste is not the designated management strategy.
- USE Tulsa currently pre-treats monolithic oxidizing waste streams or pool chemicals in the form of pucks via size reduction prior to proceeding into the deactivation treatment technology. Size reduction has typically been accomplished using the bucket of an excavator. However, this method for reducing waste particle size is often not efficient. Under the permit modification, USE Tulsa is proposing to use a more effective device to crush the waste into a homogeneous flowable solid for subsequent on-site treatment. The device would be a grinding attachment, free-standing waste shredder/grinder, or other equipment that provides the required function.

Process Changes

- USE Tulsa is currently permitted to treat a number of waste codes including D003 waste (reactive waste) containing cyanides. Under the proposed permit modification, all D003 waste may be treated at the facility. This change allows the facility to expand its current treatment capabilities using the currently permitted waste treatment technologies.
- Treatment of oxidizer and reactive wastes in tank TA-2a is not currently allowed under the facility permit. Under the proposed permit modification, all treatment tanks can be used for treatment of these wastes. There is no physical reason to exclude tank TA-2a from treatment of oxidizer and reactive wastes. Instead, permitting tank TA-2a provides the facility with more operational flexibility for waste treatment.
- As noted under New Equipment, USE Tulsa is proposing to add pre-treatment of lamp waste using a bulb crusher. Adding this pre-treatment process to the facility permit would allow USE Tulsa to crush and stabilize universal lamp waste on-site in the event that recycling of the waste is not the designated management strategy.
- As noted under New Equipment, USE Tulsa is proposing to enhance the pre-treatment of monolithic oxidizing waste streams or pool chemicals in the form of pucks by using a more

effective device to crush the waste into a homogeneous flowable solid for subsequent on-site treatment.

PROPOSED MODIFICATIONS TO PERMIT APPLICATION DOCUMENTS

The proposed modifications to the permit application documents are shown on the redline files provided with the permit application. The modifications include:

- Section A – Part A Application: listing the new site contact, adding process codes and design capacities for the proposed hazardous waste units, updating estimate annual quantities of hazardous waste, and adding updated facility figures and photographs.
- Section B – General Information: editorial changes only.
- Section C – Information Required for Containers: addition of a plan drawing and geometric and capacity information for proposed Expanded CMA-1.
- Section T – Information Required for Tank Systems: addition of plan drawings, detail drawings, and geometric and capacity information for proposed TA-2b, TA-2c, and the modified Tank Farm 4 tanks.
- Attachment 1 – Maps and Figures: addition of plan figures to show the proposed facility modifications and updated emergency response plan.
- Attachment 2 – Waste Characteristics and Waste Analysis Plan: modification of prohibited waste types to allow treatment of all D003 reactive waste and addition of waste forms and proposed tanks.
- Attachment 4 – Inspection Schedule and Forms: minor updates of forms using current company templates and addition of inspection forms for proposed hazardous waste units.
- Attachment 5 – Contingency Plan: addition of updated emergency response plan:
- Attachment 6 – Procedures to Prevent Hazards: editorial changes only.
- Attachment 8 – Closure and Post Closure Plan with Estimates and Insurance Information: update of closure costs to reflect the hazardous waste units shown on the General Facility Layout (Proposed Site Plan) [Figure A-2b in Section A].
- Attachment 10 – Process Description: addition of proposed hazardous waste units, information on the waste profile review, descriptions of current treatment technologies and safety precautions for D003 waste, and descriptions of the new equipment (i.e., bulb crusher and waste crushing device) proposed for waste pre-treatment.
- Attachment 11 – RCRA Air Emission Controls: addition of proposed tanks.
- Attachment 12 – Solid Waste Management Activities: editorial changes only; and

- Application: Minor editorial edits throughout the application to update submittal dates and terminology and enhance document consistency.

PERMIT MODIFICATION CLASS AND TIER

The class and Tier of the proposed permit modification for the USE Tulsa facility depends on the percent increases in the treatment and storage capacities of the hazardous waste units at the facility and the significance of other proposed modifications to the permit.

Permit Modification Class

The permit modification class is evaluated from the modification descriptions and corresponding classes, from 1 to 3, listed in Appendix I to 40 CFR 270.42.

The Class 1 modifications included in the permit application and shown on the redlines include:

- Administrative and information changes;
- Correction of typographical errors;
- Changes in the frequency of or procedures for monitoring, reporting, sampling, or maintenance activities by the permittee;
- Update of office phone number for primary emergency coordinator listed in Contingency Plan; and
- Changes in estimate of maximum inventory of waste on-site at any time during the active life of the facility, due to the addition of new units or expansion of units;
- Removal of some existing tank units and addition of tanks units to increase the facility's tank capacity to treat wastes that are restricted from land disposal[1]; and
- Addition of new waste codes (i.e., all D003 wastes) for waste that can be treated on site to meet Land Disposal Restrictions (LDRs)[1].

The Class 2 modifications included in the permit application and shown on the redlines include:

- Change in frequency of inspection schedule for tanks farm areas from annual to daily;
- Expanding CMA-1 to increase the facility's container storage capacity by 9.9%, which is less than the up to 25% increase covered by a Class 2 modification (see Table 1);
- Removal of some existing tank units and addition of tanks units to increase the facility's tank storage capacity by 14.4%, except as provided by 40 CFR 270.42 Appendix I, G(1)(e), which is less than the up to 25% increase covered by a Class 2 modification (see Table 1); and

[1] Per 40 CFR 270.42 Appendix I G(1)(e), "modification of addition of tank units or treatment processes necessary to treat wastes that are restricted from land disposal to meet some of all of the applicable treatment standards" and the "addition of new waste codes" is a Class 1 modification with the approval of the Director.

- Management of all D003 waste in treatment tanks that do not require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment processes than currently authorized in the permit.

No Class 3 modifications are proposed.

Table 1. Proposed Increase in Storage Capacity of Containers and Tanks.

Permitted Values					
Existing			**Proposed**		
CMA Storage Volumes			CMA Storage Volumes		
CMA-1	10,560	gal	CMA-1	33,000	gal
CMA-2	4,840	gal	CMA-2	4,840	gal
CMA-3	30,560	gal	CMA-3	30,560	gal
CMA-4	181,776	gal	CMA-4	181,776	gal
Tank Storage Volumes*			Tank Storage Volumes*		
T-101	16,800	gal	T-407	19,960	gal
T-102	19,960	gal	T-408	19,960	gal
T-103	19,960	gal	T-409	19,960	gal
T-104	13,077	gal	T-410	19,960	gal
TA-2a/TA-2b*	15,945	gal	TA-2a*	8,624	gal
			TA-2b*	44,276	gal
			TA-2c*	44,276	gal

Existing CMA Storage	227,736	gal	Proposed CMA Storage	250,176	gal
Existing Tank Storage	69,797	gal	Proposed Tank Storage	79,840	gal

% CMA Storage Increase	9.9%
% Tank Storage Increase	14.4%

*Tank storage volume exclude treatment tanks (TA-2a, TA-2b, and TA-2c) per 40 CFR 270.42 Appendix I, G(1)(e)

Based on the above, the permit modification is a ***Class 2 modification***.

Permit Modification Tier

Under Oklahoma Administrative Code (OAC) 252:4-7-52, Class 1 and Class 2 permit modifications as defined in 40 CFR 270.42 Appendix I require a Tier I application under Oklahoma DEQ rules. No other Tier I actions listed in 40 CFR 270.42 are proposed.

Per OAC 252:4-7-53, if a Class 3 permit modification were proposed, a Tier II application would be required. However, as demonstrated above in the evaluation of the Class of the permit modification, only Class 1 and 2 modifications are proposed.

A Tier III application would be required if a fifty percent or greater in permitted capacity for storage or treatment was proposed. However, as documented in Appendix I of Attachment 10 and shown in Table 2 below, the proposed increase in permitted storage or treatment capacity is less than 50%. Further the proposed increases in the capacity of the CMAs and tanks were evaluated to be less than 25% under 40 CFR 270.42 Appendix I. Additionally, the proposed permit modifications are only considered Class 1 or 2 under 40 CFR 270.42 Appendix I and are not considered to be significantly different in terms of treatment and storage methods or units from those permitted.

Therefore, the proposed permit modification is considered a ***Class 2, Tier I modification***.

Table 2. Proposed Increase in Facility Storage and Treatment Capacity.

Permitted Values					
Existing			**Proposed**		
Storage			Storage		
CMA-1	10,560	gal	T-407	19,960	gal
CMA-2	4,840	gal	T-408	19,960	gal
CMA-3	30,560	gal	T-409	19,960	gal
CMA-4	181,776	gal	T-410	19,960	gal
			CMA-1	33,000	gal
			CMA-2	4,840	gal
			CMA-3	30,560	gal
			CMA-4	181,776	gal
Treatment			Treatment		
TA-2a	25,851	gal	TA-2a	12,000	gal
TA-2b	21,991	gal	TA-2b	82,000	gal
T101	16,800	gal	TA-2c	82,000	gal
T102	19,960	gal			
T103	19,960	gal			
T107	13,077	gal			

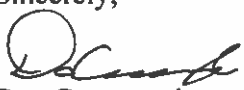
Existing Storage	227,736	gal	Proposed Storage	330,016	gal
Existing Treatment	117,639	gal	Proposed Treatment	176,000	gal

% Storage Increase	44.9%
% Treatment Increase	49.6%

As the proposed permit modification is classified as a Class 2, Tier I modification, public notice of filing of the application is not required.

Should you have any questions regarding this letter or require additional information, please do not hesitate to contact me at (918) 560-5260 or dcavanaugh@republicservices.com.

Sincerely,



Dan Cavanaugh
Environmental Compliance Manager

PERMIT MODIFICATION APPLICATION

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (Select only one.)

☐	Obtaining or updating an EPA ID number for on-going regulated activities (Items 10-17) that will continue for a period of time.
☐	Submitting as a component of the Hazardous Waste Report for _____(Reporting Year)
	☐ Site was a TSD facility and/or generator of ≥ 1,000 kg of non-acute hazardous waste, >1 kg of acute hazardous waste, or > 100 kg of acute hazardous waste spill cleanup in **o**ne or more months of the reporting year (or State equivalent LQG regulations)
☐	Notifying that regulated activity is no longer occurring at this Site
☐	Obtaining or updating an EPA ID number for conducting Electronic Manifest Broker activities
☒	Submitting a new or revised Part A Form

2/10/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

2. Site EPA ID Number

O	K	D	0	0	0	4	0	2	3	9	6

3. Site Name

US Ecology Tulsa, Inc.

4. Site Location Address

Street Address: 2700 S. 25th W. Ave.		
City, Town, or Village: Tulsa		Tulsa
State: Oklahoma	Country: USA	Zip Code: 74104
Latitude: 36.121574	Longitude: -96.020577	☐ Use Lat/Long as Primary Address

5. Site Mailing Address ☒ **Same as Location Address**

Street Address		
City, Town, or Village		
State	Country	Zip Code

6. Site Land Type

☒Private ☐County ☐District ☐Federal ☐Tribal ☐Municipal ☐Other

7. North American Industry Classification System (NAICS) Code(s) for the Site (at least 5-digit codes)

A. (Primary) 562211	C.
B.	D.

8. Site Contact Information ☒ **Same as Location Address**

First Name: Dan	MI:	Last Name: Cavanaugh
Title: Environmental Compliance Manager		
Street Address:		
City, Town, or Village:		
State:	Country:	Zip Code:
Email: dcavanaugh@republicservices.com		
Phone: 918-808-1100	Ext	Fax: 918-560-5252

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner ☒ **Same as Location Address**

Full Name: US Ecology Tulsa Inc.		Date Became Owner (mm/dd/yyyy) 6/18/2014
Owner Type ☒Private ☐County ☐District ☐Federal ☐Tribal ☐Municipal ☐State ☐Other		
Street Address:		
City, Town, or Village		
State	Country	Zip Code
Email		
Phone: (918) 582-9595	Ext	Fax
Comments		

B. Name of Site's Legal Operator ☒ **Same as Location Address**

Full Name: US Ecology Tulsa Inc.		Date Became Owner (mm/dd/yyyy):
Owner Type ☒Private ☐County ☐District ☐Federal ☐Tribal ☐Municipal ☐State ☐Other		
Street Address		
City, Town, or Village		
State	Country	Zip Code
Email		
Phone: (918) 582-9595	Ext	Fax
Comments		

10. Type of Regulated Waste Activity (at your site)

Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities

☒Y ☐N	1. Generator of Hazardous Waste—If "Yes", mark only one of the following—a, b, c	
☒	a. LQG	- Generates, in any calendar month, 1,000 kg/mo (2,200 lb/mo) or more of non-acute hazardous waste (includes quantities imported by importer site); or - Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lb/mo) of acute hazardous waste; or - Generates, in any calendar month or accumulates at any time, more than 100 kg/mo (220 lb/mo) of acute hazardous spill cleanup material.
☐	b. SQG	100 to 1,000 kg/mo (220-2,200 lb/mo) of non-acute hazardous waste and no more than 1 kg (2.2 lb) of acute hazardous waste and no more than 100 kg (220 lb) of any acute hazardous spill cleanup material.
☐	c. VSQG	Less than or equal to 100 kg/mo (220 lb/mo) of non-acute hazardous waste.
☐Y ☒N	2. Short-Term Generator (generates from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section. *Note: If "Yes", you MUST indicate that you are a Generator of Hazardous Waste in Item 10.A.1 above.*	
☒Y ☐N	3. Treater, Storer or Disposer of Hazardous Waste—Note: Part B of a hazardous waste permit is required for these activities.	
☒Y ☐N	4. Receives Hazardous Waste from Off-site	
☒Y ☐N	5. Recycler of Hazardous Waste	
☒	a. Recycler who stores prior to recycling	
☐	b. Recycler who does not store prior to recycling	
☐Y ☒N	6. Exempt Boiler and/or Industrial Furnace—If "Yes", mark all that apply.	
☐	a. Small Quantity On-site Burner Exemption	
☐	b. Smelting, Melting, and Refining Furnace Exemption	

B. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g. D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	D002	D003	D004	D005	D006	D007
D008	D009	D010	D011	D012	D013	D014
D015	D016	D017	D018	D019	D020	D021
D022	D023	D024	D025	D026	D027	D028
D029	D030	D031	D032	D033	D034	D035

C. Waste Codes for State Regulated (non-Federal) Hazardous Wastes. Please list the waste codes of the State hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

10B. **Waste Codes for Federally Regulated Hazardous Wastes.** (continued)

D036	D037	D038	D039	D040	D041	D042
D043						
F001	F002	F003	F004	F005	F006	F007
F008	F009	F010	F011	F012	F019	F020
F021	F022	F023	F024	F025	F026	F027
F028	F032	F034	F035	F037	F038	F039
K001	K002	K003	K004	K005	K006	K007
K008	K009	K010	K011	K013	K014	K015
K016	K017	K018	K019	K020	K021	K022
K023	K024	K025	K026	K027	K028	K029
K030	K031	K032	K033	K034	K035	K036
K037	K038	K039	K040	K041	K042	K043
K044	K045	K046	K047	K048	K049	K050
K051	K052	K060	K061	K062	K069	K071
K073	K083	K084	K085	K086	K087	K088
K093	K094	K095	K096	K097	K098	K099
K100	K101	K102	K103	K104	K105	K106
K107	K108	K109	K110	K111	K112	K113
K114	K115	K116	K117	K118	K123	K124
K125	K126	K131	K132	K136	K141	K142
K143	K144	K145	K147	K148	K149	K150
K151		K156	K157	K158	K159	K161
K169	K170	K171	K172	K174	K175	K176
K177	K178	K181				
P001	P002	P003	P004	P005	P006	P007
P008	P009	P010	P011	P012	P013	P014
P015	P016	P017	P018	P020	P021	P022
P023	P024		P026	P027	P028	P029
P030	P031	P033	P034	P036	P037	P038
P039	P040	P041	P042	P043	P044	P045
P046	P047	P048	P049	P050	P051	P054
P056	P057	P058	P059	P060	P062	P063
P064	P065	P066	P067	P068	P069	P070
P071	P072	P073	P074	P075	P076	P077
P078	P081	P082	P084	P085	P087	P088
P089	P092	P093	P094	P095	P096	P097
P098	P099	P101	P102	P103	P104	P105
P106	P108	P109	P110	P111	P112	P113
P114	P115	P116		P118	P119	P120
P121	P122	P123	P127	P128	P185	P188
P189	P190	P191	P192	P194	P196	P197
P198	P199	P201	P202	P203	P204	P205
U001	U002	U003	U004	U005	U006	U007

U008	U009	U010	U011	U012	U014	U015
U016	U017	U018	U019	U020	U021	U022
U023	U024	U025	U026	U027	U028	U029
U030	U031	U032	U033	U034	U035	U036
U037	U038	U039	U041	U042	U043	U044
U045	U046	U047	U048	U049	U050	U051
U052	U053	U055	U056	U057	U058	U059
U060	U061	U062	U063	U064	U066	U067
U068	U069	U070	U071	U072	U073	U074
U075	U076	U077	U078	U079	U080	U081
U082	U083	U084	U085	U086	U087	U088
U089	U090	U091	U092	U093	U094	U095
U096	U097	U098	U099	U101	U102	U103
U105	U106	U107	U108	U109	U110	U111
U112	U113	U114	U115	U116	U117	U118
U119	U120	U121	U122	U123	U124	U125
U126	U127	U128	U129	U130	U131	U132
U133	U134	U135	U136	U137	U138	U140
U141	U142	U143	U144	U145	U146	U147
U148	U149	U150	U151	U152	U153	U154
U155	U156	U157	U158	U159	U160	U161
U162	U163	U164	U165	U166	U167	U168
U169	U170	U171	U172	U173	U174	U176
U177	U178	U179	U180	U181	U182	U183
U184	U185	U186	U187	U188	U189	U190
U191	U192	U193	U194	U196	U197	U200
U201	U202	U203	U204	U205	U206	U207
U208	U209	U210	U211	U213	U214	U215
U216	U217	U218	U219	U220	U221	U222
U223	U225	U226	U227	U228	U234	U235
U236	U237	U238	U239	U240	U243	U244
U246	U247	U248	U249	U271	U278	U279
U280	U328	U353	U359	U364	U367	U372
U373	U387	U389	U394	U395	U404	U409
U410	U411					

11. Additional Regulated Waste Activities (NOTE: Refer to your State regulations to determine if a separate permit is required.)

A. Other Waste Activities

☒Y ☐N	1. Transporter of Hazardous Waste—If "Yes", mark all that apply.
☒	a. Transporter
☒	b. Transfer facility (at your site)
☐Y ☒N	2. Underground Injection Control
☒Y ☐N	3. United States Importer of Hazardous Waste
☐Y ☒N	4. Recognized Trader – If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter
☒Y ☐N	5. Importer/Exporter of Spent Lead-Acid Batteries (SLABs) under 40 CFR 266 Subpart G—If "Yes", mark all that apply.
☒	a. Importer
☒	b. Exporter

B. Universal Waste Activities

☒Y ☐N	1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) - If "Yes" mark all that apply. Note: Refer to your State regulations to determine what is regulated.
☒	a. Batteries
☒	b. Pesticides
☒	c. Mercury Containing Equipment
☒	d. Lamps
☒	e. Aerosol Cans
☐	f. Other (specify) _____
☐	g. Other (specify) _____
☐Y ☒N	2. Destination Facility for Universal Waste. Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities

☒Y ☐N	1. Used Oil Transporter—If "Yes", mark all that apply.
☒	a. Transporter
☒	b. Transfer facility (at your site)
☐Y ☒N	2. Used Oil Processor and/or Re-refiner – If "Yes", mark all that apply
☐	a. Processor
☐	b. Re-refiner
☐Y ☒N	3. Off-Specification Used Oil Burner
☐Y ☒N	4. Used Oil Fuel Marketer – If "Yes", mark all that apply
☐	a. Marketer Who Directs Shipments of Off-Specification Used Oil to Off-Specification Used Oil Burner
☐	b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Pharmaceutical Activities

☒Y ☐N	1. Operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals – If "Yes", mark only one. Note: See the Item-by-Item Instructions for definitions of healthcare facility and reverse distributor..
☐	a. Healthcare Facility
☒	b. Reverse Distributor
☐Y ☒N	2. Withdrawing from operating under 40 CFR 266, Subpart P for the management of hazardous waste pharmaceuticals. Note: You may only withdraw if you are a healthcare facility that is a VSQG for all of your hazardous waste, including hazardous waste pharmaceuticals.

12. Eligible Academic Entities with Laboratories – Notification for opting into or withdrawing from managing laboratory hazardous waste pursuant to 40 CFR Part 262, Subpart K.

☐Y ☒N	A. Opting into or currently operating under 40 CFR 262 Subpart K for the management of hazardous wastes in laboratories—If "Yes", mark all that apply. Note: See the item-by-item instructions for definitions of types of eligible academic entities.
☐	1. College or University
☐	2. Teaching Hospital that is owned by or has a formal written affiliation with a college or university
☐	3. Non-profit Institute that is owned by or has a formal written affiliation with a college or university
☐Y ☒N	B. Withdrawing from 40 CFR 262 Subpart K for the management of hazardous wastes in laboratories.

13. Episodic Generation

☐Y ☒N	Are you an SQG or VSQG generating hazardous waste from a planned or unplanned episodic event, lasting no more than 60 days, that moves you to a higher generator category. If "Yes", you must fill out the Addendum for Episodic Generator.

14. LQG Consolidation of VSQG Hazardous Waste

☐Y ☒N	A. Are you an LQG notifying of consolidating VSQG Hazardous Waste Under the Control of the Same Person pursuant to 40 CFR 262.17(f)? If "Yes", you must fill out the Addendum for LQG Consolidation of VSQG hazardous waste.

15. Notification of LQG Site Closure for a Central Accumulation Area (CAA) (optional) OR Entire Facility (required)

☐Y ☒N	LQG Site Closure of a Central Accumulation Area (CAA) or Entire Facility..
☐ A. Central Accumulation Area (CAA) or ☐ Entire Facility	
B. Expected closure date:_____mm/dd/yyyy	
C. Requesting new closure date:_____mm/dd/yyyy	
D. Date closed : _____mm/dd/yyyy ☐ 1. In compliance with the closure performance standards 40 CFR 262.17(a)(8) ☐ 2. Not in compliance with the closure performance standards 40 CFR 262.17(a)(8)	

16. Notification of Hazardous Secondary Material (HSM) Activity

☐Y ☒N	Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 260.30, 40 CFR 261.4(a)(23), (24), (25) or (27)? If "Yes", you must fill out the Addendum to the Site Identification Form for Managing Hazardous Secondary Material.

17. Electronic Manifest Broker

☐Y ☒N	Are you notifying as a person, as defined in 40 CFR 260.10, electing to use the EPA electronic manifest system to obtain, complete, and transmit an electronic manifest under a contractual relationship with a hazardous waste generator?

18. Comments (Include the item number for each comment)

Additional page attached for section 10b. – Waste Codes for Federally Regulated Hazardous Waste (pages 4 and 5 of 8).

19. Certification 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 fines and imprisonment for knowing violations. **Note: For the RCRA Hazardous Waste Part A Permit Application, all owners and operators must sign (see 40 CFR 270.10(b) and 270.11)**.

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy) 1/21/2025
Printed Name (First, Middle Initial Last) Vincent Scheerer	Title Vice President, US Ecology Tulsa
Email VScheerer@republicservices.com	

EPA ID Number	O	K	D	0	0	0	4	0	2	3	9	6

OMB# 2050-0024; Expires 04/30/2024

United States Environmental Protection Agency
HAZARDOUS WASTE PERMIT PART A FORM

1. Facility Permit Contact

First Name Dan	MI:	Last Name Cavanaugh
Title Environmental Compliance Manager		
Email dcavanaugh@republicservices.com		
Phone 918-560-5260	Ext	Fax 918-560-5252

2. Facility Permit Contact Mailing Address

Street Address 2700 S. 25th W. Ave.		
City, Town, or Village Tulsa		
State Oklahoma	Country USA	Zip Code 74107

3. Facility Existence Date (mm/dd/yyyy)

1972

4. Other Environmental Permits

A. Permit Type	B. Permit Number	C. Description
E	2019-0826-O	Synthetic Minor Source Air Permit

5. Nature of Business

US Ecology Tulsa, Inc. is a Treatment, Storage, and Disposal Facility (TSDF) for hazardous and solid waste.

6. Process Codes and Design Capacities (See Appendix 1 in Attachment 10 for reference)

Line Number		A. Process Code			B. Process Design Capacity		C. Process Total Number of Units	D. Unit Name
					(1) Amount	(2) Unit of Measure		
0	1	S	0	1	45,960	G	3	Existing: CMA-1, CMA-2, CMA-3
0	2	S	0	2	69,797*	G	4	Existing: T-101, T-102, T-103, T-107
0	3	T	0	1	69,797*	U	4	Existing: T-101, T-102, T-103, T-107
0	4	T	0	1	47,842	U	2	Existing: TA-2a, TA-2b
0	5	S	0	2	79.0	Y	2	Existing: TA-2a, TA-2b
0	6	S	0	1	900	Y	1	Existing: CMA-4
0	1	S	0	1	68,400	G	3	Proposed: CMA-1, CMA-2, CMA-3
0	2	S	0	2	79,840	G	4	Proposed: T-407, T-408, T-409, T-410
0	3	T	0	1	176,000	U	3	Existing: TA-2a and Proposed: TA-2b, TA-2c
0	4	S	0	2	481 (97,150)	Y (G)	3	Existing: TA-2a and Proposed: TA-2b, TA-2c
0	5	S	0	1	900 (181,776)	Y (G)	1	Proposed: CMA-4

*The previously submitted Part A has this total as 68,720 gal, with the assumption that T-107 is 12,000 gal. However, Table 2 of Section IV of the Operating Permit has T-107 as 13,077 gal. By making this change, our new total for lines 02 and 03 of the existing values becomes 69,797 gal.

7. Description of Hazardous Wastes (Enter codes for Items 7.A, 7.C and 7.D(1))

Line No.			A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes									
									(1) Process Codes									(2) Process Description (if code is not entered in 7.D1))
0	0	1	D	0	0	1	15,000	T	S	0	1	S	0	2	T	0	1	
0	0	2	D	0	0	2	15,000	T	S	0	1	S	0	2	T	0	1	
0	0	3	D	0	0	3	15,000	T	S	0	1	S	0	2	T	0	1	
0	0	4	D	0	0	4	15,000	T	S	0	1	S	0	2	T	0	1	
0	0	5	D	0	0	5	15,000	T	S	0	1	S	0	2	T	0	1	
0	0	6	D	0	0	6	15,000	T	S	0	1	S	0	2	T	0	1	
0	0	7	D	0	0	7	15,000	T	S	0	1	S	0	2	T	0	1	
0	0	8	D	0	0	8	15,000	T	S	0	1	S	0	2	T	0	1	
0	0	9	D	0	0	9	15,000	T	S	0	1	S	0	2	T	0	1	
0	1	0	D	0	1	0	15,000	T	S	0	1	S	0	2	T	0	1	
0	1	1	D	0	1	1	15,000	T	S	0	1	S	0	2	T	0	1	
0	1	2	D	0	1	2	10,000	T	S	0	1	S	0	2	T	0	1	
0	1	3	D	0	1	3	10,000	T	S	0	1	S	0	2	T	0	1	
0	1	4	D	0	1	4	10,000	T	S	0	1	S	0	2	T	0	1	
0	1	5	D	0	1	5	10,000	T	S	0	1	S	0	2	T	0	1	
0	1	6	D	0	1	6	10,000	T	S	0	1	S	0	2	T	0	1	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
017	D017	10,000	T	S01 S02 T01	
018	D018	50,000	T	S01 S02 T01	
019	D019	25,000	T	S01 S02 T01	
020	D020	25,000	T	S01 S02 T01	
021	D021	25,000	T	S01 S02 T01	
022	D022	25,000	T	S01 S02 T01	
023	D023	25,000	T	S01 S02 T01	
024	D024	25,000	T	S01 S02 T01	
025	D025	25,000	T	S01 S02 T01	
026	D026	25,000	T	S01 S02 T01	
027	D027	25,000	T	S01 S02 T01	
028	D028	25,000	T	S01 S02 T01	
029	D029	25,000	T	S01 S02 T01	
030	D030	25,000	T	S01 S02 T01	
031	D031	25,000	T	S01 S02 T01	
032	D032	25,000	T	S01 S02 T01	
033	D033	25,000	T	S01 S02 T01	
034	D034	25,000	T	S01 S02 T01	
035	D035	25,000	T	S01 S02 T01	
036	D036	25,000	T	S01 S02 T01	
037	D037	25,000	T	S01 S02 T01	
038	D038	25,000	T	S01 S02 T01	
039	D039	25,000	T	S01 S02 T01	
040	D040	25,000	T	S01 S02 T01	
041	D041	25,000	T	S01 S02 T01	
042	D042	25,000	T	S01 S02 T01	
043	D043	25,000	T	S01 S02 T01	
044	F001	25,000	T	S01 S02 T01	
045	F002	25,000	T	S01 S02 T01	
046	F003	25,000	T	S01 S02 T01	
047	F004	25,000	T	S01 S02 T01	
048	F005	25,000	T	S01 S02 T01	
049	F006	50,000	T	S01 S02 T01	
050	F007	2,000	T	S01 S02 T01	
051	F008	2,000	T	S01 S02 T01	
052	F009	2,000	T	S01 S02 T01	
053	F010	2,000	T	S01 S02 T01	
054	F011	2,000	T	S01 S02 T01	
055	F012	2,000	T	S01 S02 T01	
056	F019	10,000	T	S01 S02 T01	
057	F020	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
058	F021	2,000	T	S01 S02 T01	
059	F022	2,000	T	S01 S02 T01	
060	F023	2,000	T	S01 S02 T01	
061	F024	2,000	T	S01 S02 T01	
062	F025	2,000	T	S01 S02 T01	
063	F026	2,000	T	S01 S02 T01	
064	F027	2,000	T	S01 S02 T01	
065	F028	2,000	T	S01 S02 T01	
066	F032	2,000	T	S01 S02 T01	
067	F034	2,000	T	S01 S02 T01	
068	F035	2,000	T	S01 S02 T01	
069	F037	2,000	T	S01 S02 T01	
070	F038	2,000	T	S01 S02 T01	
071	F039	2,000	T	S01 S02 T01	
072	K001	2,000	T	S01 S02 T01	
073	K002	2,000	T	S01 S02 T01	
074	K003	2,000	T	S01 S02 T01	
075	K004	2,000	T	S01 S02 T01	
076	K005	2,000	T	S01 S02 T01	
077	K006	2,000	T	S01 S02 T01	
078	K007	2,000	T	S01 S02 T01	
079	K008	2,000	T	S01 S02 T01	
080	K009	2,000	T	S01 S02 T01	
081	K010	2,000	T	S01 S02 T01	
082	K011	2,000	T	S01 S02 T01	
083	K013	2,000	T	S01 S02 T01	
084	K014	2,000	T	S01 S02 T01	
085	K015	2,000	T	S01 S02 T01	
086	K016	2,000	T	S01 S02 T01	
087	K017	2,000	T	S01 S02 T01	
088	K018	2,000	T	S01 S02 T01	
089	K019	2,000	T	S01 S02 T01	
090	K020	2,000	T	S01 S02 T01	
091	K021	2,000	T	S01 S02 T01	
092	K022	2,000	T	S01 S02 T01	
093	K023	2,000	T	S01 S02 T01	
094	K024	2,000	T	S01 S02 T01	
095	K025	2,000	T	S01 S02 T01	
096	K026	2,000	T	S01 S02 T01	
097	K027	2,000	T	S01 S02 T01	
098	K028	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
0 9 9	K 0 2 9	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 0	K 0 3 0	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 1	K 0 3 1	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 2	K 0 3 2	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 3	K 0 3 3	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 4	K 0 3 4	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 5	K 0 3 5	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 6	K 0 3 6	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 7	K 0 3 7	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 8	K 0 3 8	2,000	T	S 0 1 S 0 2 T 0 1	
1 0 9	K 0 3 9	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 0	K 0 4 0	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 1	K 0 4 1	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 2	K 0 4 2	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 3	K 0 4 3	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 4	K 0 4 4	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 5	K 0 4 5	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 6	K 0 4 6	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 7	K 0 4 7	2,000	T	S 0 1 S 0 2 T 0 1	
1 1 8	K 0 4 8	50,000	T	S 0 1 S 0 2 T 0 1	
1 1 9	K 0 4 9	50,000	T	S 0 1 S 0 2 T 0 1	
1 2 0	K 0 5 0	50,000	T	S 0 1 S 0 2 T 0 1	
1 2 1	K 0 5 1	50,000	T	S 0 1 S 0 2 T 0 1	
1 2 2	K 0 5 2	50,000	T	S 0 1 S 0 2 T 0 1	
1 2 3	K 0 6 0	10,000	T	S 0 1 S 0 2 T 0 1	
1 2 4	K 0 6 1	2,000	T	S 0 1 S 0 2 T 0 1	
1 2 5	K 0 6 2	50,000	T	S 0 1 S 0 2 T 0 1	
1 2 6	K 0 6 9	2,000	T	S 0 1 S 0 2 T 0 1	
1 2 7	K 0 7 1	2,000	T	S 0 1 S 0 2 T 0 1	
1 2 S	K 0 7 3	2,000	T	S 0 1 S 0 2 T 0 1	
1 2 9	K 0 8 3	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 0	K 0 8 4	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 1	K 0 8 5	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 2	K 0 8 6	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 3	K 0 8 7	10,000	T	S 0 1 S 0 2 T 0 1	
1 3 4	K 0 8 8	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 S	K 0 9 3	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 6	K 0 9 4	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 7	K 0 9 5	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 S	K 0 9 6	2,000	T	S 0 1 S 0 2 T 0 1	
1 3 9	K 0 9 7	2,000	T	S 0 1 S 0 2 T 0 1	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
140	K098	2,000	T	S01 S02 T01	
141	K099	2,000	T	S01 S02 T01	
142	K100	2,000	T	S01 S02 T01	
143	K101	2,000	T	S01 S02 T01	
144	K102	2,000	T	S01 S02 T01	
145	K103	2,000	T	S01 S02 T01	
146	K104	2,000	T	S01 S02 T01	
147	K105	2,000	T	S01 S02 T01	
148	K106	2,000	T	S01 S02 T01	
149	K107	2,000	T	S01 S02 T01	
150	K108	2,000	T	S01 S02 T01	
151	K109	2,000	T	S01 S02 T01	
152	K110	2,000	T	S01 S02 T01	
153	K111	2,000	T	S01 S02 T01	
154	K112	2,000	T	S01 S02 T01	
155	K113	2,000	T	S01 S02 T01	
156	K114	2,000	T	S01 S02 T01	
157	K115	2,000	T	S01 S02 T01	
158	K116	2,000	T	S01 S02 T01	
159	K117	2,000	T	S01 S02 T01	
160	K118	2,000	T	S01 S02 T01	
161	K123	2,000	T	S01 S02 T01	
162	K124	2,000	T	S01 S02 T01	
163	K125	2,000	T	S01 S02 T01	
164	K126	2,000	T	S01 S02 T01	
165	K131	2,000	T	S01 S02 T01	
166	K132	2,000	T	S01 S02 T01	
167	K136	2,000	T	S01 S02 T01	
168	K141	10,000	T	S01 S02 T01	
169	K142	10,000	T	S01 S02 T01	
170	K143	10,000	T	S01 S02 T01	
171	K144	10,000	T	S01 S02 T01	
172	K145	10,000	T	S01 S02 T01	
173	K147	10,000	T	S01 S02 T01	
174	K148	10,000	T	S01 S02 T01	
175	K149	10,000	T	S01 S02 T01	
176	K150	10,000	T	S01 S02 T01	
177	K151	10,000	T	S01 S02 T01	
178	K156	10,000	T	S01 S02 T01	
179	K157	10,000	T	S01 S02 T01	
180	K158	10,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
181	K159	10,000	T	S01 S02 T01	
182	K161	10,000	T	S01 S02 T01	
183	K169	10,000	T	S01 S02 T01	
184	K170	10,000	T	S01 S02 T01	
185	K171	10,000	T	S01 S02 T01	
186	K172	10,000	T	S01 S02 T01	
187	K174	10,000	T	S01 S02 T01	
188	K175	10,000	T	S01 S02 T01	
189	K176	10,000	T	S01 S02 T01	
190	K177	10,000	T	S01 S02 T01	
191	K178	10,000	T	S01 S02 T01	
192	K181	10,000	T	S01 S02 T01	
193	P001	2,000	T	S01 S02 T01	
194	P002	2,000	T	S01 S02 T01	
195	P003	2,000	T	S01 S02 T01	
196	P004	2,000	T	S01 S02 T01	
197	P005	2,000	T	S01 S02 T01	
198	P006	2,000	T	S01 S02 T01	
199	P007	2,000	T	S01 S02 T01	
200	P008	2,000	T	S01 S02 T01	
201	P009	2,000	T	S01 S02 T01	
202	P010	2,000	T	S01 S02 T01	
203	P011	2,000	T	S01 S02 T01	
204	P012	2,000	T	S01 S02 T01	
205	P013	2,000	T	S01 S02 T01	
206	P014	2,000	T	S01 S02 T01	
207	P015	2,000	T	S01 S02 T01	
208	P016	2,000	T	S01 S02 T01	
209	P017	2,000	T	S01 S02 T01	
210	P018	2,000	T	S01 S02 T01	
211	P020	2,000	T	S01 S02 T01	
212	P021	2,000	T	S01 S02 T01	
213	P022	2,000	T	S01 S02 T01	
214	P023	2,000	T	S01 S02 T01	
215	P024	2,000	T	S01 S02 T01	
216	P026	2,000	T	S01 S02 T01	
217	P027	2,000	T	S01 S02 T01	
218	P028	2,000	T	S01 S02 T01	
219	P029	2,000	T	S01 S02 T01	
220	P030	2,000	T	S01 S02 T01	
221	P031	2,000	T	S01 S02 T01	
222	P033	2,000	T	S01 S02 T01	
223	P034	2,000	T	S01 S02 T01	
224	P036	2,000	T	S01 S02 T01	
225	P037	2,000	T	S01 S02 T01	
226	P038	2,000	T	S01 S02 T01	
227	P039	2,000	T	S01 S02 T01	
228	P040	2,000	T	S01 S02 T01	
229	P041	2,000	T	S01 S02 T01	
230	P042	2,000	T	S01 S02 T01	
231	P043	2,000	T	S01 S02 T01	
232	P044	2,000	T	S01 S02 T01	
233	P045	2,000	T	S01 S02 T01	
234	P046	2,000	T	S01 S02 T01	
235	P047	2,000	T	S01 S02 T01	
236	P048	2,000	T	S01 S02 T01	
237	P049	2,000	T	S01 S02 T01	
238	P050	2,000	T	S01 S02 T01	
239	P051	2,000	T	S01 S02 T01	
240	P052	2,000	T	S01 S02 T01	
241	P053	2,000	T	S01 S02 T01	
242	P054	2,000	T	S01 S02 T01	
243	P056	2,000	T	S01 S02 T01	
244	P057	2,000	T	S01 S02 T01	
245	P058	2,000	T	S01 S02 T01	
246	P059	2,000	T	S01 S02 T01	
247	P060	2,000	T	S01 S02 T01	
248	P062	2,000	T	S01 S02 T01	
249	P063	2,000	T	S01 S02 T01	
250	P064	2,000	T	S01 S02 T01	
251	P065	2,000	T	S01 S02 T01	
252	P066	2,000	T	S01 S02 T01	
253	P067	2,000	T	S01 S02 T01	
254	P068	2,000	T	S01 S02 T01	
255	P069	2,000	T	S01 S02 T01	
256	P070	2,000	T	S01 S02 T01	
257	P071	2,000	T	S01 S02 T01	
258	P072	2,000	T	S01 S02 T01	
259	P073	2,000	T	S01 S02 T01	
260	P074	2,000	T	S01 S02 T01	
261	P075	2,000	T	S01 S02 T01	
262	P076	2,000	T	S01 S02 T01	
263	P077	2,000	T	S01 S02 T01	
264	P078	2,000	T	S01 S02 T01	
265	P081	2,000	T	S01 S02 T01	
266	P082	2,000	T	S01 S02 T01	
267	P084	2,000	T	S01 S02 T01	
268	P085	2,000	T	S01 S02 T01	
269	P087	2,000	T	S01 S02 T01	
270	P088	2,000	T	S01 S02 T01	
271	P089	2,000	T	S01 S02 T01	
272	P092	2,000	T	S01 S02 T01	
273	P093	2,000	T	S01 S02 T01	
274	P094	2,000	T	S01 S02 T01	
275	P095	2,000	T	S01 S02 T01	
276	P096	2,000	T	S01 S02 T01	
277	P097	2,000	T	S01 S02 T01	
278	P098	2,000	T	S01 S02 T01	
279	P099	2,000	T	S01 S02 T01	
280	P101	2,000	T	S01 S02 T01	
281	P102	2,000	T	S01 S02 T01	
282	P103	2,000	T	S01 S02 T01	
283	P104	2,000	T	S01 S02 T01	
284	P105	2,000	T	S01 S02 T01	
285	P106	2,000	T	S01 S02 T01	
286	P108	2,000	T	S01 S02 T01	
287	P109	2,000	T	S01 S02 T01	
288	P110	2,000	T	S01 S02 T01	
289	P111	2,000	T	S01 S02 T01	
290	P112	2,000	T	S01 S02 T01	
291	P113	2,000	T	S01 S02 T01	
292	P114	2,000	T	S01 S02 T01	
293	P115	2,000	T	S01 S02 T01	
294	P116	2,000	T	S01 S02 T01	
295	P117	2,000	T	S01 S02 T01	
296	P118	2,000	T	S01 S02 T01	
297	P119	2,000	T	S01 S02 T01	
298	P120	2,000	T	S01 S02 T01	
299	P121	2,000	T	S01 S02 T01	
300	P122	2,000	T	S01 S02 T01	
301	P123	2,000	T	S01 S02 T01	
302	P124	2,000	T	S01 S02 T01	
303	P125	2,000	T	S01 S02 T01	
304	P126	2,000	T	S01 S02 T01	
305	P127	2,000	T	S01 S02 T01	
306	P128	2,000	T	S01 S02 T01	
307	P185	2,000	T	S01 S02 T01	
308	P187	2,000	T	S01 S02 T01	
309	P188	2,000	T	S01 S02 T01	
310	P189	2,000	T	S01 S02 T01	
311	P190	2,000	T	S01 S02 T01	
312	P191	2,000	T	S01 S02 T01	
313	P192	2,000	T	S01 S02 T01	
314	P194	2,000	T	S01 S02 T01	
315	P196	2,000	T	S01 S02 T01	
316	P197	2,000	T	S01 S02 T01	
317	P198	2,000	T	S01 S02 T01	
318	P199	2,000	T	S01 S02 T01	
319	P201	2,000	T	S01 S02 T01	
320	P202	2,000	T	S01 S02 T01	
321	P203	2,000	T	S01 S02 T01	
322	P204	2,000	T	S01 S02 T01	
323	P205	2,000	T	S01 S02 T01	
324	U001	2,000	T	S01 S02 T01	
325	U002	2,000	T	S01 S02 T01	
326	U003	2,000	T	S01 S02 T01	
327	U004	2,000	T	S01 S02 T01	
328	U005	2,000	T	S01 S02 T01	
329	U006	2,000	T	S01 S02 T01	
330	U007	2,000	T	S01 S02 T01	
331	U008	2,000	T	S01 S02 T01	
332	U009	2,000	T	S01 S02 T01	
333	U010	2,000	T	S01 S02 T01	
334	U011	2,000	T	S01 S02 T01	
335	U012	2,000	T	S01 S02 T01	
336	U014	2,000	T	S01 S02 T01	
337	U015	2,000	T	S01 S02 T01	
338	U016	2,000	T	S01 S02 T01	
339	U017	2,000	T	S01 S02 T01	
340	U018	2,000	T	S01 S02 T01	
341	U019	2,000	T	S01 S02 T01	
342	U020	2,000	T	S01 S02 T01	
343	U021	2,000	T	S01 S02 T01	
344	U022	2,000	T	S01 S02 T01	
345	U023	2,000	T	S01 S02 T01	
346	U024	2,000	T	S01 S02 T01	
347	U025	2,000	T	S01 S02 T01	
348	U026	2,000	T	S01 S02 T01	
349	U027	2,000	T	S01 S02 T01	
350	U028	2,000	T	S01 S02 T01	
351	U029	2,000	T	S01 S02 T01	
352	U030	2,000	T	S01 S02 T01	
353	U031	2,000	T	S01 S02 T01	
354	U032	2,000	T	S01 S02 T01	
355	U033	2,000	T	S01 S02 T01	
356	U034	2,000	T	S01 S02 T01	
357	U035	2,000	T	S01 S02 T01	
358	U036	2,000	T	S01 S02 T01	
359	U037	2,000	T	S01 S02 T01	
360	U038	2,000	T	S01 S02 T01	
361	U039	2,000	T	S01 S02 T01	
362	U041	2,000	T	S01 S02 T01	
363	U042	2,000	T	S01 S02 T01	
364	U043	2,000	T	S01 S02 T01	
365	U044	2,000	T	S01 S02 T01	
366	U045	2,000	T	S01 S02 T01	
367	U046	2,000	T	S01 S02 T01	
368	U047	2,000	T	S01 S02 T01	
369	U048	2,000	T	S01 S02 T01	
370	U049	2,000	T	S01 S02 T01	
371	U050	2,000	T	S01 S02 T01	
372	U051	2,000	T	S01 S02 T01	
373	U052	2,000	T	S01 S02 T01	
374	U053	2,000	T	S01 S02 T01	
375	U055	2,000	T	S01 S02 T01	
376	U056	2,000	T	S01 S02 T01	
377	U057	2,000	T	S01 S02 T01	
378	U058	2,000	T	S01 S02 T01	
379	U059	2,000	T	S01 S02 T01	
380	U060	2,000	T	S01 S02 T01	
381	U061	2,000	T	S01 S02 T01	
382	U062	2,000	T	S01 S02 T01	
383	U063	2,000	T	S01 S02 T01	
384	U064	2,000	T	S01 S02 T01	
385	U066	2,000	T	S01 S02 T01	
386	U067	2,000	T	S01 S02 T01	
387	U068	2,000	T	S01 S02 T01	
388	U069	2,000	T	S01 S02 T01	
389	U070	2,000	T	S01 S02 T01	
390	U071	2,000	T	S01 S02 T01	
391	U072	2,000	T	S01 S02 T01	
392	U073	2,000	T	S01 S02 T01	
393	U074	2,000	T	S01 S02 T01	
394	U075	2,000	T	S01 S02 T01	
395	U076	2,000	T	S01 S02 T01	
396	U077	2,000	T	S01 S02 T01	
397	U078	2,000	T	S01 S02 T01	
398	U079	2,000	T	S01 S02 T01	
399	U080	2,000	T	S01 S02 T01	
400	U081	2,000	T	S01 S02 T01	
401	U082	2,000	T	S01 S02 T01	
402	U083	2,000	T	S01 S02 T01	
403	U084	2,000	T	S01 S02 T01	
404	U085	2,000	T	S01 S02 T01	
405	U086	2,000	T	S01 S02 T01	
406	U087	2,000	T	S01 S02 T01	
407	U088	2,000	T	S01 S02 T01	
408	U089	2,000	T	S01 S02 T01	
409	U090	2,000	T	S01 S02 T01	
410	U091	2,000	T	S01 S02 T01	
411	U092	2,000	T	S01 S02 T01	
412	U093	2,000	T	S01 S02 T01	
413	U094	2,000	T	S01 S02 T01	
414	U095	2,000	T	S01 S02 T01	
415	U096	2,000	T	S01 S02 T01	
416	U097	2,000	T	S01 S02 T01	
417	U098	2,000	T	S01 S02 T01	
418	U099	2,000	T	S01 S02 T01	
419	U101	2,000	T	S01 S02 T01	
420	U102	2,000	T	S01 S02 T01	
421	U103	2,000	T	S01 S02 T01	
422	U105	2,000	T	S01 S02 T01	
423	U106	2,000	T	S01 S02 T01	
424	U107	2,000	T	S01 S02 T01	
425	U108	2,000	T	S01 S02 T01	
426	U109	2,000	T	S01 S02 T01	
427	U110	2,000	T	S01 S02 T01	
428	U111	2,000	T	S01 S02 T01	
429	U112	2,000	T	S01 S02 T01	
430	U113	2,000	T	S01 S02 T01	
431	U114	2,000	T	S01 S02 T01	
432	U115	2,000	T	S01 S02 T01	
433	U116	2,000	T	S01 S02 T01	
434	U117	2,000	T	S01 S02 T01	
435	U118	2,000	T	S01 S02 T01	
436	U119	2,000	T	S01 S02 T01	
437	U120	2,000	T	S01 S02 T01	
438	U121	2,000	T	S01 S02 T01	
439	U122	2,000	T	S01 S02 T01	
440	U123	2,000	T	S01 S02 T01	
441	U124	2,000	T	S01 S02 T01	
442	U125	2,000	T	S01 S02 T01	
443	U126	2,000	T	S01 S02 T01	
444	U127	2,000	T	S01 S02 T01	
445	U128	2,000	T	S01 S02 T01	
446	U129	2,000	T	S01 S02 T01	
447	U130	2,000	T	S01 S02 T01	
448	U131	2,000	T	S01 S02 T01	
449	U132	2,000	T	S01 S02 T01	
450	U133	2,000	T	S01 S02 T01	
451	U134	2,000	T	S01 S02 T01	
452	U135	2,000	T	S01 S02 T01	
453	U136	2,000	T	S01 S02 T01	
454	U137	2,000	T	S01 S02 T01	
455	U138	2,000	T	S01 S02 T01	
456	U139	2,000	T	S01 S02 T01	
457	U140	2,000	T	S01 S02 T01	
458	U141	2,000	T	S01 S02 T01	
459	U142	2,000	T	S01 S02 T01	
460	U143	2,000	T	S01 S02 T01	
461	U144	2,000	T	S01 S02 T01	
462	U145	2,000	T	S01 S02 T01	
463	U146	2,000	T	S01 S02 T01	
464	U147	2,000	T	S01 S02 T01	
465	U148	2,000	T	S01 S02 T01	
466	U149	2,000	T	S01 S02 T01	
467	U150	2,000	T	S01 S02 T01	
468	U151	2,000	T	S01 S02 T01	
469	U152	2,000	T	S01 S02 T01	
470	U153	2,000	T	S01 S02 T01	
471	U154	2,000	T	S01 S02 T01	
472	U155	2,000	T	S01 S02 T01	
473	U156	2,000	T	S01 S02 T01	
474	U157	2,000	T	S01 S02 T01	
475	U158	2,000	T	S01 S02 T01	
476	U159	2,000	T	S01 S02 T01	
477	U160	2,000	T	S01 S02 T01	
478	U161	2,000	T	S01 S02 T01	
479	U162	2,000	T	S01 S02 T01	
480	U163	2,000	T	S01 S02 T01	
481	U164	2,000	T	S01 S02 T01	
482	U165	2,000	T	S01 S02 T01	
483	U166	2,000	T	S01 S02 T01	
484	U167	2,000	T	S01 S02 T01	
485	U168	2,000	T	S01 S02 T01	
486	U169	2,000	T	S01 S02 T01	
487	U170	2,000	T	S01 S02 T01	
488	U171	2,000	T	S01 S02 T01	
489	U172	2,000	T	S01 S02 T01	
490	U173	2,000	T	S01 S02 T01	
491	U174	2,000	T	S01 S02 T01	
492	U176	2,000	T	S01 S02 T01	
493	U177	2,000	T	S01 S02 T01	
494	U178	2,000	T	S01 S02 T01	
495	U179	2,000	T	S01 S02 T01	
496	U180	2,000	T	S01 S02 T01	
497	U181	2,000	T	S01 S02 T01	
498	U182	2,000	T	S01 S02 T01	
499	U183	2,000	T	S01 S02 T01	
500	U184	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
223	P033	2,000	T	S01 S02 T01	
224	P033	2,000	T	S01 S02 T01	
226	P033	2,000	T	S01 S02 T01	
227	P033	2,000	T	S01 S02 T01	
228	P033	2,000	T	S01 S02 T01	
229	P033	2,000	T	S01 S02 T01	
230	P033	2,000	T	S01 S02 T01	
231	P033	2,000	T	S01 S02 T01	
232	P033	2,000	T	S01 S02 T01	
233	P033	2,000	T	S01 S02 T01	
234	P033	2,000	T	S01 S02 T01	
235	P033	2,000	T	S01 S02 T01	
236	P033	2,000	T	S01 S02 T01	
237	P033	2,000	T	S01 S02 T01	
238	P033	2,000	T	S01 S02 T01	
239	P033	2,000	T	S01 S02 T01	
240	P033	2,000	T	S01 S02 T01	
241	P033	2,000	T	S01 S02 T01	
242	P033	2,000	T	S01 S02 T01	
243	P033	2,000	T	S01 S02 T01	
244	P033	2,000	T	S01 S02 T01	
245	P033	2,000	T	S01 S02 T01	
246	P033	2,000	T	S01 S02 T01	
247	P033	2,000	T	S01 S02 T01	
248	P033	2,000	T	S01 S02 T01	
249	P033	2,000	T	S01 S02 T01	
250	P033	2,000	T	S01 S02 T01	
251	P033	2,000	T	S01 S02 T01	
252	P033	2,000	T	S01 S02 T01	
253	P033	2,000	T	S01 S02 T01	
254	P033	2,000	T	S01 S02 T01	
255	P033	2,000	T	S01 S02 T01	
256	P033	2,000	T	S01 S02 T01	
257	P033	2,000	T	S01 S02 T01	
258	P033	2,000	T	S01 S02 T01	
259	P033	2,000	T	S01 S02 T01	
260	P033	2,000	T	S01 S02 T01	
261	P033	2,000	T	S01 S02 T01	
262	P033	2,000	T	S01 S02 T01	
263	P033	2,000	T	S01 S02 T01	
264	P033	2,000	T	S01 S02 T01	
265	P033	2,000	T	S01 S02 T01	
266	P033	2,000	T	S01 S02 T01	
267	P033	2,000	T	S01 S02 T01	
268	P033	2,000	T	S01 S02 T01	
269	P033	2,000	T	S01 S02 T01	
270	P033	2,000	T	S01 S02 T01	
271	P033	2,000	T	S01 S02 T01	
272	P033	2,000	T	S01 S02 T01	
273	P033	2,000	T	S01 S02 T01	
274	P033	2,000	T	S01 S02 T01	
275	P033	2,000	T	S01 S02 T01	
276	P033	2,000	T	S01 S02 T01	
277	P033	2,000	T	S01 S02 T01	
278	P033	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
263	P081	2,000	T	S01 S02 T01	
264	P082	2,000	T	S01 S02 T01	
265	P084	2,000	T	S01 S02 T01	
266	P085	2,000	T	S01 S02 T01	
267	P087	2,000	T	S01 S02 T01	
268	P088	2,000	T	S01 S02 T01	
269	P089	2,000	T	S01 S02 T01	
270	P092	2,000	T	S01 S02 T01	
271	P093	2,000	T	S01 S02 T01	
272	P094	2,000	T	S01 S02 T01	
273	P095	2,000	T	S01 S02 T01	
274	P096	2,000	T	S01 S02 T01	
275	P097	2,000	T	S01 S02 T01	
276	P098	2,000	T	S01 S02 T01	
277	P099	2,000	T	S01 S02 T01	
278	P101	2,000	T	S01 S02 T01	
279	P102	2,000	T	S01 S02 T01	
280	P103	2,000	T	S01 S02 T01	
281	P104	2,000	T	S01 S02 T01	
282	P105	2,000	T	S01 S02 T01	
283	P106	2,000	T	S01 S02 T01	
284	P108	2,000	T	S01 S02 T01	
285	P109	2,000	T	S01 S02 T01	
286	P110	2,000	T	S01 S02 T01	
287	P111	2,000	T	S01 S02 T01	
288	P112	2,000	T	S01 S02 T01	
289	P113	2,000	T	S01 S02 T01	
290	P114	2,000	T	S01 S02 T01	
291	P115	2,000	T	S01 S02 T01	
292	P116	2,000	T	S01 S02 T01	
293					
294	P117	2,000	T	S01 S02 T01	
295	P118	2,000	T	S01 S02 T01	
296	P119	2,000	T	S01 S02 T01	
297	P120	2,000	T	S01 S02 T01	
298	P121	2,000	T	S01 S02 T01	
299	P122	2,000	T	S01 S02 T01	
300	P123	2,000	T	S01 S02 T01	
301	P124	2,000	T	S01 S02 T01	
302	P125	2,000	T	S01 S02 T01	
303	P126	2,000	T	S01 S02 T01	
304	P127	2,000	T	S01 S02 T01	
305	P128	2,000	T	S01 S02 T01	
306	P185	2,000	T	S01 S02 T01	
307	P188	2,000	T	S01 S02 T01	
308	P189	2,000	T	S01 S02 T01	
309	P190	2,000	T	S01 S02 T01	
310	P191	2,000	T	S01 S02 T01	
311	P192	2,000	T	S01 S02 T01	
312	P194	2,000	T	S01 S02 T01	
313	P196	2,000	T	S01 S02 T01	
314	P197	2,000	T	S01 S02 T01	
315	P198	2,000	T	S01 S02 T01	
316	P199	2,000	T	S01 S02 T01	
317	P201	2,000	T	S01 S02 T01	
318	P202	2,000	T	S01 S02 T01	
319	P203	2,000	T	S01 S02 T01	
320	P204	2,000	T	S01 S02 T01	
321	P205	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
304	P189	2,000	T	S01 S02 T01	
305	P190	2,000	T	S01 S02 T01	
306	P191	2,000	T	S01 S02 T01	
307	P192	2,000	T	S01 S02 T01	
308	P194	2,000	T	S01 S02 T01	
309	P196	2,000	T	S01 S02 T01	
310	P197	2,000	T	S01 S02 T01	
311	P198	2,000	T	S01 S02 T01	
312	P199	2,000	T	S01 S02 T01	
313	P201	2,000	T	S01 S02 T01	
314	P202	2,000	T	S01 S02 T01	
315	P203	2,000	T	S01 S02 T01	
316	P204	2,000	T	S01 S02 T01	
317	P205	2,000	T	S01 S02 T01	
318	U001	2,000	T	S01 S02 T01	
319	U002	2,000	T	S01 S02 T01	
320	U003	2,000	T	S01 S02 T01	
321	U004	2,000	T	S01 S02 T01	
322	U005	2,000	T	S01 S02 T01	
323	U006	2,000	T	S01 S02 T01	
324	U007	2,000	T	S01 S02 T01	
325	U008	2,000	T	S01 S02 T01	
326	U009	2,000	T	S01 S02 T01	
327	U010	2,000	T	S01 S02 T01	
328	U011	2,000	T	S01 S02 T01	
329	U012	2,000	T	S01 S02 T01	
330	U014	2,000	T	S01 S02 T01	
331	U015	2,000	T	S01 S02 T01	
332	U016	2,000	T	S01 S02 T01	
333	U017	2,000	T	S01 S02 T01	
334	U018	2,000	T	S01 S02 T01	
335	U019	2,000	T	S01 S02 T01	
336	U020	2,000	T	S01 S02 T01	
337	U021	2,000	T	S01 S02 T01	
338	U022	2,000	T	S01 S02 T01	
339	U023	2,000	T	S01 S02 T01	
340	U024	2,000	T	S01 S02 T01	
341	U025	2,000	T	S01 S02 T01	
342	U026	2,000	T	S01 S02 T01	
343	U027	2,000	T	S01 S02 T01	
344	U028	2,000	T	S01 S02 T01	
345	U029	2,000	T	S01 S02 T01	
346	U030	2,000	T	S01 S02 T01	
347	U031	2,000	T	S01 S02 T01	
348	U032	2,000	T	S01 S02 T01	
349	U033	2,000	T	S01 S02 T01	
350	U034	2,000	T	S01 S02 T01	
351	U035	2,000	T	S01 S02 T01	
352	U036	2,000	T	S01 S02 T01	
353	U037	2,000	T	S01 S02 T01	
354	U038	2,000	T	S01 S02 T01	
355	U039	2,000	T	S01 S02 T01	
356	U041	2,000	T	S01 S02 T01	
357	U042	2,000	T	S01 S02 T01	
358	U043	2,000	T	S01 S02 T01	
359	U044	2,000	T	S01 S02 T01	
360	U045	2,000	T	S01 S02 T01	
361	U046	2,000	T	S01 S02 T01	
362	U047	2,000	T	S01 S02 T01	
363	U048	2,000	T	S01 S02 T01	
364	U049	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
345	U029	2,000	T	S01 S02 T01	
346	U030	2,000	T	S01 S02 T01	
347	U031	2,000	T	S01 S02 T01	
348	U032	2,000	T	S01 S02 T01	
349	U033	2,000	T	S01 S02 T01	
350	U034	2,000	T	S01 S02 T01	
351	U035	2,000	T	S01 S02 T01	
352	U036	2,000	T	S01 S02 T01	
353	U037	2,000	T	S01 S02 T01	
354	U038	2,000	T	S01 S02 T01	
355	U039	2,000	T	S01 S02 T01	
356	U041	2,000	T	S01 S02 T01	
357	U042	2,000	T	S01 S02 T01	
358	U043	2,000	T	S01 S02 T01	
359	U044	2,000	T	S01 S02 T01	
360	U045	2,000	T	S01 S02 T01	
361	U046	2,000	T	S01 S02 T01	
362	U047	2,000	T	S01 S02 T01	
363	U048	2,000	T	S01 S02 T01	
364	U049	2,000	T	S01 S02 T01	
365	U050	2,000	T	S01 S02 T01	
366	U051	2,000	T	S01 S02 T01	
367	U052	2,000	T	S01 S02 T01	
368	U053	2,000	T	S01 S02 T01	
369	U055	2,000	T	S01 S02 T01	
370	U056	2,000	T	S01 S02 T01	
371	U057	2,000	T	S01 S02 T01	
372	U058	2,000	T	S01 S02 T01	
373	U059	2,000	T	S01 S02 T01	
374	U060	2,000	T	S01 S02 T01	
375	U061	2,000	T	S01 S02 T01	
376	U062	2,000	T	S01 S02 T01	
377	U063	2,000	T	S01 S02 T01	
378	U064	2,000	T	S01 S02 T01	
379	U066	2,000	T	S01 S02 T01	
380	U067	2,000	T	S01 S02 T01	
381	U068	2,000	T	S01 S02 T01	
382	U069	2,000	T	S01 S02 T01	
383	U070	2,000	T	S01 S02 T01	
384	U071	2,000	T	S01 S02 T01	
385	U072	2,000	T	S01 S02 T01	
386	U073	2,000	T	S01 S02 T01	
387	U074	2,000	T	S01 S02 T01	
388	U075	2,000	T	S01 S02 T01	
389	U076	2,000	T	S01 S02 T01	
390	U077	2,000	T	S01 S02 T01	
391	U078	2,000	T	S01 S02 T01	
392	U079	2,000	T	S01 S02 T01	
393	U080	2,000	T	S01 S02 T01	
394	U081	2,000	T	S01 S02 T01	
395	U082	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
386	U073	2,000	T	S01 S02 T01	
387	U074	2,000	T	S01 S02 T01	
388	U075	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
427	U116	2,000	T	S01 S02 T01	
428	U117	2,000	T	S01 S02 T01	
429	U118	2,000	T	S01 S02 T01	
430	U119	2,000	T	S01 S02 T01	
431	U120	2,000	T	S01 S02 T01	
432	U121	2,000	T	S01 S02 T01	
433	U122	2,000	T	S01 S02 T01	
434	U123	2,000	T	S01 S02 T01	
435	U124	2,000	T	S01 S02 T01	
436	U125	2,000	T	S01 S02 T01	
437	U126	2,000	T	S01 S02 T01	
438	U127	2,000	T	S01 S02 T01	
439	U128	2,000	T	S01 S02 T01	
440	U129	2,000	T	S01 S02 T01	
441	U130	2,000	T	S01 S02 T01	
442	U131	2,000	T	S01 S02 T01	
443	U132	2,000	T	S01 S02 T01	
444	U133	2,000	T	S01 S02 T01	
445	U134	2,000	T	S01 S02 T01	
446	U135	2,000	T	S01 S02 T01	
447	U136	2,000	T	S01 S02 T01	
448	U137	2,000	T	S01 S02 T01	
449	U138	2,000	T	S01 S02 T01	
450	U139	2,000	T	S01 S02 T01	
451	U140	2,000	T	S01 S02 T01	
452	U141	2,000	T	S01 S02 T01	
453	U142	2,000	T	S01 S02 T01	
454	U143	2,000	T	S01 S02 T01	
455	U144	2,000	T	S01 S02 T01	
456	U145	2,000	T	S01 S02 T01	
457	U146	2,000	T	S01 S02 T01	
458	U147	2,000	T	S01 S02 T01	
459	U148	2,000	T	S01 S02 T01	
460	U149	2,000	T	S01 S02 T01	
461	U150	2,000	T	S01 S02 T01	
462	U151	2,000	T	S01 S02 T01	
463	U152	2,000	T	S01 S02 T01	
464	U153	2,000	T	S01 S02 T01	
465	U154	2,000	T	S01 S02 T01	
466	U155	2,000	T	S01 S02 T01	
467	U156	2,000	T	S01 S02 T01	
468	U157	2,000	T	S01 S02 T01	
469	U158	2,000	T	S01 S02 T01	
470	U159	2,000	T	S01 S02 T01	
471	U160	2,000	T	S01 S02 T01	
472	U161	2,000	T	S01 S02 T01	
473	U162	2,000	T	S01 S02 T01	
474	U163	2,000	T	S01 S02 T01	
475	U164	2,000	T	S01 S02 T01	
476	U165	2,000	T	S01 S02 T01	
477	U166	2,000	T	S01 S02 T01	
478	U167	2,000	T	S01 S02 T01	
479	U168	2,000	T	S01 S02 T01	
480	U169	2,000	T	S01 S02 T01	
481	U170	2,000	T	S01 S02 T01	
482	U171	2,000	T	S01 S02 T01	
483	U172	2,000	T	S01 S02 T01	
484	U173	2,000	T	S01 S02 T01	
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486	U175	2,000	T	S01 S02 T01	
487	U176	2,000	T	S01 S02 T01	
488	U177	2,000	T	S01 S02 T01	
489	U178	2,000	T	S01 S02 T01	
490	U179	2,000	T	S01 S02 T01	
491	U180	2,000	T	S01 S02 T01	
492	U181	2,000	T	S01 S02 T01	
493	U182	2,000	T	S01 S02 T01	
494	U183	2,000	T	S01 S02 T01	
495	U184	2,000	T	S01 S02 T01	
496	U185	2,000	T	S01 S02 T01	
497	U186	2,000	T	S01 S02 T01	
498	U187	2,000	T	S01 S02 T01	
499	U188	2,000	T	S01 S02 T01	
4100	U189	2,000	T	S01 S02 T01	
4101	U190	2,000	T	S01 S02 T01	
4102

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
468	U158	2,000	T	S01 S02 T01	
469	U159	20,000	T	S01 S02 T01	
470	U160	2,000	T	S01 S02 T01	
471	U161	20,000	T	S01 S02 T01	
472	U162	2,000	T	S01 S02 T01	
473	U163	2,000	T	S01 S02 T01	
474	U164	2,000	T	S01 S02 T01	
475	U165	20,000	T	S01 S02 T01	
476	U166	2,000	T	S01 S02 T01	
477	U167	2,000	T	S01 S02 T01	
478	U168	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
509	U203	2,000	T	S01 S02 T01	
510	U204	2,000	T	S01 S02 T01	
511	U205	2,000	T	S01 S02 T01	
512	U206	2,000	T	S01 S02 T01	
513	U207	2,000	T	S01 S02 T01	
514	U208	2,000	T	S01 S02 T01	
515	U209	2,000	T	S01 S02 T01	
516	U210	20,000	T	S01 S02 T01	
517	U211	2,000	T	S01 S02 T01	
518	U213	2,000	T	S01 S02 T01	
519	U214	2,000	T	S01 S02 T01	
520	U215	2,000	T	S01 S02 T01	
521	U216	2,000	T	S01 S02 T01	
522	U217	2,000	T	S01 S02 T01	
523	U218	2,000	T	S01 S02 T01	
524	U219	2,000	T	S01 S02 T01	
525	U220	20,000	T	S01 S02 T01	
526	U221	2,000	T	S01 S02 T01	
527	U222	2,000	T	S01 S02 T01	
528	U223	2,000	T	S01 S02 T01	
529	U225	2,000	T	S01 S02 T01	
530	U226	2,000	T	S01 S02 T01	
531	U227	20,000	T	S01 S02 T01	
532	U228	20,000	T	S01 S02 T01	
533	U234	2,000	T	S01 S02 T01	
534	U235	2,000	T	S01 S02 T01	
535	U236	2,000	T	S01 S02 T01	
536	U237	2,000	T	S01 S02 T01	
537	U238	2,000	T	S01 S02 T01	
538	U239	20,000	T	S01 S02 T01	
539	U240	20,000	T	S01 S02 T01	
540	U243	2,000	T	S01 S02 T01	
541	U244	2,000	T	S01 S02 T01	
542	U246	2,000	T	S01 S02 T01	
543	U247	2,000	T	S01 S02 T01	
544	U248	2,000	T	S01 S02 T01	
545	U249	20,000	T	S01 S02 T01	
546	U271	2,000	T	S01 S02 T01	
547	U278	2,000	T	S01 S02 T01	
548	U279	2,000	T	S01 S02 T01	
549	U280	2,000	T	S01 S02 T01	

Line No.	A. EPA Hazardous Waste No.	B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes	
				(1) Process Codes	(2) Process Description (if code is not entered in 7.D1))
550	U328	2,000	T	S01 S02 T01	
551	U353	2,000	T	S01 S02 T01	
552	U359	2,000	T	S01 S02 T01	
553	U364	2,000	T	S01 S02 T01	
554	U367	2,000	T	S01 S02 T01	
555	U372	2,000	T	S01 S02 T01	
556	U373	2,000	T	S01 S02 T01	
557	U387	20,000	T	S01 S02 T01	
558	U389	20,000	T	S01 S02 T01	
559	U394	2,000	T	S01 S02 T01	
560	U395	2,000	T	S01 S02 T01	
561	U404	2,000	T	S01 S02 T01	
562	U409	2,000	T	S01 S02 T01	
563	U410	2,000	T	S01 S02 T01	
564	U411	2,000	T	S01 S02 T01	

8. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

See Appendix A-1 for area and site topographic maps.

9. Facility Drawing

All existing facilities must include a scale drawing of the facility. See instructions for more detail.

See Appendix A-2 for the facility drawings.

10. Photographs

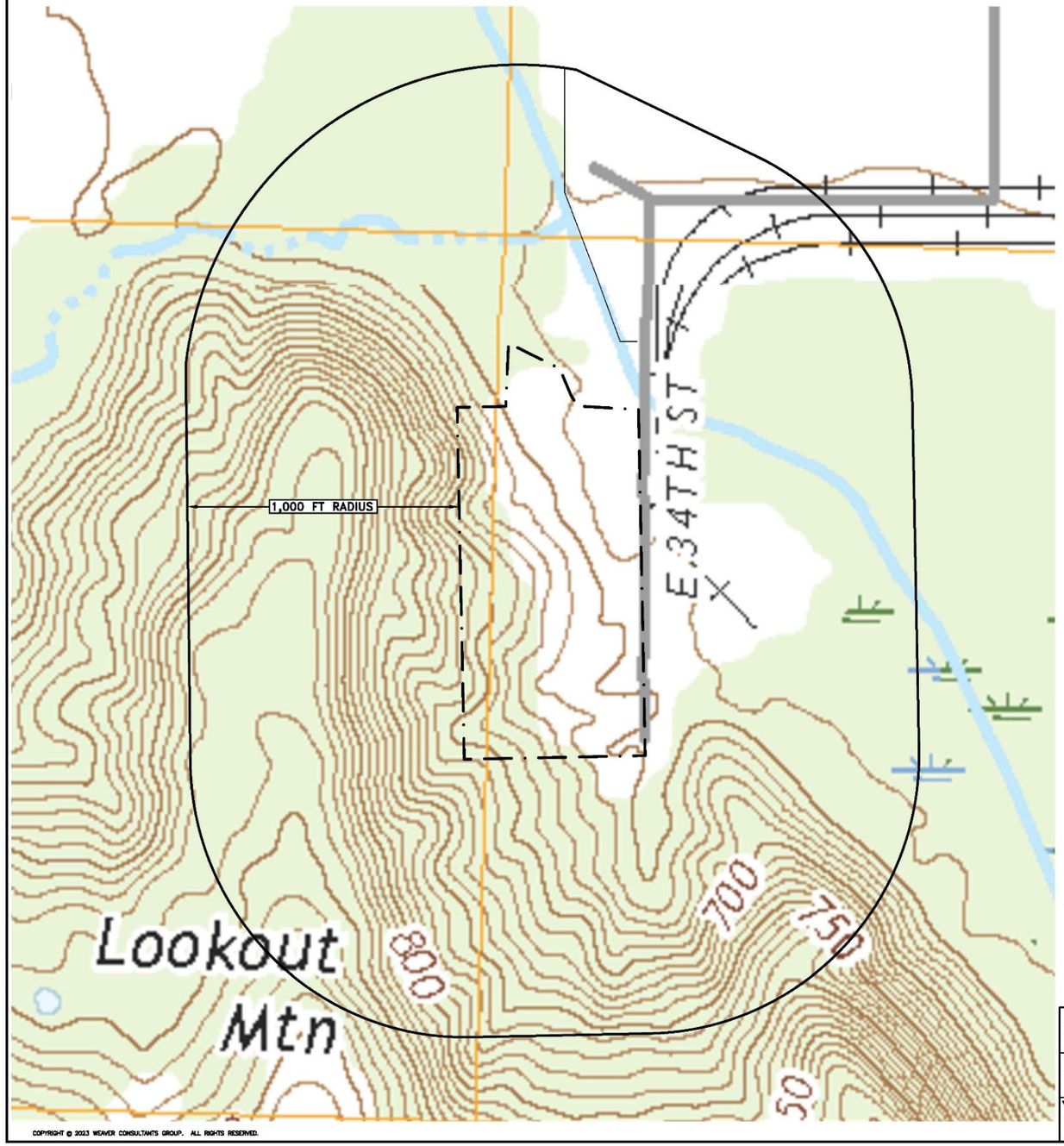
All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas. See instructions for more detail.

See Appendix A-3 for site photographs.

11. Comments

Appendix A-1 (Section 8)

Topographic Maps



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N

0 200 400
SCALE IN FEET

LEGEND

PROPERTY BOUNDARY

ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD

Interstate Route US Route State Route

SAND SPRINGS, OK
2022

SAPULPA NORTH, OK
2022

SOURCE: US GEOLOGICAL SOCIETY (USGS), TOPOBUILDER V.1.5.6. AUGUST 7, 2024.

Figure from November 2024 Operations Permit

☐ DRAFT
☒ FOR PERMITTING PURPOSES ONLY
☐ ISSUED FOR CONSTRUCTION

DATE: 08/2024
FILE: 0120-045-11-00
CAD: 3A-USGS MAP.DWG

DRAWN BY: JDW
DESIGN BY: JAE
REVIEWED BY: JAE

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
US ECOLOGY TULSA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

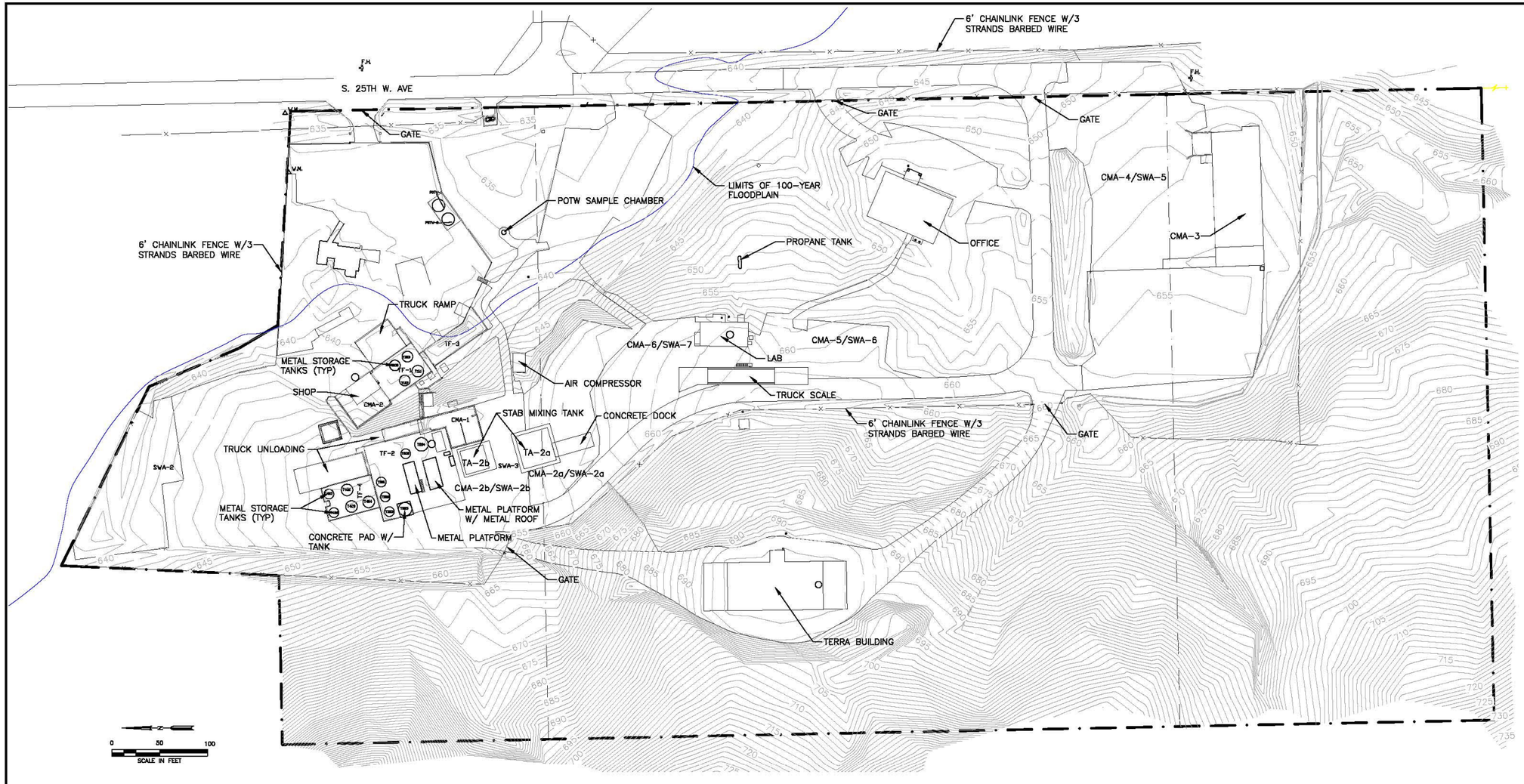
TOPOGRAPHIC MAP–1,000' RADIUS
PART B PERMIT APPLICATION
ATTACHMENT 1–MAPS AND FIGURES

US ECOLOGY TRANSFER STATION
TULSA, OKLAHOMA

WWW.WCGRP.COM

FIGURE B-2

G:\0120\45\PERMIT DRAWINGS\3A-USGS MAP.dwg, jwilson, 1:2



SWMU Number

S-1 (CMA-1T)
S-3 (WDW-1)
S-4 (Historic SI/NPA-1)
S-6 (TF-0)
S-8 (Laboratory Tank)
S-9 (TF-1)
S-10 (CMA-2)

LEGEND

PROPERTY BOUNDARY

Figure from November 2024 Operations Permit

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DATE: 10/2023
FILE: 0120-045-11-00
CAD: G-3 EMERGENCY.DWG
DRAWN BY: JDW
DESIGN BY: JAE
REVIEWED BY: JAE

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
US ECOLOGY TULSA, INC.

REVISIONS		
NO.	DATE	DESCRIPTION

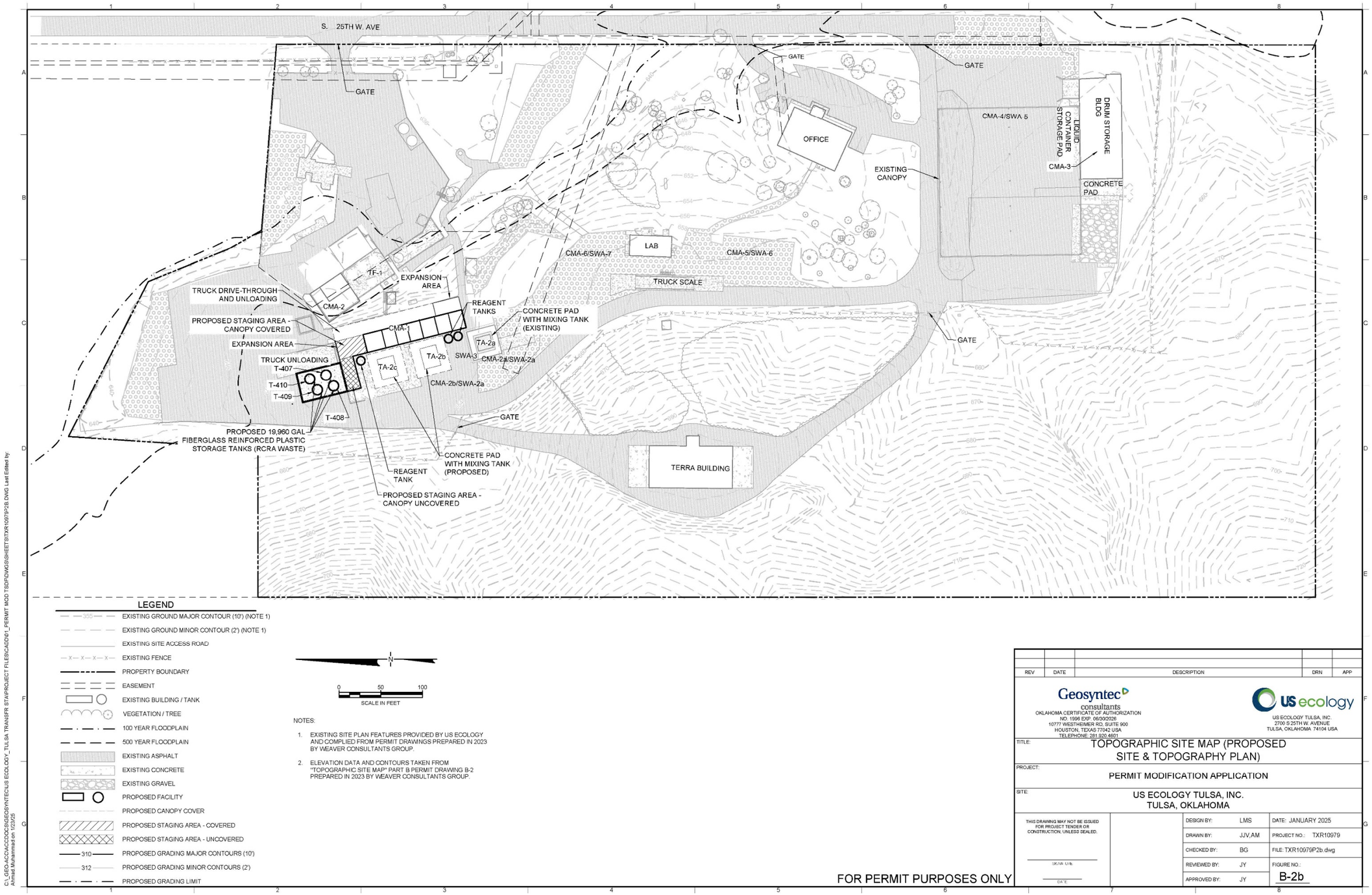
TOPOGRAPHIC SITE MAP
PART B PERMIT APPLICATION
ATTACHMENT 1-MAPS AND FIGURES

US ECOLOGY TRANSFER STATION
TULSA, OKLAHOMA

WWW.WCGRP.COM

FIGURE B-2a

O:\0120\45\PERMIT DRAWINGS\B-2_Topo Map.dwg, jwilson, 1:2



C:_GEO-ACCACDCDCSDSGS\NYTECH\US ECOLOGY_TULSA TRANSFR STA\PROJECT FILES\CAD\00_PERMIT MOD TSD\PDWG\SHEET SIT\TXR10979P2B.DWG Last Edited by: Ahmad Muhammad on 1/23/25

LEGEND

- EXISTING GROUND MAJOR CONTOUR (10') (NOTE 1)
- EXISTING GROUND MINOR CONTOUR (2') (NOTE 1)
- EXISTING SITE ACCESS ROAD
- EXISTING FENCE
- PROPERTY BOUNDARY
- EASEMENT
- EXISTING BUILDING / TANK
- VEGETATION / TREE
- 100 YEAR FLOODPLAIN
- 500 YEAR FLOODPLAIN
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL
- PROPOSED FACILITY
- PROPOSED CANOPY COVER
- PROPOSED STAGING AREA - COVERED
- PROPOSED STAGING AREA - UNCOVERED
- PROPOSED GRADING MAJOR CONTOURS (10')
- PROPOSED GRADING MINOR CONTOURS (2')
- PROPOSED GRADING LIMIT

N

0 50 100
SCALE IN FEET

NOTES:

1. EXISTING SITE PLAN FEATURES PROVIDED BY US ECOLOGY AND COMPLIED FROM PERMIT DRAWINGS PREPARED IN 2023 BY WEAVER CONSULTANTS GROUP.
2. ELEVATION DATA AND CONTOURS TAKEN FROM "TOPOGRAPHIC SITE MAP" PART B PERMIT DRAWING B-2 PREPARED IN 2023 BY WEAVER CONSULTANTS GROUP.

FOR PERMIT PURPOSES ONLY

REV	DATE	DESCRIPTION	DRN	APP

Geosyntec consultants
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 1996 EXP. 06/30/2026
10777 WESTHEIMER RD, SUITE 900
HOUSTON, TEXAS 77042 USA
TELEPHONE: 281.920.4601

US ecology
US ECOLOGY TULSA, INC.
2700 S 25TH W. AVENUE
TULSA, OKLAHOMA 74104 USA

TITLE: TOPOGRAPHIC SITE MAP (PROPOSED SITE & TOPOGRAPHY PLAN)

PROJECT: PERMIT MODIFICATION APPLICATION

SITE: US ECOLOGY TULSA, INC. TULSA, OKLAHOMA

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

SIGNATURE

DATE

DESIGN BY:	LMS	DATE: JANUARY 2025	
DRAWN BY:	JJV, AM	PROJECT NO.:	TXR10979
CHECKED BY:	BG	FILE: TXR10979P2b.dwg	
REVIEWED BY:	JY	FIGURE NO.:	
APPROVED BY:	JY	B-2b	

Figure from November 2024 Operations Permit

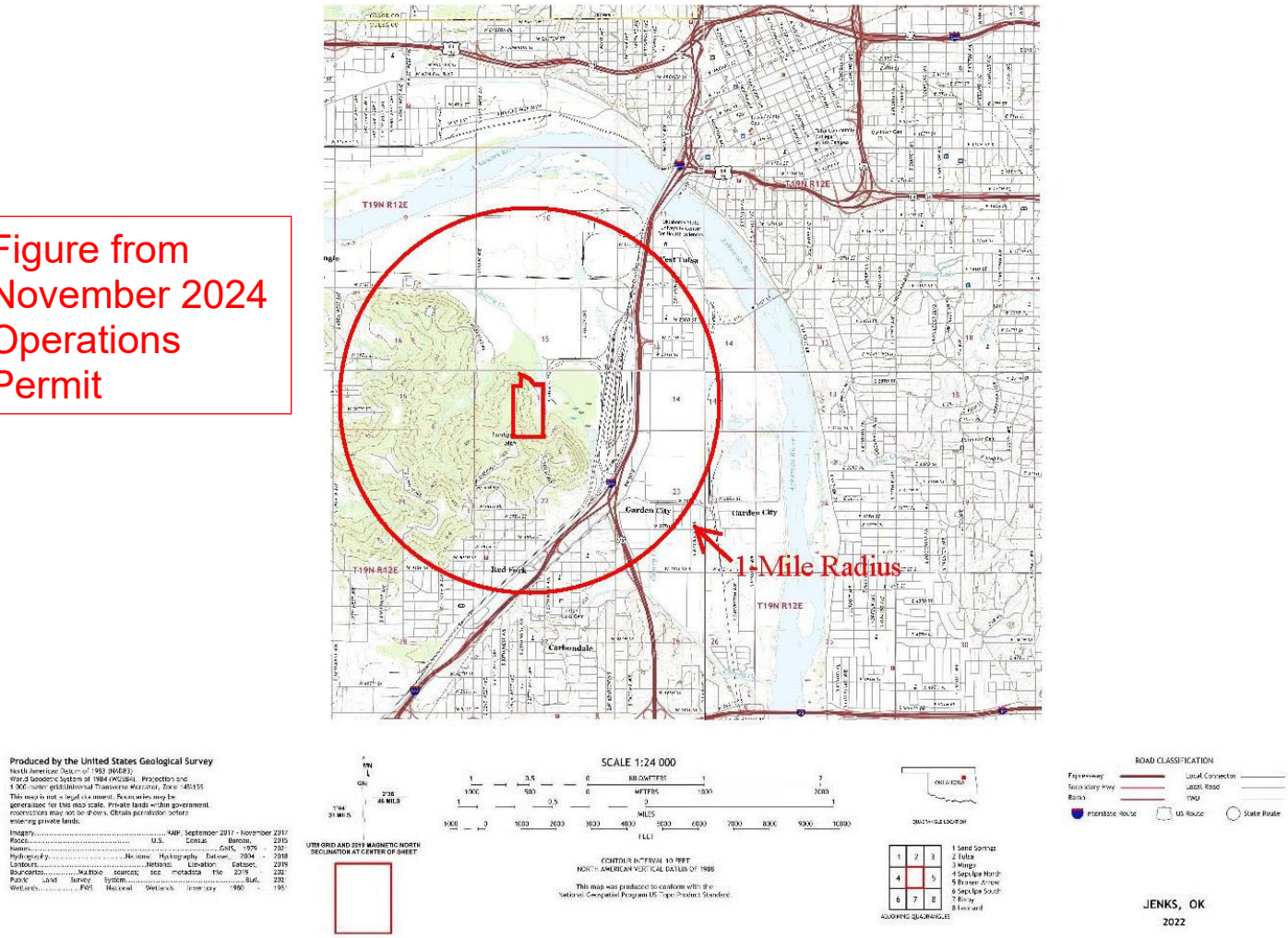
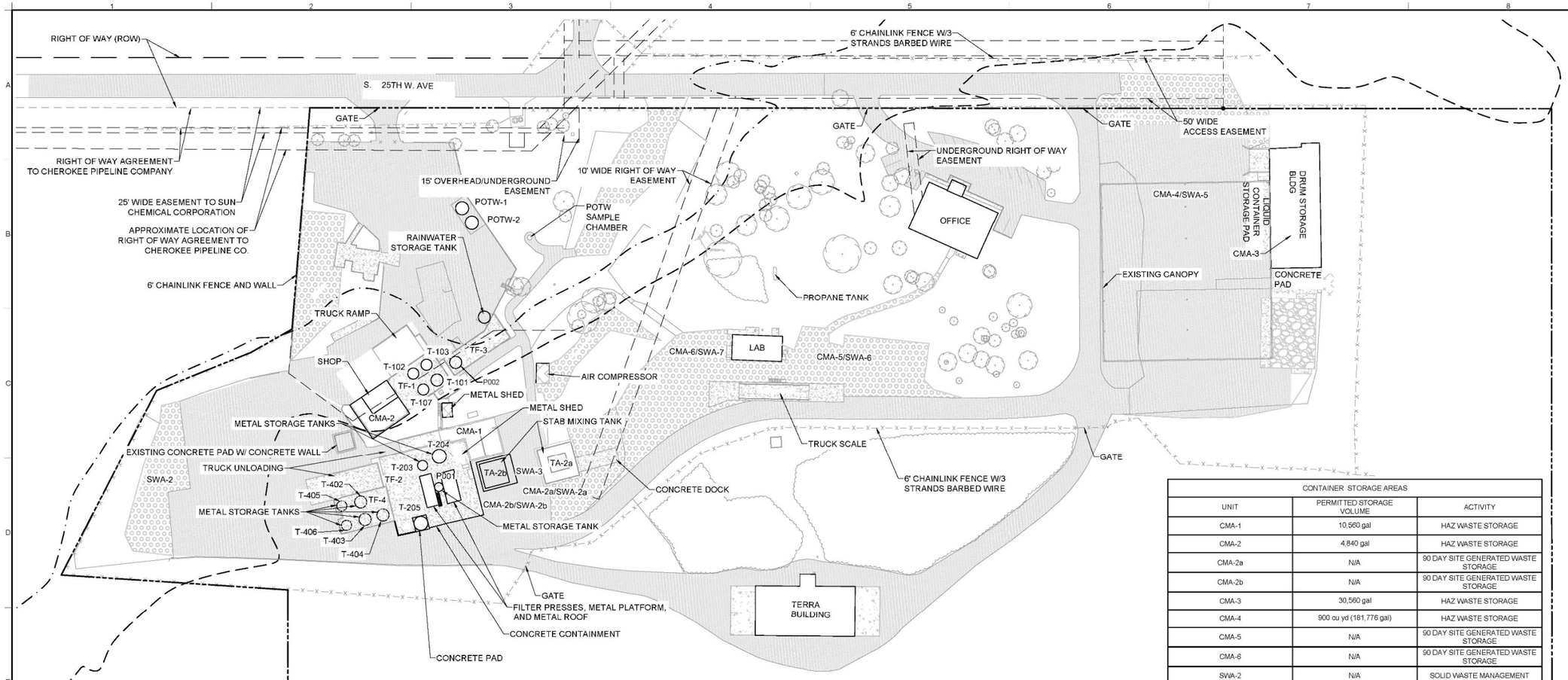


Fig. – USGS Topographic Map Showing 1-Mile Radius From Facility
(Based on portions of Sand Springs, Sapulpa, Tulsa, and Jenks Topo Maps)

Appendix A-2 (Section 9)

Facility Drawings



CONTAINER STORAGE AREAS		
UNIT	PERMITTED STORAGE VOLUME	ACTIVITY
CMA-1	10,560 gal	HAZ WASTE STORAGE
CMA-2	4,840 gal	HAZ WASTE STORAGE
CMA-2a	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-2b	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-3	30,560 gal	HAZ WASTE STORAGE
CMA-4	900 cu yd (181,776 gal)	HAZ WASTE STORAGE
CMA-5	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-6	N/A	90 DAY SITE GENERATED WASTE STORAGE
SWA-2	N/A	SOLID WASTE MANAGEMENT
SWA-3	N/A	SOLID WASTE MANAGEMENT
SWA-5	N/A	SOLID WASTE MANAGEMENT
SWA-6	N/A	SOLID WASTE MANAGEMENT
SWA-7	N/A	SOLID WASTE MANAGEMENT

LEGEND

- EXISTING SITE ACCESS ROAD
- EXISTING FENCE
- PROPERTY BOUNDARY
- EASEMENT
- EXISTING BUILDING / TANK
- VEGETATION / TREE
- 100 YEAR FLOODPLAIN
- 500 YEAR FLOODPLAIN
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL

N

0 50 100

SCALE IN FEET

NOTES:

1. EXISTING SITE PLAN FEATURES PROVIDED BY US ECOLOGY AND COMPLIED FROM PERMIT DRAWINGS PREPARED IN 2023 BY WEAVER CONSULTANTS GROUP.

TANK SCHEDULE HAZARDOUS WASTE TREATMENT		
UNIT	VOLUME	CONTENTS
T-101	16,800 gal	HAZARDOUS WASTE LIQUID
T-102	19,960 gal	HAZARDOUS WASTE LIQUID
T-103	19,960 gal	HAZARDOUS WASTE LIQUID
T-107	13,077 gal	HAZARDOUS WASTE LIQUID
TA-2a	25,851 gal	HAZARDOUS WASTE LIQUID
TA-2b	21,991 gal	HAZARDOUS WASTE LIQUID

CLEAN WATER ACT TREATMENT TANKS		
UNIT I	VOLUME I	CONTENTS
POTW-1	20,000 gal	OUT OF SERVICE
POTW-2	20,000 gal	OUT OF SERVICE

PRODUCT TANK TANK SCHEDULE		
UNIT I	VOLUME I	CONTENTS
T-405	5,000 gal	DIESEL VOLUME

FOR PERMIT PURPOSES ONLY

REV	DATE	DESCRIPTION	DRN	APP

Geosyntec consultants
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 1996 EXP. 06/30/2026
10777 WESTHEIMER RD, SUITE 900
HOUSTON, TEXAS 77042 USA
TELEPHONE: 281.920.4601

US ECOLOGY TULSA, INC.
2700 S 25TH W. AVENUE
TULSA, OKLAHOMA 74104 USA

TITLE: GENERAL FACILITY LAYOUT (EXISTING CONDITIONS)

PROJECT: PERMIT MODIFICATION APPLICATION

SITE: US ECOLOGY TULSA, INC. TULSA, OKLAHOMA

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

SIGNATURE

DATE

DESIGN BY:	LMS	DATE: JANUARY 2025	
DRAWN BY:	JJV,AM	PROJECT NO.:	TXR10979
CHECKED BY:	BG	FILE:	TXR10979P01.dwg
REVIEWED BY:	JY	FIGURE NO.:	
APPROVED BY:	JY		A-2

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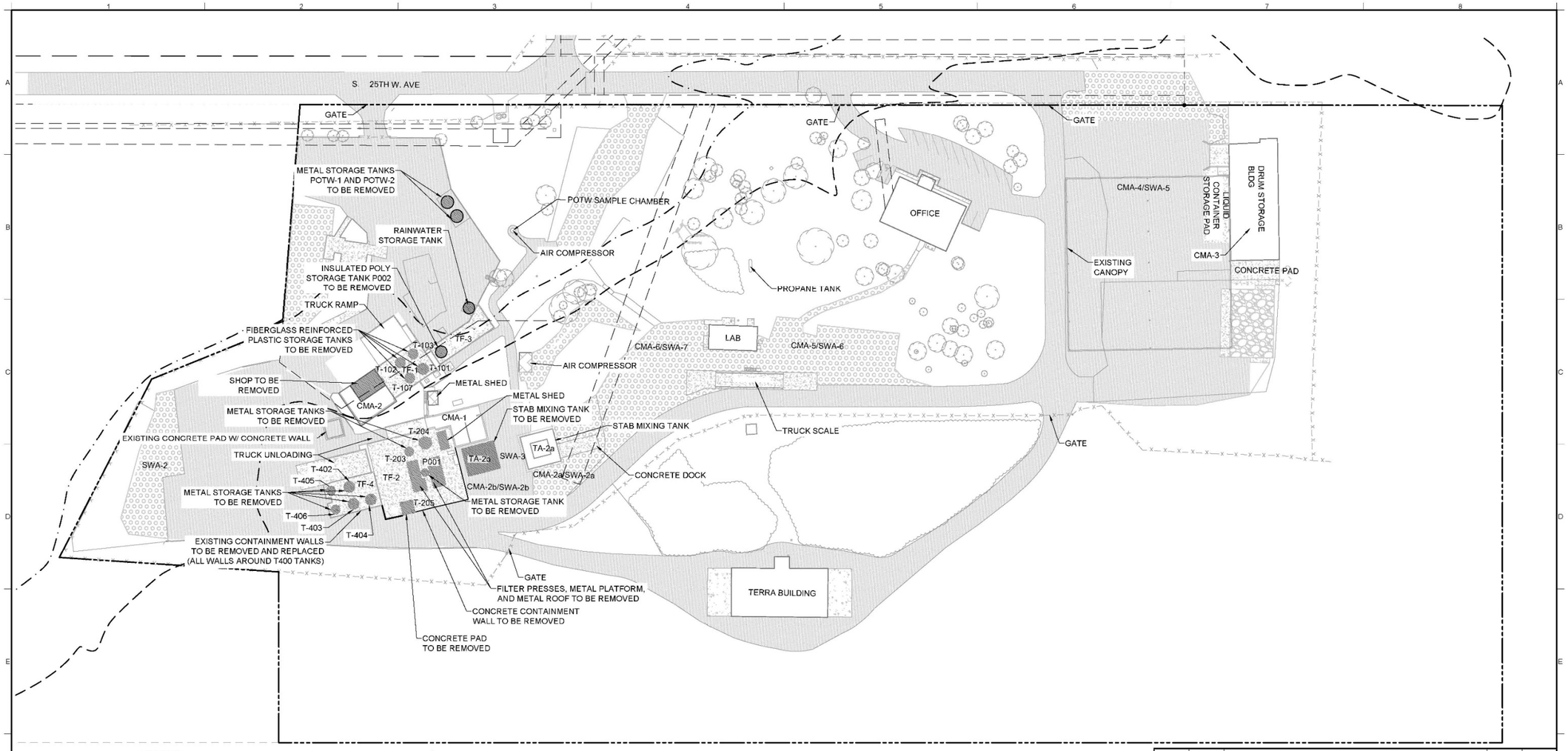

LEGEND

- EXISTING SITE ACCESS ROAD
- EXISTING FENCE
- PROPERTY BOUNDARY
- EASEMENT
- EXISTING BUILDING / TANK
- VEGETATION / TREE
- 100 YEAR FLOODPLAIN
- 500 YEAR FLOODPLAIN
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL
- FACILITY TO BE REMOVED

N

0 50 100

SCALE IN FEET

NOTES:

1. EXISTING SITE PLAN FEATURES PROVIDED BY US ECOLOGY AND COMPLIED FROM PERMIT DRAWINGS PREPARED IN 2023 BY WEAVER CONSULTANTS GROUP.

FOR PERMIT PURPOSES ONLY

REV	DATE	DESCRIPTION	DRN	APP

Geosyntec consultants
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 1998 EXP. 06/30/2026
10777 WESTHEIMER RD, SUITE 900
HOUSTON, TEXAS 77042 USA
TELEPHONE: 281.920.4601

US ECOLOGY TULSA, INC.
2700 S 25TH W. AVENUE
TULSA, OKLAHOMA 74104 USA

TITLE: GENERAL FACILITY LAYOUT (DEMOLITION PLAN)

PROJECT: PERMIT MODIFICATION APPLICATION

SITE: US ECOLOGY TULSA, INC. TULSA, OKLAHOMA

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

SIGNATURE

DATE

DESIGN BY:	LMS	DATE: JANUARY 2025	
DRAWN BY:	JJV, AM	PROJECT NO.:	TXR10979
CHECKED BY:	BG	FILE:	TXR10979P02a.dwg
REVIEWED BY:	JY	FIGURE NO.:	A-2a
APPROVED BY:	JY		

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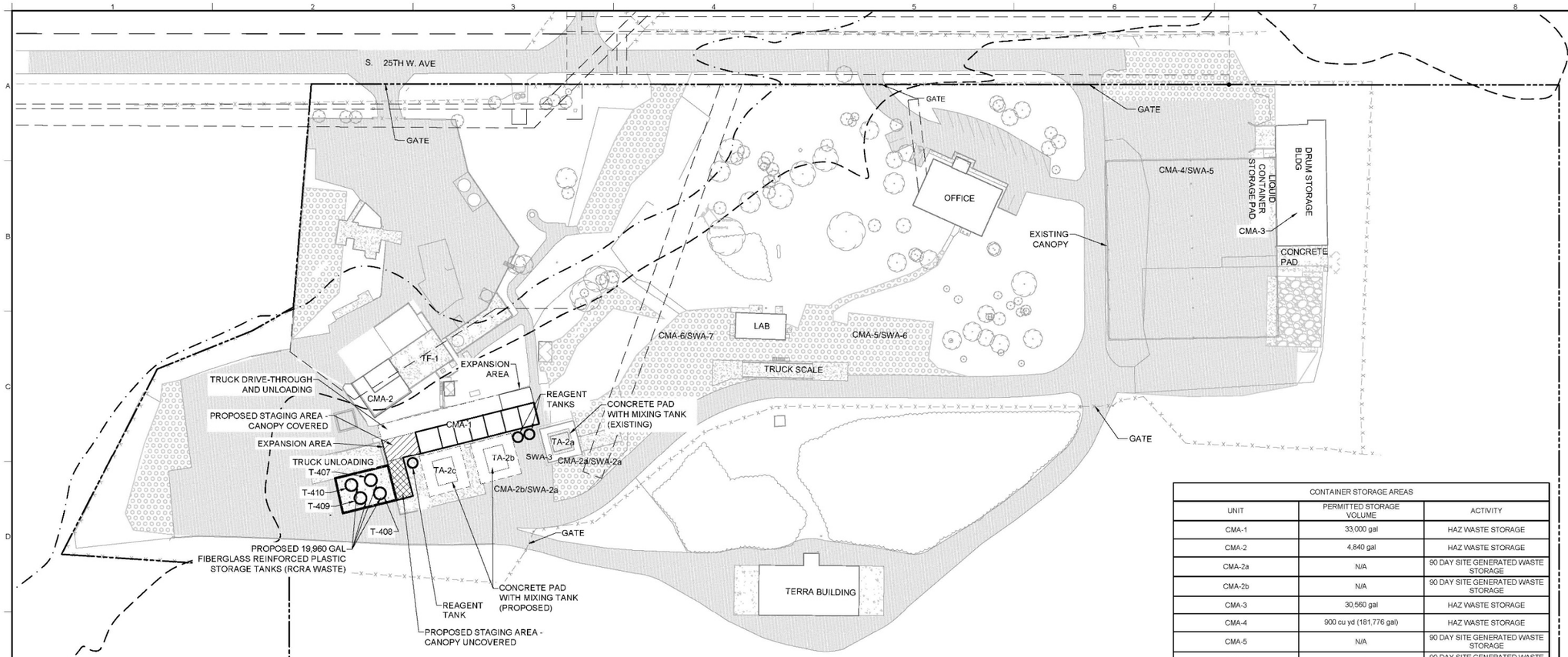

CONTAINER STORAGE AREAS		
UNIT	PERMITTED STORAGE VOLUME	ACTIVITY
CMA-1	33,000 gal	HAZ WASTE STORAGE
CMA-2	4,840 gal	HAZ WASTE STORAGE
CMA-2a	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-2b	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-3	30,560 gal	HAZ WASTE STORAGE
CMA-4	900 cu yd (181,776 gal)	HAZ WASTE STORAGE
CMA-5	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-6	N/A	90 DAY SITE GENERATED WASTE STORAGE
SWA-2	N/A	SOLID WASTE MANAGEMENT
SWA-3	N/A	SOLID WASTE MANAGEMENT
SWA-5	N/A	SOLID WASTE MANAGEMENT
SWA-6	N/A	SOLID WASTE MANAGEMENT
SWA-7	N/A	SOLID WASTE MANAGEMENT

LEGEND

- EXISTING SITE ACCESS ROAD
- EXISTING FENCE
- PROPERTY BOUNDARY
- EASEMENT
- EXISTING BUILDING / TANK
- VEGETATION / TREE
- 100 YEAR FLOODPLAIN
- 500 YEAR FLOODPLAIN
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL
- PROPOSED FACILITY
- PROPOSED CANOPY COVER
- PROPOSED STAGING AREA - COVERED
- PROPOSED STAGING AREA - UNCOVERED
- 310 PROPOSED GRADING MAJOR CONTOURS (10')
- 312 PROPOSED GRADING MINOR CONTOURS (2')
- PROPOSED GRADING LIMIT

N

0 50 100
SCALE IN FEET

NOTES:

1. EXISTING SITE PLAN FEATURES PROVIDED BY US ECOLOGY AND COMPLIED FROM PERMIT DRAWINGS PREPARED IN 2023 BY WEAVER CONSULTANTS GROUP.

TANK SCHEDULE HAZARDOUS WASTE STORAGE		
UNIT	VOLUME	CONTENTS
T-407	19,960 gal	HAZARDOUS WASTE LIQUID
T-408	19.960 gal	HAZARDOUS WASTE LIQUID
T-409	19,960 gal	HAZARDOUS WASTE LIQUID
T-410	19,960 gal	HAZARDOUS WASTE LIQUID

TANK SCHEDULE HAZARDOUS WASTE TREATMENT		
UNIT	VOLUME	CONTENTS
TA-2a	12,000 gal	HAZARDOUS WASTE LIQUID
TA-2b	82,000 gal	HAZARDOUS WASTE LIQUID
TA-2c	82,000 gal	HAZARDOUS WASTE LIQUID

FOR PERMIT PURPOSES ONLY

REV	DATE	DESCRIPTION	DRN	APP

Geosyntec consultants
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 1996 EXP. 06/30/2026
10777 WESTHEIMER RD. SUITE 900
HOUSTON, TEXAS 77042 USA
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US ecology
US ECOLOGY TULSA, INC.
2700 S.25TH W. AVENUE
TULSA, OKLAHOMA 74104 USA

TITLE: GENERAL FACILITY LAYOUT (PROPOSED SITE PLAN)

PROJECT: PERMIT MODIFICATION APPLICATION

SITE: US ECOLOGY TULSA, INC. TULSA, OKLAHOMA

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

SIGNATURE

DATE

DESIGN BY:	LMS	DATE: JANUARY 2025	
DRAWN BY:	JJV,AM	PROJECT NO.:	TXR10979
CHECKED BY:	BG	FILE:	TXR10979P02.dwg
REVIEWED BY:	JY	FIGURE NO.:	
APPROVED BY:	JY		A-2b

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Appendix A-3 (Section 10)

Photographs

US Ecology Tulsa, Inc.

EPA ID: OKD00D402396

US Ecology Tulsa, Inc. Photos for Part A Application Section 10

Access controlled main gate to facility

Additional photos of access controlled main gate

Main Office entrance

Unloading dock for Container Management Area 3 (CMA-3)

North lot outside CMA-3 (storage of nonhazardous and solid hazardous waste)

Indoor trailer unloading area outside CMA-3

Container Management Area 3 (CMA-3)

Additional photo of Container Management Area 3 (CMA-3)

Storage Area in CMA-3 with concrete berm

Drum storage yard with canopy cover

Holding area for treated waste
awaiting lab results south of laboratory

Main entrance to laboratory and laboratory supply storage

Stabilization treatment pan TA-2a

Stabilization treatment pan TA-2b

South side of Container Management Area 1 (CMA-1) by stabilization

Container Management Area 1 (CMA-1)

Loading dock for CMA-1 area

SWA-2 at north end of facility with empty roll-offs and roll-offs with solid waste.

Container management Area 2 and Tank Farm 1 unloading area (empty containers storage as well)

Container management area 2

Tank Farm 1 (Containment area for T-101, T-102, T-103, and T-107)

West side of Tank Farm 1

100- year flood zone area of facility (no waste activities occur in this area. Only empty container storage)

Expansion Area south of CMA-1

Expansion Area south of CMA-1. TA-2a and TA-2b (to be removed and reconstructed)

Inside of the proposed TF-4 containment area

Looking south at the proposed TF-4 containment area

Expansion Area north of CMA-1

SECTION B

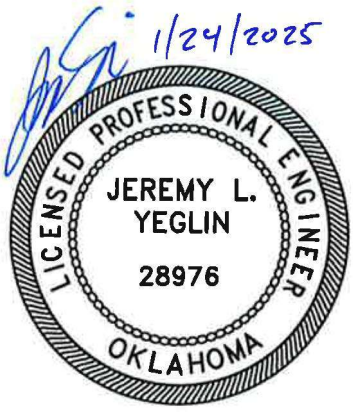
RCRA Part B Permit Application

GENERAL INFORMATION

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma



Permit Modification Application **January 2025**

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SECTION B - GENERAL INFORMATION

This section provides a general description of the US Ecology Tulsa, Inc. (USE Tulsa) hazardous waste management facility as required by Code of Federal Regulations (CFR), Title 40, Section 270.14 (40 CFR 270.14), 40 CFR Part 264, and applicable rules and regulations under the Oklahoma Hazardous Waste Management Act (OHWMA) administered by the Oklahoma Department of Environmental Quality (ODEQ). Additional details are presented in attachments that will be identified in this document. Information regarding solid waste activities, in accordance with the requirements of the Oklahoma Solid Waste Management Act (OSWMA) and regulations, are provided in Attachment 12 - Solid Waste Management Activities.

1) GENERAL DESCRIPTION: 40 CFR 270.14(b)(1)

The USE Tulsa facility is located in an industrial area west of Tulsa, Oklahoma. The facility is located in Tulsa County outside the Tulsa city limits. The facility street address, mailing address and corresponding telephone numbers are provided in Part A of the Permit Application.

USE Tulsa operates an industrial solid and hazardous waste treatment and storage facility. Currently, hazardous waste management on-site includes storage and treatment of a wide variety of industrial wastes; solid waste management includes storage and treatment of a wide variety of waste types.

In addition to wastes from off-site generators, USE Tulsa manages site-generated wastes. Waste management on-site may include transfer facility activities such as storage prior to shipment off-site as well as transfer station activities such as bulking, consolidation, etc.

2. CHEMICAL AND PHYSICAL ANALYSES OF HAZARDOUS WASTES: 40 CFR 270.14(b)(2)

The information required for the chemical and physical analyses of hazardous wastes at the USE Tulsa facility will be included in Attachment 2 - Waste Characteristics and Waste Analysis Plan.

3. WASTE ANALYSIS PLAN: 40 CFR 270.14(b)(3)

The Waste Analysis Plan for the USE Tulsa facility is in Attachment 2 - Waste Characteristics and Waste Analysis Plan.

4. DESCRIPTION OF SECURITY MEASURES: 40 CFR 270.14(b)(4)

The description of security measures for the USE Tulsa facility is in Attachment 3 - Security and Fencing.

5. GENERAL INSPECTION SCHEDULE: 40 CFR 270.14(b)(5)

The general inspection schedule and associated forms is in Attachment 4 - Inspection Schedule and Forms.

6. JUSTIFICATION OF REQUESTS FOR A WAIVER OF PREPAREDNESS AND PREVENTION: 40 CFR 270.14(b)(6)

USE Tulsa has not requested any waivers of preparedness and prevention, so this section is not applicable, and no information is provided.

7. CONTINGENCY PLAN: 40 CFR 270.14(b)(7)

A copy of the Contingency Plan for the USE Tulsa facility is in Attachment 5 - Contingency Plan.

8. PREVENTATIVE SAFETY PROCEDURES, EQUIPMENT, AND CONSTRUCTION: 40 CFR 270.14(b)(8)

Descriptions of safety procedures, equipment, and construction to prevent or mitigate the events listed in 40 CFR 270.14(b)(8) are located in Attachment 6 - Procedures to Prevent Hazards.

9. PREVENTION OF ACCIDENTAL IGNITION OR REACTION OF IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE: 40 CFR 270.14(b)(9)

Processes and procedures in place for the prevention of accidental ignition or reaction of ignitable, reactive, or incompatible waste are located in Attachment 6 - Procedures to Prevent Hazards.

10. TRAFFIC PATTERN INFORMATION: 40 CFR 270.14(b)(10)

Vehicle access to the USE Tulsa facility is provided by city streets. Truck traffic will proceed south from 21st Street on Yukon Avenue and subsequently west on 26th Street. Continuing a distance of approximately one quarter of a mile on 26th Street, a left-hand turn is made at 25th West Avenue. The facility entrance is straight ahead, approximately one quarter of a mile from the 26th Street junction. A map depicting traffic patterns is available in Attachment 1 - Maps and Figures.

10.a TRAFFIC CONTROL

Traffic is controlled by orderly receipt of trucks on-site. Trucks are instructed to park in the designated parking, staging, or unloading areas. Cars entering the facility are confined to the parking areas. Wastes are shipped to and from the facility, in tankers and other trucks. A maximum of 30 tank trucks can be accommodated daily with the current average of 5 trucks entering the facility daily.

10.b ACCESS ROAD SURFACING

Access roads to the facility are composed of blacktop asphalt; these roads are maintained by the City or County of Tulsa depending on jurisdiction.

10.c LOAD-BEARING CAPACITY

All roads are capable of bearing loads in excess of 50 psi. The tankers and trucks used to haul waste to the site could cause a load bearing of 25 psi, which is well below the load-bearing capacity of the roads. Access roads are maintained by the City of Tulsa and Tulsa County.

10.d TRAFFIC CONTROL SYSTEMS

The USE Tulsa facility is in a small, isolated location, which does not require traffic control signals.

11. FACILITY LOCATION INFORMATION: 40 CFR 270.14(b)(11)

11.a LEGAL JURISDICTION

The legal description of the USE Tulsa facility is as follows:

> A tract of land that is all of the north half of the southeast quarter of the southeast quarter of the southwest quarter (N/2 SE/4 SE/4 SW/4) and all of the northeast quarter of the southeast quarter of the southwest quarter (NE/4 SE/4 SW/4) and part of the southeast quarter of the northeast quarter of the southwest quarter (SE/4 NE/4 SW/4), all in section fifteen (15), township nineteen (19) north, range twelve (12) east of the Indian Base and Meridian, Tulsa County, State of Oklahoma, according to the U.S. Government Survey thereof, said tract of land being more particularly described as follows:

Beginning at a point that is the southeast corner of said N/2 of the SE/4 of the SE/4 of the SW/4; thence S 88° 49’ 53” W along the southerly line thereof for 660.74 feet to the southwest corner of the N/2 of the SE/4 of the SE/4 of the SW/4; thence N 01° 09’ 45” W along the westerly line of the E/2 of the SE/4 of the SW/4 and along the westerly line of the SE/4 of the NE/4 of the SW/4 for 1267.08 feet; thence N 88° 50’ 15” E for 177.20 feet; thence N 02° 36’ 30” E for 227.70 feet; thence S 63° 51’ 34” E for 208.33 feet; thence S 23° 05’ 22” E for 102.00 feet; thence S 30° 43’ 31” E for 47.33 feet; thence S 86° 34’ 35” E for 223.71 feet to a point on the easterly line for 1244.97 feet to the point of beginning of said tract of land.

11.b COMPLIANCE WITH SEISMIC STANDARD

The USE Tulsa facility is located in Tulsa County, Oklahoma (near the City of Tulsa). Appendix VI of 40 CFR Part 264 lists the political jurisdictions in which compliance with 40 CFR 264.18(a) must be demonstrated. The facility is not located in a political jurisdiction listed in Appendix VI of 40 CFR Part 264; therefore, no further information is required to demonstrate compliance with 40 CFR 264.18(a).

11.c IDENTIFICATION OF 100-YEAR FLOODPLAIN

Identification of 100-year floodplain is noted on floodplain map in Attachment 1 - Maps and Figures. There are no processes that involve hazardous waste that occur in the area of the USE Tulsa facility that is within the 100-year floodplain. However, there is a flood wall on the northeast corner of the facility that surrounds a previously active area. The analysis of the hydrostatic and hydrologic forces on the flood wall are included in Appendix B-1 of this section.

12. TRAINING PROGRAMS IN COMPLIANCE WITH 40 CFR 264.16 AND 40 CFR 270.14(b)(12)

The training program used at USE Tulsa and associated checklists is provided in Attachment 7 - Training Programs and Documents.

13. CLOSURE, POST CLOSURE, AND INSURANCE DOCUMENTS: 40 CFR 270.14(b)(13) – 40 CFR 270.14(b)(18)

A copy of the closure plan, any applicable post closure plan, and insurance documentation for USE Tulsa is provided in Attachment 8 - Closure and Post Closure Plan with Estimates and Insurance Information.

14. TOPOGRAPHICAL MAP WITH REQUESTED INFORMATION: 40 CFR 270(b)(19)

The topographical map for the USE Tulsa facility is provided in Attachment 1 - Maps and Figures. All requirements will be displayed on the topographic map or another map within Attachment 1 - Maps and Figures.

15. NOTICE OF APPROVAL OF PETITION FOR EXTENSION FOR LAND DISPOSAL FACILITIES: 40 CFR 270.14(b)(21)

USE Tulsa does not conduct activities that would be defined as land disposal, so this requirement is not applicable.

ADDITIONAL INFORMATION

16. GROUNDWATER MONITORING DATA DURING INTERIM STATUS: 40 CFR 270.14(c)(1)

USE Tulsa is not in interim status, so this requirement is not applicable.

17. IDENTIFICATION OF THE UPPERMOST AQUIFER, HYDRAULICALLY CONNECTED AQUIFERS, FLOW DIRECTION AND RATE, AND BASIS FOR SUCH IDENTIFICATION: 40 CFR 270.14(c)(2)

The groundwater monitoring wells are located in a shallow aquifer associated with the Arkansas River alluvial shallow aquifer. The intermittent Cherry Creek runs to the southeast just to the northeast of the monitoring wells, with groundwater in the area of the monitoring wells flowing to the East-North-East toward Cherry Creek. Cherry Creek runs into the Arkansas River about 3.3 miles to the southeast.

The 1998 Corrective Measure Study noted that “Residential use of ground water in this area has not been documented so is unlikely, but future use must be considered. Some industrial properties use and will probably continue to use this ground water in the future. No information was available as to the type or extent of this usage.”

18. TOPOGRAPHICAL MAP INFORMATION - DELINEATION OF WASTE MANAGEMENT AREA, PROPERTY BOUNDARY, PROPOSED POINT OF COMPLIANCE (40 CFR 264.95), PROPOSED GW MONITORING WELLS, AND INFORMATION FROM 270.14(c)(2) AND 40 CFR 270.14(c)(3)

The required information will be provided in the topographical map located in Attachment 1 - Maps and Figures.

19. DESCRIPTION OF PLUME OF CONTAMINATION FROM A REGULATED UNIT: 40 CFR 270.14(c)(4)

The following is a summary of actions taken for closure of a historical Solid Waste Management Unit (SWMU #4) in accordance with a Corrective Measure Study report issued December 22, 1997 and revised April 8, 1998:

The surface impoundment (known as SWMU-4 at the time of the 1998 Corrective Measures Study) is located at the northern edge of the facility within the fence-line. The original dimensions were 12' by 90'. The west end was 2.5' deep and the east end was 4' deep. It was originally lined with an 80-mil HDPE liner. The capacity was 29,400 gallons, with 21,000-gallon freeboard capacity. It was originally brought into service in 1978 to contain overflows and tank releases from TF-0, although it was later used for tank cleanouts, extra waste storage, emergency spills, and mixing wastes prior to injection.

After complaints from the Oklahoma State Department of Health (later reorganized and the pertinent section renamed as the Oklahoma Department of Environmental Quality), one of the previous owners lined the impoundment with a Schlegel brand HDPE liner. The liner was placed on the dikes and bottom of the in-situ impoundment and brought over and under the tanks and injection well area. The tank/injection well area was filled with sand, soil, and gravel to form a work surface. Leachate detection wells which were incorporated into the design periodically filled with liquid waste, indicating that the liner had leaked.

When leachate wells indicated that the liner had failed, the impoundment was removed from service in 1985 by Chemical Resources, Inc. (a prior owner of the site) and was placed under a consent agreement with ODEQ for closure (No. EH-89-130, executed August 11, 1989 and amended December 11, 1992 by Perma-Fix Treatment Services). The pit was excavated to a dimension of 20' by 120', with a depth of 5.5' in the west end and 7.7' in the east end. As much as

100 barrels per day of ground water and precipitation were removed and injected down the deep well over the next 5 months. The impoundment was lined, filled with clean soil, and covered with asphalt.

A corrective measure study (CMS) was conducted and the report was finalized December 22, 1997 and later revised April 8, 1998. In this CMS, as well as in the original consent order, it was determined that there was minimal risk of groundwater contamination and approval for risk-based closure was requested. Also as part of the CMS, it was decided to conduct groundwater monitoring on a quarterly basis for the identified chemicals of potential concern (benzene, vinyl chloride, 1,1-dichloroethane, arsenic, and nickel) to ensure that the plume did not migrate off-site. The frequency of monitoring has been reduced to annually and the chemicals of potential concern that require analysis have been reduced to arsenic and nickel through the permit modification process with ODEQ.

Groundwater monitoring has demonstrated inconsistent results, believed to be due to turbidity of samples with resulting variable arsenic results. The most recent (as of the submittal of the 2023 permit renewal application) groundwater monitoring report and recommendations for closure of the groundwater monitoring program is included in Appendix 9-1 (2022 Annual Groundwater Monitoring Report) of Attachment 9 - Groundwater Monitoring Information).

20. DETAILED GROUNDWATER (GW) MONITORING PROGRAM WITH ENGINEERING REPORT: 40 CFR 270.14(c)(5)

The detailed GW monitoring program with engineering report for USE Tulsa is provided in Attachment 9 - Groundwater Monitoring Information.

21. DETECTION MONITORING PROGRAM: 40 CFR 270.14(c)(6)

The detection monitoring program, which includes information about the indicators and waste constituents, proposed groundwater monitoring system, background values, and proposed sampling, analysis, and statistical procedures are provided in Attachment 9 - Groundwater Monitoring Information.

22. PHARMACEUTICAL WASTE PROCESS

Per the definition in 40 CFR 266.510(d), USE Tulsa operates as a reverse distributor of pharmaceutical waste. USE Tulsa accepts pharmaceutical waste from off-site, both hazardous and

nonhazardous, for either transshipment or treatment. Pharmaceuticals that are nonhazardous and pharmaceuticals that carry waste codes that are permitted for treatment at the facility are treated on site with other similar waste codes. Pharmaceuticals carrying waste codes that are not permitted for on-site treatment are transshipped to an approved incinerator. USE Tulsa does not accept pharmaceutical waste that is DEA controlled.

23. TRACKING WASTE AT THE USE TULSA FACILITY

Wastes are tracked after receipt and during processing. Prior to the waste being received at the facility, the waste profile is reviewed via the waste review process. If approved, the waste is then scheduled for pickup/delivery to facility. Once the waste arrives at the facility, all paperwork is delivered to the receiving department and reviewed.

After initial review, labels are created and sent to drum yard employees with associated paperwork for visual inspection and container labeling. Drum yard employees are also provided with container log process sheets, which allow them to record any discrepancies or additional details/comments during their visual inspections, labeling, and sorting of containers. All information is scanned into the file of the generated receipt number in the tracking software system, EQAI. Waste labels are coded, which allows them to be scanned and tracked through the facility until it leaves the premises, either via treatment or transshipment. Tracking information is available in the facility's waste tracking software. Waste can be tracked throughout the facility in the following processes:

- On hold (used if there are any initial discrepancies discovered)
- Unloading
- Sorted (this will be the designated storage area)
- In the lab (when samples are required for fingerprint analysis)

If the lab analysis uncovers any discrepancies, the status of the waste will be On Hold-in the lab.

If the waste will be treated on site, it will then be assigned the proper treat code and will be tracked into the treatment batch. Once the treatment of the batch is complete and verified that it is acceptable for transport to the landfill, it will have its final destination location assigned in EQAI. If the waste will be shipped offsite, it will be added to a trip number created in EQAI, which will

list all waste included in the designated shipment. If it will be consolidated into another container with similar waste codes, a stock container number will be created, which will contain all original receipt numbers.

Records of the receipts, processing, and waste shipments are maintained in the facility operating record.

24. HAZARDOUS WASTE RELEASE HISTORY: 40 CFR 270.14(d)(2)

USE Tulsa has no record of any hazardous waste releases to the environment and document searches through the US Environmental Protection Agency (EPA), ODEQ, and onsite historic records have no indication of releases under prior ownership other than the release from the closed surface impoundment on the north side of the facility as discussed and described in B.19 of this section of the application.

----------**END OF SECTION**----------

Appendix B-1- Analysis of Hydrostatic and Hydrologic forces on the Flood Wall

The following discussion outlines hydrostatic/hydrologic engineering calculations for the design of the flood protection gate.

The highest water level against the flood gate at the peak of a 100-year flood would be at an elevation of 637 feet or one foot head. Assuming that the water rises above the 100-year flood event to a level of three (3) feet against the gate, the water at this level would result in a hydrostatic force of 7581 lbf or 281 lbf per linear on the gate as shown by the calculations below. The same force would act against the concrete wall.

The hydrostatic force acting on the gate or the wall is given by:

$$F = \frac{[P\,dA]}{g}$$

where, $dA = Xdy$

For a three (3) foot high water column, (force) imparted on an elemental area dA (pressure) by water is equal to density of water multiplied of gravitational force multiplied by the column height. Therefore, total force F, on gate is:

$$F = [(P-Patm) * (Xdy)] / g_c;$$

since,

$$\rho = p*g*Y$$

where,

ρ = 62.4 lb_m/ft^3
X = 27 ft
g_c = 32.2 lb_m-ft / lb_f-s^2
P atm = 0
g = 32.2 ft/s^2

Therefore,

$F = (X/g_c) \int \rho\, g\, Y\, dy$; and integrating over Y = 3 to 0 ft.
$F = [\,27 \times 62.4 \times 32.2 \times 4.5\,] / 32.2$
$F = 7581\ lb_f$

The force F is acting at a center of pressure on the gate determined by taking the moment about the top of the gate.

$$F^* Ycp = (X/g_c) \int y^2\, \rho\, g\, dy,$$ integrating over Y = 0 to 3 ft

where,

cp = center of pressure
Ycp = height of center of pressure

$$Ycp = [(\rho * g * X)/g_c] * [Y^3/3)]$$

$$Ycp = \frac{\rho\, g\, X\, (9ft^3)}{g_c * F}$$

Therefore,

$$Ycp = \frac{(62.4\ lb_m/ft^3)\,(32.2\ ft/s^2)\,(27\ ft)\,(9\ ft^3)}{(7581\ lb_f)\,(32.2\ lb_m\ ft/lb_f\ s^2)}$$

= 2 ft from the top

The gate is supported by three pipe columns and two end wall supports equally spaced at a distance of 7.5 feet. In a system of a continuously supported beam with equal spans, like the gate design, the maximum shear is given by:

F shear = 26/28 (wl)

In this case,

w = 280.8 lbf/ft
Span 1 = 30 ft/4 = 7.5 ft

Therefore,

F shear = 1,956 lb_f

The corresponding stress acting on the aluminum gate, which is 2 inches thick and 48 inches high is:

Stress (shear) = [3 fs / (2A)] = 1.5 x 1956/(48 x 2)

Therefore,

Stress (shear) = 31 psi

This stress is very small compared to the yield strength of aluminum ranging from 5,000 to 21,000 psi and tensile strength of 19,000 to 24,000 psi and shear strength of 9,016,000 psi for annealed or cold rolled stock of aluminum.

The tensile strength for pipe columns assuming to meet ASTM A36 specification, is 58,000 to 80,000 psi, and is sufficiently high to withstand the stress anticipated, as shown earlier.

For calculating the hydrodynamic forces the velocity of water at this location is taken to be six (6) feet per second. This value has been taken from Federal Emergency Management Agency's Floodway Data for Cherry Creek. If a three (3) foot wall of water hit the gate at this speed, it would exert a force of 5,651 lb_f on the gate. The calculation of the hydrodynamic force is given below:

$$F = m * v = \rho A * (v)^2,$$

where,

v = velocity of water
A = submerged area of gate
m = mass of water

Therefore,

$$F = \frac{(62.4\ lb_m/ft^3) * (3\ ft) * (27\ ft) * (6\ ft/s)^2}{32.2\ lb_m - ft/lb_f - s^2}$$

$$= 5{,}651\ lb_f$$

This hydrodynamic force of 5681 lb_f is less than the hydrostatic force of 7581 lb_m, even though a wall of water three (3) feet high has been assumed to hit the gate instead of one foot.

The buoyancy of the flood water will not lift the gate because the density of aluminum is higher than the density of water. Also, it is safe to assume that the water hits the gate horizontally and the force, therefore, does not have any vertical component of lift.

All three cross-sections of the wall are designed to withstand a flood level of considerably more than three (3) feet above a 100-year flood level. This can easily be seen from the strength of the concrete in relation to aluminum. The cement concrete construction is capable of withstanding at least 800 psi of shear and tensile forces.

This facility is considerably removed from the Arkansas River channel and would be at the western most edge of the 100-year floodplain area. Because of protection due to the topography, trees and remoteness from the river channel, the hydrodynamic forces would not be expected to exceed 1.5 times the hydrostatic forces as shown above.

The exterior flood forces during a 100-year flood would be considerably greater than the much lower hydrostatic head on the inside, even if all interior tanks and vessels were ruptured when full. Therefore, it is concluded that the flood protective wall is adequate for any foreseeable flood threat. The removable floodgate is designed to provide an equivalent protection from either inside or outside forces.

The dimensions of the flood gate are 32' x 4'2' x 2'. It is constructed of 18 gauge aluminum skin. Rubber seals are used to prevent fluid seepage through the gate. See Figure B-5, Flood Gate Details located in Appendix A, Figures.

In summary, the flood wall and gate are designed to withstand the hydrologic force the floodwaters of a 100-year flood.

APPENDIX B-2

Landowner Notification Form

DEQ LANDOWNER NOTIFICATION AFFIDAVIT

Tier I, II, or III permit applications in which the applicant does not own all the land subject to the application must notify the owner(s) of leases and/or pipeline right-of-ways. The basis for this requirement is Title 27A of the Oklahoma Statutes § 2-14-103(9), as described in OAC 252:004-7-13(b).

Please note that you MUST fill out and return this affidavit even if you don't have to give any landowner notice.

A	NOTICE TO THE LANDOWNER(S) IS NOT REQUIRED because: (check one)		
☐	My application does not involve any land.	☑	My application involves only land owned by me (or applicant business).

OR

B	NOTICE TO THE LANDOWNER(S) IS REQUIRED because the land is owned by someone other than myself or the applicant business AND I HAVE NOTIFIED the following (check one):		
☐	Landowner(s)	☐	Lessor or Administrator or Executor of the land
METHOD OF DELIVERY (check one):			
☐	Actual notice, for which I have a signed and dated receipt		
☐	Service by Sheriff or private process server, for which I have an affidavit		
☐	Service by certified mail, restricted delivery, for which I have a signed return receipt		
☐	Legal publication, for which I have an affidavit of publication from the newspaper, because the landowners could not be located through due diligence		
MY RIGHT TO USE THIS LAND is by:			
☐	Lease	☐ Easement	☐ Other, Specify

LANDOWNER AFFIDAVIT CERTIFICATION			
I, as the applicant or an authorized representative of the applicant, hereby certify that notice to the landowner(s) about the permit application for the facility described below was provided per Option A or B above.			
Company Name	US Ecology Tulsa, Inc.	Facility Name	Tulsa Facility
Facility Address or Legal Description.	2700 S 25th West Ave., Tulsa, OK 74107		
Responsible Official (signature)		Date Signed	11/1/2024
Responsible Official (typed)	TJ Timmons	Title	Operations Manager

If the landowner notice applies to your application (Option B Above) you can send the following form to them as your notice:

NOTICE TO LANDOWNER OF FILING

Dear Landowner: (Name)_____

(Applicant name)_____ has filed a permit application with the Oklahoma Department of Environmental Quality for (Name) Tulsa Facility facility.

This application involves the land owned by you located at:

Address or Legal Description:_____

Signed:_____ Date:_____

DEQ FORM #100-810 Revised June 2019

SECTION C

RCRA Part B Permit Application

INFORMATION REQUIREMENTS FOR CONTAINERS

40 CFR 270.15

US Ecology Tulsa

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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Section C - Information Requirements for Containers

This section provides the information required for hazardous waste container management at US Ecology Tulsa, Inc. (USE Tulsa) per Code of Federal Regulations (CFR), Title 40, Section 270.15 (40 CFR 270.15) and 40 CFR 264 requirements. USE Tulsa utilizes containers for waste storage. The four (4) areas permitted for waste storage include Container Management Area 1 (CMA-1), Container Management Area 2 (CMA-2), Container Management Area 3 (CMA-3), and Container Management Area 4 (CMA-4). In addition, the following Container Management Areas are managed as 90-day storage areas and are not elaborated upon in this application: CMA-2a, CMA-2b, CMA-5, and CMA-6.

1) DESCRIPTION OF CONTAINMENT SYSTEM IN COMPLIANCE WITH 40 CFR 264.175 AND 40 CFR 270.15(a)

a) BASIC DESIGN PARAMETERS, DIMENSIONS, AND MATERIALS OF CONSTRUCTION: 40 CFR 270.15(a)(1)

Storage of hazardous waste in containers is conducted in four (4) container management areas (CMA-1, CMA-2, CMA-3, and CMA-4), and four (4) 90-day container management areas (CMA-2a, CMA-2b, CMA-5, and CMA-6). CMA-4 container management area may only store hazardous wastes that do not contain free liquids as determined by the methods described in Attachment 2 - Waste Characteristics and Waste Analysis Plan. Locations of these units are shown on Figure 1: Figure A-2, General Facility Layout (Existing Conditions) and Figure 1b: Figure A-2b, General Facility Layout (Proposed Site Plan) presented in Attachment 1 - Maps and Figures. Design parameters, dimensions, and materials of construction of the secondary containment systems are presented in the appendices at the end of this section. In addition, the storage areas are sloped so that the containers do not sit in rainwater, or they are elevated to protect the container from accumulated liquid. Appendices 1, 2, and 3, Hazardous Waste - Container Management Areas provides additional details regarding containment and capacity of these units.

b) SHOWING HOW DESIGN PROMOTES DRAINAGE OR KEEPS CONTAINERS FROM CONTACTING STANDING LIQUID: 40 CFR 270.15(a)(2)

Containment systems for CMAs at USE Tulsa are designed with slopes for drainage of liquids or are otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, except where the containers are elevated or are otherwise protected from contact with accumulated liquids. Hazardous waste in containers may be managed on pallets or directly on the container management area floor. Standard operating procedures include daily inspections in accordance with container inspection requirements outlined in Attachment 4 - Inspection Schedules and Forms and Attachment 6 - Procedures to Prevent Hazards. The inspections facilitate the detection and appropriate management of liquids accumulated in CMAs.

c) CAPACITY OF THE CONTAINMENT SYSTEM RELATIVE TO THE NUMBER AND VOLUME OF CONTAINERS STORED: 40 CFR 270.15(a)(3)

In accordance with 40 CFR 264.175, containment systems for container storage areas that may contain free liquids must have sufficient capacity to contain 10% of the total volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination. See Appendices at the end of this attachment for details regarding capacity of containment systems for container storage areas. CMAs which share containment structures with tank storage areas (CMA-2 and TF-1 [TF-1 to be removed]) are equipped with adequate containment for 10% of the total volume of hazardous waste storage capacity (containers and tanks), the volume of the largest container, or the volume of the largest tank, whichever is greatest. In accordance with the containment requirements for tank systems, any tank and container co-management area will be provided with a containment volume adequate to contain the additional volume of the precipitation of the 24-hour, 25-year rainfall event, if the co-management area is not protected from precipitation.

d) PROVISIONS FOR PREVENTING OR MANAGING RUN-ON: 40 CFR 270.15(a)(4)

CMA-1, CMA-2, and CMA-3 are equipped with secondary containment structures which are designed to contain accumulated liquid within containment systems. The proposed expansion of CMA-1 will also be equipped with secondary containment structures. Containment structures will minimize the potential for run-on of precipitation into containment systems. Where installed, the roof or canopy (or equivalent cover) will minimize the accumulation of precipitation in containment systems.

e) SHOWING OF HOW ACCUMULATED LIQUIDS CAN BE ANALYZED AND REMOVED TO PREVENT OVERFLOW: 40 CFR 270.15(a)(5)

USE Tulsa operating procedures include inspections designed to identify accumulated liquids in a timely manner (inspection schedule and criteria are outlined in Attachment 4 - Inspection Schedule and Forms). After discovery, spilled or leaked waste and accumulated precipitation will be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. Accumulated liquids will be identified by visual observation, review of facility records, and (if deemed necessary) by chemical analysis. If required, analyses will be conducted in accordance with the facility Waste Analysis Plan presented in Attachment 2 - Waste Characteristics and Waste Analysis Plan. If analysis indicates that the removed accumulated liquids are hazardous, they will be handled in accordance with all local, state, and federal regulations.

2) SHOWING COMPLIANCE WITH 40 CFR 264.175 FOR STORAGE AREAS WITH CONTAINERS THAT DO NOT CONTAIN FREE LIQUID: 40 CFR 270.15(b)

The following sections describe the procedures performed at USE Tulsa to confirm that the hazardous wastes that are stored in areas without containment do not contain free liquid or any waste carrying F020, F021, F022, F023, F026, and/or F027 codes.

a) TEST PROCEDURES AND RESULTS OR DOCUMENTATION TO SHOW WASTES DO NOT CONTAIN FREE LIQUID: 40 CFR 270.15(b)(1)

Prior to storage of solid hazardous waste outside of containment areas, the potential presence of free liquids will be determined in each container consistent with procedures identified in Attachment 2, paragraph 1a in the Waste Characteristics and Waste Analysis Plan. If there is question as to whether the waste is solid or liquid, a sample of the waste will be subjected to the Paint Filter Liquids Test (PFLT) Method 9095 in SW 846, in accordance with facility sampling protocol (for waste acceptance) and the Waste Analysis Plan located in Attachment 2 - Waste Characteristics and Waste Analysis Plan. If testing is performed, the results are maintained in the electronic profile system and maintained as part of the operating record.

b) DESCRIPTION OF STORAGE AREA DESIGN AND OPERATION TO DRAIN/REMOVE LIQUID OR KEEP CONTAINERS FROM CONTACTING STANDING LIQUID: 40 CFR 270.15(b)(2)

Areas where solid hazardous waste and nonhazardous waste can be held at USE Tulsa (CMA-2a, CMA-2b, CMA-4, CMA-5, and CMA-6) are designed with slopes for drainage of liquids or are otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, except where the containers are elevated or are otherwise protected from contact with accumulated liquids. Solid hazardous waste in containers may be managed on pallets or directly on the container management area floor. Standard operating procedures include daily inspections in accordance with container inspection requirements outlined in Attachment 4 - Inspection Schedules and Forms and Attachment 6 - Procedures to Prevent Hazards. The inspections facilitate the detection and appropriate management of liquids accumulated in CMAs.

3) COMPLIANCE WITH 40 CFR 264.176 (IGNITABLE WASTE) AND 264.177(c) (INCOMPATIBLE WASTE) AND PROCEDURES IN COMPLIANCE WITH 40 CFR

264.177(a) & (b) AND 264.17(b) & (c) FOR STORING OF INCOMPATIBLE WASTES: 40 CFR 270.15(c) and 40 CFR 270.15(d)

Management practices for ignitable, reactive, and incompatible wastes at USE Tulsa have been designed to minimize the potential for fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak. A specific procedure for the management of these wastes is outlined in Attachment 6 - Procedures to Prevent Hazards. USE Tulsa will not place incompatible wastes, or incompatible wastes and materials in the same container, unless the requirements of 40 CFR 264.17(b) are complied with. In addition, hazardous waste will not be placed in an unwashed container that previously held an incompatible waste or material. Containers holding ignitable or reactive wastes will be located at least 50 feet from the USE Tulsa facility property line. Any container holding a hazardous waste that is incompatible with any waste or other materials will be separated from the other materials by means of a dike, berm, wall, or other equivalent device; portable containment units may be used for this purpose.

----------END OF SECTION----------

Appendix 1- Container Management Area 1 (CMA-1) Information

I. Unit Description

The US Ecology Tulsa, Inc. (USE Tulsa) hazardous waste Container Management Area 1 (CMA-1) has an existing permitted capacity for 10,560 gallons of hazardous waste (liquids or solids). The proposed permitted capacity of the expanded CMA-1 is 33,000 gallons of hazardous waste (liquids or solids). Containment requirements are based on storage of liquid hazardous wastes. Unit area, permitted capacity, required containment, containment capacity, and 55-gallon drum equivalents for CMA-1 are summarized in Appendix 4 – Permitted Hazardous Waste Container Management Area Information Table at the end of this document.

II. Basic Design, Parameters, Dimensions, and Materials of Construction

The existing CMA-1 was designed in accordance with National Fire Protection Association (NFPA) Code and the BOCA National Building Code (legacy to the International Building Code [IBC]) requirements for this unit prior to construction. The expansion of CMA-1 will be also be designed in accordance with the NFPE and the IBC. Incompatible wastes may be stored in this area. Incompatible materials will be segregated by walls, diking, or portable containment units.

The base of existing CMA-1 is constructed of concrete which is maintained free of gaps and cracks. The concrete is coated with an impervious, chemically resistant material which will contain leaks, spills, and accumulated precipitation until they are detected and removed. The concrete base of CMA-1 is sloped to minimize the potential for the containers to be exposed to standing liquids in the containment system.

These same design considerations for the existing CMA-1 will be incorporated into the detailed design of the expanded CMA-1. The permit-level drawing for the expanded CMA-1 is attached to this appendix as Figure C-1-1, Plan of Expanded Containment Management Area 1 (CMA-1). See Appendix 4 - Hazardous Waste Container Management Area Information Table at the end of this document for details regarding containment capacity of the existing and expanded CMA-1.

III. Containment System Capacity - Number of Containers and Total Volume

The unit is currently equipped with 9,093 gallons of available volume for containment. This volume is sufficient to contain ten percent of the total permitted volume or the volume of the

largest container, whichever is greater (i.e., 10,560 gallons X 0.10 = 1,056 gallons). The proposed/modified unit would increase the available volume for containment to 16,460 gallons. This volume is sufficient to contain ten percent of the proposed total permitted volume or the volume of the largest container, whichever is greater (i.e., 33,000 gallons X 0.10 = 3,300 gallons). This unit is designed to provide separate containment areas; the required containment volume will be subdivided accordingly. The sub-areas allow separation during storage of incompatible materials. The truck drive-through and unloading portion of CMA-1 was not included in the containment calculations.

Fifty-five (55) gallon size or larger containers may be double stacked during storage; pallets, skids, or equivalent devices may be used to facilitate container management. Smaller containers may be stored in stacks of multiple containers. Total stack height will be limited to eight (8) feet or less. The configuration of pallets will be in rows approximately four to five (4-5) feet wide. Each row will be accessible for inspection. A minimum aisle space of three (3) feet will be maintained between rows. Containers will be removed from the storage facility manually or with container moving equipment. Gondolas will be moved using mechanized procedures as appropriate. Loading activities will be conducted at this unit.

The coating installed on the concrete slab is compatible with the waste stored in the CMA. The facility inspection schedule (presented in Attachment 4 - Inspection Schedules and Forms and Attachment 6 - Procedures to Prevent Hazards) includes inspection of container management areas to assess condition of the concrete and coating (i.e., that the floor remains impervious and in good condition).

IV. Control of Run-On and Run-Off

CMA-1 is covered to minimize accumulation of precipitation. Containment structures are designed to prevent both run-on and run-off of stormwater.

V. Container Management Process

Process equipment located in and adjacent to CMA-1 is ancillary to hazardous waste container management operations. Specifically, container management equipment in CMA-1 may include

pumps, mixing equipment, container moving equipment, sampling equipment, filtration equipment, size reduction equipment, and other equipment as may be deemed appropriate.

VI. Containment Calculations for Existing CMA-1

GIVEN:

CMA-1 wall height = 14.0 in

(This is the height of the outer wall of the containment area)

Length of west area of CMA-1 = 24 ft

Width of west area of CMA-1 = 34 ft

Length of east area of CMA-1 = 48.8 ft

Width of east area of CMA-1 = 12.8 ft

Length of intermediate berms = 13.0 ft

Intermediate berm width = 6.0 in

Intermediate berm height = 9.0 in

(this is the height of the berms that provide separation within the containment area)

Length of rounded curb = 34.0 ft

Rounded curb width = 3.0 ft

Rounded curb height = 9.0 in

Drum radius = 1.0 ft

Pallet length and width = 4.0 ft

Pallet height (maximum) = 8.0 in

25-year, 24-hour rainfall event = 7.0 in

CONTAINMENT CAPACITY REQUIRED FOR CMA-1:

Total area of west area of CMA-1

(24.0 ft)(34 ft) = 816 ft^2

Total area of east area of CMA-1

(48.8 ft)(12.8 ft) = 624.6 ft^2

CMA-1 total area

816 ft^2 + 624.6 ft^2 = 1,440.6 ft^2

Requirement for secondary containment

10% of total volume of containers = 1,056 gal

Volume of largest container < 1,056 gal

Greater of 10% total volume or volume of the largest container = 1,056 gal

Rainfall over contained area:

(7 in)(1,440.6 ft^2)(1 ft/12 in) x 7.48 gal/ft^3) = 6,286 gal

Calculations not included, as CMA-1 has a canopy cover.

Total requirement: = 1,056 gal

CONTAINMENT CAPACITY AVAILABLE FOR CMA-1:

Volume inside containment wall from flat ground level upward:

(1,440.6 ft^2)(14.0 in)(1 ft/12 in)(7.48 gal/ft^3) = 12,572 gal

Volume displaced by berms, drums, and pallets to wall height (based on 4 double-stacked rows of 6 pallets per row, 4 drums per pallet with 3 feet aisle space). Displacement calculated for 14 inch wall.

Pallet displacement:

(4 rows)(6 pallets/row)(4 ft)(4 ft)(8 in)(1 ft/12 in)(7.48 gal/ft^3) = 1,915 gal

Drum displacement:

(4 rows)(6 pallets/row)(4 drum/pallet)(π)(1 ft)(1 ft)(6 in) (1 ft/12 in)(7.48 gal/ft^3) = 1,127 gal

Intermediate berm displacement:

(13 ft)(9.0 in)(6.0in)(7.48 gal/ft^3)(1ft^2/144 in^2) = 37 gal

Rounded curb displacement: = 400 gal

(see calculations at end of this section)

Total Capacity available:

12,572 gal – 1,915 gal – 1,127 gal – 37 gal – 400 gal = 9,093 gal

EXCESS CONTAINMENT: 9,093 gal – 1,056 gal = 7,342 gal

NOTE: Calculation is conservative since it assumes that the pallets are solid, instead of mostly empty space. Containers with 55-gallon capacity displace less than 80% of the volume that a solid pallet would.

VII. Containment Calculations for Proposed Expanded CMA-1

GIVEN*:

*dimensions updated from measurements taken on site visit 9/13/24

CMA-1 wall height = 1 ft

(This is the height of the outer wall of the containment area)

Length of existing CMA-1 = 34.6 ft

Width of existing CMA-1 = 22 ft

Length of southern expansion area	=	33.4 ft
Width of southern expansion area	=	22 ft
Height of southern expansion area exterior curb	=	1 ft
Length of northern expansion area	=	87.4 ft
Width of northern expansion area	=	22 ft
Height of northern expansion area exterior curb	=	1 ft
Length of intermediate berms	=	22 ft
Intermediate berm width	=	0.7 ft
Intermediate berm height	=	0.5 ft

(this is the height of the berms that provide separation within the containment area)

Length of rounded curb	=	156.5 ft
Rounded curb width	=	5.0 ft
Rounded curb height	=	0.75 ft
Drum radius	=	1.0 ft
Pallet length and width	=	4.0 ft
Pallet height (maximum)	=	0.75 ft
25-year, 24-hour rainfall event	=	7.91 in

CONTAINMENT CAPACITY REQUIRED FOR CMA-1:

Total area of existing CMA-1

(22 ft)(34.6 ft) = 761.2 ft^2

Total area of southern expansion area

(22 ft)(33.4 ft) = 734.8 ft^2

Total area of northern expansion area

(22 ft)(87.4 ft) = 1,922.8 ft^2

Proposed/Existing CMA-1 total area

761.2 ft^2 + 734.8 ft^2 + 1,922.8 ft^2 = 3,418.8 ft^2

Requirement for secondary containment

10% of total volume of containers = 3,300 gal

Volume of largest container < 3,300 gal

Greater of 10% total volume or volume of the largest container = 3,300 gal

Rainfall over contained area:

Calculations not necessary, as CMA-1 is proposed to have a canopy cover.

Total requirement: = 3,300 gal

CONTAINMENT CAPACITY AVAILABLE FOR CMA-1:

Volume inside current CMA-1 containment wall (and displaced by containment walls and curbs):

[(34.6 ft)(22 ft)(1ft) – (22 ft)(0.7 ft)(0.5 ft) - (2 curbs)(22 ft)(0.7 ft)(1 ft)](7.48 gal/ft^3)

= 5,406 gal

Volume inside south expansion area containment wall (and displaced by containment walls and curbs):

[(33.4 ft)(22 ft)(1 ft) – (22 ft)(0.7 ft)(0.5 ft) – (22 ft)(0.7 ft)(1 ft)](7.48 gal/ft^3)

= 5,324 gal

Volume inside north expansion area containment wall (and displaced by containment walls and curbs):

[(87.4 ft)(22 ft)(1 ft) – (3 curbs)(22 ft)(0.7 ft)(0.5 ft) – (22 ft)(0.7 ft)(1 ft)](7.48 gal/ft^3)

= 14,095 gal

Volume displaced by drums and pallets to wall height (based on 15 double-stacked rows of 5 pallets per row, 4 drums per pallet with 3 feet aisle space). Displacement calculated for 12-inch wall.

Pallet displacement in existing CMA-1:

(15 rows)(5 pallets/row)(4 ft)(4 ft)(9 in)(1 ft/12 in)(7.48 gal/cu.ft.) = 6,732 gal

Drum displacement:

(15 rows)(5 pallets/row)(4 drum/pallet)(π)(1 ft)(1 ft)(3 in) (1 ft/12 in)(7.48 gal/cu.ft.)

= 1,762 gal

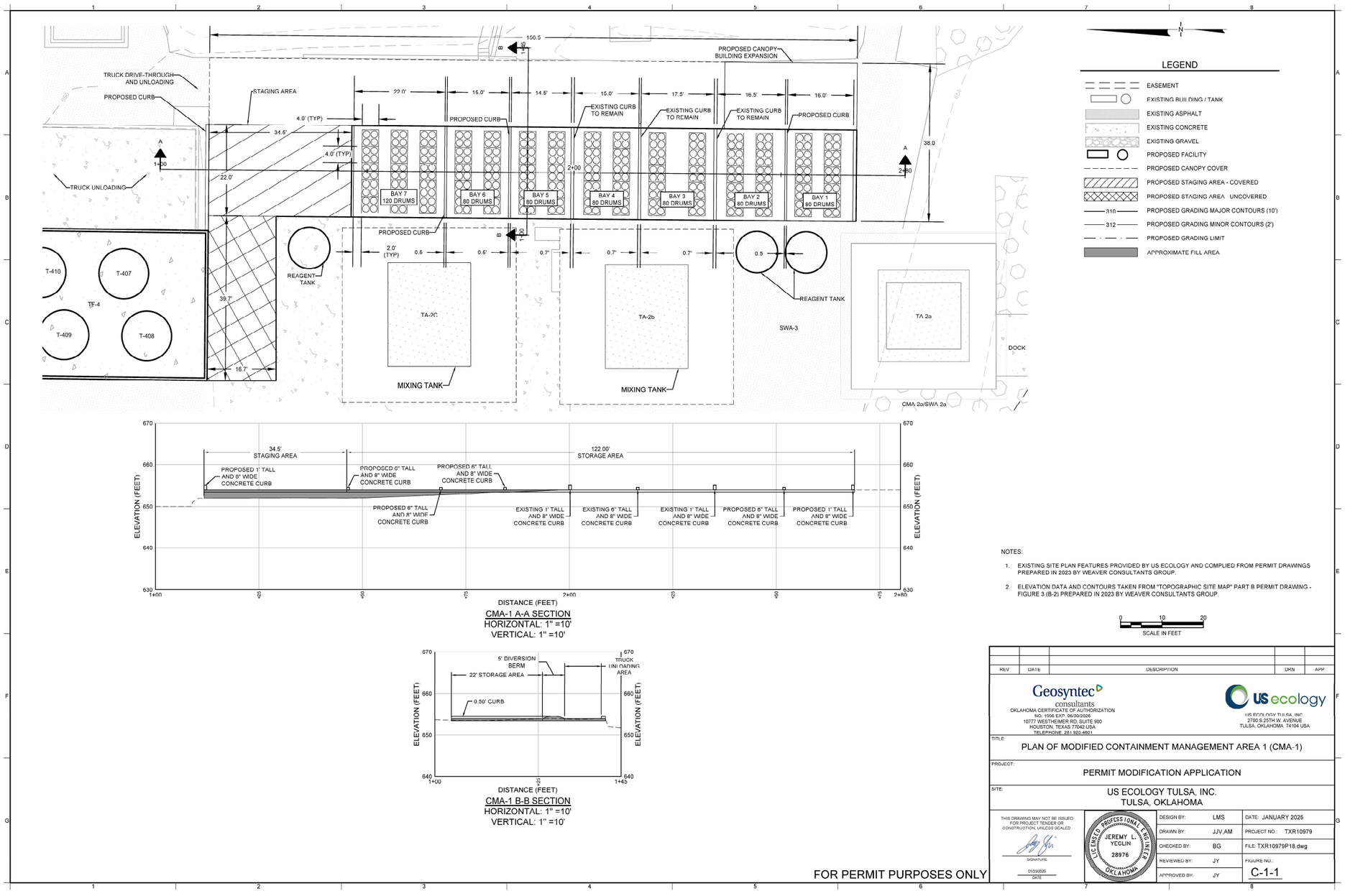
Total Capacity available:

5,406 gal + 5,324 gal + 14,095 gal – 6,732 gal – 1,762 gal = 16,331 gal

EXCESS CONTAINMENT: 16,331 gal – 3,300 gal = 13,031 gal

NOTE: Calculation is conservative since it assumes that the pallets are solid, instead of mostly empty space. Containers with 55-gallon capacity displace less than 80% of the volume that a solid pallet would.

Figure C-1-1: Plan of Modified Containment Management Area 1 (CMA-1)



CMA-1 A-A SECTION
HORIZONTAL: 1" =10'
VERTICAL: 1" =10'

CMA-1 B-B SECTION
HORIZONTAL: 1" =10'
VERTICAL: 1" =10'

NOTES:

1. EXISTING SITE PLAN FEATURES PROVIDED BY US ECOLOGY AND COMPLIED FROM PERMIT DRAWINGS PREPARED IN 2023 BY WEAVER CONSULTANTS GROUP.
2. ELEVATION DATA AND CONTOURS TAKEN FROM "TOPOGRAPHIC SITE MAP" PART B PERMIT DRAWING - FIGURE 3 (B-2) PREPARED IN 2023 BY WEAVER CONSULTANTS GROUP.

SCALE IN FEET

REV.	DATE	DESCRIPTION	DRN	APP

Geosyntec consultants
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 1096 EXP. 06/30/2026
10777 WESTHEIMER RD, SUITE 900
HOUSTON, TEXAS 77042 USA
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US ECOLOGY TULSA, INC.
2700 S 25TH W. AVENUE
TULSA, OKLAHOMA 74104 USA

TITLE: PLAN OF MODIFIED CONTAINMENT MANAGEMENT AREA 1 (CMA-1)

PROJECT: PERMIT MODIFICATION APPLICATION

SITE: US ECOLOGY TULSA, INC.
TULSA, OKLAHOMA

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SCALED.

SIGNATURE
01/23/2025
DATE

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

DESIGN BY:	LMS	DATE:	JANUARY 2025
DRAWN BY:	JJV,AM	PROJECT NO.:	TXR10979
CHECKED BY:	BG	FILE:	TXR10979P18.dwg
REVIEWED BY:	JY	FIGURE NO.:	C-1-1
APPROVED BY:	JY		

FOR PERMIT PURPOSES ONLY

C:_GIS\ACAD\CDDCS\GEOSYNTEC\US ECOLOGY_TULSA TRANSFR STA\PROJECT FILES\CAD\00.1_PERMIT MOD "SEP\DWGS\SHEETS\TXR10979P18.DWG Last Edited by: Ahmad Muhammad on 1/14/25

Appendix 2- Container Management Area 2 (CMA-2) Description

I. Unit Description

The USE Tulsa hazardous waste Container Management Area 2 (CMA-2) has a permitted capacity for 4,840 gallons of hazardous waste (liquids or solids). Containment requirements are based on storage of liquid hazardous wastes. Unit area, permitted capacity, required containment, containment capacity, and 55-gallon drum equivalents for CMA-2 are summarized in Appendix 4 – Permitted Hazardous Waste Container Management Area Information Table.

II. Basic Design Parameters, Dimensions, and Materials of Construction

There are 1,089 square feet of floor space in CMA-2. Incompatible wastes will not be stored in this area.

The base of CMA-2 is constructed of concrete which is maintained free of gaps and cracks. The concrete is coated with an impervious chemically resistant material which will contain leaks, spills, and accumulated precipitation until they are detected and removed. The concrete base of CMA-2 is sloped to minimize the potential for the containers to be exposed to standing liquids in the containment system.

III. Containment System Capacity- Number of Containers and Total Volume

CMA-2 has approximately 6,786 gallons of available volume for containment. This volume is sufficient to contain ten percent of the total permitted volume (i.e., 4,840 gallons X 0.10 = 484 gallons).

Fifty-five (55) gallon size or larger containers may be double stacked during storage; pallets, skids, or equivalent devices may be used to facilitate container management. Smaller containers may be stored in stacks of multiple containers. Total stack height will be limited to eight (8) feet or less. Configuration of pallets will be in rows approximately four to five (4-5) feet wide. Each row is accessible for inspection; minimum aisle space of three (3) feet is maintained between rows.

Containers are removed from the storage facility manually or with drum moving equipment. Loading activities are conducted at this unit.

The coating installed on the concrete slab is compatible with the waste stored in the CMA. The facility inspection schedule (presented in Attachment 4 - Inspection Schedules and Forms and Attachment 6 - Procedures to Prevent Hazards) includes inspection of container management areas to assess condition of the concrete and coating (i.e., that the floor remains impervious and in good condition).

IV. Control of Run-On and Run-Off

CMA-2 is covered to minimize accumulation of precipitation. Containment structures are designed to prevent both run-on and run-off of stormwater.

V. Container Management Process

Process equipment located in and adjacent to CMA-2 is ancillary to hazardous waste container management operations. Specifically, container management equipment in CMA-2 may include portable pumps, mixing units, sampling equipment, container moving equipment, and other equipment as may be deemed appropriate. This unit may be used interchangeably with solid waste and hazardous waste management activities.

VI. Containment Calculations for CMA-2

Note:

Containment areas for Tank Farm 1 (TF-1) and CMA-2 are currently joined. TF-1 is proposed to be decommissioned and removed. The containment system for CMA-2 has sufficient capacity to contain the total volume of capacity required for container storage (i.e., 10% of total container capacity) plus the excess containment required for TF-1.

GIVEN:

TF-1 average wall height	=	1.77 ft
TF-1 wall length	=	52.8 ft
TF-1 wall width	=	36.0 ft
Tank radius (T-101)	=	6.0 ft
CMA-2 average wall height	=	12.4 in
CMA-2 area	=	1,088.6 ft2
Drum radius	=	1.0 ft
Pallet length and width	=	4.0 ft
Pallet height (maximum)	=	8.0 in
25-year, 24-hour rainfall event	=	7 in

CONTAINMENT CAPACITY REQUIRED FOR TF-1:

Volume of largest tank or 10% of total volume of tanks (whichever is greater) + rainfall:

Largest tank	=	19,960 gal
10% of total volume of tanks = 10% (56,720 gal)	=	5,672 gal

Rainfall:

(7 in)(ft/12 in)(52.8 ft)(36.0 ft)(7.48 gal/ft3)	=	8,294 gal

Total requirement:

19,960 gal + 8,294 gal	=	28,254 gal

CONTAINMENT CAPACITY AVAILABLE FROM TF-1:

Volume inside containment wall:

(1.77 ft)(52.8 ft)(36.0 ft)(7.48 gal/ft3) = 25,166 gal

Volume displaced by one tank (T101) to wall height :

π (6.0 ft)2(1.77 ft)(7.48 gal/ft2) = 1,497 gal

Volume displaced by other foundations:

(14 ft3)(7.48 gal/ft3) = 105 gal

Total capacity available:

25,166 gal - (1,497 gal + 105 gal) = 23,564 gal

CONTAINMENT CAPACITY REQUIRED FOR CMA-2:

Volume of largest container or 10% of total volume of containers (whichever is greater):

Largest container = 330 gal

10% of total volume of containers =10% (4,840 gal) = 484 gal

Total requirement: = 484 gal

CONTAINMENT CAPACITY AVAILABLE FOR CMA-2:

CMA-2 volume

(1,088.6 ft2)(12.4 in)(ft/12 in) = 1,121 ft3

Volume inside containment wall:

(1,121 ft3)(7.48 gal/ft3) = 8,385 gal

Volume displaced by drums and pallets to wall height (there is physically only room to fit 14 pallets on the ground, which will hold 56 drums, the remaining volume of drums will be double stacked - above the containment wall height):

[14(4 ft)(4 ft)(8 in)(ft/12 in) + 56π(1 ft)2(12.4 in - 8 in)(ft/12 in)]

(7.48 gal/ft3) = 1,599 gal

Total capacity available:

8,385 gal - 1,599 gal = 6,786 gal

CONTAINMENT CAPACITY AVAILABLE FROM TF-1 AND CMA-2:

23,564 gal + 6,786 gal = 30,350 gal

CONTAINMENT CAPACITY REQUIRED FOR TF-1 AND CMA-2:

28,254 gal + 484 gal = 28,738 gal

EXCESS CONTAINMENT: 30,350 gal – 28,738 gal = 1,612 gal

Appendix 3- Container Management Area 3 (CMA-3) Description

I. Unit Description

The USE Tulsa hazardous waste Container Management Area 3 (CMA-3) has a permitted capacity for 30,560 gallons of hazardous waste (liquids or solids). Containment requirements are based on storage of liquid hazardous wastes. Unit area, permitted capacity, required containment, containment capacity, and 55-gallon drum equivalents for CMA-3 are summarized in the Appendix 4 – Permitted Hazardous Waste Container Management Area Information Table at the end of this document.

II. Basic Design Parameters, Dimensions, and Materials of Construction

CMA-3 has been constructed to provide 7 smaller subunits, providing the opportunity to store incompatible wastes separate from each other. Containers are elevated above floor level by being placed either on pallets, or on integral feet (e.g., tote containers).

The base of CMA-3 is constructed of concrete that is maintained free of gaps and cracks. The concrete is coated with an impervious, chemically resistant material that will contain leaks, spills, and accumulated precipitation until they are detected and removed. The concrete base of CMA-3 is sloped in addition to requiring the containers to be managed on pallets or raised above the floor to minimize the potential for the containers to be exposed to standing liquids in the containment system. See Appendix 4 – Permitted Hazardous Waste Container Management Area Information Table at the end of this document for details regarding containment capacity.

III. Containment System Capacity- Number of Containers and Total Volume

CMA-3 has been designed for a minimum of 6,323 gallons of available volume for containment, considering the displacement of the permitted volume of containers and their pallets. This volume will be sufficient to contain ten percent of the total permitted volume or the volume of the largest container, whichever is greater (i.e., 30,560 x 0.10 = 3,056 gallons or the capacity of one 30 cubic

yard bin = 6,058 gallons). The west room of CMA-3 has adequate space for 96 double-stacked pallet positions organized in 24 rows of four pallets each with a minimum 3-foot aisle space between each row. The east room of CMA-3 has adequate space for 12 double-stacked pallet positions organized in 3 rows of four pallets each with a minimum 3-foot aisle space between each row.

Fifty-five (55) gallon size or larger containers may be double stacked during storage; pallets, skids, or equivalent devices may be used to facilitate container management. Smaller containers may be stored in stacks of multiple containers. Total stack height will be limited to eight (8) feet or less. Configuration of pallets will be in rows approximately four to five (4-5) feet wide. Each row will be accessible for inspection; minimum aisle space of three (3) feet will be maintained between rows. Containers will be removed from the storage facility manually or with container moving equipment. Gondolas will be moved using mechanized procedures as appropriate. Loading and unloading activities will be conducted at this unit.

The facility inspection schedule (presented in Attachment 4 - Inspection Schedules and Forms and Attachment 6 - Procedures to Prevent Hazardous) includes inspection of container management areas to assess condition of the concrete and coating (i.e., that the floor remains impervious and in good condition).

IV. Control of Run-On and Run-Off

CMA-3 is an enclosed building to minimize accumulation of precipitation.

V. Container Management Process

Process equipment located in and adjacent to CMA-3 is ancillary to hazardous waste container management operations. Specifically, container management equipment in CMA-3 may include pumps, mixing equipment, container-moving equipment, sampling equipment, and other equipment as may be deemed appropriate. Wastes may be stored in containers. Gondola boxes or

other containers, used to accumulate treated wastes transferred from mixing units, may be stored in this unit.

VI. Containment Calculations for CMA-3

In the west room, the top of the curb (containment berm) that runs the entire perimeter of the building and makes up the intermediate berms is noted as elevation 0. The curbs are 4" high at the deepest point, resulting in the floor directly next to the curb having an elevation of -4". The floor slopes up toward a center walkway that runs the east-west length of the west room. The top of this walkway is at elevation -1" (i.e., the top of the walkway is 1 inch lower than the top of the perimeter curb). Each west room "wedge" volume is calculated from the bottom of the curb to the top of the walkway (3-inch depth of wedge). There is an additional containment in that 1" space from the top of the walkway to the top of the curb that was not accounted for in the "wedge" calculations. Note: in the east room, there is no center walkway. Therefore, all containment capacity is accounted for in the "wedge" calculation.

GIVEN:

Maximum depth along north and south wall, west room	=	4 in
Minimum depth in center of west room	=	1 in.
West room, north section length	=	90.67 ft
West room, south section length	=	94.67 ft
Row depth	=	18.25 ft
East room width	=	23 ft
East room length	=	46.25 ft
East room maximum depth	=	6 in
East room minimum depth	=	0 in

Pallet displacement volume:

Assume pallets constructed of three 2x4 stringers with six 1x6 deckboards, 48x48 overall

(3 stringers)(1.5 in)(3.5 in)(4 ft) + (12 deckboards)(.75 in)(5.5 in)(4 ft) = 1.8125 ft3

Assume all average pallet submerged in west and east room wedges.

CONTAINMENT CAPACITY REQUIRED FOR CMA-3:

Volume of largest container or 10% of total volume of tanks (whichever is greater) + rainfall:

Largest container (30 cubic yard box) = 6,058 gal

or, 10% of total volume of containers= 10% (30,560 gal) = 3,056 gal

Rainfall (since entire area is inside a building, no rainfall allowance required)

Total requirement: 6,058 gal + 0 gal = 6,058 gal

CONTAINMENT CAPACITY AVAILABLE FROM CMA-3:

Volume in west room, north wedge:

(90.67 ft)(18.25 ft)(3/12 ft)(0.5)(7.48 gal/ft3) = 1,547.2 gal

Volume in west room, south wedge:

(94.67 ft)(18.25 ft)(3/12 ft)(0.5)(7.48 gal/ft3) = 1,615.4 gal

Volume in east room, wedge:

(23 ft)(46.25 ft)(6/12 ft)(0.5)(7.48 gal/ft3) = 1,989.2 gal

Volume in west room, full room, 1 inch depth:

(90.67 ft)(48.25 ft)(1/12 ft)(7.48 gal/ft3) = 2,727.0 gal

Less volume of intermediate berms (4):

Wedge: (4 berms)(3 inch wedge/12)(18.25 ft)(1 ft)(0.5)(7.48 gal/ft3)= 68.3 gal

1" height: (4 berms)(1 inch/12)(18.25 ft)(1 ft)(7.48 gal ft3)	=	22.8 gal
Less volume of pallets in west room:		
(96 pallets)(1.8125 ft3/pallet)(7.48 gal/ft3)	=	1,301.5 gal
Less volume of pallets in east room:		
(12 pallets)(1.8125 ft3/pallet)(7.48 gal/ft3)	=	162.7 gal
Total capacity available:		
1,547.2 + 1615.4 + 1989.2 + 2727.0 – 68.3 – 22.8 – 1301.5 – 162.7 =		6,323.5 gal
EXCESS CONTAINMENT: 6,323.5 gal – 6,058 gal	=	265 gal

Appendix 4- Permitted Hazardous Waste Container Management Area Information Table

Unit[1]	Unit Area	Permitted Storage Volume			Required Containment	Avail. Cont. Capacity	55 Gallon Drum Equiv.	30 Yard Roll-off Equiv.
	(sq. feet)	(gallons)	(cu. yds)		(gallons)	(gallons)		
Current Container Management Area 1 (CMA-1)[2]	1,441	10,560			1,056	9,093	192	
Proposed Expanded Container Management Area 1 (CMA-1)[2]	5,947	33,000			3,300	16,331	600	
Container Management Area 2 (CMA-2)	1,089	4,840			484	6,786	88	
Container Management Area 3 (CMA-3)	5,726	30,560			6,058	6,323	555	
Container Management Area 4 (CMA-4)	36,626		900		No Free Liquids			30
Totals (Current)	NA	45,960	900[3]		NA	NA	835	30
Totals (Proposed)	NA	68,400	900[3]		NA	NA	1,243	30

1-Capacity of CMAs is based on anticipated long term normal operations.

2-Containment capacity based on roof/canopy preventing rainfall onto area.

3-900 cu. yds ~ 181,776 gallons

SECTION T

RCRA Part B Permit Application

INFORMATION REQUIREMENTS FOR TANK SYSTEMS

40 CFR 270.16

US Ecology Tulsa

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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SECTION T - Information Requirements for Tank Systems

This section will provide the information required for hazardous waste storage and treatment in tank systems at US Ecology Tulsa (USE Tulsa) per 40 CFR 270.16 and 40 CFR 264 requirements. USE Tulsa utilizes tank systems in the area designated as Tank Farm 1 (TF-1), which includes tanks T-101, T-102, T-103, and T-107 for waste storage and treatment. Proposed modifications to the site include the demolition/removal of Tank Farm 1, the demolition/removal of the tanks in Tank Farm 4 (currently used for nonhazardous waste), the improvement of the Tank Farm 4 containment, and the construction of four (4) new tanks in the Tank Farm 4 location. USE Tulsa also uses stabilization pans in the TA-2a and TA-2b area for hazardous waste treatment. The proposed changes to the site include the removal and reconstruction of TA-2b to increase the capacity of TA.2b and the addition of TA-2c. A map of the location of current Tank Farm 1, proposed Tank Farm 4, current TA-2a and 2b treatment pans, and proposed TA-2a, TA-2b, and TA-2c treatment pans is provided in Figures 1, 1a, and 1b presented in Attachment 1 - Maps and Figures. Additional details concerning tank system processes are provided in Attachment 10 - Process Description.

1) WRITTEN ASSESSMENT BY INDEPENDENT P.E. CERTIFYING STRUCTURAL INTEGRITY AND SUITABILITY FOR HANDLING OF HAZARDOUS WASTES OF EACH TANK SYSTEM AS REQUIRED UNDER 40 CFR 264.191 & 192: 40 CFR 207.16(a)

A copy of the Professional Engineer (P.E.) written assessment for equipment within Tank Farm 1 is provided in Appendix 1 of this attachment. A P.E. written assessment for modified Tank Farm 4, with its improved containment system and new hazardous waste tanks, will be submitted to Oklahoma Department of Environmental Quality (DEQ) after the modified Tank Farm 4 has been constructed.

2) DIMENSIONS AND CAPACITY OF EACH TANK: 40 CFR 270.16(b)

The information for the dimensions and capacity of each tank located in TF-1 and TA-2a and TA-2b stabilization treatment pans are below:

a) Tank T-101: T-101 has a diameter of 12’ and a height of 20’. The capacity of T-101 is 16,800 gallons.

b) Tank T-102: T-102 has a diameter of 14’ and a height of 20’. The capacity of T-102 is 19,960 gallons.

c) Tank T-103: T-103 has a diameter of 14’ and a height of 20’. The capacity of T-103 is 19,960 gallons.

d) Tank T-107: T-107 has a diameter of 12’ and a height of 18.4’. The capacity of T-107 is 13,077 gallons.

e) TA-2a (existing): TA-2a is a steel treatment pan with dimensions of 16’ x 18’ x 4’. It is surrounded by a steel containment box with the dimensions of 35.25’ x 35.25’ x 1’. TA-2a has a permitted treatment capacity of 25,851 gallons per day based on treating multiple processes per day.

f) TA-2b (existing): TA-2b is a steel treatment pan with dimensions of 14’x 14’ x 5’. It is surrounded by a steel containment box with the dimensions of 24.25’ x 24.25’ x 2.5.’ TA-2b has a treatment capacity of 21,991 gallons per day based on treating multiple processes per day.

The information for the dimensions and capacity of each proposed tank located in TF-4 and the proposed TA-2b and TA-2c stabilization treatment pans are below (only a change in the treatment capacity for TA-2a is proposed):

g) Tank T-407: T-407 has a diameter of 12’ and a height of 32’10.5”. The capacity of T-407 is 19,960 gallons.

h) Tank T-408: T-408 has a diameter of 12’ and a height of 32’10.5”. The capacity of T-408 is 19,960 gallons.

i) Tank T-409: T-409 has a diameter of 12’ and a height of 32’10.5”. The capacity of T-409 is 19,960 gallons.

j) Tank T-410: T-410 has a diameter of 12’ and a height of 32’10.5”. The capacity of T-410 is 19,960 gallons.

k) TA-2a: TA-2a is a steel treatment pan with dimensions of 16’ x 18’ x 4’. It is surrounded by a steel containment box with the dimensions of 35.25’ x 35.25’ x 1’. TA-2a has a proposed treatment capacity of up to 12,000 gallons per day based on treating multiple processes per day.

l) TA-2b: TA-2b is a concrete treatment pan with a steel liner and bottom curved in one direction (e.g., horseshoe shaped) with dimensions of 20’ x 25’ x 13’. TA-2b has a proposed treatment capacity of up to 82,000 gallons per day based on treating multiple processes per day.

m) TA-2c: TA-2c is a concrete treatment pan with a steel liner and bottom curved in one direction (e.g., horseshoe shaped) with dimensions of 20’ x 25’ x 13’. TA-2c has a proposed treatment capacity of up to 82,000 gallons per day based on treating multiple processes per day.

3) DESCRIPTION OF FEED SYSTEMS, SAFETY CUTOFFS, BYPASS SYSTEMS, AND PRESSURE CONTROL: 40 CFR 270.16(c)

USE Tulsa uses closed top tanks for storing liquid hazardous waste which are equipped with loading and unloading ports and vents. Tank details for existing tanks (to be decommissioned and removed) T-101, T-102, T-103, and T-107 are provided in Appendices 1 to 3 of this document. Tank details for proposed tanks T-407, T-408, T-409, and T-410 are provided in Appendix 4. These tanks on-site are typically loaded using top fill lines and unloaded through bottom discharge lines or loaded/unloaded from bottom fill/discharge lines. Where present, manholes are used for inspection and cleaning operations. Discharge lines from the tanks are regulated by valves (or equivalent device). Chemical resistant flexible hoses are used for unloading of tank trucks. Typically, the rigid fill lines are attached to the tanks by flange couplings. Flexible lines with quick couplings are used to connect the inlet of a tank or tank manifold system to the outlet of a tank truck. The pressure control systems on tanks are the vents and thief hatches.

4) DIAGRAM OF PIPING, INSTRUMENTATION, AND PROCESS FLOW FOR EACH TANK SYSTEM: 40 CFR 270.16(d)

Details of piping, instrumentation, and process flow for the TF-1 tank systems are provided in Appendix 2 of this attachment. The normal process flow for TF-1 and proposed process flow for TF-4 for a bulk shipment is summarized as follows: the truck is unloaded by connecting a flexible hose with quick disconnect couplings into one of the storage tanks directly or through a tank manifold system. TF-1 is proposed to be decommissioned and removed from the hazardous waste management system and replaced by proposed hazardous waste TF-4.

The normal process flow for TA-2a and TA-2b treatment pans and proposed process flows for TA-2a, TA-2b, and TA-2c treatment pans for containerized shipments is summarized as follows: the containers that are approved for treatment in the stabilization area are delivered to the staging area and segregated via permitted waste codes that can be treated in the designated pan. The normal process flow for TA-2a and TA-2b treatment pans and proposed TA-2a, TA-2b, and TA-2c treatment pans for bulk shipment is summarized as follows: the truck is unloaded by connecting a flexible hose with quick disconnect couplings and transferring the material directly into the designated treatment pan. Roll off boxes are unloaded in TA-2a by using the ramp on the south side to dump directly into the treatment pan.

5) DESCRIPTION OF CORROSION PROTECTION SYSTEM AS REQUIRED UNDER 264.192(a)(3)(ii): 40 CFR 270.16(e)

Tanks T-101, T-102, T-103, and T-107 are constructed of fiberglass, which is resistant to corrosion and satisfies requirements for 264.192(a)(3)(ii). Proposed tanks T-407, T-408, T-409, and T-410 will be constructed of fiberglass as well.

Existing treatment pans TA-2a and TA-2b (existing TA-2b to be removed), proposed mixing tanks (TA-2b and TA-2c), and their secondary containment pans/primary containment steel liners are monitored for corrosion by performing periodic thickness testing, and results are recorded and compared to previous results to determine if pans are maintained at a thickness that will prevent leaks or containment failures. Thickness testing for TA-2a and existing TA-2b will be performed on the accessible exterior walls of the treatment pans using an ultrasonic thickness gauge, or

equivalent technology, and thickness testing of the proposed TA-2b and TA-2c tanks will be conducted on interior walls. The frequency of the testing will be according to the following chart:

Measurement (inches)	Subsequent Testing Frequency	Status
≥0.600	Annual	In Service
≥0.500	Semi-Annual	In Service
≥0.400	Quarterly	In Service
≤0.250	NA	Out of service

The treatment pans will be constructed with one (1) inch thickness metal at a minimum and will be taken out of service when the exterior wall thickness is noted as being less than 0.250". For the proposed TA-2b and TA-2c steel liners, the curved bottom portion of the steel liner will be constructed with 1.25 inch minimum thickness and the upper vertical faces of the steel liner will be 1 inch minimum thickness. When applicable, wear plates will not be included in the thickness testing but visual inspections of those plates will be documented in the inspection of the treatment pans as well as the secondary containments. The guidelines in 40 CFR part 264.196 will be followed regarding the repair of the treatment pans.

6) INSTALLATION OF NEW TANK SYSTEMS IN COMPLIANCE WITH 264.192(b)(c)(d)(e): 40 CFR 270.16(f)

USE Tulsa is proposing to install a new hazardous tanks and tank system in the existing TF-4 area that meets the requirements of 40 CFR 264.192(b) to (e). The existing TF-4 tanks will be decommissioned and removed. For the new TF-4, the existing tanks containment system will be improved, and four (4) new fiberglass tanks (T-407, T-408, T-409, and T-410) will be constructed and installed in the TF-4 area. The tanks will be 12-foot in diameter, flat top, cone bottom, and supported on legs (see Appendix 4).

7) DETAILED PLANS AND DESCRIPTION OF THE SECONDARY CONTAINMENT SYSTEM IN COMPLIANCE WITH 264.193(a)(b)(c)(d)(e)(f): 40 CFR 270.16(g)

Details of the containment systems for Tank Farm 1 and Tank Farm 4 are provided in Appendices 3 and 4 respectively of this section. USE Tulsa operating procedures include inspections designed

to identify accumulated liquids in a timely manner (inspection schedule and criteria are outlined in Section 4 - Inspection Schedules and Forms). The containment system for TF-1 is coated with an impervious, chemically resistant material. The existing containment system for TF-4 is constructed of a concrete slab and cinder blocks for walls. USE Tulsa plans to demolish the cinderblock containment wall and reconstruct as a solid concrete wall. USE Tulsa then plans to add a coating with an impervious, chemically resistant material, to seal the secondary containment structure.

The containment systems for TA-2a and existing TA-2b are constructed of steel. The proposed modifications/additions to the USE Tulsa facility consists of removing existing TA-2b and constructing a new TA-2b and TA-2c with a steel liner acting as the primary containment and 1-foot thick concrete walls as the secondary containment. Additional information about TA-2a,TA-2b, and TA-2c are provided in Appendices 5 and 6 of this section.

The existing TA units are inspected daily for any breaches or additional issues, and the proposed TA units will also be inspected this way. When identified, spilled or leaked waste and/or accumulated precipitation will be removed from the unit or sump/collection area, if present, in as timely a manner as is necessary to prevent overflow of the unit or sump/collection system. Accumulated liquids will be identified by visual observation, review of facility records, and (if necessary) by chemical analysis. If required, analyses will be conducted and material will be processed in accordance with Attachment 4 - Waste Characteristics and Waste Analysis Plan.

----------END OF SECTION----------

Appendix 1- Tank Farm 1 Certification Documents

T101

Finite Composites Consulting
248.808.3283
Steve@FiniteCC.com
FiniteCC.com

FINITE
COMPOSITES CONSULTING

Date: 10 July 2020

To: Mark Wagner
Wagner Enterprise

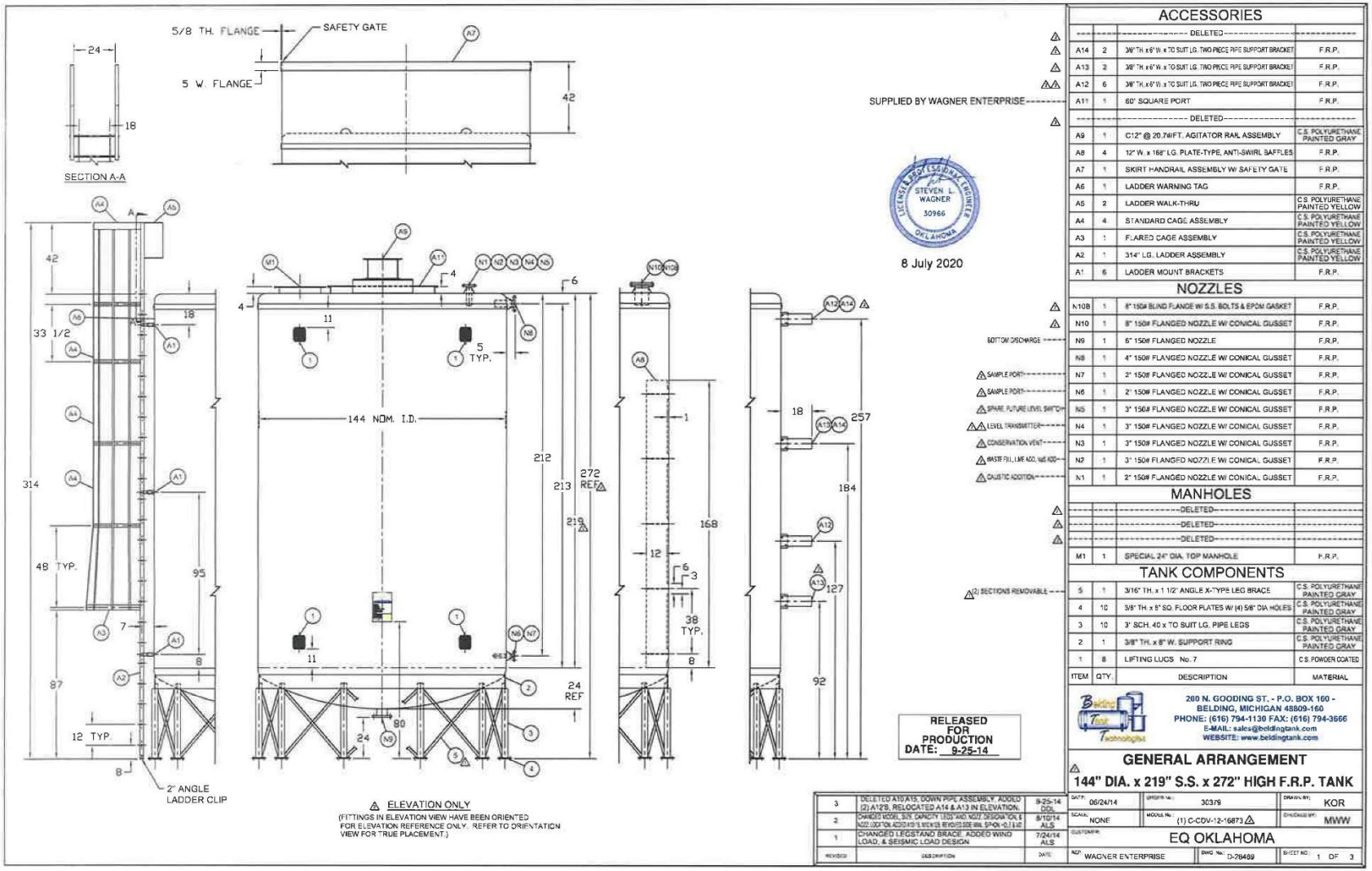
Re: Belding Tank Technologies Project Reference 30379

Mark

Included are the stamped drawings for the above referenced project. Please note, the design and drawings are approved for this vessel as originally designed and built. I cannot be liable for the current condition of the vessel because the tank has been in service for approximately 7 years.

Best Regards,

Steven Wagner, PE
Principal Engineer
Finite Composites Consulting



ACCESSORIES

		DELETED	
A14	2	3/8" TH. x 6" W. x TO SUIT LG. TWO PIECE PIPE SUPPORT BRACKET	F.R.P.
A13	3	3/8" TH. x 6" W. x TO SUIT LG. TWO PIECE PIPE SUPPORT BRACKET	F.R.P.
A12	6	3/8" TH. x 6" W. x TO SUIT LG. TWO PIECE PIPE SUPPORT BRACKET	F.R.P.
A11	1	60" SQUARE PORT (SUPPLIED BY WAGNER ENTERPRISE)	F.R.P.
		DELETED	
A9	1	C12" @ 20.7#/FT. AGITATOR RAIL ASSEMBLY	C.S. POLYURETHANE PAINTED GRAY
A8	4	12" W. x 168" LG. PLATE-TYPE, ANTI-SWIRL BAFFLES	F.R.P.
A7	1	SKIRT HANDRAIL ASSEMBLY W/ SAFETY GATE	F.R.P.
A6	1	LADDER WARNING TAG	F.R.P.
A5	2	LADDER WALK-THRU	C.S. POLYURETHANE PAINTED YELLOW
A4	4	STANDARD CAGE ASSEMBLY	C.S. POLYURETHANE PAINTED YELLOW
A3	1	FLARED CAGE ASSEMBLY	C.S. POLYURETHANE PAINTED YELLOW
A2	1	314" LG. LADDER ASSEMBLY	C.S. POLYURETHANE PAINTED YELLOW
A1	6	LADDER MOUNT BRACKETS	F.R.P.

NOZZLES

N10B	1	8" 150# BLIND FLANGE W/ S.S. BOLTS & EPDM GASKET	F.R.P.
N10	1	8" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N9	1	6" 150# FLANGED NOZZLE (BOTTOM DISCHARGE)	F.R.P.
N8	1	4" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N7	1	2" 150# FLANGED NOZZLE W/ CONICAL GUSSET (SAMPLE PORT)	F.R.P.
N6	1	2" 150# FLANGED NOZZLE W/ CONICAL GUSSET (SAMPLE PORT)	F.R.P.
N5	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET (SPARE, FUTURE LEVEL SWITCH)	F.R.P.
N4	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET (LEVEL TRANSMITTER)	F.R.P.
N3	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET (CONSERVATION VENT)	F.R.P.
N2	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET (WASTE FILL LINE ADD, N2 ADD)	F.R.P.
N1	1	2" 150# FLANGED NOZZLE W/ CONICAL GUSSET (CAUSTIC ADDITION)	F.R.P.

MANHOLES

		DELETED	
		DELETED	
		DELETED	
M1	1	SPECIAL 24" DIA. TOP MANHOLE	F.R.P.

TANK COMPONENTS

5	1	3/16" TH. x 1 1/2" ANGLE X-TYPE LEG BRACE (2) SECTIONS REMOVABLE	C.S. POLYURETHANE PAINTED GRAY
4	10	3/8" TH. x 8" SQ. FLOOR PLATES W/ (4) 5/8" DIA. HOLES	C.S. POLYURETHANE PAINTED GRAY
3	10	3" SCH. 40 x TO SUIT LG. PIPE LEGS	C.S. POLYURETHANE PAINTED GRAY
2	1	3/8" TH. x 8" W. SUPPORT RING	C.S. POLYURETHANE PAINTED GRAY
1	8	LIFTING LUGS No. 7	C.S. POWDER COATED
ITEM	QTY.	DESCRIPTION	MATERIAL

Belding Tank Technologies
280 N. GOODING ST. - P.O. BOX 160 -
BELDING, MICHIGAN 48809-160
PHONE: (616) 794-1130 FAX: (616) 794-3666
E-MAIL: sales@beldingtank.com
WEBSITE: www.beldingtank.com

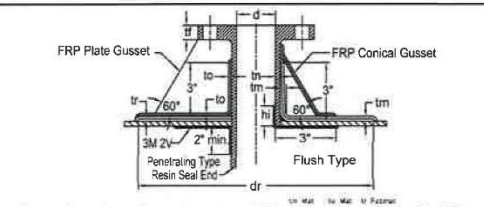
GENERAL ARRANGEMENT

144" DIA. x 219" S.S. x 272" HIGH F.R.P. TANK

REVISED	DESCRIPTION	DATE
3	DELETED A10/A15, DOWN PIPE ASSEMBLY, ADDED (2) A12'S, RELOCATED A14 & A13 IN ELEVATION.	9-25-14 DDL
2	CHANGED MODEL 3/8", CAPACITY LEGS AND NOZZ. DESIGNATION, & NOZZ LOCATION, ADDED A15, REVISED SIDE WALL SPACING TO 1.5 & 2	8/10/14 ALS
1	CHANGED LEGS/STAND BRACE, ADDED WIND LOAD, & SEISMIC LOAD DESIGN	7/24/14 ALS

DATE:	06/24/14
ORDER No.:	303/9
DRAWN BY:	KOR
SCALE:	NONE
MODEL No.:	(1) C-CDV-12-1687
CHECKED BY:	MWW
CUSTOMER:	EQ OKLAHOMA
JOB:	WAGNER ENTERPRISE
DWG. No.:	D-26489
SHEET NO.:	1 OF 3

PROJECT NOTES
1. WHITE (WJ-480) EXTERIOR GEL COAT WITH U.V. INHIBITOR REQUIRED.
2. (4) HOUR POST HEAT CURE REQUIRED FOR SERVICE.
3. BELDING TANK RECOMMENDS THE VENT BE EQUAL TO OR LAGER THAN THE LARGEST INLET OR OUTLET.
4. 60" SQUARE PORT SUPPLIED BY WAGNER ENTERPRISE INSTALLED BY B.T.T.
5. ALL CROSS BRACING MUST BE IN PLACE PRIOR TO OPERATION THE TANK.



Item	d	dr	ht	tn	Gusset	Lnr	tn Mat'l Pipe	to Mat'l Pipe	tf Pipe	tf	Rating
M1	24"	30"	1"	3/16"	none	0	5		0	3/16"	Atm
N1	2"	8"	1"	1/4"	CG	0	5		0	11/16"	125 psi
N2	3"	9"	1-1/2"	5/16"	CG	0	5		0	13/16"	125 psi
N3	3"	9"	1-1/2"	5/16"	CG	0	5		0	13/16"	125 psi
N4	3"	9"	1-1/2"	5/16"	CG	0	5		0	13/16"	125 psi
N5	3"	9"	1-1/2"	5/16"	CG	0	5		0	13/16"	125 psi
N6	2"	8"	1"	1/4"	CG	2"+2		5	1	11/16"	125 psi
N7	2"	8"	1"	1/4"	CG	2"+2		5	1	11/16"	125 psi
N8	4"	10"	2"	5/16"	None	0	5		0	15/16"	125 psi
N9	6	12"	2"	5/16"	None	2"+2		5	6	1"	100 psi
N10	8"	14"	3"	5/16"	CG	0	5		0	13/16"	50 psi

Note: (1) If liquid height is measured from item to Top of Tank Straight Side

△ ATTACHMENT CHART

OWNER: EQ OKLAHOMA
P.O. NO.: 11048
EQUIP. NO.:
SERVICE: WASTEWATER (WITH TRACE AMOUNTS, LESS THAN 10 PPM, OF VARIOUS CHEMICALS)

DESIGN DATA

DESIGN STANDARD	ASTM D 3299-10
MAX. PRESSURE	ATMOSPHERIC
VACUUM	NONE
MAX. TEMP. (F)	AMBIENT
SPECIFIC GRAVITY	1.5 MAX
SEISMIC CODE	△ ASCE 7-05 (SITE CLASS = D)
SEISMIC DESIGN	△ OCCUPANCY CATEGORY = II SDs =0.139 SD1 =0.110
WIND LOAD	△ 90 MPH
APPROX. EMPTY WEIGHT (LBS)	7,600
NOM. CAPACITY (GALS)	△16,673
INTERIOR CATALYST	Co/MEKP
EXTERIOR CATALYST	Co/MEKP
LINER RESIN	DERAKANE 441-400
STRUCTURAL RESIN	DERAKANE 441-400
EXTERIOR LAYER RESIN	DERAKANE 441-400
COLOR	WHITE (WJ-480)
VEIL	DOUBLE NEXUS

LAMINATE CHART

LAMINATE SEQUENCE	THICKNESS
V = 1 LAYER VEIL	.010"
M = 1 1/2 OZ/FT SQ. CHOPPED STRAND	.043"
FM = FABMAT 1524	.076"
R = 24 OZ/YD SQ. WOVEN ROVING	.033"
CP = CHOPPED STRAND ROVING	
HW = HELICAL WINDING	.033"
CH = CHOP-HOOP WINDING	.033"
SW = STRAIGHT WIND	.022"
U = 15 1/2 OZ/YD. SQ. UNIDIRECTIONAL	.025"

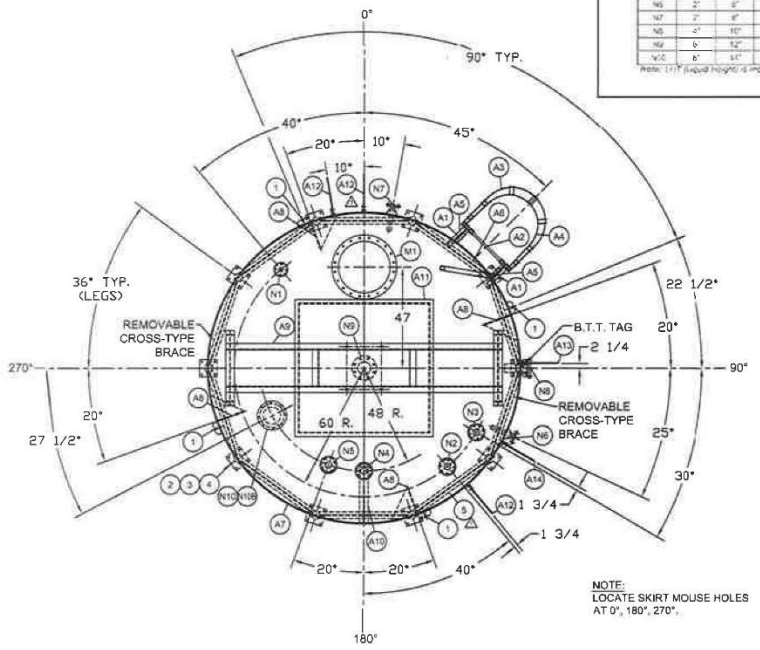
FLAT TOP: .520" NOM. TH.
2V CP(.100) 3(CP(.030) R) CP(.211)

FLAT TOP JOINT: .321" NOM. TH.
INTERIOR: 3M 2V EXTERIOR: 4M

SIDEWALL: .318" NOM. TH. TAPERED TO .274" NOM. TH.
2V CP(.100) 2SW 4HW

DISH BOTTOM: 1.121" NOM. TH.
2V CP(.100) 8(CP(.030) R) CP(.497)

LEG STAND ATTACHMENT: .390" NOM. TH.
4FM 2M



NOTE:
LOCATE SKIRT MOUSE HOLES AT 0°, 180°, 270°.

△ TRUE FITTING ORIENTATION

STEVEN L. WAGNER 30966 OKLAHOMA LICENSED PROFESSIONAL ENGINEER

8 July 2020

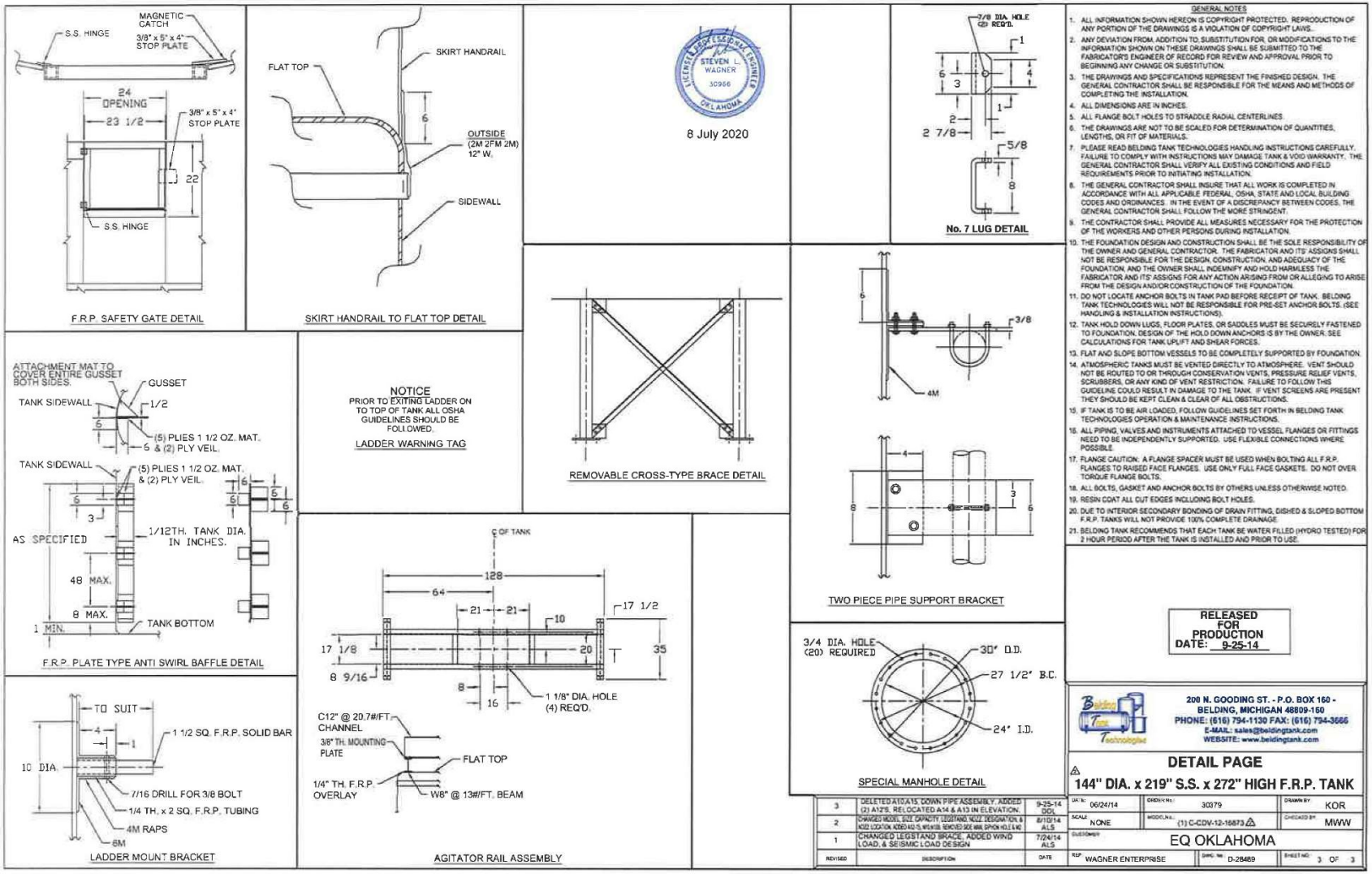
RELEASED FOR PRODUCTION
DATE: 9-25-14

Belding Tank Technologies
200 N. GOODING ST. - P.O. BOX 160 -
BELDING, MICHIGAN 48809-160
PHONE: (616) 794-1130 FAX: (616) 794-3666
E-MAIL: sales@beldingtank.com
WEBSITE: www.beldingtank.com

△ ORIENTATION & DETAIL PAGE
144" DIA. x 219" S.S. x 272" HIGH F.R.P. TANK

REVISED	DESCRIPTION	DATE
3	DELETED A10 A15, DOWN PIPE ASSEMBLY, ADDED (2) A12'S, RELOCATED A14 & A13 IN ELEVATION.	9-25-14 DDL
2	CHANGED MODEL SIZE, CAPACITY, LEGS/STAND, NOZZ. DESIGNATION, & NOZZ. LOCATION, ADDED A12-15, W/V #18, REMOVED SOE WAL, SIPHON HOLE, & MC	8/10/14 ALS
1	CHANGED LEGS/STAND BRACE, ADDED WIND LOAD, & SEISMIC LOAD DESIGN	7/24/14 ALS

DATE: 06/24/14	ORDER No.: 30379	DRAWN BY: KOR
SCALE: NONE	MODEL No.: (1) C-CDV-12-16873 △	CHECKED BY: MWW
CUSTOMER: EQ OKLAHOMA		
REP: WAGNER ENTERPRISE	DWG. No.: D-28489	SHEET NO.: 2 OF 3


MAGNETIC CATCH
S.S. HINGE
3/8" x 5" x 4" STOP PLATE
24 OPENING
23 1/2
22
F.R.P. SAFETY GATE DETAIL
FLAT TOP
SKIRT HANDRAIL
OUTSIDE (2M 2FM 2M) 12" W.
SIDEWALL
SKIRT HANDRAIL TO FLAT TOP DETAIL
STEVEN L. WAGNER 30966 OKLAHOMA
8 July 2020
7/8 DIA. HOLE (2) REQ'D.
No. 7 LUG DETAIL
GENERAL NOTES
1. ALL INFORMATION SHOWN HEREON IS COPYRIGHT PROTECTED. REPRODUCTION OF ANY PORTION OF THE DRAWINGS IS A VIOLATION OF COPYRIGHT LAWS.
2. ANY DEVIATION FROM, ADDITION TO, SUBSTITUTION FOR, OR MODIFICATIONS TO THE INFORMATION SHOWN ON THESE DRAWINGS SHALL BE SUBMITTED TO THE FABRICATOR'S ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO BEGINNING ANY CHANGE OR SUBSTITUTION.
3. THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED DESIGN. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF COMPLETING THE INSTALLATION.
4. ALL DIMENSIONS ARE IN INCHES.
5. ALL FLANGE BOLT HOLES TO STRADDLE RADIAL CENTERLINES.
6. THE DRAWINGS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
7. PLEASE READ BELDING TANK TECHNOLOGIES HANDLING INSTRUCTIONS CAREFULLY. FAILURE TO COMPLY WITH INSTRUCTIONS MAY DAMAGE TANK & VOID WARRANTY. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND FIELD REQUIREMENTS PRIOR TO INITIATING INSTALLATION.
8. THE GENERAL CONTRACTOR SHALL INSURE THAT ALL WORK IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, OSHA, STATE AND LOCAL BUILDING CODES AND ORDINANCES. IN THE EVENT OF A DISCREPANCY BETWEEN CODES, THE GENERAL CONTRACTOR SHALL FOLLOW THE MORE STRINGENT.
9. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR THE PROTECTION OF THE WORKERS AND OTHER PERSONS DURING INSTALLATION.
10. THE FOUNDATION DESIGN AND CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER AND GENERAL CONTRACTOR. THE FABRICATOR AND ITS' ASSIGNS SHALL NOT BE RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, AND ADEQUACY OF THE FOUNDATION, AND THE OWNER SHALL INDEMNIFY AND HOLD HARMLESS THE FABRICATOR AND ITS' ASSIGNS FOR ANY ACTION ARISING FROM OR ALLEGING TO ARISE FROM THE DESIGN AND/OR CONSTRUCTION OF THE FOUNDATION.
11. DO NOT LOCATE ANCHOR BOLTS IN TANK PAD BEFORE RECEIPT OF TANK. BELDING TANK TECHNOLOGIES WILL NOT BE RESPONSIBLE FOR PRE-SET ANCHOR BOLTS. (SEE HANDLING & INSTALLATION INSTRUCTIONS).
12. TANK HOLD DOWN LUGS, FLOOR PLATES, OR SADDLES MUST BE SECURELY FASTENED TO FOUNDATION. DESIGN OF THE HOLD DOWN ANCHORS IS BY THE OWNER. SEE CALCULATIONS FOR TANK UPLIFT AND SHEAR FORCES.
13. FLAT AND SLOPE BOTTOM VESSELS TO BE COMPLETELY SUPPORTED BY FOUNDATION.
14. ATMOSPHERIC TANKS MUST BE VENTED DIRECTLY TO ATMOSPHERE. VENT SHOULD NOT BE ROUTED TO OR THROUGH CONSERVATION VENTS, PRESSURE RELIEF VENTS, SCRUBBERS, OR ANY KIND OF VENT RESTRICTION. FAILURE TO FOLLOW THIS GUIDELINE COULD RESULT IN DAMAGE TO THE TANK. IF VENT SCREENS ARE PRESENT THEY SHOULD BE KEPT CLEAN & CLEAR OF ALL OBSTRUCTIONS.
15. IF TANK IS TO BE AIR LOADED, FOLLOW GUIDELINES SET FORTH IN BELDING TANK TECHNOLOGIES OPERATION & MAINTENANCE INSTRUCTIONS.
16. ALL PIPING, VALVES AND INSTRUMENTS ATTACHED TO VESSEL FLANGES OR FITTINGS NEED TO BE INDEPENDENTLY SUPPORTED. USE FLEXIBLE CONNECTIONS WHERE POSSIBLE.
17. FLANGE CAUTION: A FLANGE SPACER MUST BE USED WHEN BOLTING ALL F.R.P. FLANGES TO RAISED FACE FLANGES. USE ONLY FULL FACE GASKETS. DO NOT OVER TORQUE FLANGE BOLTS.
18. ALL BOLTS, GASKET AND ANCHOR BOLTS BY OTHERS UNLESS OTHERWISE NOTED.
19. RESIN COAT ALL CUT EDGES INCLUDING BOLT HOLES.
20. DUE TO INTERIOR SECONDARY BONDING OF DRAIN FITTING, DISHED & SLOPED BOTTOM F.R.P. TANKS WILL NOT PROVIDE 100% COMPLETE DRAINAGE.
21. BELDING TANK RECOMMENDS THAT EACH TANK BE WATER FILLED (HYDRO TESTED) FOR 2 HOUR PERIOD AFTER THE TANK IS INSTALLED AND PRIOR TO USE.
ATTACHMENT MAT TO COVER ENTIRE GUSSET BOTH SIDES.
GUSSET
TANK SIDEWALL
1/2
(5) PLIES 1 1/2 OZ. MAT. & (2) PLY VEIL.
AS SPECIFIED
1/12TH. TANK DIA. IN INCHES.
48 MAX.
8 MAX.
1 MIN.
TANK BOTTOM
F.R.P. PLATE TYPE ANTI SWIRL BAFFLE DETAIL
NOTICE
PRIOR TO EXITING LADDER ON TO TOP OF TANK ALL OSHA GUIDELINES SHOULD BE FOLLOWED.
LADDER WARNING TAG
REMOVABLE CROSS-TYPE BRACE DETAIL
TWO PIECE PIPE SUPPORT BRACKET
3/4 DIA. HOLE (20) REQUIRED
30" O.D.
27 1/2" B.C.
24" I.D.
SPECIAL MANHOLE DETAIL
RELEASED FOR PRODUCTION
DATE: 9-25-14
TO SUIT
1 1/2 SQ. F.R.P. SOLID BAR
10" DIA.
7/16 DRILL FOR 3/8 BOLT
1/4 TH. x 2 SQ. F.R.P. TUBING
4M RAPS
6M
LADDER MOUNT BRACKET
℄ OF TANK
128
64
21
21
10
17 1/2
17 1/8
20
35
8 9/16
8
16
1 1/8" DIA. HOLE (4) REQ'D.
C12" @ 20.7#/FT. CHANNEL
3/8" TH. MOUNTING PLATE
1/4" TH. F.R.P. OVERLAY
FLAT TOP
W8" @ 13#/FT. BEAM
AGITATOR RAIL ASSEMBLY
200 N. GOODING ST. - P.O. BOX 160 - BELDING, MICHIGAN 48809-160
PHONE: (616) 794-1130 FAX: (616) 794-3666
E-MAIL: sales@beldingtank.com
WEBSITE: www.beldingtank.com
DETAIL PAGE
144" DIA. x 219" S.S. x 272" HIGH F.R.P. TANK
3 DELETED A10/A15 "DOWN PIPE ASSEMBLY", ADDED (2) A12'S, RELOCATED A14 & A13 IN ELEVATION. 9-25-14 DDL
2 CHANGED MODEL SIZE CAPACITY LEGSTAND, NOZZ DESIGNATION & NOZZ LOCATION, ADDED A10-15, A14/A13, REMOVED BOX MAN, EPOXY HOLE LAG 8/10/14 ALS
1 CHANGED LEGSTAND BRACE, ADDED WIND LOAD, & SEISMIC LOAD DESIGN 7/24/14 ALS
REVISED DESCRIPTION DATE
DATE: 06/24/14
ORDER No.: 30379
DRAWN BY: KOR
SCALE: NONE
MODEL No.: (1) C-CDV-12-16873
CHECKED BY: MWW
CUSTOMER: EQ OKLAHOMA
REP: WAGNER ENTERPRISE
DWG. No.: D-28489
SHEET NO.: 3 OF 3

Note- There have been no significant changes to T102 or T103 since the 2007 certification.

TCI Tank Consultants, Inc.

April 20, 2007

Mr. Danny Rokisky
PermaFix Environmental Services
2700 South 25th West Avenue
Tulsa, Oklahoma 74107

Re: Certification of Tanks T-101, T-102 & T-103
2700 South 25th West Avenue
Tulsa, Oklahoma 74104

Dear Mr. Rokisky

In accordance with your request, we have the reviewed the design, fabricatic the above referenced tanks and associated facilities located at the above hereby summarize our assessment of the tank system in compliance witl Subpart J – Tank Systems that are used to store or treat hazardous waste.

1. The Tank System and secondary containment was originally des Brothers Engineering of Tulsa which prepared a Certification R installation including the existing tanks in 1990. Currently there are tv within the secondary containment; Tanks T-104 and T-107. Sinc covered by a previous Certification Report, they are not included in th

2. This Certification Report covers Two (2) new Tanks T-102 & T-10 Tank T-101 to be installed in the existing Secondary Containmer existing Tanks T-104 and T-107.

3. The Tanks T-102 & T-103 were constructed in 2002 by Palmer Mar Inc. of Garden City, Kansas with corrosion-resistant fiberglass reinf and is lined with Hetron 980 and appear to be suitable for its intended

4. The Tank T-101 was constructed approximately 20 years ago (exac Atlas Tank Company with corrosion-resistant fiberglass reinforced p lined with Dion 6694 / 6060 and appears to be suitable for its intended

5. FRP is compatible with the wastewater to be stored in the tanks and

TCI Tank Consultants, Inc.

specified in ASCE 7-02 Minimum Design Loads for Buildings and structural steel supports for the tanks were reviewed for co Specification for the Design, Fabrication and Erection of Structural

8. The modifications to Tanks T-101, T-102 & T-103 that were pe including the addition of nozzles and the pressure containing cov structural integrity of the tanks. The design of the tanks was eval internal pressure 0.50 oz per square inch. The design of the tanks a to contain the specified internal pressure without failure and withou

9. The tanks are equipped with hold-down anchors to the reinforce that will prevent floatation or dislodgment. The tanks are inst concrete foundation which is part of the secondary containment.

10. The reinforced concrete foundation was reviewed in accordance w Code Requirements for Structural Concrete and appears to be of su contains sufficient steel reinforcing to adequately support the weig loaded with wastewater. Per the original certification, the reinforce is 10" thick and is placed on a 12" aggregate base course. The lo below the frost depth and the concrete structure should not be aff Since the tanks are anchored to the concrete foundation, the tank affected by frost heave. The containment structure has been in place no concrete damage from frost heave is visible.

11. The secondary containment was constructed of reinforced concrete to form an impervious barrier. Construction joints in the concrete with a PVC water stop. The secondary containment area is co corrosion-resistant material to prevent migration of spilled liquids into the subsurface.

12. The secondary containment plus overflow area provides adequate total spill of the largest tank plus a 25 year, 24-hour rainfall eve water. The two (2) existing drain holes in the wall of the Storage Ta remain open to permit overflow into the Drum Storage area. The Dr be restricted to a maximum of eighty-eight (88) 55 Gallon Drums Pallet Equivalents, where one Pallet Equivalent equals four (4) 55 G attached spreadsheet for Containment Volume Calculations.

TCI Tank Consultants, Inc.

15. The tanks were recently hydrotested for leaks. The tanks were filled
the roof line and to a height that would adequately test the pressure h
the tanks to contain 0.50 oz per square inch internal pressure. T
observed while the test was maintained for 4 hours and the tar
structurally sound without any leaks. See attached TCI Tank Hydrotes

The tank system is not leaking and is fit for service and the design for this i
exceeds the requirements of 40 CFR Part 265 Subpart J – Tank Systen
treatment and storage of liquids that at times may exhibit the characteris
waste.

I certify under penalty of law that this document and all attachments were
direction or supervision according to a system designed to assure that
properly gather and evaluate the information submitted. Based on my inqui
persons who manage the system, or those persons directly responsible
information, the information submitted is, to the best of my knowledge and b
and complete. I am aware that there are significant penalties for submittin
including the possibility of fine and imprisonment for knowing violations.

Please contact me if you have any questions or concerns regarding this transm

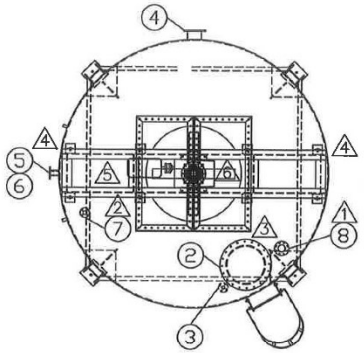
Sincerely,

Ronald Dean Davis

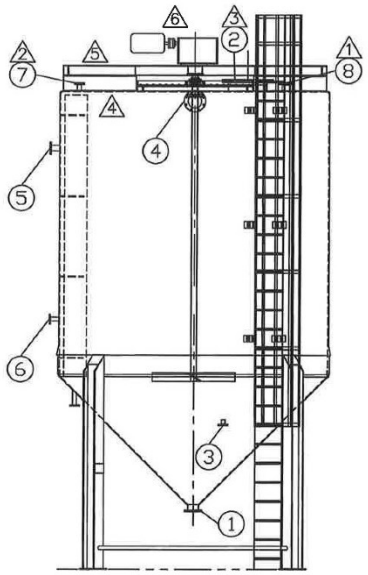
Ronald Dean Davis

Oklahoma P.E. 11210

Attach: Containment Calculations
Inspection Reports
Hydrotest Reports



PLAN VIEW
(TRUE ORIENTATION)



ELEVATION VIEW

Bill of materials

Description	Material	Thickness
14' diameter cone bottom	Fiberglass (Hetron 980 Resin)	0.790"
14'diameter shell	Fiberglass (Hetron 980 Resin)	0.446"
14'diameter flat top	Fiberglass (Hetron 980 Resin)	0.519"

Schedule of Fittings

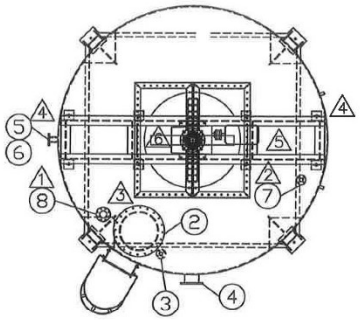
SYMBOL	Description	Material
1	6" RF Flange	Fiberglass (Hetron 980 Resin)
2	24" Flange	Fiberglass (Hetron 980 Resin)
3	2" RF Flange	Fiberglass (Hetron 980 Resin)
4	8" RF Flange	Fiberglass (Hetron 980 Resin)
5	3" RF Flange	Fiberglass (Hetron 980 Resin)
6	2" RF Flange	Fiberglass (Hetron 980 Resin)
7	3" RF Flange	Fiberglass (Hetron 980 Resin)
8	4" RF Flange	Fiberglass (Hetron 980 Resin)

SYM.	DRAWING REVISIONS	CHKD. BY	DATE	DWN. BY
6	Added Chemineer Model 5HTD-20 Mixer w/25HP motor to top of tank			
5	Added Mixer frame to top of tank			
4	Added W10x39 Mixer frame support to top of tank			
3	Added 24" Protectoseal emergency pressure relief manway 316 stainless steel pressure set @ +3" WC, mates w/ASA flange			
2	Added 3" -RF Fiberglass flange w/ Hetron resin to top of tank		02/11/03	DM
1	Added 4" -RF Fiberglass flange w/ Hetron resin to top of tank		12/07/02	DM

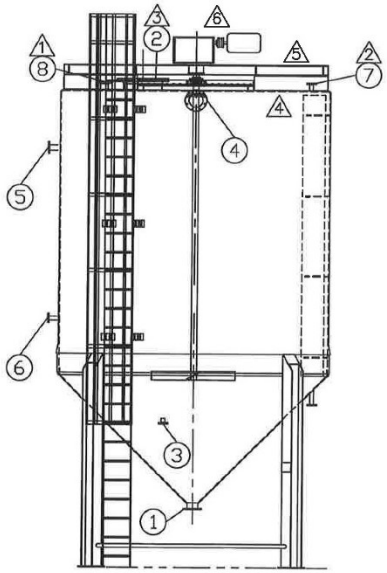
TITLE: T102, FIGURE E-9.3

PREPARED FOR:
PERMA-FIX TREATMENT SERVICES
2700 S. 25th West Ave * Tulsa, Oklahoma 74107

SCALE: No Scale	APPROVED BY: D. Roklsky	DRAWN: GDN
DATE: 5/01/06		REVISED: 2/28/07
AUTOCAD FILE: C:\MyFiles\Tulsa\Sub-Part BB		DRAWING NUMBER: T102



PLAN VIEW



ELEVATION VIEW

Bill of materials

Description	Material	Thickness
14' diameter cone bottom	Fiberglass (Hetron 980 Resin)	0.790"
14'diameter shell	Fiberglass (Hetron 980 Resin)	0.446"
14'diameter flat top	Fiberglass (Hetron 980 Resin)	0.519"

Schedule of Fittings

SYMBOL	Description	Material
1	6" RF Flange	Fiberglass (Hetron 980 Resin)
2	24" Flange	Fiberglass (Hetron 980 Resin)
3	2" RF Flange	Fiberglass (Hetron 980 Resin)
4	8" RF Flange	Fiberglass (Hetron 980 Resin)
5	3" RF Flange	Fiberglass (Hetron 980 Resin)
6	2" RF Flange	Fiberglass (Hetron 980 Resin)
7	3" RF Flange	Fiberglass (Hetron 980 Resin)
8	4" RF Flange	Fiberglass (Hetron 980 Resin)

SYM.	DRAWING REVISIONS	CHKD. BY	DATE	DWN. BY
6	Added Chemineer Model 5HTD-20 Mixer w/25HP motor to top of tank			
5	Added Mixer frame to top of tank			
4	Added W10x39 Mixer frame support to top of tank			
3	Added 24" Protectoseal emergency pressure relief manway 316 stainless steel pressure set @ +3" WC, mates w/ASA flange			
2	Added 3" -RF Fiberglass flange w/ Hetron resin to top of tank		02/11/03	DM
1	Added 4" -RF Fiberglass flange w/ Hetron resin to top of tank		12/07/02	DM

TITLE: T103, FIGURE E-9.4

PREPARED FOR: PERMA-FIX TREATMENT SERVICES
2700 S. 25th West Ave * Tulsa, Oklahoma 74107

SCALE: No Scale	APPROVED BY:	DRAWN: GDN
DATE: 5/01/06	D. Rokisky	REVISED: 2/28/07
AUTOCAD FILE: C:\MyFiles\Tulsa\Sub-Part BB		DRAWING NUMBER: T102

T10'

Daryl Worley
2655 SE Evergreen Dr.
Bartlesville, OK 74006
Phone 918-333-2292
Mobile 918-440-3186
daryl_worley@sbcglobal.net

Mr. Rob Boyd
A Clean Environment
2700 South 25th West Ave
Tulsa, OK 74107

RE: Tank 107 Certification

Dear Mr. Boyd:

In accordance with your request I have reviewed the design and made a visual inspection of the above refe

The tank was filled with water. The liquid level was measured and recorded. Twenty-four hours later the again measured. This measurement revealed the tank was not leaking.

A visual examination of the tank was made. This visual examination did not reveal any signs of leaks. Th integrity of the tank did not appear to be compromised.

Per the documents provided by you to me the tank is constructed of Fiberglass and lined with C-Veil. The is constructed and lined with is compatible with the material that will be contained in the tank.

At the time of the inspection no piping was connected to the tank.

Information provided by A Clean Environment did not indicate the tank would be operated above normal a pressures. The sustained temperature should not exceed 160° F. The tank should not be allowed to exceed than 1 hr.

No inspection of the secondary containment was made. The containment was also not evaluated as to the tank appears to be structurally sound and is fit for service at normal atmospheric pressures.

I certify under penalty of law this document was prepared under my direction or supervision according to to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquir persons who manage the system, or those directly responsible for gathering the information, the informatic the best of my knowledge and belief true, accurate, and complete. I am aware there significant penalties fi information, including the possibility of fines and imprisonment for knowing violations.

Please contact me if you have questions concerning this letter.

Sincerely,

DocuSign Envelope ID: 85758181-4B D-4657-8C91-723B029EB5C7

Assessment of Tank T-107 Replacement; Tank Design, Foundation, Connections, Controls, Compatibility

The Replacement, In Kind, of Tank T-107 located in Tulsa Acid Neutralization Facility has been evaluated and assessed according to 40 CFR 264.192.

"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."

DocuSigned by: Brad Cummock — 05AF0427

Brad Cummock, PE
Project Engineer
(OH # 82599)

DocuSigned by: Vaughn Thurgood

Vaughn Thurgood, PE
VP Engineering
(OK # 29507)

Referenced Documents:

1. Tank and Pipe Assessment – Brad Cummock (Revised 3-7-19)
2. Facility Foundation Assessment – Williams Brothers Engineering (Revised Dec 1990)
3. Tank 107 Foundation Load - Brad Cummock (Revised 3-7-19)
4. Tank Manufacturer Design Drawings – Wagner Enterprise (Revised 2-12-19)
5. Tank Design Calculations – Belding Tank Technologies (Revised 3-4-19)
6. Legacy Tank Foundation Drawings - Williams Brothers (1990)

DocuSign Envelope ID: B3158181-4B1D-4657-8C91-723B029EB8C7

US ecology

7. Mixer Detail Drawing – Brawn Mixer (Revised 11-28-18)
8. Legacy Tank Display Panel – SW Controls (Revised 7-23-14)
9. Legacy Tank Layout – Perma Fix (Revised 5-1-06)
10. Legacy 1997 Tank Name Plate (image)
11. Dekrane Resin Selection Guide – Ashland (2018)
12. Hetron Resin Selection Guide – Ashland (2010)
13. Dekrane Chemical Resistance Summary – Ashland (2018)
14. Pure Flex Control Valve Order - Control Process Systems (Revised 10-16-18)
15. Pure Flex 400 Series Valve Material Specs – PureFlex Inc. (Downloaded 2019)
16. 40 CFR §264.192 citation from ODEQ (1-18-19)
17. 40 CFR §270.11 citation from EPA (7-1-12)

PROJECT NOTES
1 WHITE (WJ-480) EXTERIOR GEL COAT WITH U.V. INHIBITOR REQUIRED
2 (4) HOUR POST HEAT CURE REQUIRED FOR SERVICE.
3 NON-SKID FLAT TOP SURFACE REQUIRED
4 (1) SET OF PLASTIC FLANGE PROTECTORS REQUIRED FOR SHIPPING.
5 BELDING TANK RECOMMENDS THE VENT BE EQUAL TO OR LARGER THAN THE LARGEST INLET OR OUTLET
6 (1) SET OF NON-STAMPED BTT DESIGN CALCULATIONS REQUIRED.
7 REQUIRED TESTING ON TANK:
a VISUAL INSPECTION IN CONFORMANCE WITH ASTM C-582, TABLE 5
b BARCOL HARDNESS PER ASTM D-2583
c ACETONE SENSITIVITY PER REFERENCED TANK DESIGN

LICENSED PROFESSIONAL ENGINEER
STEVEN L. WAGNER
30966
OKLAHOMA

4 March 2019

OWNER US ECOLOGY TULSA
P.O. No 12480
EQUIP No T-107
SERVICE ACID & BASE NEUTRALIZATION

DESIGN DATA

DESIGN STANDARD	ASTM D-3299-10
MAX. PRESSURE	ATMOSPHERIC
VACUUM	NONE
MAX. TEMP. (F)	160°
SPECIFIC GRAVITY	1.5 MAX
SEISMIC CODE	ASCE 7-10 (SITE CLASS = D)
SEISMIC DESIGN	RISK CATEGORY = II SDs=0.140, SD1=0.109
WIND LOAD	115 MPH
SNOW LOAD	10 PSF
APPROX. EMPTY WEIGHT (LBS)	6,500
NOM. CAPACITY (GALS)	13,077
INTERIOR CATALYST	Co/MEKP
EXTERIOR CATALYST	Co/MEKP
LINER RESIN	DERAKANE SIGNIA 411
STRUCTURAL RESIN	DERAKANE SIGNIA 411
EXTERIOR LAYER RESIN	DERAKANE SIGNIA 411
COLOR	WHITE (WJ-480)
VEIL	DOUBLE NEXUS

LAMINATE CHART

LAMINATE SEQUENCE	THICKNESS
V = 1 LAYER VEIL	.010"
M = 1 1/2 OZ/FT SQ. CHOPPED STRAND	.043"
FM = FABMAT 1524	.076"
R = 24 OZ/YD. SQ. WOVEN ROVING	.033"
CP = CHOPPED STRAND ROVING	
HW = FILAMENT WINDING	.034"
CH = CHOP-HOOP WINDING	.028"
SW = STRAIGHT WIND	.017"
U = 15 1/2 OZ/TD. SQ. UNIDIRECTIONAL	.022"

FLAT TOP: .520" NOM. TH.
2V CP(.100) 2(CP(.050) R) CP(.050) R CP(.151)

FLAT TOP JOINT: .321" NOM. TH.
INTERIOR: 3M 2V EXTERIOR: 4M

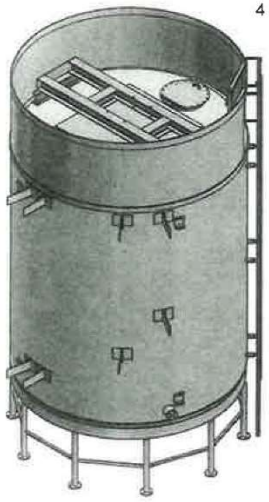
SIDEWALL: .290" NOM. TH. TAPER TO .273" NOM. TH.
2V CP(.100) 2SW 4HW

DISHED BOTTOM: 1.051" NOM. TH.
2V CP(.100) 2(CP(.050) R) CP(.050) R CP(.682)

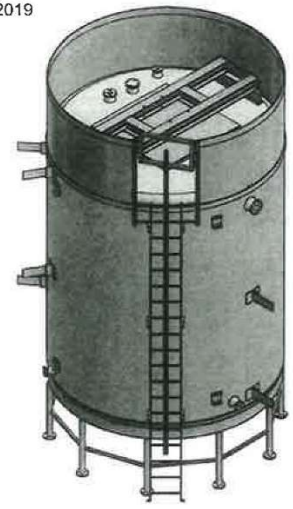
LEGSTAND ATTACHMENT: .390" NOM. TH.
4FM 2M

GENERAL NOTES

1 ALL INFORMATION SHOWN HEREON IS COPY RIGHT PROTECTED. REPRODUCTION OF ANY PORTION OF THE DRAWINGS IS A VIOLATION OF COPYRIGHT LAWS
2 ANY DEVIATION FROM, ADDITION TO, SUBSTITUTION FOR, OR MODIFICATIONS TO THE INFORMATION SHOWN ON THESE DRAWINGS SHALL BE SUBMITTED TO THE FABRICATOR'S ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO BEGINNING ANY CHANGE OR SUBSTITUTION
3 THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED DESIGN. RESPONSIBILITY FOR THE MEANS AND METHODS OF COMPLETING THE INSTALLATION IS BY OTHERS
4 ALL DIMENSIONS ARE IN INCHES.
5 ALL FLANGE BOLT HOLES TO STRADDLE RADIAL CENTERLINES
6 THE DRAWINGS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS
7 PLEASE READ BELDING TANK TECHNOLOGIES HANDLING INSTRUCTIONS CAREFULLY. FAILURE TO COMPLY WITH INSTRUCTIONS MAY DAMAGE TANK & VOID WARRANTY. PRIOR TO INITIATING INSTALLATION, VERIFICATION OF ALL EXISTING CONDITIONS AND FIELD REQUIREMENTS IS BY OTHERS
8 ASSURANCE THAT ALL WORK IS COMPLETED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, OSHA, STATE AND LOCAL BUILDING CODES AND ORDINANCES IS BY OTHERS. IN THE EVENT OF A DISCREPANCY BETWEEN THE CODES, THE MORE STRINGENT SHOULD BE FOLLOWED
9 PROVIDE ALL MEASURES NECESSARY FOR THE PROTECTION OF THE WORKERS AND OTHER PERSONS DURING INSTALLATION
10 THE FOUNDATION DESIGN AND CONSTRUCTION SHALL BE THE RESPONSIBILITY OF OTHERS. BELDING TANK AND ITS' ASSIGNS SHALL NOT BE RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, AND ADEQUACY OF THE FOUNDATION. THE OWNER SHALL INDEMNIFY AND HOLD HARMLESS BELDING TANK AND ITS' ASSIGNS FOR ANY ACTION ARISING FROM OR ALLEGING TO ARISE FROM THE DESIGN AND/OR CONSTRUCTION OF THE FOUNDATION
11 DO NOT LOCATE ANCHOR BOLTS IN THE TANK PAD BEFORE RECEIPT OF TANK. BELDING TANK TECHNOLOGIES WILL NOT BE RESPONSIBLE FOR PRE-SET ANCHOR BOLTS. (SEE HANDLING & INSTALLATION INSTRUCTIONS)
12 TANK HOLD DOWN LUGS, FLOOR PLATES, OR SADDLES MUST BE SECURELY FASTENED TO FOUNDATION. DESIGN OF THE HOLD DOWN ANCHORS IS BY THE OWNER
13 FLAT AND SLOPE BOTTOM VESSELS TO BE COMPLETELY SUPPORTED BY FOUNDATION. (PER HANDLING & INSTALLATION INSTRUCTIONS)
14 ATMOSPHERIC TANKS MUST BE VENTED DIRECTLY TO ATMOSPHERE. VENT SHOULD NOT BE ROUTED TO OR THROUGH CONSERVATION VENTS, PRESSURE RELIEF VENTS, SCRUBBERS, OR ANY KIND OF VENT RESTRICTION. FAILURE TO FOLLOW THIS GUIDELINE COULD RESULT IN DAMAGE TO THE TANK. IF VENT SCREENS ARE PRESENT THEY SHOULD BE KEPT CLEAN
15 IF TANK IS TO BE AIR LOADED, FOLLOW GUIDELINES SET FORTH IN BELDING TANK TECHNOLOGIES OPERATION & MAINTENANCE INSTRUCTIONS
16 ALL PIPING, VALVES AND INSTRUMENTS ATTACHED TO VESSEL FLANGES OR FITTINGS NEED TO BE INDEPENDENTLY SUPPORTED. USE FLEXIBLE CONNECTIONS WHERE POSSIBLE
17 FLANGE CAUTION: A FLANGE SPACER MUST BE USED WHEN BOLTING ALL F.R.P. FLANGES TO RAISED FACE FLANGES. USE ONLY FULL FACE GASKETS. DO NOT OVER TORQUE FLANGE BOLTS. (PER HANDLING & INSTALLATION INSTRUCTIONS)
18 ALL BOLTS, GASKET AND ANCHOR BOLTS BY OTHERS UNLESS OTHERWISE NOTED
19 RESIN COAT ALL CUT EDGES INCLUDING BOLT HOLES
20 DUE TO INTERIOR SECONDARY BONDING OF DRAIN FITTING, DISHED & SLOPE BOTTOM F.R.P. TANKS WILL NOT PROVIDE 100% COMPLETE DRAINAGE
21 BELDING TANK RECOMMENDS THAT EACH TANK BE WATER FILLED (HYDRO TESTED) FOR 2 HOUR PERIOD AFTER THE TANK IS INSTALLED AND PRIOR TO USE

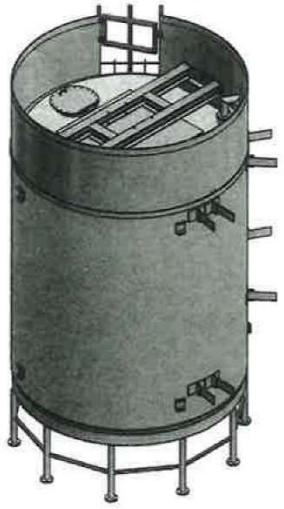


VIEW AT 45°



VIEW AT 135°

VIEW AT 225°



VIEW AT 315°

REVISED PRINT
DATE: 2-12-19

RELEASED
FOR
FABRICATION
DATE: 1-21-19

REV	DESCRIPTION	DATE
2	ADDED NON-STAMPED DESIGN CALCULATIONS	2/12/19 DDL
1	FLUSHED OFF ALL FLAT TOP FITTINGS, ADDED UP-PIPE TO N8,ADDED DESIGNATION TO N8, CHG. SERVICE & TEMP	1/18/19 DDL

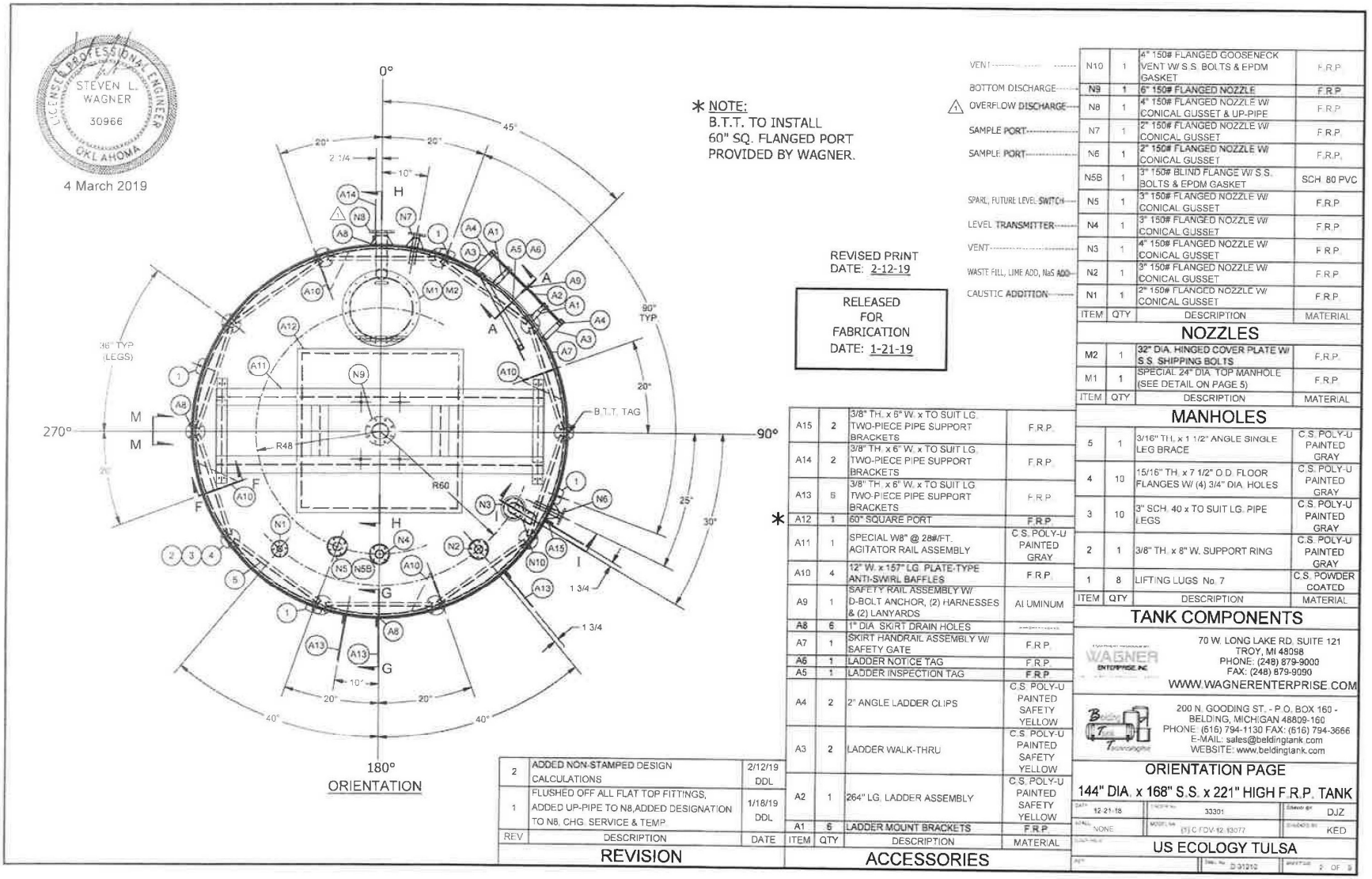
REVISION

WAGNER ENTERPRISE, INC.
70 W. LONG LAKE RD. SUITE 121
TROY, MI 48098
PHONE: (248) 879-9000
FAX: (248) 879-9090
WWW.WAGNERENTERPRISE.COM

BELDING TANK TECHNOLOGIES
200 N. GOODING ST. - P.O. BOX 160 -
BELDING, MICHIGAN 48809-160
PHONE: (616) 794-1130 FAX: (616) 794-3666
E-MAIL: sales@beldingtank.com
WEBSITE: www.beldingtank.com

GENERAL ARRANGEMENT
144" DIA. x 168" S.S. x 221" HIGH F.R.P. TANK

DATE 12-21-18	JOB No 33301	DRAWN BY DJZ	
SCALE NONE	MODEL No (1) C-FDV-12-19077	CHECKED BY KED	
CUSTOMER US ECOLOGY TULSA			
P.O. No	SHEET No D-31210	SHEET NO 1 OF 5	



ITEM	QTY	DESCRIPTION	MATERIAL
N10	1	4" 150# FLANGED GOOSENECK VENT W/ S.S. BOLTS & EPDM GASKET	F.R.P.
N9	1	6" 150# FLANGED NOZZLE	F.R.P.
N8	1	4" 150# FLANGED NOZZLE W/ CONICAL GUSSET & UP-PIPE	F.R.P.
N7	1	2" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N6	1	2" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N5B	1	3" 150# BLIND FLANGE W/ S.S. BOLTS & EPDM GASKET	SCH. 80 PVC
N5	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N4	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N3	1	4" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N2	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N1	1	2" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.

NOZZLES

ITEM	QTY	DESCRIPTION	MATERIAL
M2	1	32" DIA. HINGED COVER PLATE W/ S.S. SHIPPING BOLTS	F.R.P.
M1	1	SPECIAL 24" DIA. TOP MANHOLE (SEE DETAIL ON PAGE 5)	F.R.P.

MANHOLES

ITEM	QTY	DESCRIPTION	MATERIAL
5	1	3/16" TH. x 1 1/2" ANGLE SINGLE LEG BRACE	C.S. POLY-U PAINTED GRAY
4	10	15/16" TH. x 7 1/2" O.D. FLOOR FLANGES W/ (4) 3/4" DIA. HOLES	C.S. POLY-U PAINTED GRAY
3	10	3" SCH. 40 x TO SUIT LG. PIPE LEGS	C.S. POLY-U PAINTED GRAY
2	1	3/8" TH. x 8" W. SUPPORT RING	C.S. POLY-U PAINTED GRAY
1	8	LIFTING LUGS No. 7	C.S. POWDER COATED

TANK COMPONENTS

ITEM	QTY	DESCRIPTION	MATERIAL
A15	2	3/8" TH. x 6" W. x TO SUIT LG. TWO-PIECE PIPE SUPPORT BRACKETS	F.R.P.
A14	2	3/8" TH. x 6" W. x TO SUIT LG. TWO-PIECE PIPE SUPPORT BRACKETS	F.R.P.
A13	6	3/8" TH. x 6" W. x TO SUIT LG. TWO-PIECE PIPE SUPPORT BRACKETS	F.R.P.
A12	1	60" SQUARE PORT	F.R.P.
A11	1	SPECIAL W8" @ 28#/FT. AGITATOR RAIL ASSEMBLY	C.S. POLY-U PAINTED GRAY
A10	4	12" W. x 157" LG. PLATE-TYPE ANTI-SWIRL BAFFLES	F.R.P.
A9	1	SAFETY RAIL ASSEMBLY W/ D-BOLT ANCHOR, (2) HARNESSES & (2) LANYARDS	ALUMINUM
A8	6	1" DIA. SKIRT DRAIN HOLES	----------
A7	1	SKIRT HANDRAIL ASSEMBLY W/ SAFETY GATE	F.R.P.
A6	1	LADDER NOTICE TAG	F.R.P.
A5	1	LADDER INSPECTION TAG	F.R.P.
A4	2	2" ANGLE LADDER CLIPS	C.S. POLY-U PAINTED SAFETY YELLOW
A3	2	LADDER WALK-THRU	C.S. POLY-U PAINTED SAFETY YELLOW
A2	1	264" LG. LADDER ASSEMBLY	C.S. POLY-U PAINTED SAFETY YELLOW
A1	6	LADDER MOUNT BRACKETS	F.R.P.

ACCESSORIES

REV	DESCRIPTION	DATE
2	ADDED NON-STAMPED DESIGN CALCULATIONS	2/12/19 DDL
1	FLUSHED OFF ALL FLAT TOP FITTINGS, ADDED UP-PIPE TO N8, ADDED DESIGNATION TO N8, CHG. SERVICE & TEMP.	1/18/19 DDL

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WEBSITE: www.beldingtank.com

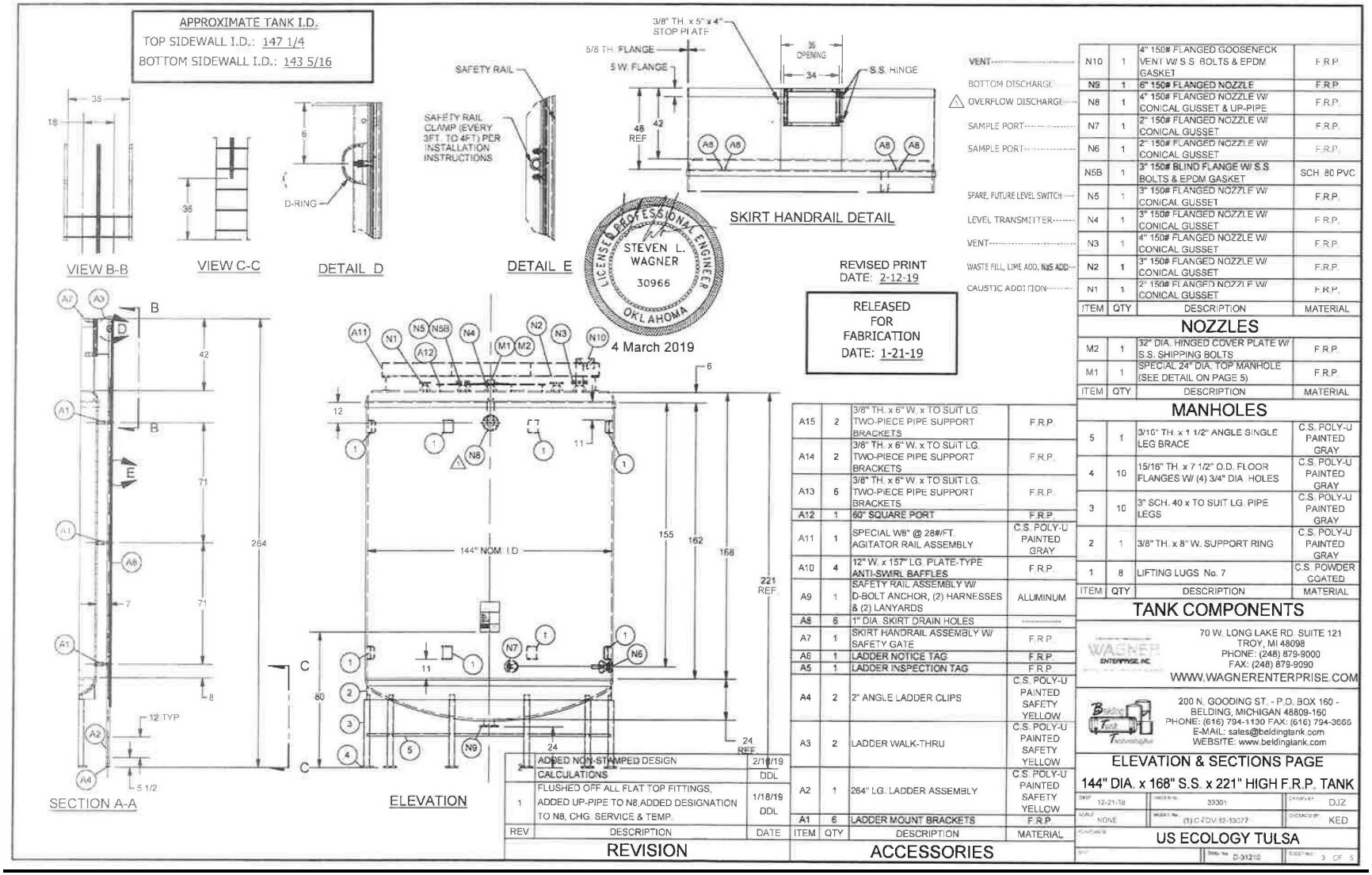
ORIENTATION PAGE

144" DIA. x 168" S.S. x 221" HIGH F.R.P. TANK

DATE	JOB No.	Drawn by
12-21-18	33301	DJZ
SCALE: NONE	MODEL No. [T] C FDV-12-33077	Checked by: KED

US ECOLOGY TULSA

REF: Dwg. No. D-91212 SHEET NO. 2 OF 5



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N5B	1	3" 150# BLIND FLANGE W/ S.S. BOLTS & EPDM GASKET	SCH. 80 PVC
N5	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
N4	1	3" 150# FLANGED NOZZLE W/ CONICAL GUSSET	F.R.P.
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NOZZLES

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M2	1	32" DIA. HINGED COVER PLATE W/ S.S. SHIPPING BOLTS	F.R.P.
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MANHOLES

ITEM	QTY	DESCRIPTION	MATERIAL
5	1	3/16" TH. x 1 1/2" ANGLE SINGLE LEG BRACE	C.S. POLY-U PAINTED GRAY
4	10	15/16" TH. x 7 1/2" O.D. FLOOR FLANGES W/ (4) 3/4" DIA. HOLES	C.S. POLY-U PAINTED GRAY
3	10	3" SCH. 40 x TO SUIT LG. PIPE LEGS	C.S. POLY-U PAINTED GRAY
2	1	3/8" TH. x 8" W. SUPPORT RING	C.S. POLY-U PAINTED GRAY
1	8	LIFTING LUGS No. 7	C.S. POWDER COATED

TANK COMPONENTS

ITEM	QTY	DESCRIPTION	MATERIAL
A15	2	3/8" TH. x 6" W. x TO SUIT LG. TWO-PIECE PIPE SUPPORT BRACKETS	F.R.P.
A14	2	3/8" TH. x 6" W. x TO SUIT LG. TWO-PIECE PIPE SUPPORT BRACKETS	F.R.P.
A13	6	3/8" TH. x 6" W. x TO SUIT LG. TWO-PIECE PIPE SUPPORT BRACKETS	F.R.P.
A12	1	60" SQUARE PORT	F.R.P.
A11	1	SPECIAL W8" @ 28#/FT. AGITATOR RAIL ASSEMBLY	C.S. POLY-U PAINTED GRAY
A10	4	12" W. x 157" LG. PLATE-TYPE ANTI-SWIRL BAFFLES	F.R.P.
A9	1	SAFETY RAIL ASSEMBLY W/ D-BOLT ANCHOR, (2) HARNESSES & (2) LANYARDS	ALUMINUM
A8	6	1" DIA. SKIRT DRAIN HOLES	
A7	1	SKIRT HANDRAIL ASSEMBLY W/ SAFETY GATE	F.R.P.
A6	1	LADDER NOTICE TAG	F.R.P.
A5	1	LADDER INSPECTION TAG	F.R.P.
A4	2	2" ANGLE LADDER CLIPS	C.S. POLY-U PAINTED SAFETY YELLOW
A3	2	LADDER WALK-THRU	C.S. POLY-U PAINTED SAFETY YELLOW
A2	1	264" LG. LADDER ASSEMBLY	C.S. POLY-U PAINTED SAFETY YELLOW
A1	6	LADDER MOUNT BRACKETS	F.R.P.

ACCESSORIES

REV	DESCRIPTION	DATE
2	ADDED NON-STAMPED DESIGN CALCULATIONS	2/19/19 DDL
1	FLUSHED OFF ALL FLAT TOP FITTINGS, ADDED UP-PIPE TO N8, ADDED DESIGNATION TO N8, CHG. SERVICE & TEMP.	1/18/19 DDL

REVISION

WAGNER ENTERPRISE INC.
70 W. LONG LAKE RD. SUITE 121
TROY, MI 48098
PHONE: (248) 879-9000
FAX: (248) 879-9090
WWW.WAGNERENTERPRISE.COM

BELDING TANK TECHNOLOGY
200 N. GOODING ST. - P.O. BOX 160 -
BELDING, MICHIGAN 48809-160
PHONE: (616) 794-1130 FAX: (616) 794-3666
E-MAIL: sales@beldingtank.com
WEBSITE: www.beldingtank.com

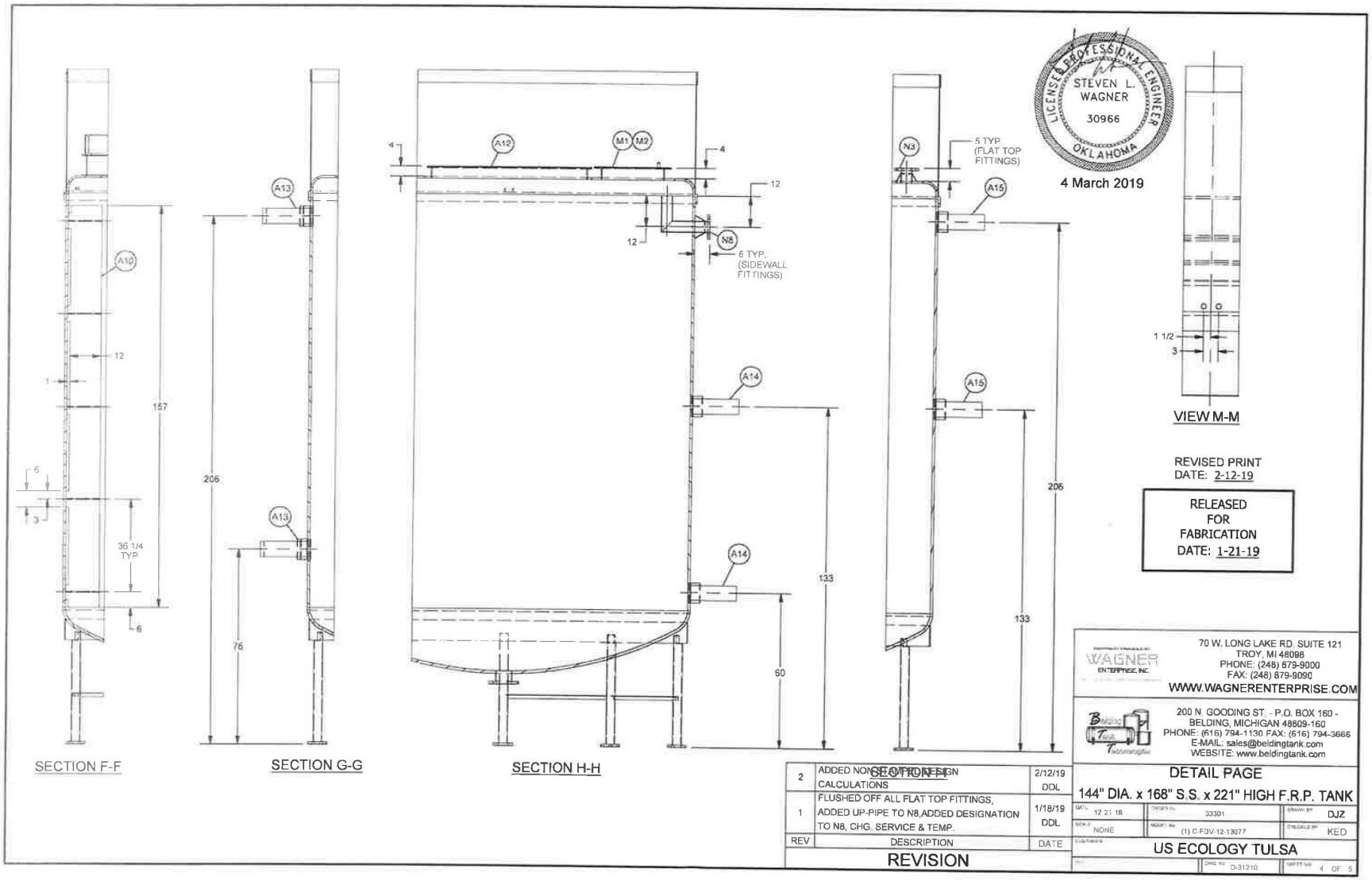
ELEVATION & SECTIONS PAGE

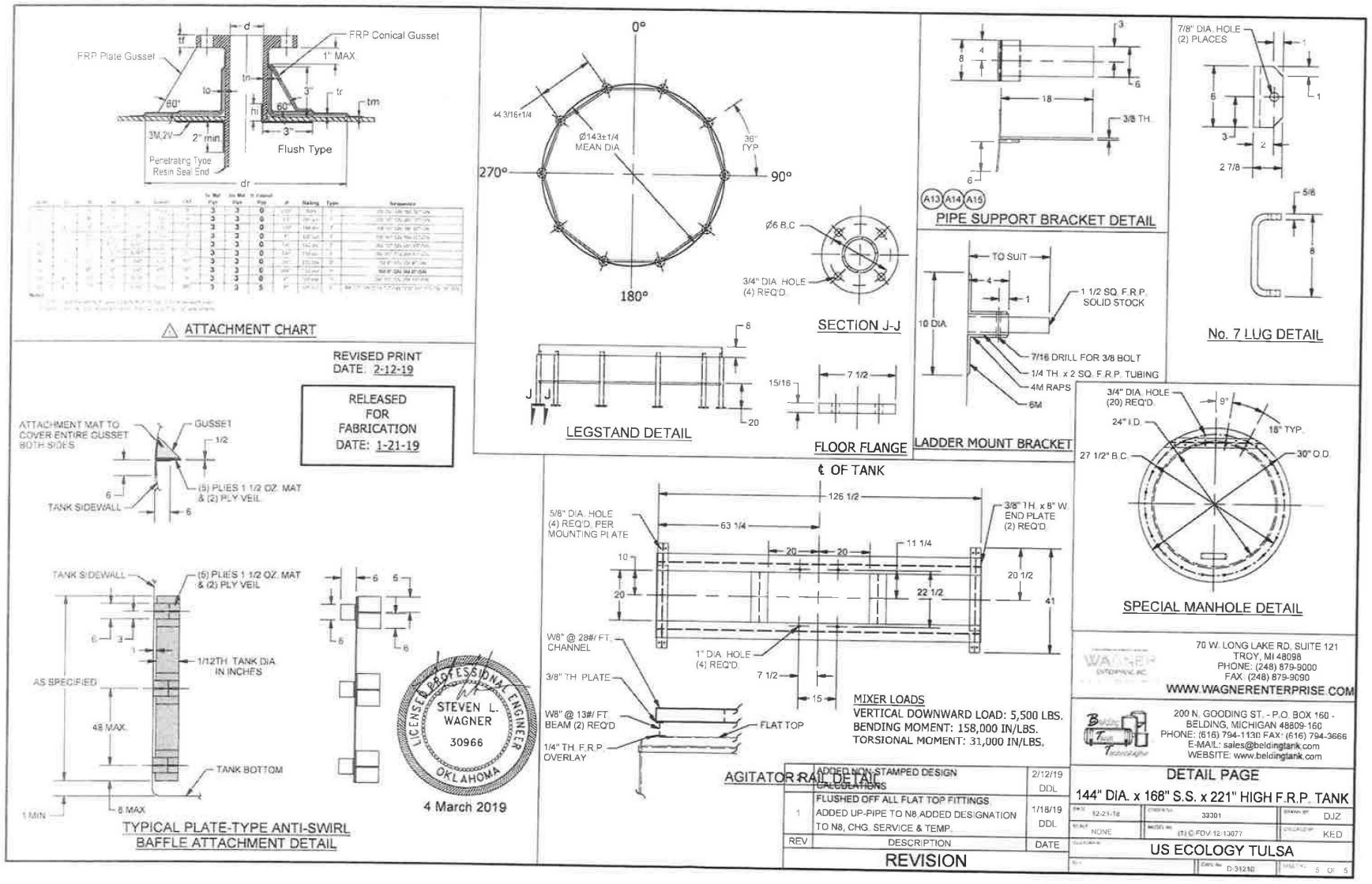
144" DIA. x 168" S.S. x 221" HIGH F.R.P. TANK

DATE	ORDER NO.	DRAWN BY
12-21-18	33301	DJZ
SCALE: NONE	WORK No. (S) C-FDV-12-13077	CHECKED BY KED

US ECOLOGY TULSA

JOB No. D-31218 SHEET 3 OF 5


SECTION F-F
SECTION G-G
SECTION H-H
VIEW M-M
LICENSED PROFESSIONAL ENGINEER
STEVEN L. WAGNER
30966
OKLAHOMA
4 March 2019
REVISED PRINT
DATE: 2-12-19
RELEASED FOR FABRICATION
DATE: 1-21-19
5 TYP (FLAT TOP FITTINGS)
6 TYP. (SIDEWALL FITTINGS)
36 1/4 TYP
157
206
133
60
76
70 W. LONG LAKE RD. SUITE 121
TROY, MI 48098
PHONE: (248) 879-9000
FAX: (248) 879-9090
WWW.WAGNERENTERPRISE.COM
200 N. GOODING ST. - P.O. BOX 160 -
BELDING, MICHIGAN 48809-160
PHONE: (616) 794-1130 FAX: (616) 794-3666
E-MAIL: sales@beldingtank.com
WEBSITE: www.beldingtank.com
DETAIL PAGE
144" DIA. x 168" S.S. x 221" HIGH F.R.P. TANK
US ECOLOGY TULSA
REVISION
2 ADDED NOZZLE N9 PER DESIGN CALCULATIONS 2/12/19 DDL
1 FLUSHED OFF ALL FLAT TOP FITTINGS, ADDED UP-PIPE TO N8, ADDED DESIGNATION TO N8, CHG. SERVICE & TEMP. 1/18/19 DDL
REV DESCRIPTION DATE


FRP Plate Gusset
FRP Conical Gusset
1" MAX
Flush Type
2" min
Penetrating Tyoe Resin Seal End
ATTACHMENT CHART
REVISED PRINT DATE: 2-12-19
RELEASED FOR FABRICATION DATE: 1-21-19
ATTACHMENT MAT TO COVER ENTIRE GUSSET BOTH SIDES
GUSSET
(5) PLIES 1 1/2 OZ. MAT & (2) PLY VEIL
TANK SIDEWALL
1/12TH TANK DIA IN INCHES
AS SPECIFIED
48 MAX.
TANK BOTTOM
6 MAX.
1 MIN.
TYPICAL PLATE-TYPE ANTI-SWIRL BAFFLE ATTACHMENT DETAIL
STEVEN L. WAGNER 30966 OKLAHOMA PROFESSIONAL ENGINEER
4 March 2019
0°
90°
180°
270°
44 3/16±1/4
Ø143±1/4 MEAN DIA
36" TYP
Ø6 B.C
3/4" DIA. HOLE (4) REQ'D.
SECTION J-J
LEGSTAND DETAIL
FLOOR FLANGE
PIPE SUPPORT BRACKET DETAIL
A13 A14 A15
TO SUIT
1 1/2 SQ. F.R.P. SOLID STOCK
10 DIA.
7/16 DRILL FOR 3/8 BOLT
1/4 TH. x 2 SQ. F.R.P. TUBING
4M RAPS
6M
LADDER MOUNT BRACKET
7/8" DIA. HOLE (2) PLACES
No. 7 LUG DETAIL
℄ OF TANK
126 1/2
63 1/4
5/8" DIA. HOLE (4) REQ'D. PER MOUNTING PLATE
3/8" TH. x 8" W. END PLATE (2) REQ'D.
W8" @ 28#/ FT. CHANNEL
3/8" TH. PLATE
W8" @ 13#/ FT. BEAM (2) REQ'D
1/4" TH. F.R.P. OVERLAY
1" DIA. HOLE (4) REQ'D.
FLAT TOP
MIXER LOADS
VERTICAL DOWNWARD LOAD: 5,500 LBS.
BENDING MOMENT: 158,000 IN/LBS.
TORSIONAL MOMENT: 31,000 IN/LBS.
AGITATOR RAIL DETAIL
3/4" DIA. HOLE (20) REQ'D.
24" I.D.
27 1/2" B.C.
30" O.D.
18" TYP.
SPECIAL MANHOLE DETAIL
70 W. LONG LAKE RD, SUITE 121
TROY, MI 48098
PHONE: (248) 879-9000
FAX: (248) 879-9090
WWW.WAGNERENTERPRISE.COM
200 N. GOODING ST. - P.O. BOX 160 -
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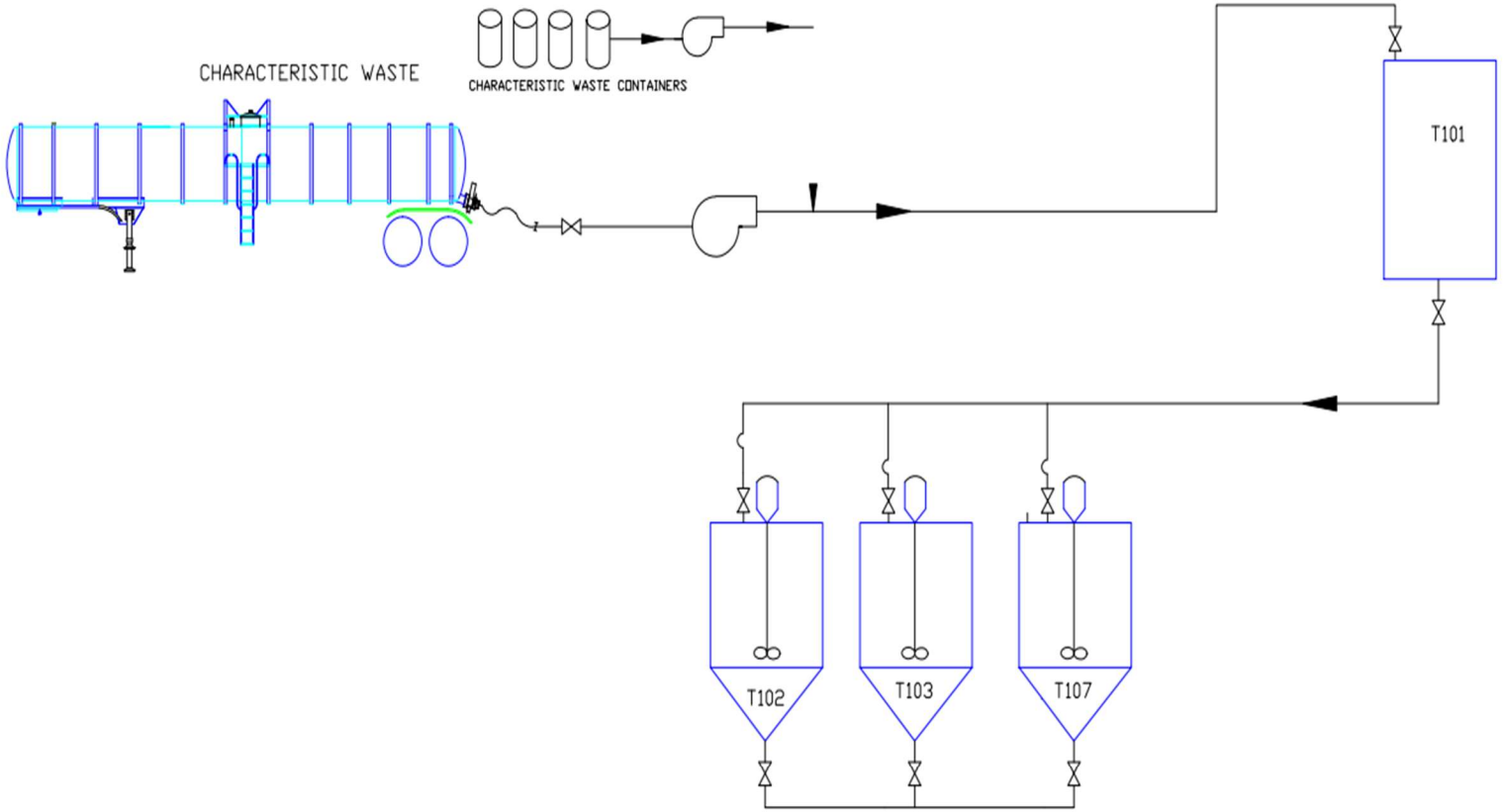
PHONE: (616) 794-1130 FAX: (616) 794-3666
E-MAIL: sales@beldingtank.com
WEBSITE: www.beldingtank.com
REV | DESCRIPTION | DATE
1 | ADDED NON-STAMPED DESIGN CALCULATIONS | 2/12/19 DDL
FLUSHED OFF ALL FLAT TOP FITTINGS. ADDED UP-PIPE TO N8 ADDED DESIGNATION TO N8, CHG. SERVICE & TEMP. | 1/18/19 DDL
REVISION
DETAIL PAGE
144" DIA. x 168" S.S. x 221" HIGH F.R.P. TANK
US ECOLOGY TULSA

Appendix 2- Process Diagram for Tank Farm 1 Tank System



Waste is transferred to storage tanks from tankers or containers using compatible hoses and pump transfer systems. After this, the waste is stored and/or treated.

Appendix 3 - Tank Farm 1 (TF-1) Detailed Information

I. Unit Description

The US Ecology Tulsa, Inc. (USE Tulsa) hazardous waste Tank Farm 1 (TF-1) has a permitted storage capacity for 69,797 gallons of hazardous waste liquids. Containment requirements are based on storage of liquid hazardous wastes. Information regarding tank designation, material of construction, tank age, and nominal capacity for TF-1 is summarized in Appendix 7 - Hazardous Waste Tank System Summary which is presented at the end of this appendix.

Tank farm TF-1 has four (4) vertical above ground tanks, designated for hazardous waste service, which are located in a secondary containment system. Tank T-101 is a fiberglass, elevated cone bottom tank. Tanks T-102 and T-103 are cone bottom tanks set on legs and are fiberglass lined with C-Viel (vinylester). Tanks 102 and 103 are equipped with top beam mounted mixers. Chemical and heat resistance are provided by the structural and lining material. Tank T-107 is a fiberglass cone bottom tank on legs.

II. Basic Design Parameters, Dimensions, and Materials of Construction

Tank T-101 was manufactured by Atlas Tank Company of Yale, Oklahoma. A visual inspection was performed on all tanks during installation by a Williams Brothers Engineering Company representative. No evidence of punctures, scrapes, cracks, or other structural damage was identified by the inspection which might result in premature failure. After the tank was placed on its foundation, it was filled to capacity with water and held for a period of 24 hours. No leaks and/or evidence of leaks were detected, in T-101 as indicated by a Williams Brothers Engineering Company representative.

Tanks T-102 and T-103 were manufactured by Palmer Manufacturing and Tank, Inc. A visual inspection was performed on T-102 and T-103 after installation by the certifying engineer. No evidence of punctures, scrapes, cracks, or other structural damage was identified by the inspection which might result in premature failure. Tanks T-101, T-102, T-103 and T-107 are elevated cone-bottom tanks, and thus leak inspection is easily available.

Fiberglass material (T-101, T-102, T-103 and T-107) is compatible with alkaline, ignitable, reactive, organic, and acidic wastes.

Tanks taken out of hazardous waste service may undergo partial closure, and subsequently, be used for storage of non-hazardous wastes, product, or stormwater.

III. Containment

TF-1 is equipped with a secondary containment system meeting the requirements of 40 CFR 264.193. Containment calculations are part of this attachment. Details regarding the leak detection system for TF-1 are part of the tank assessment document.

TF-1 is equipped with a leak detection system; the secondary containment system is coated with an impervious, chemically resistant material.

IV. Control of Run-On and Run-Off

TF-1 is equipped with secondary containment structures which will control run-on and run-off.

V. Tank Management Processes

Process equipment located in and adjacent to TF-1 is ancillary to hazardous waste tank management operations. Specifically, ancillary equipment may include portable pumps, screen and canister bag filters (or other filtration equipment), mixing equipment, and other treatment equipment as deemed appropriate.

When service of tanks is changed, USE Tulsa will evaluate the need for decontamination procedures. The tank will be decontaminated when evidence of visual contamination is identified or when "knowledge of process" based on tank usage indicates decontamination is appropriate. Decontamination procedures will consist of one to two washes with water or other appropriate cleaning agent. Wash water will be disposed of in accordance with state and federal regulations.

The tanks are compatible with the waste stored. The facility inspection schedule (presented in Attachment 4 - Inspection Schedules and Forms and Attachment 6- Procedures to Prevent Hazardous) includes inspection of tank systems.

VI. Leak Detection for Ancillary Equipment

Ancillary equipment for tanks T-101, T-102, T-103 and T-107 is located above ground in the secondary containment area which is coated with an impervious coating. The equipment is inspected daily.

VIII. Containment Calculations for TF – 1

Note: Containment areas for TF- 1 and CMA-2 are joined. The containment system for CMA-2 has sufficient capacity to contain the total volume of capacity required for container storage (i.e., 10% of total container capacity) plus the excess containment required for TF-1.

GIVEN:

TF-1 average wall height	=	1.77 ft
TF-1 wall length	=	52.8 ft
TF-1 wall width	=	36.0 ft
Tank radius (T-101)	=	6.0 ft
CMA-2 volume	=	1,121 ft3
CMA-2 average wall height	=	12.4 in
Drum radius	=	1.0 ft
Pallet length and width	=	4.0 ft
Pallet height (maximum)	=	8.0 in
25-year, 24-hour rainfall event	=	7 in

CONTAINMENT CAPACITY REQUIRED FOR TF-1:

Volume of largest tank or 10% of total volume of tanks (whichever is greater) + rainfall:

Largest tank	=	19,960 gal
10% of total volume of tanks = 10% x (56,720 gal)	=	5,672 gal

Rainfall:

(7 in)(1 ft/12 in)(52.8 ft)(36.0 ft)(7.48 gal/ft3)	=	8,294 gal

Total requirement:

19,960 gal + 8,294 gal	=	28,254gal

CONTAINMENT CAPACITY AVAILABLE FROM TF-1:

Volume inside containment wall:

(1.77 ft)(52.8 ft)(36.0 ft)(7.48 gal/ft3) = 25,166 gal

Volume displaced by one tank (T-101) to wall height :

[(6.0 ft)2(1.77 ft)(7.48 gal/ft3)]π = 1,497 gal

Volume displaced by other foundations:

(14 ft3)(7.48 gal/ft3) = 105 gal

Total capacity available:

25,166 gal - (1,497 gal + 105 gal) = 23,564 gal

CONTAINMENT CAPACITY REQUIRED FOR CMA-2:

Volume of largest container or 10% of total volume of containers (whichever is greater):

Largest container = 330 gal

10% of total volume of containers = 10% (4,840 gal) = 484 gal

Total requirement: = 484 gal

CONTAINMENT CAPACITY AVAILABLE FOR CMA-2:

Volume inside containment wall:

(1,121 ft3)(7.48 gal/ft3) = 8,385 gal

Volume displaced by drums and pallets to wall height (there is physically only room to fit 14 pallets on the ground, which will hold 56 drums, the remaining volume of drums will be double stacked - above the containment wall height):

[14(4 ft)(4 ft)(8 in)(1 ft/12 in) + 56π(1 ft)2(12.4 in - 8 in)(1 ft/12 in)](7.48 gal/ft3)

= 1,599 gal

Total capacity available:

8,385 gal - 1,599 gal = 6,786 gal

CONTAINMENT CAPACITY AVAILABLE FROM TF-1 AND CMA-2:

23,564 gal + 6,786 gal	=	30,350 gal

CONTAINMENT CAPACITY REQUIRED FOR TF-1 AND CMA-2:

28,254 gal + 484 gal	=	28,738 gal

EXCESS CONTAINMENT:

30,350 gal - 28,738 gal	=	1,612 gal

Appendix 4 - Proposed Tank Farm 4 (TF-4) Detailed Information

I. Unit Description

The US Ecology Tulsa, Inc. (USE Tulsa) hazardous waste Tank Farm 4 (TF-4) has a proposed permitted capacity for 79,840 gallons of hazardous waste liquids. Containment requirements are based on storage of liquid hazardous wastes. Information regarding tank designation, material of construction, tank age, and nominal capacity for TF-4 is summarized in Appendix 7 – Permitted Hazardous Waste Tank System Information Table which is presented at the end of Section T.

Tank farm TF-4 has four (4) proposed vertical above ground tanks, designated for hazardous waste service, which are located in a secondary containment system. Tanks T-407, T-408, T-409, and T-410 are proposed to be cone bottom tanks set on legs and fiberglass lined with C-Viel (vinylester). Chemical and heat resistance are provided by the structural and lining material.

II. Basic Design Parameters, Dimensions, and Materials of Construction

Tanks T-407, T-408, T-409, and T-410 will be manufactured by a qualified third-party tank contractor. A visual inspection will be performed on all tanks during installation by a qualified contractor representative. Any evidence of punctures, scrapes, cracks, or other structural damage which might result in premature failure will be identified and noted by the inspector. After the tank is placed on its foundation, it will be filled to capacity with water and held for a period of 24 hours. A manufacturer representative will be on site to observe any leaks or evidence of leaks. Tanks T-407, T-408, T-409, and T-410 are elevated cone-bottom tanks, and thus, leak inspection will be easily available.

Fiberglass material (T-407, T-408, T-409, and T-410) is compatible with alkaline, ignitable, reactive, organic, and acidic wastes.

Tanks taken out hazardous waste service may undergo partial closure, and subsequently, be used for storage of non-hazardous wastes, product, or stormwater.

III. Containment

TF-4 will be equipped with a secondary containment system meeting the requirements of 40 CFR 264.193. Containment calculations are part of this attachment. Details regarding the leak detection system for TF-4 are part of the tank assessment document.

TF-4 will be equipped with a leak detection system; the secondary containment system is coated with an impervious, chemically resistant material.

IV. Control of Run-On and Run-Off

TF-4 will be equipped with secondary containment structures which will control run-on and run-off.

V. Tank Management Processes

Process equipment located in and adjacent to TF-4 is ancillary to hazardous waste tank management operations. Specifically, ancillary equipment may include portable pumps, screen and canister bag filters (or other filtration equipment), mixing equipment, and other treatment equipment as deemed appropriate.

When service of tanks is changed, USE Tulsa will evaluate the need for decontamination procedures. The tank will be decontaminated when evidence of visual contamination is identified or when "knowledge of process" based on tank usage indicates decontamination is appropriate. Decontamination procedures will consist of one to two washes with water or other appropriate cleaning agent. Wash water will be disposed of in accordance with state and federal regulations.

The tanks are compatible with the waste stored. The facility inspection schedule (presented in Attachment 4 - Inspection Schedules and Forms and Attachment 6 - Procedures to Prevent Hazardous) includes inspection of tank systems.

VI. Leak Detection for Ancillary Equipment

Ancillary equipment for tanks T-407, T-408, T-409, and T-410, will be located above ground in the secondary containment area which is coated with an impervious coating. The equipment is to be inspected daily.

VII. Containment Calculations for TF–4

Note: Tanks T-407, T-408, T-409, and T-410 will all be constructed of the same material and all designed to the same dimensions. Therefore, the calculations below apply to all four (4) tanks.

GIVEN:

TF-4 average wall height = 3 ft

TF-4 wall length = 53.6 ft

TF-4 wall width = 35.1 ft

Tank radius = 6 ft

25-year, 24-hour rainfall event = 7.91 in

CONTAINMENT CAPACITY REQUIRED FOR TF-4:

Volume of largest tank or 10% of total volume of tanks (whichever is greater) + rainfall:

Largest tank = 19,960 gal

10% of total volume of tanks = 10% x (79,840 gal) = 7,984 gal

Rainfall:

(7.91 in)(1 ft/12 in)(53.6 ft)(35.1 ft)(7.48 gal/ft3) = 9,276 gal

CONTAINMENT CAPACITY REQUIRED FOR PROPOSED TF-4:

19,960 gal + 9,276 gal = 29,236 gal

CONTAINMENT CAPACITY AVAILABLE FROM TF-4:

Volume inside containment wall:

(3 ft)(53.6 ft)(35.1 ft)(7.48 gal/ft^3) = 42,218 gal

Volume displaced by four tanks to wall height (bottom of tank is at or above the top of the containment wall):

[(6.0 ft)^2(0 ft)(7.48 gal/ft3)]π = 0 gal

Volume displaced by other foundations (legs of tanks):

(3 ft)(1 ft^2)(4 legs/tank)(4 tanks)(7.48 gal/ft3) = 359 gal

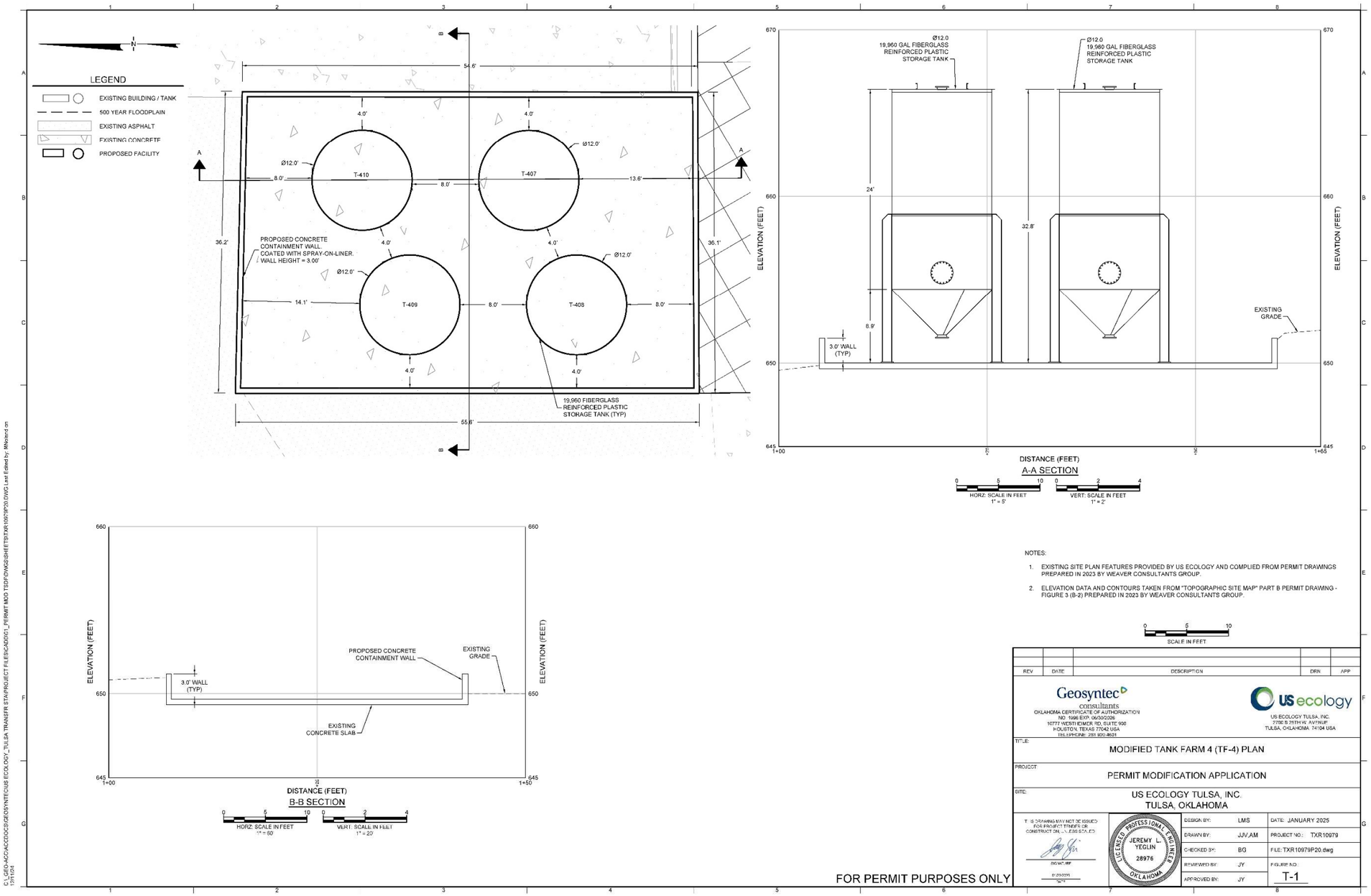
Total capacity available:

42,218 gal - (0 gal + 359 gal) = 41,859 gal

EXCESS CONTAINMENT:

41,859 gal – 29,236 gal = 12,623 gal

Figure T-1: Modified Tank Farm 4 (TF-4) Plan



Appendix 5 – Existing Treatment Pans Detailed Information

Unit Description

The US Ecology Tulsa, Inc. (USE Tulsa) hazardous waste Treatment Pans TA-2a and TA-2b have a cumulative permitted storage capacity of 79 cubic yards of hazardous waste and a cumulative daily treatment capacity of 47,842 gallons per day based on treating one pan volume per shift for 3 shifts per day. The pans sit in similar sized secondary containment steel liners.

RCRA TANK SYSTEM CERTIFICATION
TA-2A & TA-2B

US Ecology Tulsa
2700 South 25th West Ave

Prepared By:

Kyle R. Dunn, P.E. – Managing Consultant

TRINITY CONSULTANTS
5801 E. 41st St.
Tulsa, OK 74135
(918) 622-7111

November 2023

Trinity Consultants

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1. EXECUTIVE SUMMARY

US Ecology operates Tanks TA-2A and TA-2B as hazardous waste storage tanks under the Resource Conservation and Recovery Act (RCRA) regulations. Each tank system was inspected and found to meet the requirements of 40 CFR 264.192.

PROFESSIONAL ENGINEERING CERTIFICATION

I certify that I have examined the design and installation of Tanks TA-2A and TA-2B and their ancillary equipment located at the US Ecology facility in Tulsa, OK. My duty was to provide an engineering assessment of these systems as they relate to the applicable engineering guidance for such systems. Based on the information provided and the assessment performed herein, I certify this system was designed and constructed in accordance with the stated engineering guidance documents. Therefore, based on the attached assessment, the tank systems are safe to operate in their intended use.

The information and engineering assessment presented in this report are the result of field investigations, a representative data search, and sound engineering practices and judgment. Additionally, this assessment is made solely on the information collected and reported to Trinity Consultants (Trinity) by either verbal accounts, existing reports, or existing design and construction documents.

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.

November 1, 2023
Date

Signature – Kyle R. Dunn, P.E.

Managing Consultant
Title

28041
Registration Number

Trinity Consultants
Company

5801 E. 41st Street, Suite 450, Tulsa, OK 74135
Address

2. INTRODUCTION

US Ecology owns and operates a hazardous waste treatment facility located in Tulsa, OK. Hazardous waste treatment is conducted in both Tanks TA-2A and TA-2B, and since these tank systems are intended to manage material classified as hazardous wastes, as defined in Appendix VIII to Part 261, a certification of the tank systems must be performed under the requirements of 40 CFR 264.192. A copy of the applicable text is included in Appendix B. Specifically, the assessment includes:

- Description and review of the design criteria used for the tank systems
- Review of the hazardous waste characteristics in reference to the tank systems' materials of construction
- Assessment of any corrosion potential for the tank systems due to contact with soil or water
- Review of vehicular traffic patterns that could damage any of the tank systems' components
- Results of a tank integrity inspections
- Assessment of other design considerations specifically included in the regulation

3. DESIGN REVIEW

3.1 Design Standards

TA-2A and TA-2B are open-top, atmospheric tanks that are constructed of 1" carbon steel, and each tank has reinforced welds on the side that receives most of the contact with the excavator bucket used for mixing and loadout. Both containers have metal secondary containment that is sufficient for holding the contents of the tanks in the event of tank failure and a significant rainfall event. There are no piping systems or ancillary equipment associated with either tank. No specific design standards were provided for the tank, but the tank drawings were reviewed and approved by a Professional Engineer. Tank design drawings are included in Appendix A.

3.2 Hazardous Waste Characteristics

TA-2A is typically used to treat acidic material, basic material, and metal bearing wastes. To minimize corrosion on the container, acidic wastes are immediately neutralized by using either reagents (e.g., lime or fly ash) or compatible wastes (e.g., caustic wastes) so the treatment mix is kept at a neutral-to-basic pH during the treatment process.

TA-2B is typically used to treat persulfate wastes which tend to be on the acidic side. However, as part of the treatment, water is used to allow the solid material to dissolve, and lime is also used to bring the material to a basic pH during treatment.

In accordance with data found in the National Association of Corrosion Engineers (NACE), *Corrosion Data Survey – Metals Section*, the carbon steel tanks are found to be compatible with the neutralized constituents found in the waste streams. Additionally, based on interviews with staff onsite, each batch is formulated in the onsite laboratory prior to transferring into the tanks. This formulation considers potential compatibility issues with carbon steel. Once the formulation of wastes and neutralizing material is approved, the operations staff visually inspects the transfer and notes if there are any unexpected reactions that occur. A water spray system is also in place to manually quench the material in the tanks, if needed.

3.3 Soil and Water Contact

The tanks systems are located aboveground and within metal containment, which is located on top of an asphalt foundation. Any water that collects in the containment drains to a sump, which is pumped into the tanks and mixed in with the waste. Therefore, extended contact with soil and water is not likely and will not result in an accelerated corrosion rate.

3.4 Vehicular Traffic Issues

There are no piping systems associated with the tank systems. Waste is transferred into the tank via forklift or manual dumping and is removed from the tank via an excavator. There are bumpers/barriers next to the tanks to prevent accidental damage from the forklifts and excavators.

3.5 Design Considerations

The following are additional design considerations that were reviewed in order to complete the RCRA tank system certification.

3.5.1 Tank Foundations

The foundation appears to be adequate. The tanks are located within metal containment, which is located on top of an asphalt foundation. There does not appear to be settling or cracking associated with the foundation.

3.5.2 Tank Flotation

The tanks are aboveground and are of sufficient size and weight such that collection of fluids in the secondary containment system will not cause flotation of the tanks.

3.5.3 Frost Heave

The tanks are not directly connected to any foundation, and they are located on an extensive asphalt foundation such that any frost heave would not affect the tanks.

4. TANK INSPECTION REVIEW

Trinity reviewed the API 653 and API 575 inspection reports and associated testing results from October 2023 (included in Appendix C). The reports indicate that all inspection points have adequate wall thickness and that the tanks are suitable for continued service. Trinity also visually inspected the tank installation and found the system to be free of weld breaks, punctures, cracks, corrosion, structural damage, and inadequate construction/installation.

5. UNDERGRGOUND TANK BACKFILLING PROVISIONS

No portions of the tank systems are located underground, so backfilling provisions are not required. No other underground components are presently associated with the tank systems being reviewed and certified by this report.

6. TANK SYSTEM TIGHTNESS

The tank systems are currently in operation and no visible leaks were identified.

7. ANCILLARY EQUIPMENT PROTECTION

There is no notable ancillary equipment associated with either tank. There are no piping systems, fittings, access points, or other openings in the tank.

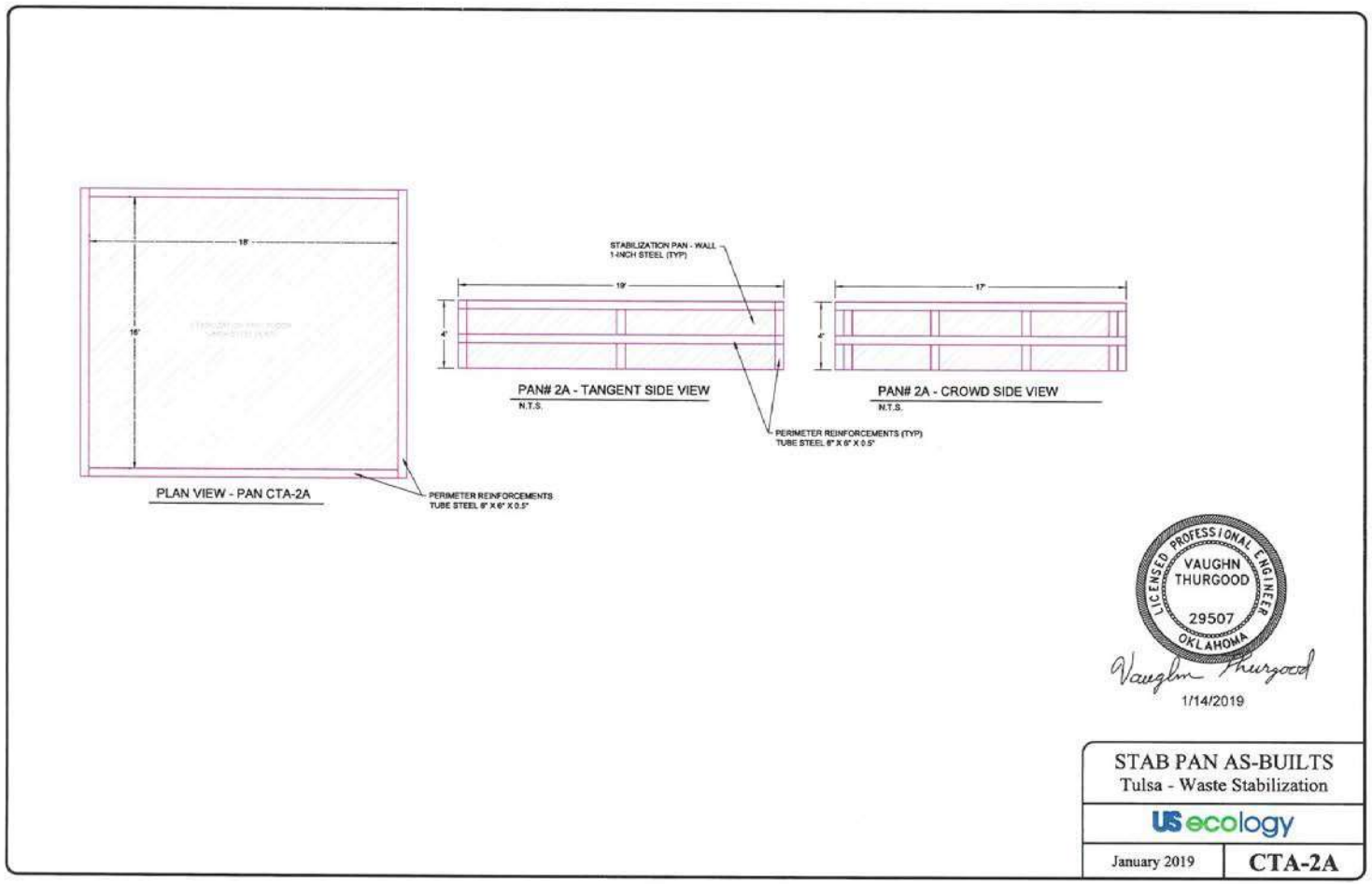
8. TANK SYSTEM CORROSION PROTECTION

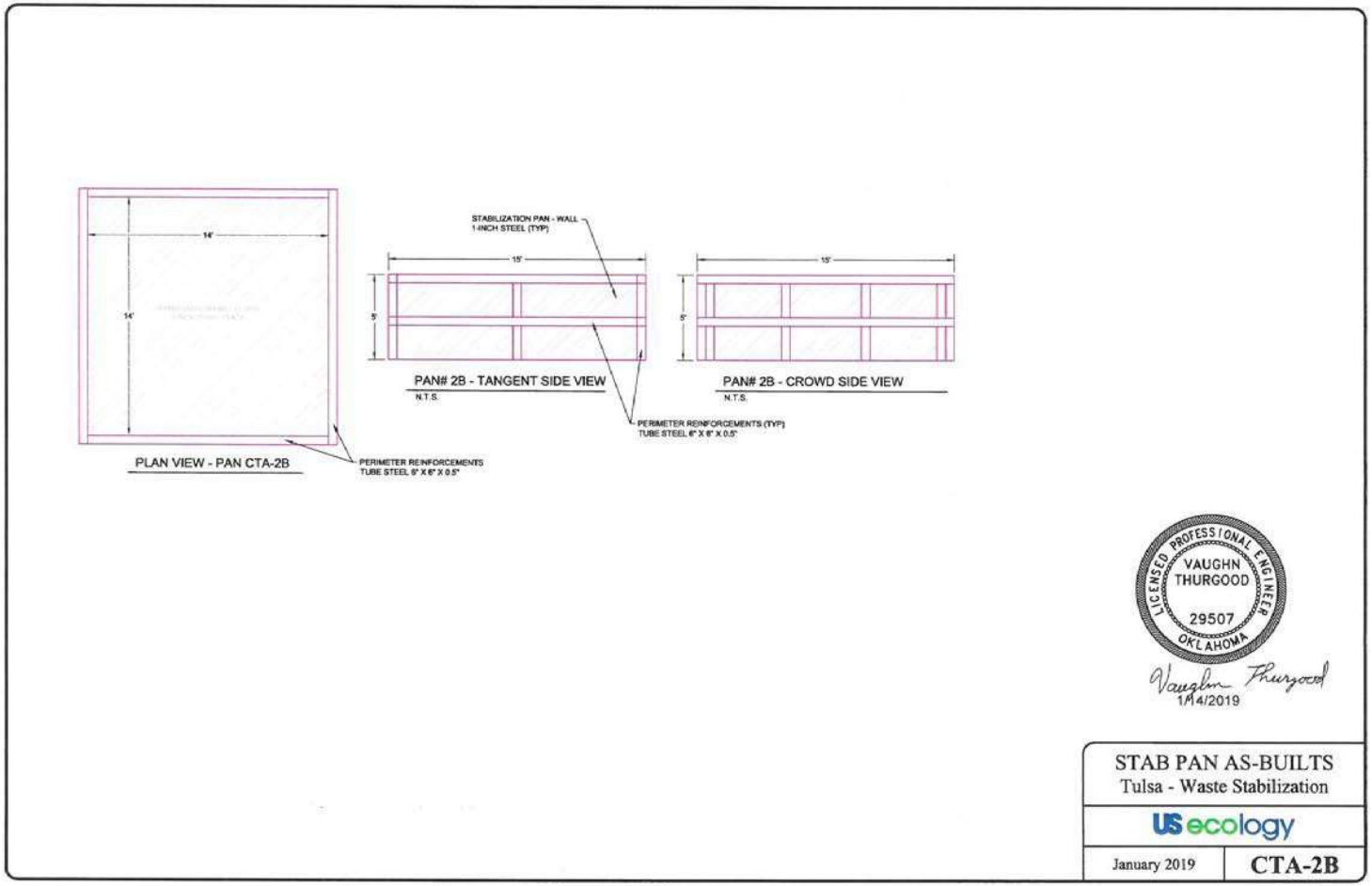
As stated in Section 3.3, the tank systems are not expected to contact soil or water in a manner that will accelerate the corrosion rate. Based on information provided by staff onsite, the metal thickness of each tank is also checked periodically.

9. TANK DESIGN AND CERTIFICATION

US Ecology will maintain this RCRA certification and all other written statements by those who have designed, constructed, or inspected the above-described tank system in the facility operating record.

APPENDIX A. TANK DRAWINGS


PLAN VIEW - PAN CTA-2A
PERIMETER REINFORCEMENTS
TUBE STEEL 6" X 6" X 0.5"
STABILIZATION PAN - WALL
1-INCH STEEL (TYP)
PAN# 2A - TANGENT SIDE VIEW
N.T.S.
PERIMETER REINFORCEMENTS (TYP)
TUBE STEEL 6" X 6" X 0.5"
PAN# 2A - CROWD SIDE VIEW
N.T.S.
LICENSED PROFESSIONAL ENGINEER
VAUGHN
THURGOOD
29507
OKLAHOMA
1/14/2019
STAB PAN AS-BUILTS
Tulsa - Waste Stabilization
US ecology
January 2019
CTA-2A


14'
14'
PLAN VIEW - PAN CTA-2B
PERIMETER REINFORCEMENTS
TUBE STEEL 6" X 6" X 0.5"
STABILIZATION PAN - WALL
1/4INCH STEEL (TYP)
15'
5'
PAN# 2B - TANGENT SIDE VIEW
N.T.S.
PERIMETER REINFORCEMENTS (TYP)
TUBE STEEL 6" X 6" X 0.5"
15'
5'
PAN# 2B - CROWD SIDE VIEW
N.T.S.
LICENSED PROFESSIONAL ENGINEER
VAUGHN
THURGOOD
29507
OKLAHOMA
1/4/2019
STAB PAN AS-BUILTS
Tulsa - Waste Stabilization
US ecology
January 2019
CTA-2B

APPENDIX B. REGULATORY REFERENCES

40 CFR 264.192 Design and installation of new tank systems or components

(a) Owners or operators of new tank systems or components must obtain and submit to the Regional Administrator, at time of submittal of part B information, a written assessment, reviewed and certified by a qualified Professional Engineer, in accordance with § 270.11(d) of this chapter, attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which will be used by the Regional Administrator to review and approve or disapprove the acceptability of the tank system design, must include, at a minimum, the following information:

(1) Design standard(s) according to which tank(s) and/or the ancillary equipment are constructed;

(2) Hazardous characteristics of the waste(s) to be handled;

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;
(B) Soil pH;
(C) Soil sulfides level;
(D) Soil resistivity;
(E) Structure to soil potential;
(F) Influence of nearby underground metal structures (e.g., piping);
(G) Existence of stray electric current;
(H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

(A) Corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, etc.;
(B) Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (e.g., impressed current or sacrificial anodes); and
(C) Electrical isolation devices such as insulating joints, flanges, etc.

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85) - Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

(4) For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:

(i) Tank foundations will maintain the load of a full tank;
(ii) Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of § 264.18(a); and
(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified, installation inspector or a qualified Professional Engineer, either of whom is trained and experienced in the proper installation of tanks systems or components, must inspect the system for the presence of any of the following items:

(1) Weld breaks;
(2) Punctures;
(3) Scrapes of protective coatings;
(4) Cracks;
(5) Corrosion;
(6) Other structural damage or inadequate construction/installation.

All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed into use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.
Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), "Installation of Underground Petroleum Storage Systems," or ANSI Standard B31.3, "Petroleum Refinery Piping," and ANSI Standard B31.4 "Liquid Petroleum Transportation Piping System," may be used, where applicable, as guidelines for proper installation of piping systems.

(f) The owner or operator must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under paragraph (a)(3) of this section, or other corrosion protection if the Regional Administrator believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section, that attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section, were performed. These written statements must also include the certification statement as required in § 270.11(d) of this chapter.

APPENDIX C. TANK INSPECTION REPORTS

SPECIAL INSPECTIONS & DESIGN

MECHANICAL INTEGRITY INSPECTION
for
ABOVEGROUND CHEMICAL
STABILIZATION PAN TA-2A
at
US ECOLOGY
2700 S 25th STREET, TULSA, OK 74107

STABILIZATION PAN TA-2A

Inspection Date: October 8, 2023
Report Number: SP-23393.2A

Inspection and Report By:
Steven C. Fults
Professional Engineer
API 653 #6122
AWS-CWI #05080851
ASNT NDT Level III Cert #21968

General Information

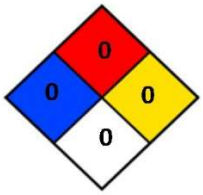
Manufacturer: Unknown
Mfg. City & State: Unknown
Date Manufactured: 1995 (estimated)
Governing Code or Standard: API 653
Capacity: 42.5 yd^3
Dimensions: 192" (E-W) x 215" (N-S)
Depth: 48 inches (wall height)
Design Pressure: Atmospheric
Design Temperature: NA
Design Specific Gravity: NA

Made-Available Information

As-Built Drawing:	NO
Fabrication Reports:	NO
Baseline Data:	YES
Previous Operational Reports:	Verbal
Maintenance History:	Verbal
Previous Inspection Reports:	NO

PRESENT: NO

NFPA LABEL



Tank ID / Name:	STABILIZATION PAN TA-2A			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Stored:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2A

Executive Summary

The stabilization pan listed in this report was inspected in general accordance with API 653, the *Tank Inspection, Repair, Alteration, and Reconstruction Standard* and API 575 *Inspection Practices for Atmospheric and Low-Pressure Storage Tanks*. These Standards where followed as they prescribe inspection methods for the configuration and function similar to a stabilization pan. There is not a specific Code or standard that addresses stabilization pans. In summary, stabilization pan TA-2A is suitable for continued service, similar to past, based on this inspection. See attached checklist, ultrasonic thickness data report and photographs for detailed inspection results.

Deficiency List

1. No structural or mechanical deficiencies were observed that warrant repair or change of use.

Recommendations

1. Continue to monitor plate thickness annually using a calibrated digital ultrasonic thickness gauge.
2. Plate quality to be reaccessed in 10 years or earlier if backhoe damage occurs.

Per API 653, Next Inspection Due:

Routine In-service Inspection by Owner/Operator Personnel:	Monthly
External Inspection by an Authorized Inspector:	10 years
Ultrasonic Thickness Inspection by a Qualified Examiner:	10 years
Internal Inspection by an Authorized Inspector:	10 years

Limits of Liability

The professional opinions and judgments contained in this report are based on the site conditions as they existed at the time of inspection. No warranty expressed or implied is made as to the conclusions and professional advice included in this report. This report was prepared exclusively for the use and benefit of US Ecology and Trinity Consultants. Unauthorized use of content or formatting is strictly prohibited.

Please contact the undersigned if you have any questions or require additional information.

Report By:
SPECIAL INSPECTIONS & DESIGN

Steven Fults, PE
API 653 #6122
ASNT NDT Level III #21968
AWS-CWI #05080851

Tank ID / Name:	STABILIZATION PAN TA-2A			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Mixed:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2A

ABOVEGROUND STORAGE TANK EXTERNAL INSPECTION CHECKLIST

LEGEND: ✓ = ACCEPTABLE ☒ = ITEM of CONCERN NA = NOT APPLICABLE NI = NOT INSPECTED

LABELING		COMMENTS
• Nameplate	✓	No Identification posted
• Contents and capacity	✓	Not posted
• NFPA diamond	✓	Not posted
FOUNDATION & SUPPORTS		COMMENTS
• Foundation type Ring ☐ Full Pad ☑ Saddles ☐	✓	Soil and/or rock subgrade
• Levelness and uniform support	✓	Subgrade is continuous, solid, stable
• Soil settlement around pan	✓	No measurable settlement
• Drainage away from pan	✓	Adequate drainage
• Steel leg / saddle / skid supports (bent, distorted, corroded)	✓	Containment area walls are braced.
• Anchor bolts / chairs (loose, bent, corroded, missing)	✓	Gravity holds containment and pan in place
CONTAINMENT AREA Steel ☑ Concrete ☐ Trench ☐		COMMENTS
• Impervious	✓	Continuous 1/4" or 5/16" steel plate, welded joints
• Housekeeping (debris, vegetation, ponding)	✓	Minimal debris present
INSULATION / PROTECTIVE COATINGS		COMMENTS
• Lagging / sheeting (loose, missing, damaged)	NA	Not insulated
• Caulking at penetrations and supports	NA	Not insulated
• Insulation condition (CUI, wet, missing, deteriorated)	NA	Not insulated
• Coatings (blistering, peeling, chalking, holidays)	NA	No paint, thin surface corrosion present
• Seal between bottom and foundation	✓	No seal but not needed
SHELL, BOTTOM & ROOF Carbon Steel ☑ Alloy Steel ☐		COMMENTS
• Deformation / distortions (peaking, blisters, bulges, flats)	✓	Walls and Floor and relatively flat
• Shell seam welds / evidence of leaks	✓	Welds are good quality, large in size, full length & contiguous
• Shell vertical / horizontal alignment	✓	Walls are near plumb & floor plates flat
• Deformation at wall, floor, or reinforcement	✓	No significant scars or gouges from backhoe bucket mixing
• Corrosion or thinning of shell, bottom or roof	✓	No significant corrosion, surface patina only
• Roof (slope, ponding, corrosion)	✓	Pan does not have a cover, there is a sunscreen roof 20' above
• Evidence of previous repairs	✓	Repair underway to reattach lip plate, good quality welds
MANWAYS, NOZZLES & REINFORCEMENT		COMMENTS
• Maintenance of hatches, manways, covers	NA	None
• Nozzle rigidity (deformation, expansion joints)	NA	None
• Weld condition	✓	Exterior reinforcement welds are good quality, adequate size
• Bolts or studs at flanged connections	NA	No bolted connections, joints are welded
• Gasket condition / evidence of leaks	✓	No leaks or evidence found
• Condition of sump, piping manifolds, height gage, etc.	✓	PVC tubing and water spray nozzles above north wall
• Static ground wire	✓	No ground wire present, nor needed
• Venting (normal, emergency, pressure/vacuum)	✓	Open air
• Overfill protection (level gauge, alarm, automatic shutoff)	✓	Visual by operator
ACCESS STRUCTURE		COMMENTS
• Ladders (fasteners, welds, corrosion, brackets, rungs)	NA	Pan is 48 inches tall, step ladder used to enter
• Cages (fasteners, welds, brackets, corrosion)	NA	None
• Stairways (treads, fasteners, handrails, welds, stringers)	NA	None
• Platform (grating, clips, welds, corrosion, thinning)	NA	None
• Handrail (corrosion, welds, fasteners, stiffeners)	NA	None
• General condition of coatings (blistering, peeling, failure)	NA	None
OTHER		COMMENTS
• Nuts were tack welded to wall exteriors to be used as an ultrasonic thickness measurement monitoring locations.		
•		
•		

Tank ID / Name:	STABILIZATION PAN TA-2A			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Stored:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2A

Containment area wall plate is 11 to 12 inches tall

Stabilization pan TA-2A walls are 48 inches tall.

Overall containment area measures 425" (E-W) X 410" (N-S) X 11" (tall). No voids/gaps/holes were present in visually accessible areas. Containment area floor plate is believed to be continuous beneath the pan.

Containment area wall and floor plate are nominal 0.250" or 0.300" carbon steel plate.

Tank ID / Name:	STABILIZATION PAN TA-2A			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Stored:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2A

Repairs were underway to reattach & reinforce the south-side lip plate that was torn upwards by the backhoe bucket. The welder was skilled. Oscar deposted good quality weld and was effective to secure the existing plate & new plate.

UTT thickness measurements were taken at 24 locations per wall. Minor wall loss has occurred.

Floor plate thickness range measured was 0.812" to 0.925". No significant pitting or general corrosion was

Enclosed area west of the stab pan TA-2A was observed and structural members were intact. No

Weld quality was good. The 6x6 tube reinforcement is robust and very stable.

Tank ID / Name:	STABILIZATION PAN TA-2A			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Stored:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2A

ULTRASONIC THICKNESS MEASUREMENT DATA

Remaining metal thickness was measured nondestructively with straight beam ultrasonic thickness testing (UTT). A dual-element 2.25MHz transducer was used. The measurement ranges are shown below.

Pan TA-2A **floor plate** thickness was measured at 24 areas throughout the plate:
Thinnest measurement: 0.812", Thickest measurement: 0.925"

Pan TA-2A **wall plate** thickness was measured at 96 areas throughout the plates:
North wall 24 measurement locations
Thinnest measurement: 0.972", Thickest measurement: 1.018"
East wall 24 measurement locations
Thinnest measurement: 0.995", Thickest measurement: 1.012"
South wall 24 measurement locations
Thinnest measurement: 0.912", Thickest measurement: 1.011"
East wall 24 measurement locations
Thinnest measurement: 0.995", Thickest measurement: 1.012"

Pan TA-2A **containment area** wall and floor plate thickness was measured at 12 areas throughout the plates:
Thinnest measurement: 0.248", Thickest measurement: 0.344"

Measurement data and visual observation show minor product attack on the wall and floor plate. There was not a significant thickness difference in the upper and lower wall plate sections as was prevalent in Stab Pan TA-2B. The corrosion rate is approximately 0.005" IPY, based on a 20 year age. Given the facility operations guideline minimum allowable floor or wall plate thickness of 0.250", the wall and floor plate may need to be replaced or reinforced in 20 years, provided mechanical impact damage is minimal and mixing chemicals are similar to past. Plate quality to be reaccessed in 10 years or earlier if backhoe damage occurs.

US Ecology has established UTT monitoring locations by welding nuts onto the wall plate outer face. Annual measurements should be taken and documented by a competent maintained person so the plate thickness and corrosion rate are known.

SPECIAL INSPECTIONS & DESIGN

MECHANICAL INTEGRITY INSPECTION
for
ABOVEGROUND CHEMICAL
STABILIZATION PAN TA-2B
at
US ECOLOGY
2700 S 25th STREET, TULSA, OK 74107

STABILIZATION PAN TA-2B

Inspection Date: October 8, 2023
Report Number: SP-23393.2B

Inspection and Report By:
Steven C. Fults
Professional Engineer
API 653 #6122
AWS-CWI #05080851
ASNT NDT Level III Cert #21968

General Information

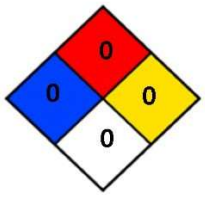
Manufacturer: Unknown
Mfg. City & State: Unknown
Date Manufactured: 1995 (estimated)
Governing Code or Standard: API 653
Capacity: 35 yd^3
Dimensions: 165" x 165"
Depth: 60 inches (wall height)
Design Pressure: Atmospheric
Design Temperature: NA
Design Specific Gravity: NA

Made-Available Information

As-Built Drawing:	NO
Fabrication Reports:	NO
Baseline Data:	YES
Previous Operational Reports:	Verbal
Maintenance History:	Verbal
Previous Inspection Reports:	NO

PRESENT: NO

NFPA LABEL



IBC/AWS/CWB/ASCE/ASME/ANSI/API/AISC Codes 314-240-0179 www.SIDengineers.com

Tank ID / Name:	STABILIZATION PAN TA-2B			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Stored:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2B

Executive Summary

The stabilization pan listed in this report was inspected in general accordance with API 653, the *Tank Inspection, Repair, Alteration, and Reconstruction Standard* and API 575 *Inspection Practices for Atmospheric and Low-Pressure Storage Tanks*. These Standards where followed as they prescribe inspection methods appropriate to the configuration and function similar to a stabilization pan. There is not a specific Code or standard that addresses stabilization pans. In summary, Stab Pan TA-2B is suitable for continued service, similar to past, based on this inspection. See attached checklist, UTT data, and photographs.

Deficiency List

1. No structural or mechanical deficiencies were observed that warrant repair or change of use.

Recommendations

1. Continue to monitor plate thickness annually using a calibrated digital ultrasonic thickness gauge.
2. Wall and plate integrity to be reassessed in 10 years or earlier if backhoe damage occurs.

Per API 653, Next Inspection Due:

Routine In-service Inspection by Owner/Operator Personnel:	Monthly
External Inspection by an Authorized Inspector:	10 years
Ultrasonic Thickness Inspection by a Qualified Examiner:	10 years
Internal Inspection by an Authorized Inspector:	10 years

Limits of Liability

The professional opinions and judgments contained in this report are based on the site conditions as they existed at the time of inspection. No warranty expressed or implied is made as to the conclusions and professional advice included in this report. This report was prepared exclusively for the use and benefit of US Ecology and Trinity Consultants. Unauthorized use of content or formatting is strictly prohibited.

Please contact the undersigned if you have any questions or require additional information.

Report By:
SPECIAL INSPECTIONS & DESIGN

Steven Fults, PE
API 653 #6122
ASNT NDT Level III #21968
AWS-CWI #05080851

Tank ID / Name:	STABILIZATION PAN TA-2B			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Mixed:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2B

ABOVEGROUND STORAGE TANK EXTERNAL INSPECTION CHECKLIST

LEGEND: ✓ = ACCEPTABLE ☒ = ITEM of CONCERN NA = NOT APPLICABLE NI = NOT INSPECTED

LABELING		COMMENTS
• Nameplate	✓	No Identification posted
• Contents and capacity	✓	Not posted
• NFPA diamond	✓	Not posted
FOUNDATION & SUPPORTS		COMMENTS
• Foundation type Ring ☐ Full Pad ☑ Saddles ☐	✓	Soil and/or rock subgrade
• Levelness and uniform support	✓	Subgrade is continuous, solid, stable
• Soil settlement around pan	✓	No measurable settlement
• Drainage away from pan	✓	Adequate drainage
• Steel leg / saddle / skid supports (bent, distorted, corroded)	✓	Containment area walls wavy from contact with backhoe
• Anchor bolts / chairs (loose, bent, corroded, missing)	✓	Gravity holds containment and pan in place
CONTAINMENT AREA Steel ☑ Concrete ☐ Trench ☐		COMMENTS
• Impervious	✓	Continuous 1/4" steel plate containment, welded joints
• Housekeeping (debris, vegetation, ponding)	✓	No debris present
INSULATION / PROTECTIVE COATINGS		COMMENTS
• Lagging / sheeting (loose, missing, damaged)	NA	Not insulated
• Caulking at penetrations and supports	NA	Not insulated
• Insulation condition (CUI, wet, missing, deteriorated)	NA	Not insulated
• Coatings (blistering, peeling, chalking, holidays)	NA	No paint, thin surface corrosion present
• Seal between bottom and foundation	✓	No seal but not needed
SHELL, BOTTOM & ROOF Carbon Steel ☑ Alloy Steel ☐		COMMENTS
• Deformation / distortions (peaking, blisters, bulges, flats)	✓	Walls and Floor and relatively flat
• Shell seam welds / evidence of leaks	✓	Welds are good quality, large in size, full length & contiguous
• Shell vertical / horizontal alignment	✓	Walls are near plumb & floor plates flat
• Deformation at wall, floor, or reinforcement	✓	No significant scars or gouges from backhoe bucket mixing
• Corrosion or thinning of shell, bottom or roof	✓	No significant corrosion, surface patina only
• Roof (slope, ponding, corrosion)	✓	Pan does not have a cover, there is a sunscreen roof 20' above
• Evidence of previous repairs	✓	1-inch plate added to west wall over bulge
MANWAYS, NOZZLES & REINFORCEMENT		COMMENTS
• Maintenance of hatches, manways, covers	NA	None
• Nozzle rigidity (deformation, expansion joints)	NA	None
• Weld condition	✓	Exterior reinforcement welds are good quality, adequate size
• Bolts or studs at flanged connections	NA	No bolted connections, joints are welded
• Gasket condition / evidence of leaks	✓	No leaks or evidence found.
• Condition of sump, piping manifolds, height gage, etc.	✓	PVC tubing and water spray nozzles above north wall
• Static ground wire	✓	No ground wire present, nor needed
• Venting (normal, emergency, pressure/vacuum)	✓	Open air
• Overfill protection (level gauge, alarm, automatic shutoff)	✓	Visual by operator
ACCESS STRUCTURE		COMMENTS
• Ladders (fasteners, welds, corrosion, brackets, rungs)	NA	Pan is 61 inches tall, step ladder used to enter
• Cages (fasteners, welds, brackets, corrosion)	NA	None
• Stairways (treads, fasteners, handrails, welds, stringers)	NA	None
• Platform (grating, clips, welds, corrosion, thinning)	NA	None
• Handrail (corrosion, welds, fasteners, stiffeners)	NA	None
• General condition of coatings (blistering, peeling, failure)	NA	None
OTHER		COMMENTS
• Nuts were tack welded to wall exteriors to be used as an ultrasonic thickness measurement monitoring locations.		
•		
•		

Tank ID / Name:	STABILIZATION PAN TA-2B			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Stored:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2B

Continment area wall plate is 30 to 32 inches tall

Stabilization pan TA-2B walls are 60 inches tall.

Overall containment area measures 166.5" x 166.5", No voids were present in visually accessible areas.
Containment area floor plate is believed to be continuous beneath the pan.

Containment area wall plate measuring 0.290 inches thick

Tank ID / Name:	STABILIZATION PAN TA-2B			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Stored:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2B

A ten-foot long 1-inch thick plate was added to the inside of the TA-2B west wall, Continuous fillet welds secure all sides of the added plate. This plate was added to cover a bulge caused by the backhoe bucket. See orange area below.

1-inch plate was added to cover bulge in original wall plate caused by a backhoe bucket.

Floor plate thickness range measured was 0.669" to 0.868". No significant pitting or general corrosion was observed.

Reinforcement plates have been added across top of walls as needed. Walls are very stable.

Weld quality was good, welds are continuous with no gaps or voids.

Tank ID / Name:	STABILIZATION PAN TA-2B			Inspector:	Steven Fults
Company:	US Ecology	Operating Temperature:	Ambient	Inspection Date:	10/9/2023
City & State:	Tulsa, OK	Product Stored:	Acids & Bases	Job #:	23-393
Shop / Field built:	Field	In-Service:	Yes	Report #:	SP-23393.2B

ULTRASONIC THICKNESS TESTING MEASUREMENT DATA

Remaining metal thickness was measured nondestructively with straight beam ultrasonic thickness testing (UTT) using a dual-element 2.25MHz transducer. The measurement ranges are shown below.

Pan TA-2B **floor plate** thickness was measured at 24 areas throughout the plate:
Thinnest measurement: 0.669", Thickest measurement: 0.868"

Pan TA-2B **wall plate** thickness was measured at 36 areas throughout the plates (added 1" plate is excluded):
Eighteen places in the **upper** 30" of wall plate
Thinnest measurement: 0.815", Thickest measurement: 0.908"
Eighteen places in the **lower** 30" of wall plate
Thinnest measurement: 0.635", Thickest measurement: 0.844"

Pan TA-2B **containment area** wall and floor plate thickness was measured at 18 areas throughout the plates:
Thinnest measurement: 0.268", Thickest measurement: 0.317"

Measurement data and visual observation show moderate product attack on the lower 30 inches of wall plate interior surface, resulting in a corrosion rate of approximately 0.025" IPY, based on a 20 year age. Given the facility operations guideline minimum allowable floor or wall plate thickness of 0.250", the lower plate will need to be replaced or reinforced in 15 years, provided mechanical impact damage is minimal and mixing chemicals are similar to past.

The west wall was reinforced by adding/welding the 1-inch steel plate to the original west wall inside face. The lower west wall original plate steel was apparently hit by the backhoe bucket and bulged outwards. Thickness of the bulged plate measured 0.348". This area was effectively covered/reinforced by the 1" plate so the bulged area is of no consequence now.

US Ecology has established UTT monitoring locations by welding nuts onto the wall plate outer face. Annual measurements should be taken and documented by a competent maintained person so the plate thickness and corrosion rate are known.

Appendix 6 – Proposed Treatment Pans Detailed Information

Unit Description

The US Ecology Tulsa, Inc. (USE Tulsa) proposed hazardous waste Treatment Pans TA-2b and TA-2c have a proposed cumulative permitted daily treatment capacity of 164,000 gallons per day based on treating one pan volume per shift for multiple shifts per day. The pans sit in similar sized primary containment liners and secondary containment concrete tanks.

No structural modifications to TA-2a are proposed. The proposed cumulative daily treatment capacity of TA-2a, TA-2b, and TA-2c becomes 176,000 gallons per day based on treating each pan volume per shift for multiple shifts per day.

Figure T-2: Modified Tank Area 2b and 2c (TA-2b) (TA-2c)

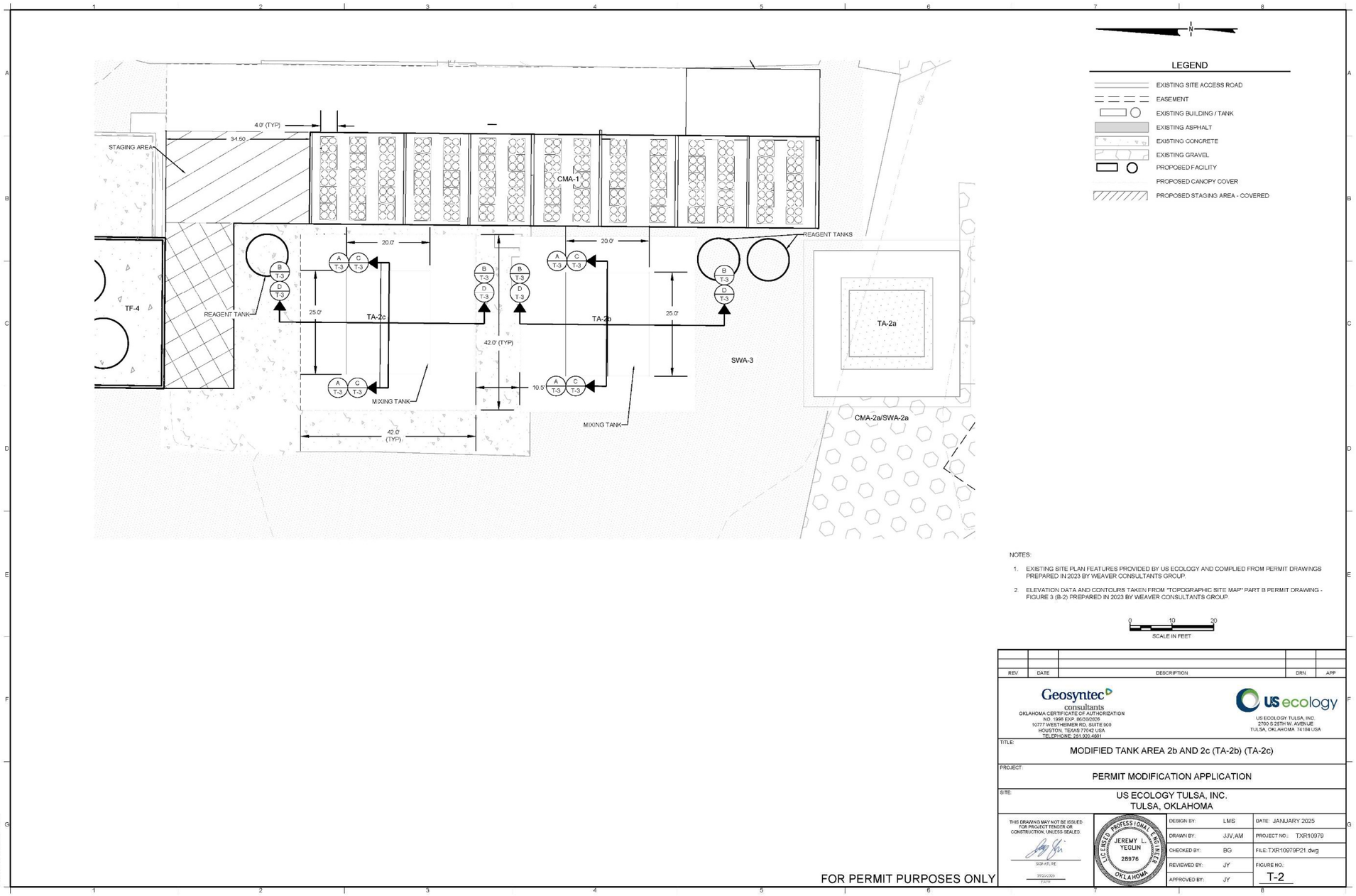


Figure T-3: TA-2 Tank Details I

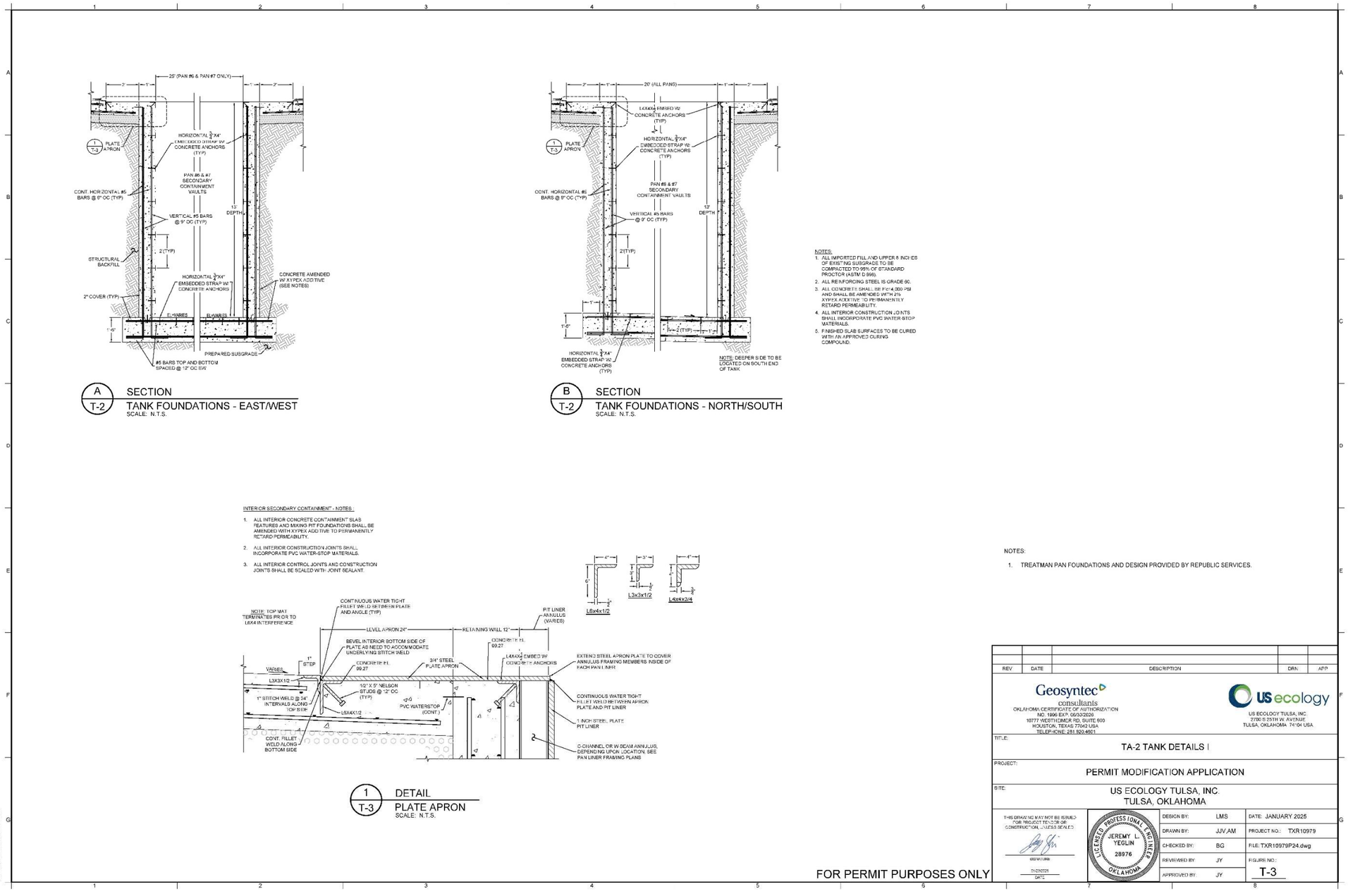
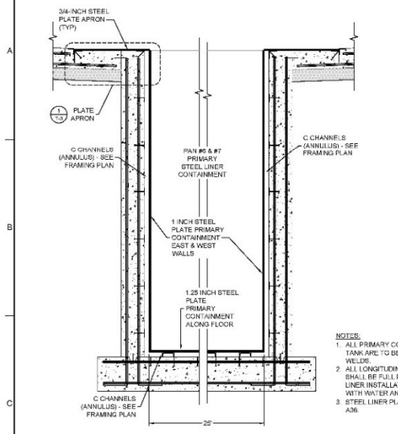
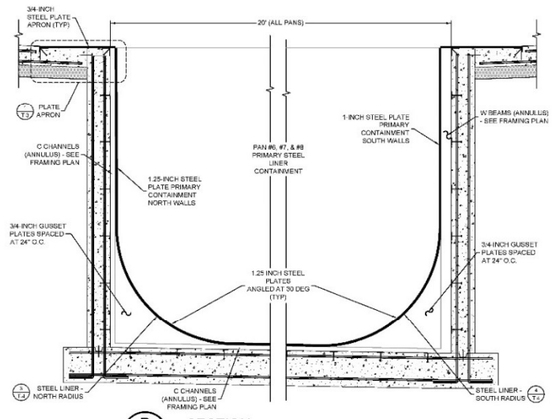


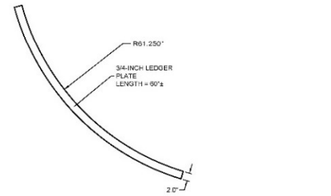
Figure T-4: TA-2 Tank Details II



C / T-2 SECTION
TANK STEEL LINER - EAST/WEST
SCALE: N.T.S.

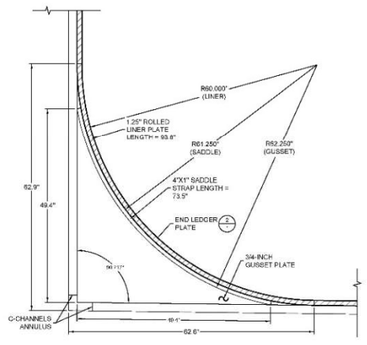


D / T-2 SECTION
TANK STEEL LINER - NORTH/SOUTH
SCALE: N.T.S.

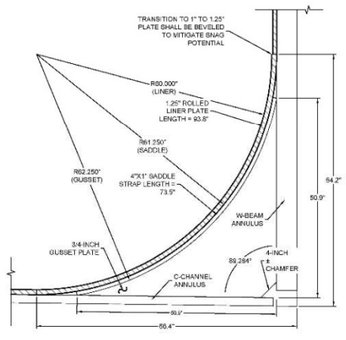


RADIUS NOTES:
1. ROLLED LINER PLATES SHALL BE WELDED TO SADDLE STRAPS USING PLUG WELDS IN ACCORDANCE WITH SPACING AND PATTERN ILLUSTRATED ON DWGS 211A & 213A. LONGITUDINAL WELDS BETWEEN ADJOINING PLATES SHALL BE IN ACCORDANCE WITH THE NOTES ON DWG 209.
2. GUSSET PLATES SHALL BE STITCH WELDED TO SADDLE STRAPS, ON BOTH SIDES. GUSSET PLATE SHALL BE STICH WELDED TO CENTERLINE OF FRAMING CHANNELS AND W-BEAMS ON BOTH SIDES. ALL STITCH WELDING SHALL BE 2-INCHES @ 6-INCHES O.C.
3. END LEDGER PLATES SHALL BE WELDED TO THE RESPECTIVE EAST OR WEST WALL LINER TO SUPPORT THE UNDERSIDE OF EACH ROLLED LINER PLATE TERMINATION. THE LOWER PORTIONS OF END LEDGER PLATES SHALL BE STITCH WELDED TO THE EAST OR WEST WALL LINER PLATES. ALL STITCH WELDING SHALL BE 2-INCHES @ 6-INCHES O.C.
4. LINER PLATES, SADDLE STRAPS, GUSSET PLATES, LEDGER PLATES SHALL CONSIST OF MILD A36.

2 / - DETAIL
END LEDGER PLATE (TYP)
SCALE: N.T.S.



3 / T-4 DETAIL
STEEL LINER - NORTH RADIUS
SCALE: N.T.S.



4 / T-4 DETAIL
STEEL LINER - SOUTH RADIUS
SCALE: N.T.S.

GENERAL NOTES:

1. TREATMAN PAN FOUNDATIONS AND DESIGN PROVIDED BY REPUBLIC SERVICES.

FOR PERMIT PURPOSES ONLY

REV	DATE	DESCRIPTION	DRN	APP

Geosyntec consultants
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 1998 EXP. 06/30/2026
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HOUSTON, TEXAS 77042 USA
TELEPHONE: 281.920.4901

US ecology
US ECOLOGY TULSA, INC.
2700 S 25TH W. AVENUE
TULSA, OKLAHOMA 74104 USA

TITLE: TA-2 TANK DETAILS II
PROJECT: PERMIT MODIFICATION APPLICATION
SITE: US ECOLOGY TULSA, INC. TULSA, OKLAHOMA

IT IS DETERMINED MAY NOT BE ISSUED FOR "ISSUED FOR CONSTRUCTION" UNLESS SEALED

SIGNATURE

DATE

LICENSED PROFESSIONAL ENGINEER JEREMY L. YEGLIN 28976 OKLAHOMA

DESIGN BY:	LMS	DATE: JANUARY 2025	
DRAWN BY:	JJV,AM	PROJECT NO.:	TXR10979
CHECKED BY:	BG	FILE:	TXR10979P24.dwg
REVIEWED BY:	JY	FIGURE NO.:	T-4
APPROVED BY:	JY		

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Appendix 7 – Permitted Hazardous Waste Tank System Table

	Tank	Maximum Capacity (Gallons)	Material of Construction	Installation/Construction Date	Dimensions of Tank	Secondary Containment Capacity (Gallons)	Waste Types
Existing	T-101	16,800	Fiberglass	7/1990	12'Dx20'H	30,350*	Liquids
	T-102	19,960	Fiberglass	6/2005	14'Dx20'H	30,350*	Liquids
	T-103	19,960	Fiberglass	6/2005	14'Dx20'H	30,350*	Liquids
	T-107	13,077	Fiberglass	Pre-2007	12'Dx18.4'H	30,350*	Liquids
	TA-2a	4,000**	Reinforced Concrete and Steel Liner Pan	2015	16'x18'x4'H	9,296	Liquids & Solids
	TA-2b	3,500**	Reinforced Concrete and Steel Liner Pan	2015	14'x14'x5'H	10,998	Liquids & Solids
Proposed	T-407	19,960	Fiberglass	N/A	12'Dx32'10.5"H***	40,512*	Liquids
	T-408	19,960	Fiberglass	N/A	12'Dx32'10.5"H***	40,512*	Liquids
	T-409	19,960	Fiberglass	N/A	12'Dx32'10.5"H***	40,512*	Liquids
	T-410	19,960	Fiberglass	N/A	12'Dx32'10.5"H***	40,512*	Liquids
	TA-2a	No structural modifications					
	TA-2b	21,250	Reinforced Concrete and Steel Liner	N/A	20'x25'x13'H	44,267	Liquids & Solids
	TA-2c	21,250	Reinforced Concrete and Steel Liner	N/A	20'x25'x13'H	44,267	Liquids & Solids

Notes:

*Total secondary containment capacity for Tank Farm 1 or Tank Farm 4.
**Tanks TA-2a & TA-2b have volume limits less than total capacity to meet secondary containment and operation requirements of 40 CFR 264.193(e), 264.194(b)(2) and 264.194(b)(3).
***Total height includes the legs supporting the tanks.

Attachment 1

RCRA Part B Permit Application

Maps and Figures

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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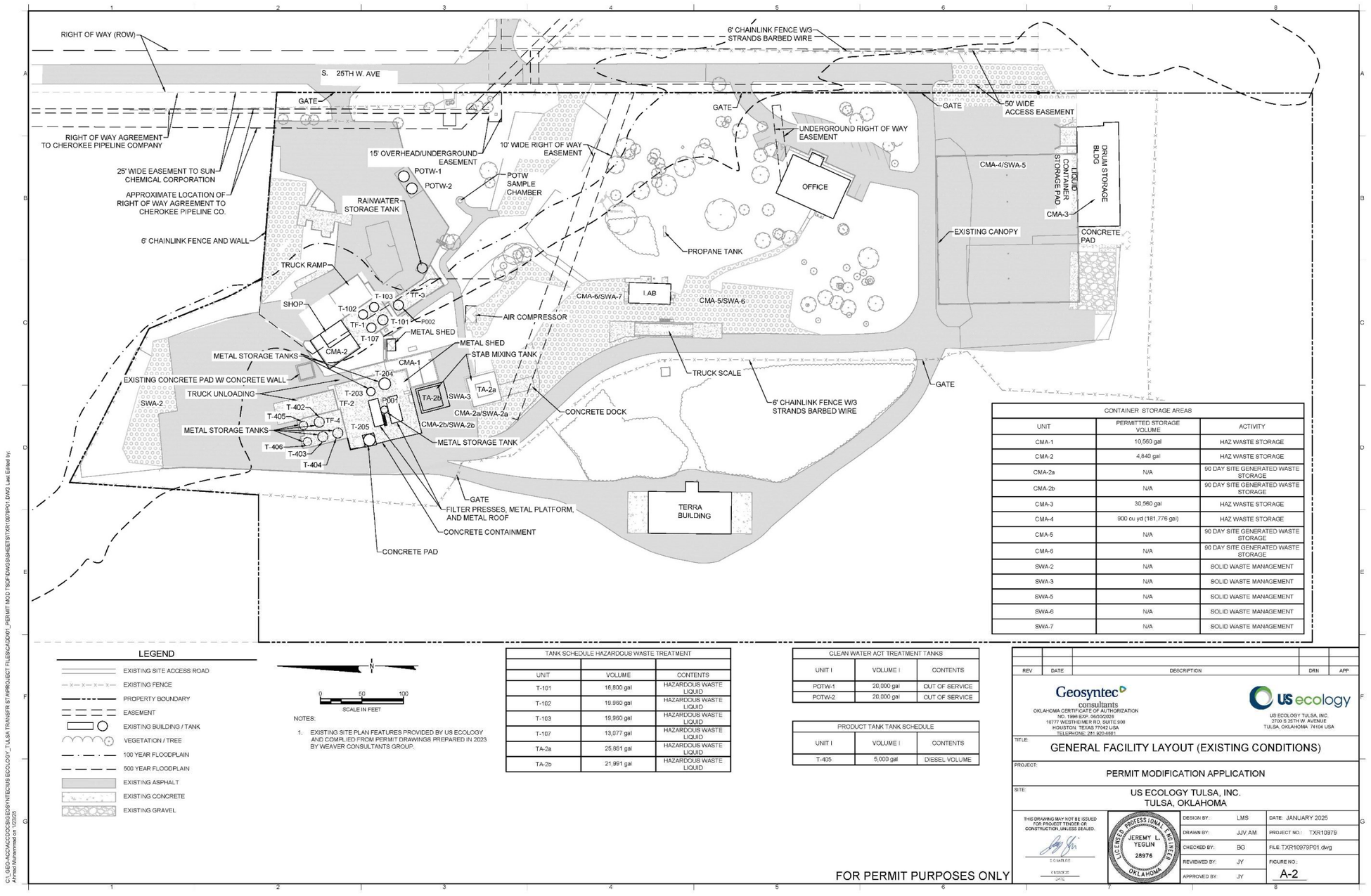
Figure 1: A-2 General Facility Layout (Existing Conditions)



CONTAINER STORAGE AREAS		
UNIT	PERMITTED STORAGE VOLUME	ACTIVITY
CMA-1	10,560 gal	HAZ WASTE STORAGE
CMA-2	4,840 gal	HAZ WASTE STORAGE
CMA-2a	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-2b	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-3	30,560 gal	HAZ WASTE STORAGE
CMA-4	900 cu yd (181,776 gal)	HAZ WASTE STORAGE
CMA-5	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-6	N/A	90 DAY SITE GENERATED WASTE STORAGE
SWA-2	N/A	SOLID WASTE MANAGEMENT
SWA-3	N/A	SOLID WASTE MANAGEMENT
SWA-5	N/A	SOLID WASTE MANAGEMENT
SWA-6	N/A	SOLID WASTE MANAGEMENT
SWA-7	N/A	SOLID WASTE MANAGEMENT

LEGEND

- EXISTING SITE ACCESS ROAD
- EXISTING FENCE
- PROPERTY BOUNDARY
- EASEMENT
- EXISTING BUILDING / TANK
- VEGETATION / TREE
- 100 YEAR FLOODPLAIN
- 500 YEAR FLOODPLAIN
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING GRAVEL

N

0 50 100
SCALE IN FEET

NOTES:

1. EXISTING SITE PLAN FEATURES PROVIDED BY US ECOLOGY AND COMPILED FROM PERMIT DRAWINGS PREPARED IN 2023 BY WEAVER CONSULTANTS GROUP.

TANK SCHEDULE HAZARDOUS WASTE TREATMENT		
UNIT	VOLUME	CONTENTS
T-101	16,800 gal	HAZARDOUS WASTE LIQUID
T-102	19,960 gal	HAZARDOUS WASTE LIQUID
T-103	19,960 gal	HAZARDOUS WASTE LIQUID
T-107	13,077 gal	HAZARDOUS WASTE LIQUID
TA-2a	25,851 gal	HAZARDOUS WASTE LIQUID
TA-2b	21,991 gal	HAZARDOUS WASTE LIQUID

CLEAN WATER ACT TREATMENT TANKS		
UNIT I	VOLUME I	CONTENTS
POTW-1	20,000 gal	OUT OF SERVICE
POTW-2	20,000 gal	OUT OF SERVICE

PRODUCT TANK TANK SCHEDULE		
UNIT I	VOLUME I	CONTENTS
T-405	5,000 gal	DIESEL VOLUME

REV	DATE	DESCRIPTION	DRN	APP

Geosyntec consultants
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 1996 EXP. 06/30/2026
10777 WESTHEIMER RD. SUITE 900
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US ECOLOGY TULSA, INC.
2700 S 25TH W. AVENUE
TULSA, OKLAHOMA 74104 USA

TITLE: GENERAL FACILITY LAYOUT (EXISTING CONDITIONS)

PROJECT: PERMIT MODIFICATION APPLICATION

SITE: US ECOLOGY TULSA, INC.
TULSA, OKLAHOMA

THIS DRAWING MAY NOT BE ISSUED FOR PROJECT TENDER OR CONSTRUCTION, UNLESS SEALED.

S.D. HARLEE
6/30/2025
DATE

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

DESIGN BY:	LMS	DATE: JANUARY 2025	
DRAWN BY:	JJV, AM	PROJECT NO.:	TXR10979
CHECKED BY:	BG	FILE:	TXR10979P01.dwg
REVIEWED BY:	JY	FIGURE NO.:	A-2
APPROVED BY:	JY		

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Figure 1a: A-2a General Facility Layout (Demolition Plan)

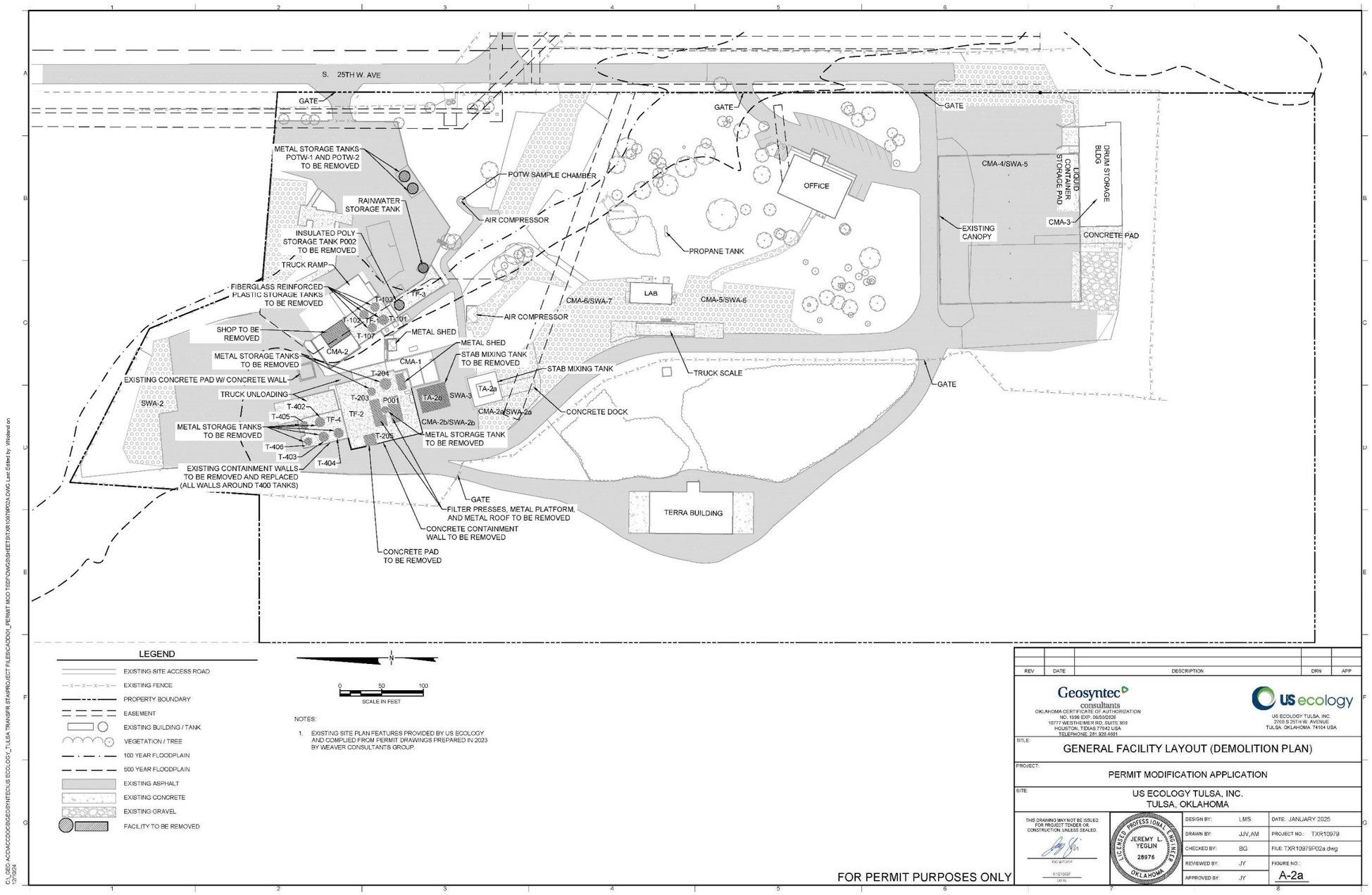
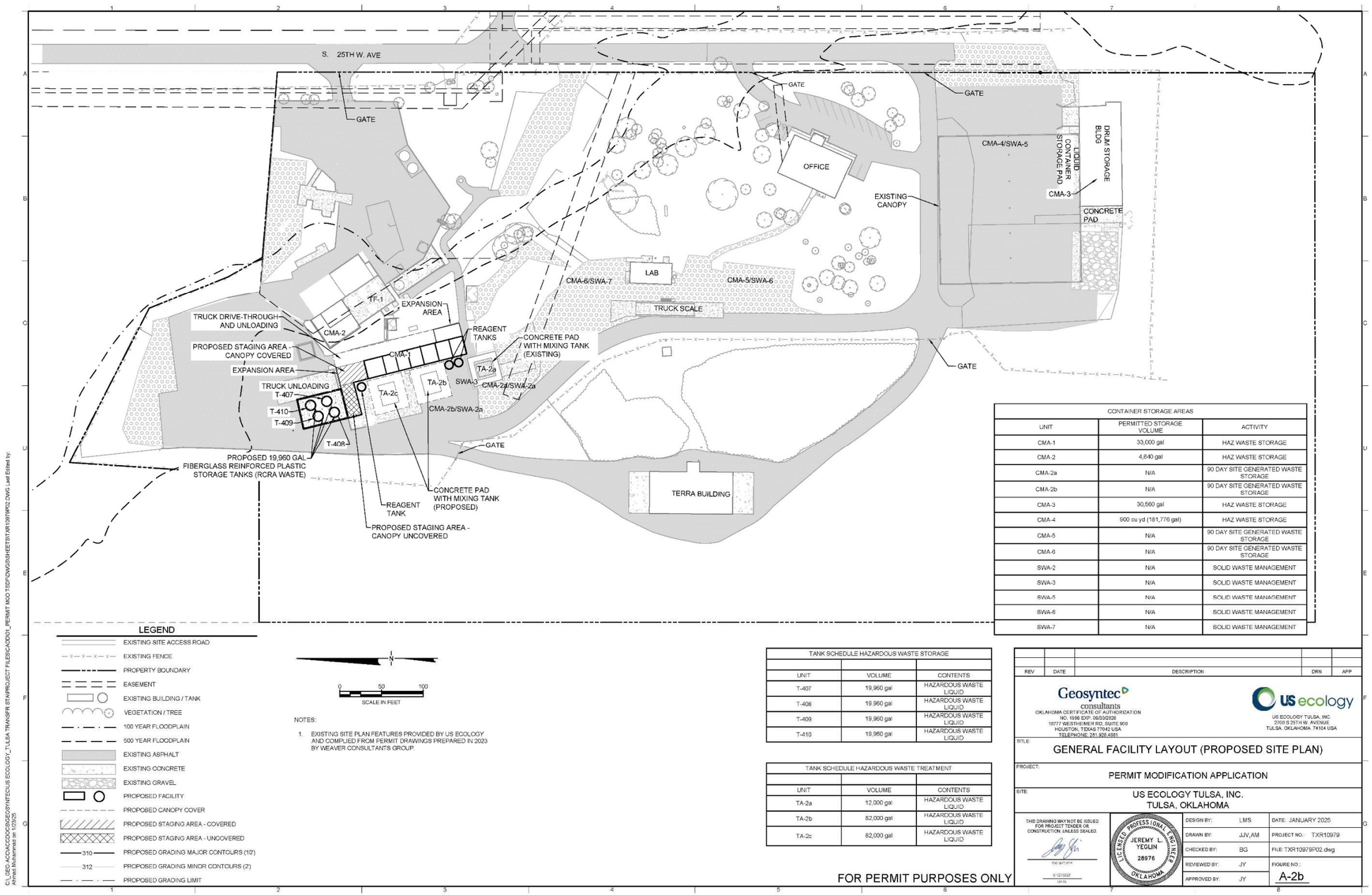


Figure 1b: A-2b General Facility Layout (Proposed Site Plan)



CONTAINER STORAGE AREAS		
UNIT	PERMITTED STORAGE VOLUME	ACTIVITY
CMA-1	33,000 gal	HAZ WASTE STORAGE
CMA-2	4,840 gal	HAZ WASTE STORAGE
CMA-2a	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-2b	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-3	30,660 gal	HAZ WASTE STORAGE
CMA-4	900 cu yd (181,776 gal)	HAZ WASTE STORAGE
CMA-5	N/A	90 DAY SITE GENERATED WASTE STORAGE
CMA-6	N/A	90 DAY SITE GENERATED WASTE STORAGE
SWA-2	N/A	SOLID WASTE MANAGEMENT
SWA-3	N/A	SOLID WASTE MANAGEMENT
SWA-5	N/A	SOLID WASTE MANAGEMENT
SWA-6	N/A	SOLID WASTE MANAGEMENT
SWA-7	N/A	SOLID WASTE MANAGEMENT

TANK SCHEDULE HAZARDOUS WASTE STORAGE		
UNIT	VOLUME	CONTENTS
T-407	19,960 gal	HAZARDOUS WASTE LIQUID
T-408	19,960 gal	HAZARDOUS WASTE LIQUID
T-409	19,960 gal	HAZARDOUS WASTE LIQUID
T-410	19,960 gal	HAZARDOUS WASTE LIQUID

TANK SCHEDULE HAZARDOUS WASTE TREATMENT		
UNIT	VOLUME	CONTENTS
TA-2a	12,000 gal	HAZARDOUS WASTE LIQUID
TA-2b	82,000 gal	HAZARDOUS WASTE LIQUID
TA-2c	82,000 gal	HAZARDOUS WASTE LIQUID

REV.	DATE	DESCRIPTION	DRN	APP

Geosyntec consultants
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US ecology
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2700 S 25TH W. AVENUE
TULSA, OKLAHOMA 74104 USA

TITLE: GENERAL FACILITY LAYOUT (PROPOSED SITE PLAN)

PROJECT: PERMIT MODIFICATION APPLICATION

SITE: US ECOLOGY TULSA, INC. TULSA, OKLAHOMA

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LICENSED PROFESSIONAL ENGINEER JEREMY L. YEGLIN 28976 OKLAHOMA

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DRAWN BY:	JJV,AM	PROJECT NO.:	TXR10979
CHECKED BY:	BG	FILE:	TXR10979P02.dwg
REVIEWED BY:	JY	FIGURE NO.:	A-2b
APPROVED BY:	JY		

C:_DED_ACCACCDOCS\DED\SYNTEC\US ECOLOGY_TULSA TRANSFER STA\PROJECT FILES\CAD\00_PERMIT MOD TS\PDWG\SHEETS\TXR10979P02.DWG Last Edited by: Ahmed.Mohammad on 1/7/2025

Figure 2: B-1-1 Wind Rose Detail

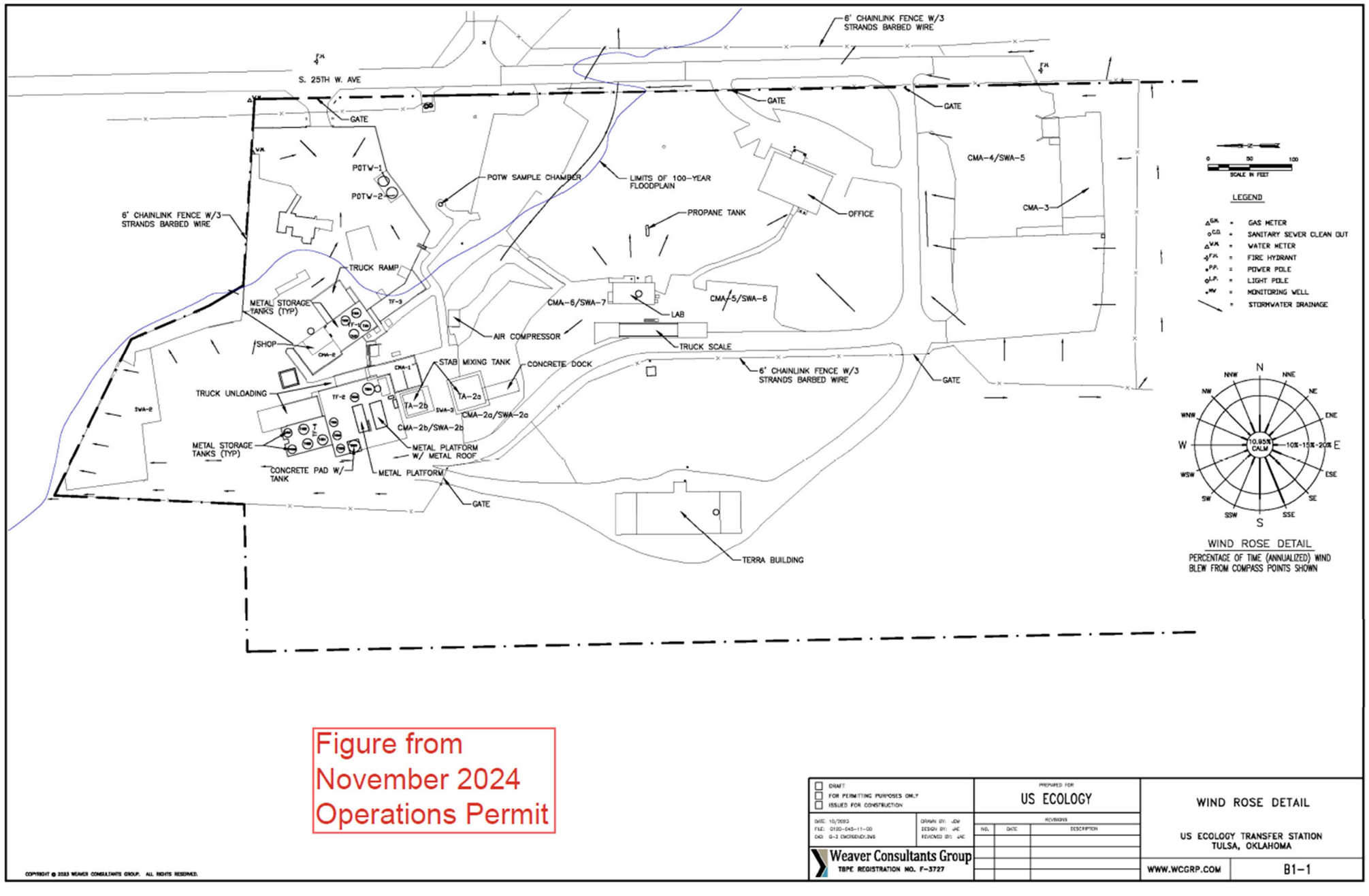


Figure from November 2024 Operations Permit

Figure 3: B-2 Topographic Map-1,000' Radius

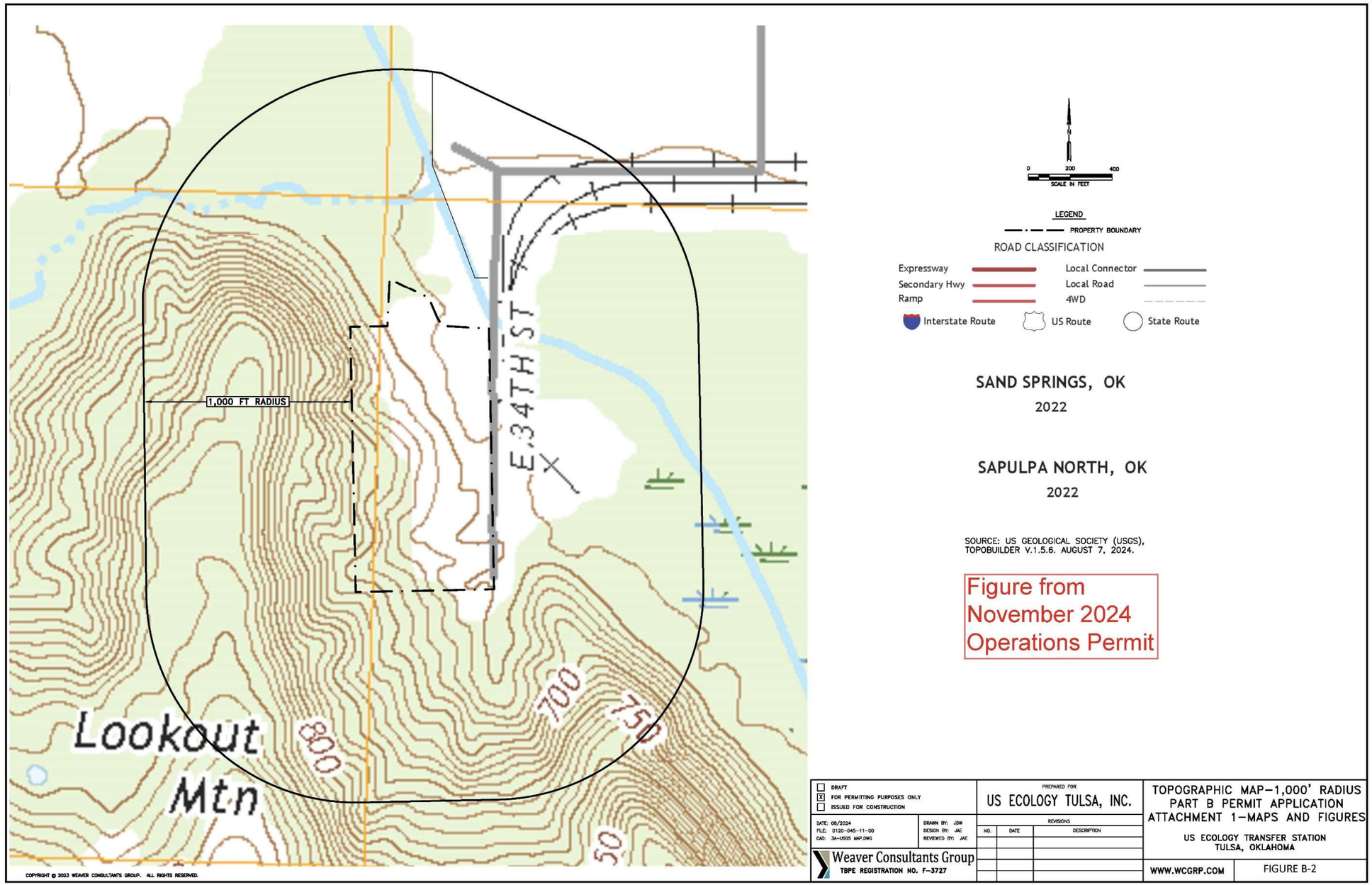


Figure 3a: B-2a Topographic Site Map

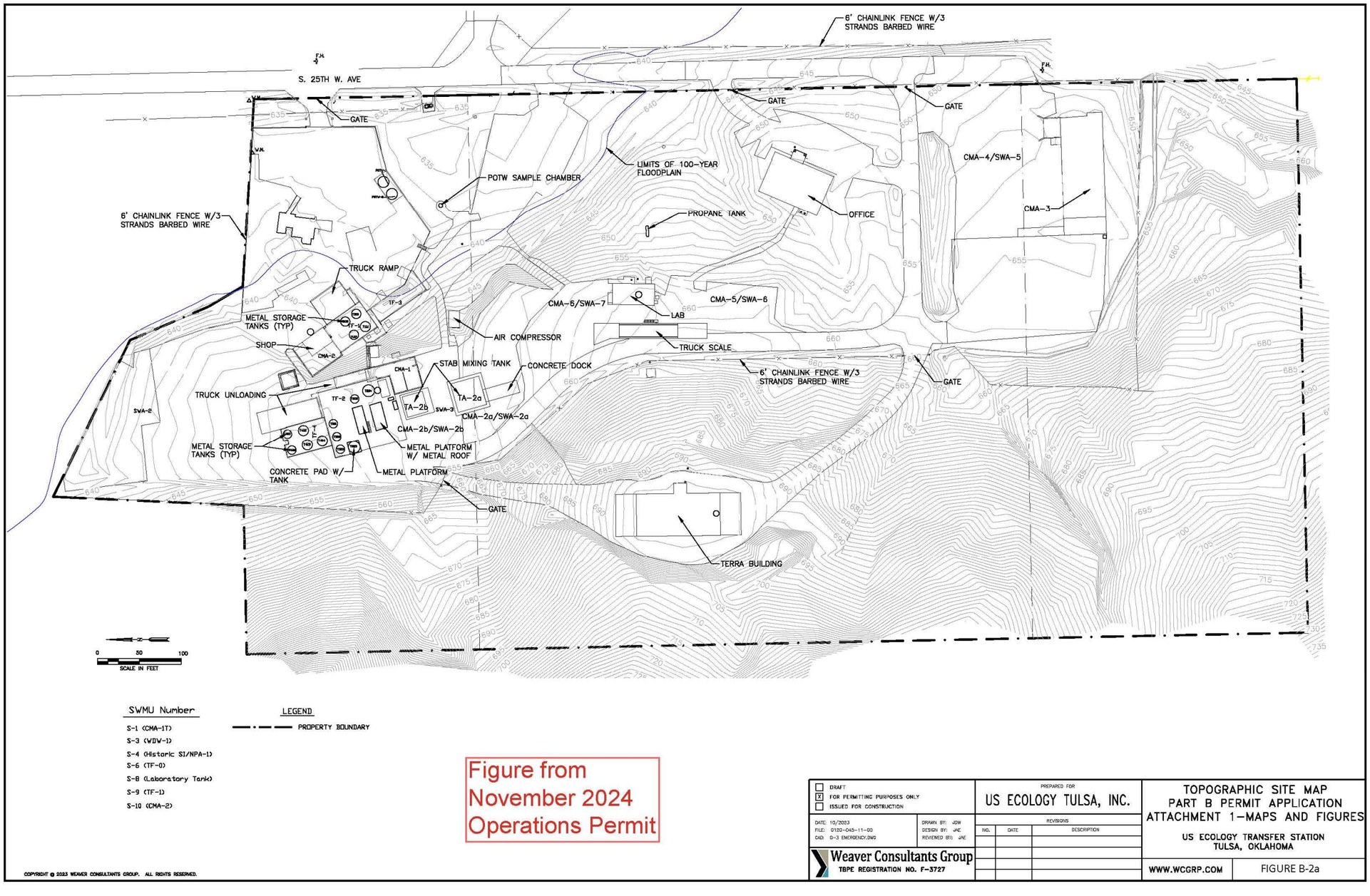


Figure 3b: B-2b Topographic Site Map (Proposed Site Plan)

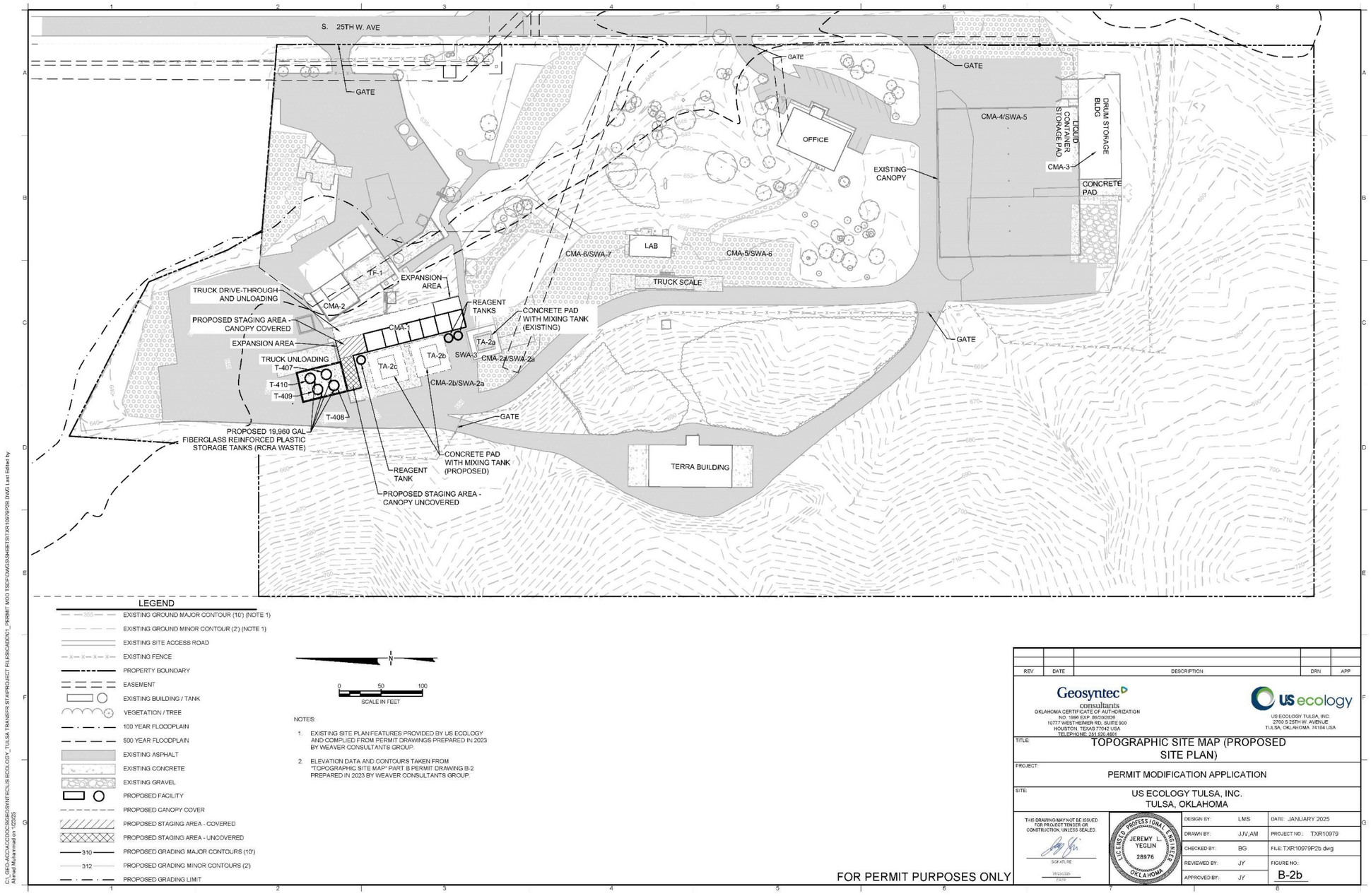


Figure 4: Reserved

Figure 5: B-6 Traffic Pattern Map

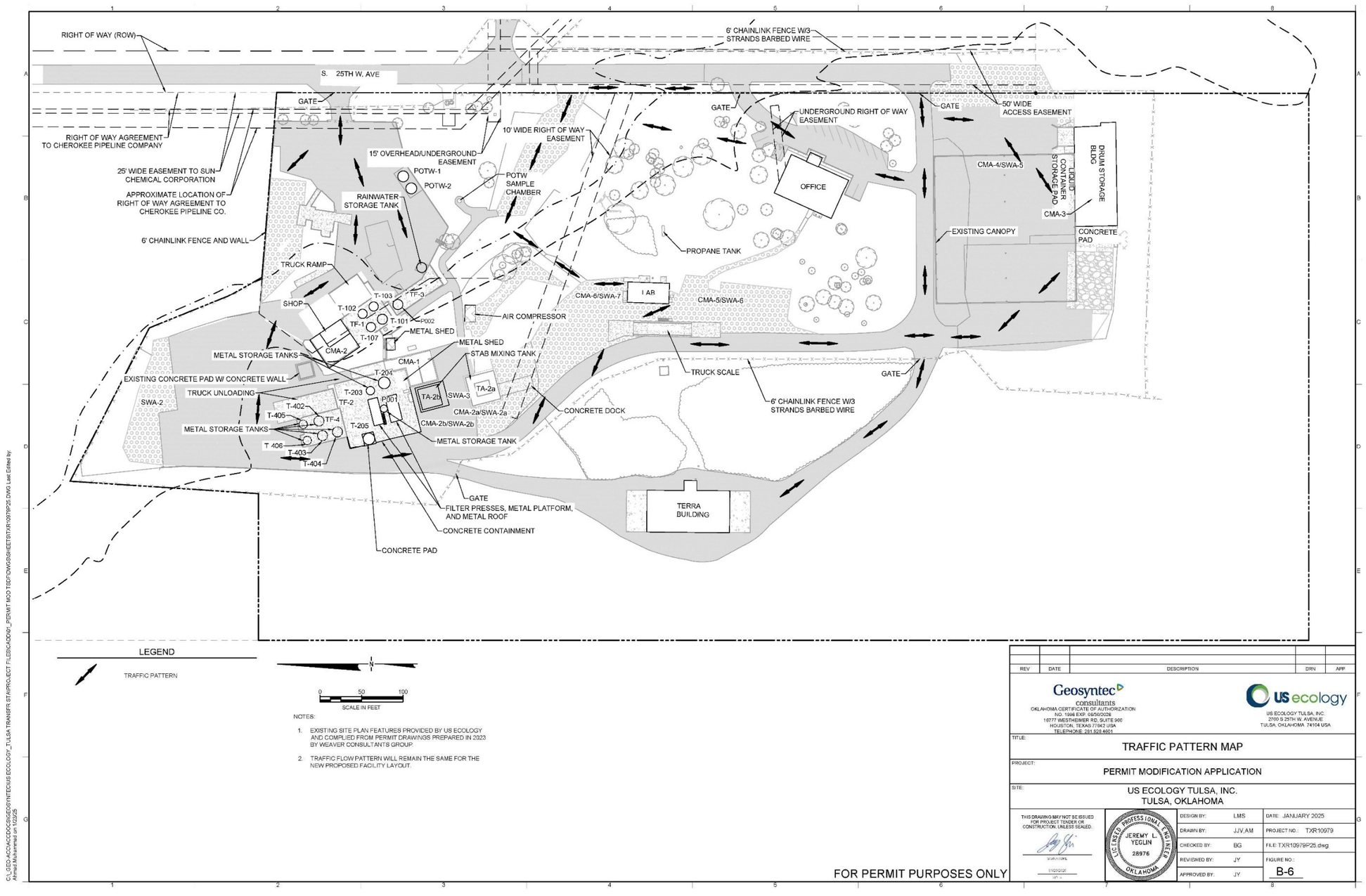


Figure 6: G-3 Emergency Response Plan

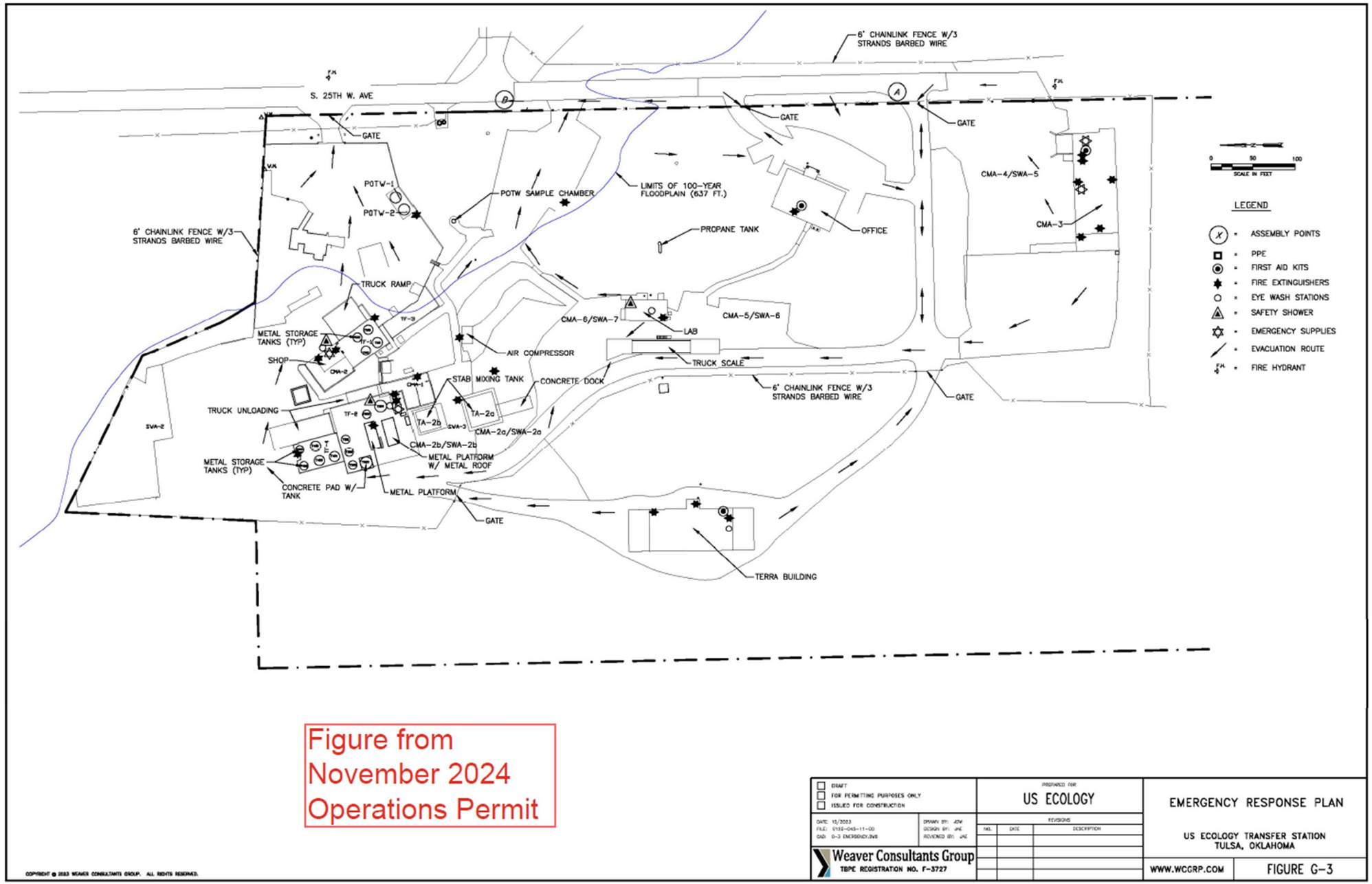


Figure from November 2024 Operations Permit

Figure 6a: G-3a Emergency Response Plan (Proposed Site Plan)

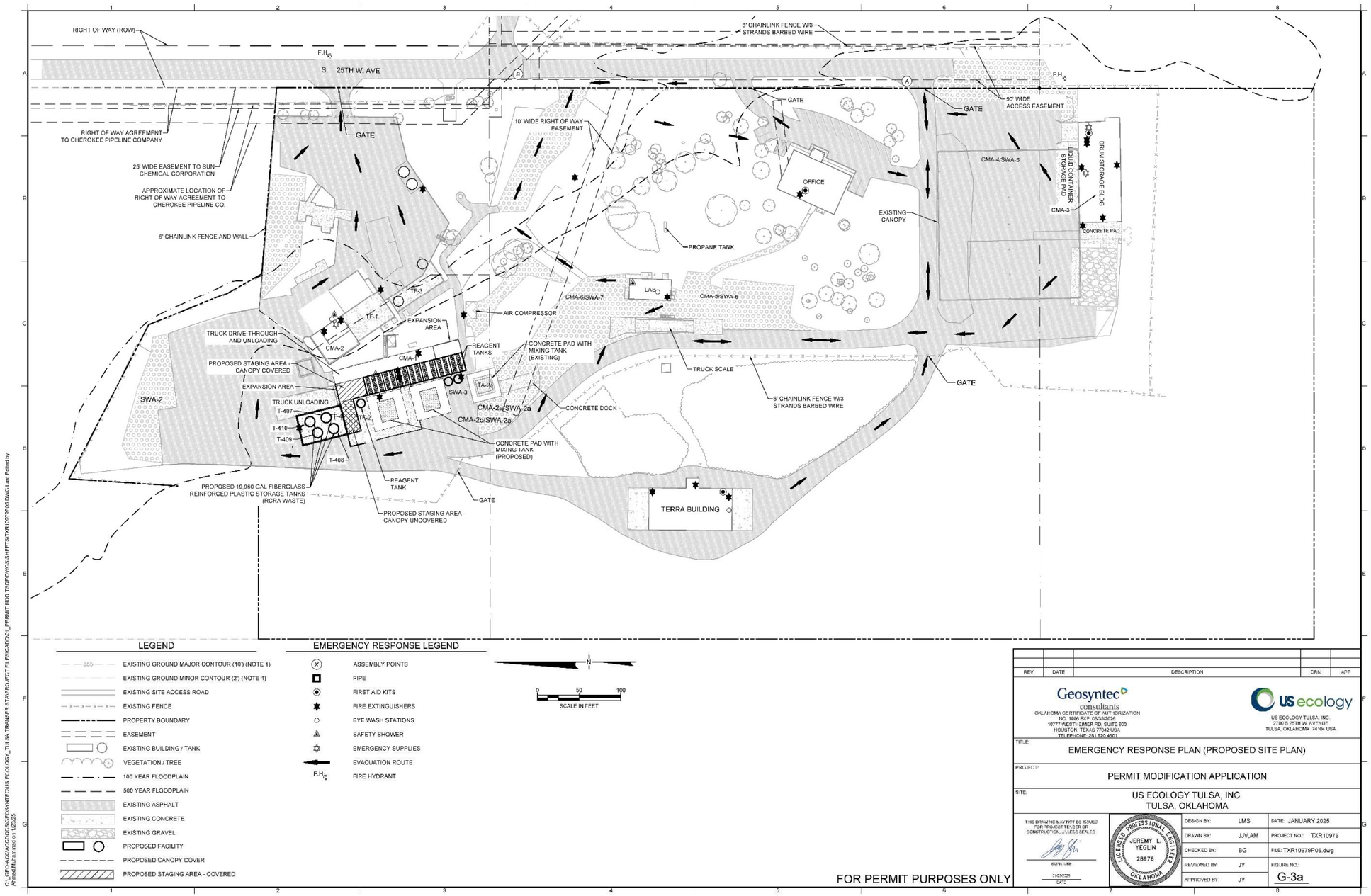
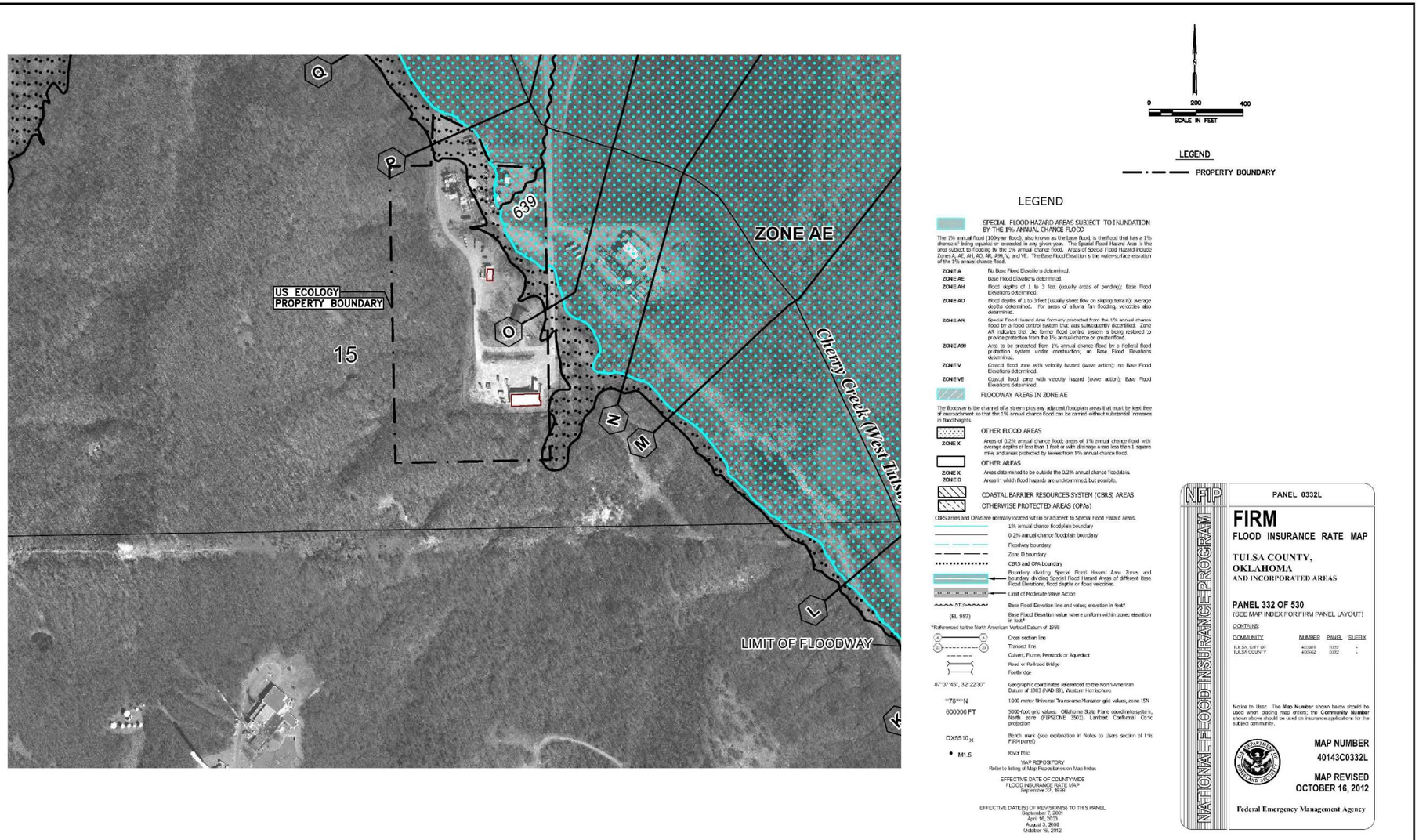


Figure 7: 100-Year Floodplain Map



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DATE: 08/2024
FILE: 0120-045-11-00
CAD: 9-FEMA.DWG
DRAWN BY: JDW
DESIGN BY: JAE
REVIEWED BY: JAE

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
US ECOLOGY TULSA, INC.

REVISIONS

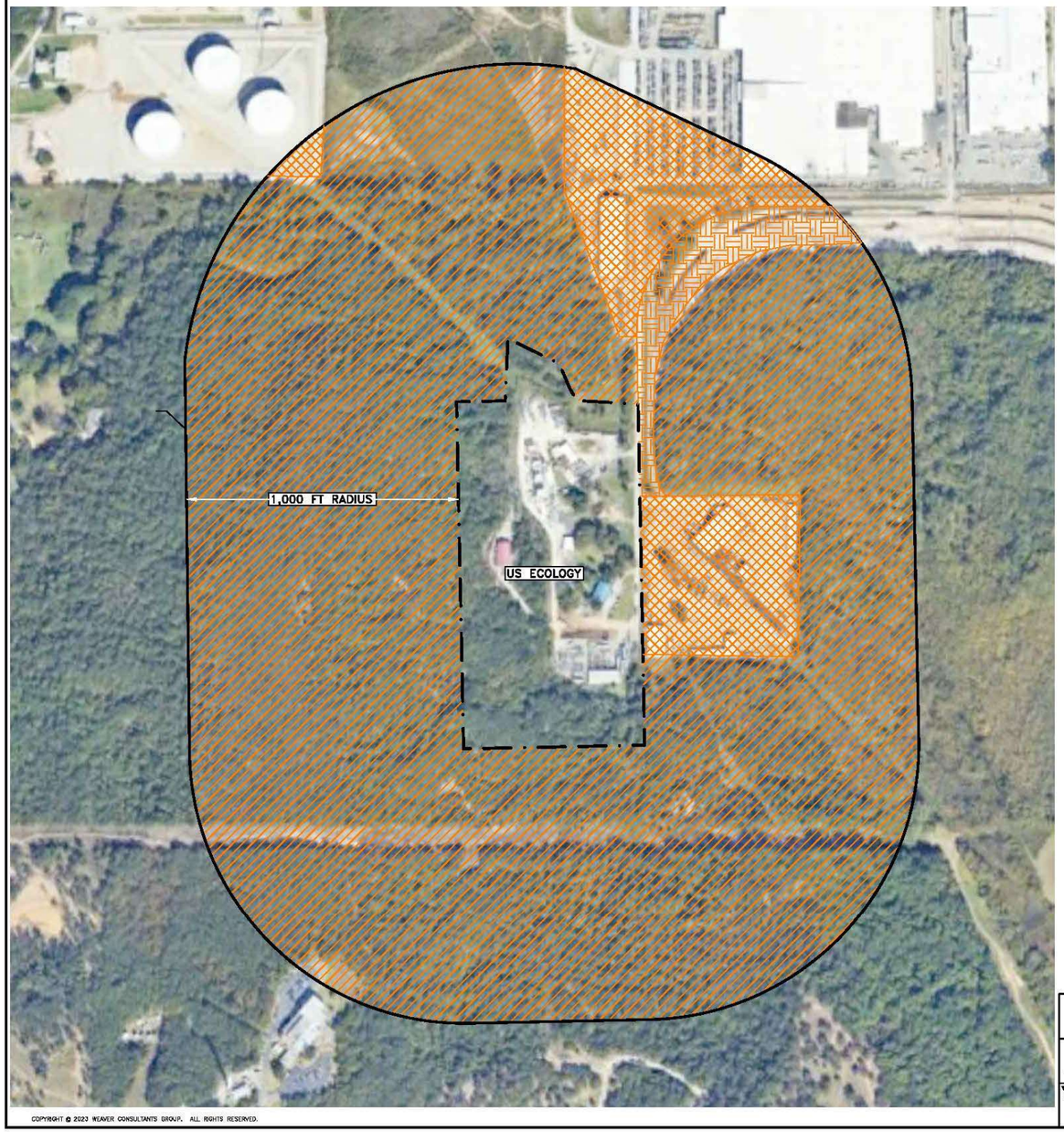
NO.	DATE	DESCRIPTION

100-YEAR FLOODPLAIN MAP(FIRM)
PART B PERMIT APPLICATION
ATTACHMENT 1-MAPS AND FIGURES
US ECOLOGY TRANSFER STATION
TULSA, OKLAHOMA

WWW.WCGRP.COM | FIGURE 7

O:\0120145\PERMIT DRAWINGS\7-FEMA MAP.dwg, 8x11ltr, 1:2

Figure 8: Surrounding Land Use



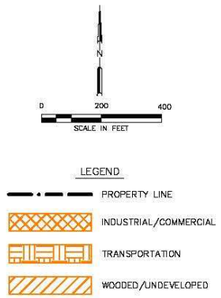


Figure from November 2024 Operations Permit

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CAD: 8-LAND USE.DWG

DRAWN BY: JDW
DESIGN BY: JAC
REVIEWED BY: JAE

Weaver Consultants Group
TBPE REGISTRATION NO. F-3727

PREPARED FOR
US ECOLOGY TULSA, INC.

REVISIONS

NO.	DATE	DESCRIPTION

SURROUNDING LAND USE MAP
PART B PERMIT APPLICATION
ATTACHMENT 1—MAPS AND FIGURES

US ECOLOGY TRANSFER STATION
TULSA, OKLAHOMA

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FIGURE 8

O:\0120\45\PERMIT DRAWINGS\8-LAND USE.dwg, jwilson, 1:2

Attachment 2

RCRA Part B Permit Application

WASTE CHARACTERISTICS AND WASTE ANALYSIS PLAN

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma

1/24/2025

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OKLAHOMA

Permit Modification Application **January 2025**

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ATTACHMENT 1 - WASTE CHARACTERISTICS AND WASTE ANALYSIS PLAN

This section describes the methods used to determine the chemical and physical nature of the solid and hazardous wastes to be handled at the US Ecology Tulsa, Inc. (USE Tulsa) facility.

1. OBTAINING CHEMICAL AND PHYSICAL ANALYSES OF WASTE STREAMS: 40 CFR 270.14(b)(2) AND 40 CFR 264.13

USE Tulsa is a commercial treatment and storage facility that accepts non-hazardous waste, listed hazardous waste, and characteristic hazardous waste for on-site management. Hazardous waste management units on-site include tanks and container storage/treatment management units. Before any hazardous waste is treated at USE Tulsa, the facility collects all the chemical and physical information required to treat, store, or dispose of solid and hazardous waste in accordance with Code of Federal Regulations (CFR), Title 40, Part 264 (40 CFR 264), and (where applicable) Part 268 (Land Disposal Restrictions) and Part 273 (Universal Waste Management), as well as the requirements of Chapters 205 (Hazardous Waste Management) and 515 (Solid Waste Management) of Title 252, Oklahoma Administrative Code (OAC), administered by the Oklahoma Department of Environmental Quality (ODEQ). Detailed information for these analyses is provided in the facility Waste Analysis Plan (WAP), provided in Section 2 of this attachment. Information may include data provided by the generator under 40 CFR Part 261, existing published or documented data on the waste, and existing published or documented data on waste generated from similar processes. Verification of information collected from the analysis may be repeated when the facility is notified or has reason to believe that the process or operation generating the hazardous wastes has changed.

Specific hazardous wastes managed on-site are identified in the facility Part A Permit Application. Analytical methods have been selected and analytical protocols developed to provide sufficient information to facilitate successful management of solid and hazardous wastes accepted for management on-site (see Figure 1 – Waste Analysis Parameters and Rationale and Figure 2 – Waste Analysis Parameters).

1a. CONTAINERIZED WASTE: 40 CFR 264.172, 264.175, AND 264.177

Compatibility of waste with containers, containment systems for container storage areas, and container sampling and analysis information is discussed in the following paragraphs.

Additional details regarding container management on-site are presented in Attachment 10 - Process Description.

Incompatible wastes, or incompatible wastes and materials will not be placed or commingled in the same container unless the precautions outlined in Section 2f are taken. Hazardous waste will not be placed in an unwashed container that previously held an incompatible waste or material. Care will be taken to store only waste that is compatible with the container material.

Liquid Resource Conservation and Recovery Act (RCRA) hazardous wastes will be stored in container storage areas equipped with secondary containment. Prior to storage of solid hazardous waste outside of containment areas, a visual inspection will be performed to confirm that the waste is not liquid therefore would not require secondary containment. All available information, including the US Department of Transportation (DOT) proper shipping name and/or the waste profile form, will be used to determine if the waste stream may contain free liquid. If there is question as to whether the waste is solid or liquid, a sample of the waste will be subjected to the Paint Filter Liquids Test (PFLT) Method 9095 in SW 846, in accordance with facility sampling protocol (for waste acceptance) and the WAP (Section 2c). Hazardous waste confirmed to be solid by visual inspection or passing the PFLT (no free liquids) may be assigned a location in a designated container storage area not equipped with secondary containment (e.g., Container Management Area 4 [CMA-4]). Temporary secondary containment setups may be used for liquid RCRA hazardous waste storage in areas without built-in secondary containment in emergency situations. For containerized liquid waste within combination packaging, the outer container is considered the secondary containment and can be stored in areas not equipped with secondary containment. The locations of container storage areas are shown in Figure 1: A-2 - General Facility Layout (Existing Conditions) and Figure 1b: A-2b – General Facility Layout (Proposed Site Plan) presented in Attachment 1 – Maps and Figures.

Standard facility sampling protocol for solid and hazardous waste acceptance requires that a minimum of ten percent (10%) of the containers in a manifested line-item shipment will be sampled. Samples from multiple containers that have been sampled from within the specific manifest line item may be combined into a single composite sample to represent that waste stream.

Standard facility sampling protocol is waived for lab pack wastes, transshipped wastes (containerized wastes that enter the facility and are shipped from the facility without any repackaging or treatment activities), discarded commercial products, and site-generated wastes [see Section 2e(iii)]. Container sampling methods are designed to provide a representative sample of the waste. Analytical methods, outlined in Sections 2a and 2b, have been chosen or developed to provide the information required for appropriate waste management. Specific sampling methods are discussed in Section 2c.

1b. WASTE IN TANK SYSTEMS: 40 CFR 270.16 AND 40 CFR 264.192(a)(2), 264.198 AND 264.199

Compatibility of wastes with tank systems, sampling, and analysis information is discussed in the following paragraphs. Additional details regarding tank management are presented in Attachment 10 - Process Description.

Reactive waste will be stored or treated in such a way that it is protected from any material or conditions that may cause the waste to become reactive. In addition, incompatible wastes, or incompatible wastes and materials will not be placed in the same tank system unless the precautions outlined in Section 2f are taken.

Hazardous waste will not be placed in a tank system that previously held an incompatible waste or material and that has not been decontaminated or can be visually inspected and confirmed to be free of contamination unless the precautions outlined in Section 2f are taken.

Bulk sampling methods are designed to provide a representative sample of the waste. Analytical methods, outlined in Sections 2a and 2b, have been chosen or developed to provide the information required for appropriate waste management. Specific sampling methods are discussed in Section 2c.

1c. WASTE IN PILES: 40 CFR 264.250(c)(1) AND (4)

USE Tulsa does not operate a hazardous waste pile unit; therefore, this section is not applicable.

1d. LANDFILLED WASTES: 40 CFR 264.300

USE Tulsa does not operate a hazardous waste landfill; therefore, this section is not applicable.

1e. WASTE INCINERATED AND WASTE USED IN PERFORMANCE TESTS: 40 CFR 264.340

USE Tulsa does not operate a hazardous waste incinerator; therefore, this section is not applicable.

1f. WASTE TO BE LAND TREATED: 40 CFR 264.270

USE Tulsa does not operate a hazardous waste land treatment facility; therefore, this section is not applicable.

2. WASTE ANALYSIS PLAN: 40 CFR 270.14(b)(3); 264.13(b) AND 264.13(c)

The wastes accepted at the USE Tulsa may include a wide variety of RCRA hazardous and non-hazardous (solid) wastes. Specific hazardous wastes managed on-site are identified in the facility Part A Permit Application.

USE Tulsa may accept any liquid or solid RCRA hazardous waste, as defined in 40 CFR 261 (and identified in the facility Part A Permit Application), for storage and/or treatment. Additionally, non-hazardous industrial wastes (not subject to regulation under 40 CFR Part 264) are managed on-site in accordance with the requirements of OAC 252:515. Additional information regarding waste analysis parameters and rationale, test methods, sampling methods, and frequency of analysis as well as additional requirements for wastes generated off-site and for ignitable, reactive, or incompatible wastes are addressed in the sections below.

2a. PARAMETERS AND RATIONALE FOR WASTE ANALYSIS: 40 CFR 264.13(b)(1)

USE Tulsa has selected physical and chemical waste analysis parameters to facilitate safe solid and hazardous waste handling practices as well as sound tank and container management practices at the facility. The waste analysis parameters selected and their rationale for selection are shown in Figure 1 - Waste Analysis Parameters and Rationale. The parameters identified in Figure 1 are those currently utilized or expected to be utilized by USE Tulsa. Additional or equivalent methods may be used at the discretion of USE Tulsa.

In addition to the parameters identified in Figure 1, the Paint Filter Liquids Test (PFLT) Method 9095 in accordance with SW-846 will be used to identify containers requiring secondary containment during storage (see Section la), as well as any additional information

available concerning the waste stream (e.g., visual inspection, US DOT proper shipping name and/or waste profile). In accordance with facility sampling protocol and this WAP, information for the hazardous wastes designated for storage in container storage areas not equipped with secondary containment will be reviewed (e.g., DOT proper shipping name and waste acceptance profile) and will be subjected to the PFLT and managed accordingly. In addition, wastes identified by EPA waste codes F020, F021, F022, F023, F026 or F027 will not be assigned a container storage location without secondary containment.

2b. TEST METHODS: 40 CFR 264.13(b)(2)

Analytical methods used by USE Tulsa are standard laboratory methods or are methods developed by USE Tulsa for waste management on-site and incorporated into this WAP. The physical and chemical waste analysis parameters for solid and hazardous waste management in tank systems, container management areas, and (where applicable) process equipment are shown in Figure 1 - Waste Analysis Parameters and Rationale. The specific analytical testing method to be used for each parameter is shown in Figure 2 - Waste Analysis Parameters.

Prior to approving a waste stream for management on-site, USE Tulsa requires that the generator provide information. A representative waste sample may be requested for examination prior to approval. Specific information regarding pre-acceptance procedures is presented in Section 2e(i). USE Tulsa personnel will evaluate the data (initial profile) provided by the generator to determine if the waste is suitable for management at the USE Tulsa facility. An independent laboratory, in-house laboratory, or combination of these may be used by the generator or USE Tulsa for sample analysis.

2c. SAMPLING METHODS: 40 CFR 264.13(b)(3); 40 CFR Part 261, Appendix I

Off-site generators are responsible for collecting representative samples of their waste streams. Original waste samples from generators may be requested prior to waste profile approvals or during waste acceptance by USE Tulsa personnel in order to gain necessary information regarding the treatment and disposition of the waste. Should the generator need instructions on representative sampling procedures, USE Tulsa may provide the recommendations as specified in 40 CFR 261, Appendix I, or an equivalent sampling method. Standard on site facility sampling protocol is described in Section 2e(iii).

2d. FREQUENCY OF ANALYSIS: 40 CFR 264.13(b)(4)

The initial waste profile analysis will be evaluated and recertified every year or if the Generator has notified USE Tulsa or USE Tulsa has reason to believe that the process that produces the waste stream has changed. If the waste has not been managed on-site during the preceding 18 months, the applicable waste approval data will be reviewed by the approvals department and forwarded to additional departments as necessary. This review will be used to determine if the information is still accurate and whether the re-approval process may be applied or if the complete waste approval process needs to be followed. If the generator cannot make this certification, a new profile must be provided for the waste analysis parameters. Examples of the initial waste profile form and the waste profile recertification form are shown, respectively, in Figure 3 – Republic Waste/Material Profile Form Example and Figure 4 – Waste Recertification Document Example.

A waste stream re-characterization will be performed when a generator notifies USE Tulsa that a process or operation generating the waste has changed. In the event USE Tulsa has reason to believe that the process or operation generating the waste has changed without notice from the generator, a re-characterization request will be made. The results will be submitted to USE Tulsa before additional waste from the re-characterized waste stream can be accepted from the generator.

If the fingerprint analysis of a waste (as outlined in Section 2e) indicates that the waste received at the facility does not agree with the waste acceptance profile described by the manifest and the waste profile, the generator may re-characterize the waste by either amending the existing profile or providing a new completed profile and appropriate analysis, as necessary.

For certain emergency response situations and generator spills, some of the initial waste analysis parameters for on-site management (Figure 1 - Waste Analysis Parameters and Rationale) may be waived. This will only occur if the generator can adequately make the hazardous waste determination of 40 CFR 262.11. All available analytical data, generator knowledge, and supporting Safety Data Sheets (SDSs) will be evaluated prior to receipt of the waste at the USE Tulsa facility. Upon arrival of the waste on-site, additional testing may be performed at the discretion of USE Tulsa.

Conditionally exempt small quantity generators may not be required to perform some of the initial waste analysis parameters identified in Figure 1 - Waste Analysis Parameters and Rationale. The waste analysis data requirements for these generators will be determined on a case-by-case basis by the General Manager or designee prior to approval.

2d(i). WASTE TREATMENT VERIFICATION

Each treated batch of mixed, one-time receipt, or inconsistent wastes must be sampled and undergo specific verification to show the treated waste meets the Land Disposal Restrictions (LDR) standards defined in 40 CFR 268.40 and/or 268.48. An example of the LDR Form is shown in Figure 5 – Land Disposal Restriction Form Example. The sample will be collected through the following process:

1. Once the treatment recipe is completed, the excavator operator will scoop a bucket of the treated waste and then sit the bucket down within the secondary containment.
2. The surface layer of the treated waste will be scraped aside using a dedicated disposable cup.
3. A scoop of treated waste will then be placed in a new, clean, high density polypropylene cup with lid.
4. The outside of the container will be cleaned then labeled with the batch number, date, time, and sampler's initials.
5. Once labeled, the sample will be delivered to the laboratory for analysis.

Consistent waste stream (waste streams that show acceptable [in reference to USE Tulsa waste rejection parameters] little to no variation in the fingerprint analysis, results, or constituents between shipments) approvals will not require individual batch analysis after treatment if the recipe has been proven to be effective. The consistent approvals recipe will be "proven" after the same recipe is applied to five (5) consecutive batches with 100% effective treatment demonstrated by laboratory analysis. The treatment efficacy will then be verified on at least 10% of the batches thereafter. The established recipe should only be applied to a subsequent identical batch (e.g., same waste stream(s) and reagent

prescription). Sample collection will follow the same process as described in the previous paragraph.

For consistent waste streams which have waste codes or Underlying Hazardous Constituents (UHC's) identified by the generator, and if those constituents of concern are not detected during laboratory analysis after five (5) separate shipments of that waste, further testing for that constituent of concern will not be required and USE Tulsa will discuss these results with the generator to discuss possible removal of the identified waste code or UHC. If the generator does not agree and wants the waste code or UHC to remain on the profile, then testing will continue.

2e. ADDITIONAL REQUIREMENTS FOR WASTES GENERATED OFF-SITE: 40 CFR 264.13(c)

2e(i). PRE-ACCEPTANCE PROTOCOL

Prior to accepting a waste at the facility, a standard form summarizing waste characteristics (profile), as shown in Figure 3 – Republic Waste/Material Profile Form Example, is required to be completed by the generator for each solid and hazardous waste stream. This form will be revised as needed to ensure all information is provided to properly review the waste profile. In addition to the profile, the generator may attach any previously performed analytical data and all applicable SDSs. The generator may use knowledge of process or laboratory analysis to complete this form. The completed profile will allow USE Tulsa to make a preliminary evaluation regarding the acceptability of the waste and will provide preliminary basic information enabling USE Tulsa to successfully manage hazardous waste in accordance with the requirements of 40 CFR Part 264. The profile also identifies wastes subject to the LDR as specified in 40 CFR Part 268.

The generator is responsible for defining waste in accordance with 40 CFR 262.11 and through knowledge of process to aid USE Tulsa in its evaluation of the applicability of 40 CFR 264 Subpart CC requirements and ensure that organic concentration is less than 500 ppm for wastes, as needed.

The generator's waste characterization may include an analysis of a representative sample of the waste, however generator knowledge of the waste may be used in some cases. The

generator, an independent laboratory, the USE Tulsa laboratory, or another US Ecology laboratory may perform the testing. Testing and analyses are performed using standard laboratory tests (US Environmental Protection Agency [EPA], ASTM, AWWA, or other approved tests) or alternate methods approved in this WAP.

USE Tulsa has developed a series of criteria to determine the acceptability of specific waste. These criteria are referred to as pre-acceptance reviews and dictate what information is needed to determine the acceptability of the waste for on-site management. At a minimum, USE Tulsa will obtain all the information required by 40 CFR §264.13(a)(1) and as outlined in 40 CFR §264.13(a)(2). If the generator has not supplied the detailed analysis, USE Tulsa may elect to gather the specified information. If the information is not provided by the generator nor has USE Tulsa gathered the information, the waste stream is not approved to be received at USE Tulsa. The applicability of Subpart CC will be evaluated during the approval process. Subpart CC constituents will be identified based on information provided by the generator and will be used in the determination of the total Subpart CC value for that waste stream. As part of the waste profile, all waste treated in TA-2a, TA-2b, or TA-2c will be certified that the volatile organic content subject to Subpart CC is less than 500 ppm. The waste stream will be flagged using an internal system to document the Subpart CC applicability and the required management. The waste stream is given a treatment code that corresponds to the facilities management methods for handling.

The pre-acceptance review is the mechanism for deciding the acceptability of a particular waste, based on the conditions or limitations of existing permits, compatibility with other wastes being managed on site, and the waste's suitability for management utilizing the process options, and off-site disposal options available. The pre-acceptance review may be carried out on-site, prior to the receipt of the initial load, or upon receipt of the initial load. USE Tulsa may obtain analytical information, as needed either during the pre-acceptance review or incoming load review to confirm the concentration of constituents of concern reasonably expected to be present in the waste. At USE Tulsa, the Approvals Coordinator or designated trained employee(s) reviews the information on the completed profile to ensure compliance with the facility's RCRA permit. The General Manager or their

designee reviews the completed profile for the ability to properly and safely treat the waste with the facility's treatment options. The General Manager or their designee may request that other qualified USE Tulsa employees review the profile as well if there are any questions or special conditions.

After the profile has been approved, all hazardous wastes except those that fall under the exemption descriptions listed in Section 2e(iii) received at USE Tulsa that are destined for on-site treatment will undergo a set of fingerprint tests at the time of receipt to confirm that the waste is consistent with the information on the profile. The tests that will be used as part of the fingerprint testing are shown in Figure 6 – Fingerprint Tests. USE Tulsa may also conduct additional analyses to aid in processing decisions.

The pre-acceptance evaluation is concluded with documentation of the decision regarding acceptability of the waste and the proposed method of management. Included within the documentation is the required notification to the generator that the waste is approved for management in accordance with the facilities permit and 40 CFR §264.12(b).

USE Tulsa technical disposal decisions are based on:

- Available waste management methods;
- Conditions or limitations of existing permits and regulations;
- Capability to manage the waste in a safe and environmentally compliant manner;
- Profile description of the process generating the waste;
- Profile description of the chemical and physical properties of the waste;
- Any applicable LDR notification per 40 CFR 268.7(a);
- Results of the onsite fingerprint analysis or third party lab analysis;
- Management's technical experience and judgment.

The personnel involved in reviewing and approving the pre-acceptance waste profiles participate in a team approach to these approvals The General Manager or their designee works with other qualified USE Tulsa employees as needed to perform the following tasks for review and approval:

- Reviews the profile to ensure that the waste can be safely stored and treated at the site, and as such, has been trained by experience and training;
- Assesses the regulatory compliance of the waste to ensure that the waste fits within the permit limits of the facility;
- Ensures that the receipt and handling of the waste is within the constraints of the facility; and
- Reviews all facets of the waste profile.

Requirements:

For each new proposed waste stream, except as noted herein, the following information will be obtained as appropriate:

- Pertinent chemical and physical data to determine waste characteristics and when appropriate, representative sampling information and certifications.
- A representative sample, if required and available (may not be required if facility management determines the pre-acceptance documentation gives sufficient information to maintain compliance with permit and operational constraints and submittal of a sample for analysis would not aid in the disposal or treatment process).

Other exceptions to sample requirements are listed in Section 2e(iii).

Profile Updates:

Profile evaluations will be performed annually from the date of the original generator certification. In addition, a waste profile evaluation will be conducted in accordance with 40 CFR 264.13(a)(3) if any of the following occurs:

- Generator notification indicates a change in the process generating the waste.
- Visual waste inspection, fingerprint, or other analysis as described in Section 2b indicates the waste received at the facility does not match the identity of the waste profile. These updates may be in the form of a profile addendum letter to the profile

from the generator requesting the change, or it may be in the form of a new profile reflecting the changes.

2e(ii). ACCEPTANCE PROTOCOL

Each shipment of waste is inspected, sampled, and analyzed as defined in this document before acceptance, except as noted in Section 2e(iii). However, wastes that will be remanifested to another treatment storage and disposal facility (TSDF) and not processed at USE Tulsa may be opened or tested, while relying on the final TSDF to identify significant discrepancies. This procedure serves first to compare the received waste identity with that determined during the pre-acceptance process and the manifested waste. Second, it serves to ensure proper disposition of the waste for treatment, storage, or disposal of the waste. Although analysis is generally only performed by properly trained and qualified USE Tulsa laboratory employees, other contractors may be utilized if needed. Non-bulk and small bulk hazardous waste shipments (e.g., drums and tote tanks) arriving on site will be unloaded into a storage location as soon as possible, at which time the sampling and waste acceptance protocol begins. Rejected waste may remain on site until the safe shipment of the waste can be arranged, providing the waste may be safely segregated and stored. If the rejected waste will be on-site more than ten (10) days since its arrival at the facility, ODEQ will be notified and provided information on the identification of the generator, all available waste information, the reason for the delay, and the expected date of shipment either to the generator or an appropriate receiving facility. ODEQ will then instruct USE Tulsa of any further actions or information needed to ensure the waste is properly handled.

USE Tulsa acceptance procedures are designed to ensure that solid and hazardous waste received at the facility matches the identity of the waste on the accompanying manifest. Upon arrival of a solid or hazardous waste at the facility, a sample of the waste is collected and fingerprint analyzed on-site as described in Section 2e(iii). Subsequently, the waste may be assigned to a specific temporary storage tank or container storage area depending on the chemical properties of the waste.

Multiple reviews are conducted of the received waste prior to acceptance to the facility. When the load arrives, the paperwork, including the hazardous waste manifest and LDR notice, are reviewed by receiving personnel or receiving laboratory personnel for full completion and meeting the permit requirements. These associates have been trained to ensure that the received manifest has been correctly and fully completed, and that if a problem is detected, will bring it to the attention of the General Manager or their designee, as needed, to resolve the issue or reject the load. Once reviewed and approved, the waste is sampled (as required) and the fingerprint tests are conducted by the laboratory personnel. USE Tulsa reserves the right to use either the site laboratory or other US Ecology site laboratories for the required analyses, or other state-certified independent commercial laboratories for any analytical methods (required or optional) during waste management activities if necessary. All laboratories will use the test methods identified and approved in the site's WAP. All results will be maintained as part of the site's Operating Record. If all test results are within the tolerances of the WAP's requirements, the laboratory personnel or appropriately trained technical personnel approves receipt of the waste and transmits that information to the operations employee who unloads the waste into the appropriate receiving area. The Laboratory Manager/Supervisor, Chemist, and/or Laboratory Technician have been trained in the analytical protocols and regulatory and permit limits of the site to ensure that all received wastes meet the requirements. Issues associated with the waste should be brought to the attention of the General Manager or their designee, as needed, for determination if the waste may be accepted.

The incoming waste loads may remain in tank trucks or on trailers until the fingerprint analyses are completed in order to determine whether to reject or accept the waste. If unloaded for sampling, containers will be managed as appropriate for the material manifested. During acceptance or staging, USE Tulsa may manage containers in areas outside of permitted container storage areas. This period is limited to the time required to approve the receipt, but in no case will last longer than the same day in which it arrived. If the waste must be held overnight prior to approval, the delivering truck will be held in a secondarily contained unloading area. Containerized wastes will be moved to appropriate

storage areas after the acceptance requirements have been met. Alternatively, the driver will be instructed to return at a later scheduled date/time.

Upon arrival of an incoming waste load to the USE Tulsa facility, the truck driver delivers the manifest and accompanying shipping papers to receiving personnel. The specific generator waste analysis profile is then obtained and reviewed.

The manifest is then inspected for completeness and correctness, with a minimum of the following information checked for hazardous wastes:

- The manifest document number;
- The generator's name, address, and EPA ID number;
- Each transporter's name and EPA ID number;
- An alternative TSDF, address, and EPA ID number (if applicable);
- DOT shipping name, hazard class, United Nations/North America (UN/NA) number, and packing group;
- The volume/weight of waste in a bulk shipment or the number and type of containers in a piece shipment;
- A signed and dated certification of the shipments contents by the generator;
- A signed and dated transporter 1 block and 2 block (if necessary); and
- For hazardous wastes, a complete LDR notification/certification form (if not already on file).

The shipment of hazardous waste is then inspected visually for the following information:

- The number and type of containers or bulk volume anticipated from manifest information;
- Shipment labels/placards in accordance with information on the manifest; and
- Other irregularities with the shipment (e.g., leaks, poor container condition, etc.).

USE Tulsa receives hazardous waste in accordance with the requirements of Subpart E of 40 CFR Part 264. When hazardous waste is received on-site, USE Tulsa will:

- Sign and date each copy of the manifest to certify that the hazardous waste described by the manifest was received;

- Note any significant discrepancies in the manifest [as defined in 40 CFR 264.72(a)] on each copy of the manifest:
  - Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are: 1) For bulk waste, variations greater than 10 percent in weight; and 2) for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. For bulk waste, the noted weight on the manifest may be converted to volume using the waste's specific gravity, if needed. This calculated volume is then compared to the actual bulk waste volume. Any volume discrepancy greater than 10% is managed as a significant discrepancy. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.
  - Upon discovering a significant discrepancy, USE Tulsa will attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations or in person). If the discrepancy is not resolved within fifteen (15) days after receiving a hazardous waste, USE Tulsa will immediately submit a letter describing the discrepancy, attempts to reconcile the discrepancy, and a copy of the manifest or shipping paper at issue to the ODEQ.
- Provide the appropriate transporter copy of the signed manifest:
  - The manifest may be signed and provided to the transporter prior to completion of confirmation analysis as specified in this WAP. When subsequent analysis identifies a manifest discrepancy, USE Tulsa will contact the generator to resolve the discrepancy.
- Send a copy of the manifest to the generator within the timeframe presented in 40 CFR 262.42.

2e(iii). SAMPLING AND ANALYSIS OF WASTE MOVEMENTS

The sampling and analysis of the incoming waste will utilize appropriate methods as specified in Section 2b of this document. The sampling procedures will depend upon the type of shipment and the type of waste. Sampling methods are discussed in Section 2c.

100% of containerized loads to be processed at USE Tulsa will have an inspection (which can include looking at the waste inside the container, moving/rotating the containers to verify the physical state by detecting free liquids via displacement, etc.), while a minimum of 10% per waste stream per shipment and manifest will be sampled. Wastes that will not be processed at Tulsa but will be remanifested to another TSDF, may not be internally inspected except as part of the 10% sampling, but rather the receiving TSDF will do the confirming inspection, and if it is not as the profile notes, the significant discrepancy will be discussed with the generator. Multiple manifests from the same generator containing the same waste stream will be treated as separate loads and will each have a 10% sampling requirement. A visual inspection form or equivalent will be completed during the visual inspection. If the appearance of the waste varies in any significant way from that listed on the profile, the waste in question may be rejected or sampled and analyzed before further handling. Sampling and fingerprint analysis for bulk loads routinely received in volumes of >5 loads per month may be reduced to 20%. Standard facility waste acceptance protocol is waived for lab pack wastes, transshipped wastes, discarded commercial products, and site-generated wastes. Acceptance protocols for these wastes are discussed below.

- Lab pack wastes - The packing list arriving with lab packs will be compared to the pre-acceptance packing list. Discrepancies will be resolved prior to acceptance.
- Transshipped wastes - Waste acceptance for transshipped wastes will consist of verification of manifest information, container count, and container labels. In some cases, USE Tulsa may sample transshipped wastes (e.g., prior to shipment to an affiliated facility or if USE Tulsa has concerns regarding the identity of the waste).
- Discarded commercial products - Generator "knowledge of process" including applicable SDSs provide adequate characterization of waste commercial products.

- Site generated wastes - Site generated wastes include used personal protective equipment, process residuals, and incidental wastes. Waste acceptance for site-generated wastes is not required. "Knowledge of process" or profile information corresponding to processed waste streams will adequately characterize these wastes for proper management. Analysis of the waste may be conducted at the discretion of USE Tulsa.

In addition, USE Tulsa may waive on-site sampling requirements where pre-acceptance evaluations coupled with visual inspections or if any of the following conditions exist:

- A sample cannot be reasonably obtained, such as filter cartridges, tank cleanout sludge (prior to cleanout), large, contaminated pieces, or debris
- Waste contained in a lab pack or combination packaging. “Combination packaging” is defined in 49 CFR 171.8 as “…one or more inner packagings secured in a non-bulk outer packaging and is subject to DOT requirements of 49 CFR part 173.
- Commercial products or chemicals, off-specification, outdated, unused, contaminated, or banned. These products are typically supported by an SDS.
- Empty containers of waste material, commercial products or chemicals, including empty containers which may contain residues. A container shall be determined empty according to the criteria specified in 40 CFR 261.7.
- Residue and debris from the cleanup of spills or releases of chemical substances, previously approved wastes, commercial products, or a waste which would otherwise qualify as an exception.
- Wastes that are easily identifiable through an inspection process. Examples may include cathode tubes, batteries, fluorescent light tubes, filters and filter cartridges, wire or tubing, paper products, metals sheeting and parts, crushed glass, computer parts, and other debris.
- Demolition wastes. This includes wastes from the dismantling or demolition of plants, facilities, or industrial equipment contaminated with chemicals from the process.
- USE Tulsa site-generated wastes.

- Household hazardous waste (HHW), pesticides, waste from small quantity generators and or small volume waste streams (<100 tons per year). For these exceptions, the generator will supply USE Tulsa with sufficient chemical and physical characteristics information for the proper management of the waste.
- Controlled substances regulated by government agencies including drugs and/or materials from clandestine labs.
- Wastes from remediation projects in which the waste characterization is known through a sampling plan approved by a federal or state agency.
- Debris as defined in 40 CFR §268.2. These materials will be visually inspected prior to acceptance in order to ensure the waste meets the definition of debris.
- Contaminated personal protective equipment (PPE).
- Aerosol cans.
- Materials not amenable to sampling such as structural steel, tanks, pipe, cement, glass, empty drums, machinery. Equipment, manufactured items, monolithic materials, and others may be managed by USE Tulsa which do not allow for normal sampling procedures. These materials will be managed on a case-by-case basis.

In these cases, the shipment will be inspected for conformance with manifest and pre-acceptance documentation as previously described.

Liquid in containers will be sampled with a column liquid waste sampler, also called a coliwasa (or other suitable method). Solids and sludges in containers will be grab-sampled with a trier (or other suitable method). If standard facility sampling techniques do not provide a representative sample for analysis, an alternate method will be used. The USE Tulsa laboratory has the equipment, procedures, and training to complete all of the required fingerprint testing, but off-site laboratories may be used at the discretion of USE Tulsa.

For incoming bulk liquid waste in tank trucks, the representative sampling device used by USE Tulsa will be a coliwasa (or other suitable method). A grab sample will be collected through the dome hatch on top of the truck trailer. An alternate sampling procedure may be selected (if deemed necessary) to obtain a representative sample, i.e., for safety reasons

or when the waste is not of homogeneous composition. Off-site laboratories may be used at the discretion of USE Tulsa.

The analyses conducted on-site are for selected analytical (fingerprint) parameters. Fingerprint parameters are selected to support the identification of wastes received at the facility. These parameters are normally a subset of the initial waste analysis information (profile) that generators have provided to USE Tulsa during pre-acceptance procedures. The analyses performed on a waste will be selected to provide adequate information to provide confirmation of waste identity, facilitate sound waste management practices on-site, and determine applicability of LDR requirements for appropriate hazardous waste disposal. A standard set of fingerprint analyses are generally conducted on the wastes, depending on the type of waste that it is. The General Manager or their designee selects the tests that are required for each waste stream and may elect to require additional tests based on the information included in the waste profile or determined from review of the initial receipt information.

The results of the on-site fingerprint analysis are maintained in the operating record and the results are compared to the initial waste analysis data. If the fingerprint analysis results are within acceptance tolerances, the waste received at the facility will be identified as the solid or hazardous waste specified on the accompanying manifest, and therefore, acceptable for management.

Based on the results of the fingerprint tests, each waste stream is directed to an appropriate storage area. Bulk liquid wastes can be stored in tank farm 1 (TF-1), offloaded into treatment tanks, or pumped into containers. It is noted that TF-1 is proposed for closure and will be replaced by tank farm TF-4 after it is modified to receive hazardous waste. Non-bulk (e.g., drums) and small-bulk (e.g., tote tank) containerized wastes are currently generally unloaded into container management area 3 (CMA-3) which has the ability to segregate incompatible wastes into separate cells. Separate cells are available for ignitable waste, oxidizers, acids, and bases. CMA-1 is proposed for expansion with additional storage bays for containerized waste. After this occurs, containerized waste will be unloaded into both CMA-3 and CMA-1.

Containerized waste will be segregated according to the DOT shipping hazard class information on each container's label and in compliance with 40 CFR Part 264, Appendix V. Wastes that are received and proven to be non-hazardous wastes and waste in combination packaging may be received into and stored in the other waste management areas of the facility designated for such operations.

Waste variability may be attributed to waste loading procedures or other factors. Loading onto tank trucks may mix the waste and may incorporate some solids from generator storage devices. Examples of anticipated waste variability could be the result of any of the following:

- differences due to temperature;
- precipitation or absorption of constituents after sampling for waste analysis data due to varying length of storage time before management;
- sedimentation of solids during prolonged storage times or during transportation to the USE Tulsa facility.

Analytical results of the sample taken at the USE Tulsa facility for fingerprinting may differ somewhat from the waste analysis data provided by the generator (i.e., some range is anticipated for the results of analytical procedures).

Accepted tolerances for acceptance criteria are as follows:

- Physical state of sample — Anticipated physical state must be within tolerance limits from value stated on waste profile.
- Flash Point – The fingerprint analysis determines if the flash point is equal to or greater than 140 degrees F, or less than 140 degrees F. Unexpected flash point determination resulting in a change in characterization status is considered out of the tolerance limit.
- pH – If the fingerprint analysis indicates that a characteristic or segregation determination must be changed from what is listed on the waste profile based on pH, the waste is out of tolerance limits.

If any fingerprint parameter falls outside the accepted tolerances, it may be necessary for a second sample to be taken and the analysis repeated. Should the second sample of the

fingerprint parameters fall outside the accepted tolerances, the generator will be contacted and advised that the waste may either be re-characterized or that it will be rejected (see Section 2e(ii) for procedures applicable to significant manifest discrepancies). Fingerprint discrepancies could require USE Tulsa personnel to verify the container has been properly labeled by the generator during preparation of the waste for transport. If fingerprint analysis indicates results within specified acceptance tolerance for an alternate approved waste stream, the waste will be accepted and appropriate waste names and numbers will be changed on the manifest (with approval from the generator).

2e(iv). SITE MANAGEMENT

Site generated wastes include wastes generated during site processing or other management practices, contaminated PPE, and clean up residuals from incidental spills.

Upon storing waste in tanks, solid and hazardous waste may be generated by the settling of suspended solids in the bottoms of tanks. Solid and hazardous waste may be generated as solids are filtered from liquids or during other types of on-site processes. Generated solids are accumulated in containers on-site. Knowledge of process (including waste stream history) or testing may be used to determine appropriate management practices for these wastes. If a site-generated waste is determined to be hazardous, the waste will be managed in accordance with state and federal regulations.

USE Tulsa may receive and treat characteristic hazardous waste from off-site generators to meet treatment standards in accordance with Subpart D of 40 CFR Part 268. USE Tulsa may also treat characteristic site-generated hazardous wastes to meet treatment standards in accordance with Subpart D of 40 CFR Part 268. For each shipment of such waste to a subtitle D facility, USE Tulsa will prepare documentation in accordance with 40 CFR 268.9(d). This WAP describes the procedures developed by USE Tulsa to comply with the requirements of 40 CFR 268.7(a)(1) through (a)(10). The General Manager or designee approves each treatment batch to ensure that the wastes meet the applicable disposal requirements, including standards for the bulking of liquid wastes or fuels blending off site, or shipment to an off-site disposal facility for further waste management not available at USE Tulsa.

2e(iv)1. Waste Prohibited from Treatment

Current technologies and regulations prevent treatment of certain types of waste at USE Tulsa. However, these waste codes may be stored, but not treated. These prohibited waste types include:

- D001 ignitable waste;
- Waste that carries F, K, or U codes*; (with exception of material with cyanide containing waste that is amenable to alkaline chlorination)*;
- Waste that carries P codes (with exception of material with cyanide containing waste that is amenable to alkaline chlorination)*; and
- Waste prohibited from land disposal as listed in 40 CFR 268 Subpart C.

*Subject to change as updated treatment capabilities become available. If updated treatment capabilities become available, USE Tulsa will initiate the appropriate permit modification process with ODEQ.

2f. ADDITIONAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES: 40 CFR 264.13(b)(6); 40 CFR 264.17

USE Tulsa may handle ignitable wastes, as defined under 40 CFR 261.21(a)(1). After testing, waste streams designated as ignitable may not exhibit the characteristic of ignitability in some shipments and if so, will be managed appropriately. USE Tulsa will manage ignitable and reactive waste in accordance with the following procedures. Incompatible wastes, or incompatible wastes and materials will not be placed in the same container unless precautions are taken to prevent reactions that could:

- Generate extreme heat or pressure, fire or explosions, or violent reactions
- Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment
- Produce uncontrolled ignitable fumes or gases in sufficient quantities to pose a risk of fire or explosions
- Damage the structural integrity of the device or facility
- Through other like means threaten human health or the environment.

Ignitable wastes are stored in closed containers in order to prevent accidental ignition. Reactive wastes are stored in closed containers or tanks in order to prevent accidental reaction. Incompatible wastes are separated and ignitable/reactive wastes are protected from sources of ignition or reaction. Activities that would produce open flames, hot surfaces, frictional heat, sparks, spontaneous ignition or radiant heat will not occur in the vicinity of ignitable wastes.

As a safeguard for handling ignitable and reactive wastes, smoking is not allowed within the inner fence-line of the facility (except in designated areas). Signs are posted at the main entrance to the facility stating, "No Smoking Beyond This Point". Prior to co-mingling wastes in storage tanks or tankers, USE Tulsa operations personnel will use existing waste analysis information provided by the generator, and/or published literature to determine if there is a potential danger in mixing incompatible wastes. The primary sources of published literature used for reference include 40 CFR 264 Appendix V, The Merck Index 3rd Edition, and The Rapid Guide to Hazardous Chemicals in the Workplace (Sax and Lewis, 1st Edition).

Potentially incompatible wastes may be bench tested in the on-site laboratory. Since a portion of each waste sample is retained during the initial sampling from incoming trucks, proportional amounts of different wastes to be co-mingled may be mixed and observed for incompatibility.

3. WASTE ANALYSIS PLAN AMENDMENT FOR WASTES SUBJECT TO THE LAND DISPOSAL RESTRICTIONS: 40 CFR 268 SUBPART B

All solid and hazardous wastes accepted for management on-site will be subject to applicable requirements of this WAP. The USE Tulsa facility does not operate any hazardous or solid waste land disposal unit.

3a. WASTE CHARACTERISTICS

Analytical or "knowledge of process" data will be required from the generator for each waste managed at the USE Tulsa facility to identify restricted waste in accordance with 40 CFR 268. LDR information (if applicable) for all applicable hazardous waste managed at the USE Tulsa facility that is not otherwise exempted will be maintained in the operating record.

4. RECORDKEEPING REQUIREMENTS

The following records will be maintained in the facility operating record for three (3) years unless noted:

- Information gathered in accordance with this WAP (ex: fingerprint analysis results)
- Laboratory results performed for waste analysis
- Manifests

----------END OF ATTACHMENT----------

Figure 1

WASTE ANALYSIS PARAMETERS

AND RATIONALE

PARAMETER	RATIONALE FOR SELECTION
Color	Waste verification
Physical state, appearance	Waste verification
Paint Filter	Waste verification
Temperature	Identify waste streams that need to cool before unloading
pH	Waste verification, storage selection, and verification of USE Tulsa treatment efficacy
Oxidizers	Waste verification, storage selection, and verification of USE Tulsa treatment efficacy
Normality	Waste verification of acid/alkaline content
Specific gravity	Waste verification
Flash Point	Waste verification, storage selection, and verification of USE Tulsa treatment efficacy
TOC	Verification of LDR treatability subcategory for D001 waste
Sulfide screen	Verification of potentially reactive sulfide waste and to aid in storage area selection
Cyanide screen	Verification of potentially reactive cyanide waste and aid in storage area selection
Reactive cyanides	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Reactive sulfides	Verification of LDR treatment standards and USE Tulsa treatment efficacy
TCLP	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Arsenic	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Barium	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Beryllium	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Cadmium	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Chromium	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Lead	Verification of LDR treatment standards and USE Tulsa treatment efficacy

Figure 1

WASTE ANALYSIS PARAMETERS

AND RATIONALE

PARAMETER	RATIONALE FOR SELECTION
Mercury	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Selenium	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Silver	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Antimony	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Thallium	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Nickel	Verification of LDR treatment standards and USE Tulsa treatment efficacy
Percent solids	Waste verification and element of stabilization formulation
Heat of combustion	Waste verification and confirmation of acceptability for off-site fuel
Halogen	Waste verification and/or verification of LDR treatment standards, confirmation of acceptability for off-site fuel
Percent water	Confirmation of acceptability for off-site fuel
Total VOCs	Waste Verification
Total Semi-VOCs	Waste Verification

*Selection of applicable analysis is dependent of waste characteristics and method of waste management on-site. See Figure 2, Waste Analysis Parameters used to identify methods performed on all waste streams.

Figure 2

WASTE ANALYSIS PARAMETERS

PARAMETERS	ANALYTICAL METHODS	PROTOCOL
Color	SM 2120	All waste streams
Physical state, appearance	ASTM D4979-08	All waste streams
Paint Filter	SW-846 9095B	Treated residuals
Temperature	SM 2550	Optional analysis
pH	SM 4500-H+B or SW-846 9040C, 9045D or 9041A	Aqueous waste streams
Normality	USE Tulsa protocol	Optional analysis
Oxidizers	ASTM D4981-19	All corrosive waste streams
Specific Gravity	ASTM D5057-17	All liquid, bulk waste streams
Flash point	ASTM D3278-96 or SW-846 1010B	Optional analysis
TOC	SW-846 9060A, EPA or SM 5310	Optional analysis
Sulfide screen	Lead Acetate Test Strips	Optional analysis
Cyanide screen	Cyanide Millipore Sigma QuantoFix	Optional analysis
Reactive cyanide	SW-846 9010C	Optional analysis
Reactive sulfide	SW-846 9030B, 9034	Optional analysis
TCLP	SW-846 1311	Optional analysis
Arsenic	SW-846 6010D,	Optional analysis
Barium	SW-846 6010D,	Optional analysis
Beryllium	SW-846 6010D,	Optional analysis
Cadmium	SW-846 6010D,	Optional analysis
Chromium	SW-846 6010D,	Optional analysis
Lead	SW-846 6010D,	Optional analysis
Mercury	SW-846 7470A, 7471B	Optional analysis
Selenium	SW-846 6010D, , 7741A	Optional analysis
Silver	SW-846 6010D, 7760, 7761	Optional analysis
Antimony	SW-846 6010D, 7041, 7040	Optional analysis
Nickel	SW-846 6010D, 7520, 7521	Optional analysis
Thallium	SW-846 6010D, 7840, 7871	Optional analysis
Percent solids	40 CFR 261 Appendix II Section 7	Optional analysis
Heat of combustion	ASTM D240-17	Optional analysis
Halogen	SW-846 9077	Optional analysis
Percent water	ASTM D4017-02	Optional analysis
Total VOCs	SW-846 8100, 8060, 8270	Optional analysis
Total Semi-VOCs	SW-846 8021, 8015	Optional analysis

NOTES:	**Methods**	Analytical methods may be substituted with approved equivalent methods (e.g., accepted methods superseding listed methods). Optional analyses may be performed at the discretion of facility personnel.
	SM	AWWA Standard Methods for the Examination of Water and Wastewater
	ASTM	American Society for Testing and Materials
	SW-846	Test Methods for Evaluating Solid Wastes
	Hach	Water Analysis Handbook for Spectrophotometers, 9th Edition
	QuantoFix	Method included with test kit
	USE Tulsa Protocol	USE Tulsa Internal Analytical Protocols

Figure 3 - Republic Waste/Material Profile Form Example

REPUBLIC SERVICES

Profile #:

WASTE/MATERIAL PROFILE FORM

A. GENERATOR/CUSTOMER INFORMATION *(If foreign generator, complete Waste Import Supplement)*

1. Generator: ☐ Invoicing information is the same as generator mailing address
2. Site Address: ☐ P.O. required for payment? *If yes, include:*
   City: Phone: 8. Invoicing Company:
   State: Zip: Country:
3. Mailing Address: 9. Invoicing Address:
   City: City:
   State: Zip: Country: State: Zip: Country:
4. Technical Contact: 10. Customer Contact:
5. Phone: Email: 11. Phone: Email:
6. Generator Status: ◯ SQG ◯ LQG ◯ VSQG/CESQG *(If yes, complete Certification Supplement)* ◯ Not Applicable
7. EPA ID #: NAICS CODE: State ID #: *(If applicable)*

B. WASTE/MATERIAL STREAM

1. Common Name:

(Please provide a site history for Remediation & IDW sites. Use additional form if necessary.)

2. Generating Process:
3. Source Code: Form Code:

C. SHIPPING/PACKAGING INFORMATION

1. DOT Hazardous Materials? ◯ Yes ◯ No Proper Shipping Name:
2. Additional Description: *(49 CFR 172.203, e.g. "Lead" or "D008")*
3. RQ: ◯ Yes ◯ No RQ Reason: RQ Threshold: UN/NA #:
   Packing Group: ERG #: Hazard Class: Select #1 Select #2 Select #3
4. DOT Special Permit? ◯ Yes ◯ No Permit #:
5. 24-Hour Emergency Phone: 6. DOT Inhalation Hazard? ◯ Yes ◯ No
7. Container Type: ☐ Bulk ☐ Totes ☐ Pallet ☐ Boxes ☐ Drums ☐ Cylinder Container Size:
   ☐ Lab Pack *(If 40 CFR 264.316/49CFR 173.12(b) Lab Pack Inventory lists required)*
   ☐ Combination Containers (e.g., inner containers), Describe:
   ☐ Other, Describe:
8. Volume/Frequency: Volume: Units:
   Frequency: ◯ Year ◯ Quarterly ◯ Monthly ◯ 1 Time ◯ Other, Describe:

D. PHYSICAL PROPERTIES *(Use additional form if necessary)*

1. Physical Description *(e.g. soil, water, PPE, debris, sorbent, etc. Include 100% of container content. If debris, provide dimensions & weight.)*

Description	Typical (%)	Min (%)	Max (%)

2. Odor: ◯ None ◯ Slight ◯ Strong Odor Type: ☐ Ammonia ☐ Amines ☐ Mercaptans ☐ Sulfur ☐ Organic Acid ☐ Other, Describe:
3. Physical State: *(at 70°F)* ☐ Solid ☐ Dust/Powder ☐ Debris ☐ Sludge/Slurry ☐ Liquid ☐ Gas/Aerosol ☐ Varies
4. Color: Primary Color Secondary Color 5. Liquid phases: ◯ Single ◯ Double Layer ◯ Multi-layer ◯ N/A
6. Is it solid using the paint filter test? *(40 CFR Part 264.314(b))* ◯ Yes *(Solid)* ◯ No *(Not Solid)*
   Is there a possibility of incidental liquids from transportation? ◯ Yes ◯ No
7. pH: *(If solid, provide estimated pH if mixed 50:50 with water)* ☐ ≤ 2 ☐ 2.1 - 4.9 ☐ 5 - 10 ☐ 10.1 - 12.4 ☐ ≥ 12.5
8. Flash Point: °F and/or ☐ < 90°F ☐ 90 - 139°F ☐ 140 - 199°F ☐ ≥ 200°F ☐ Does Not Flash ☐ Flammable Solid
   BTU /lb. Value: and/or ◯ <5000 BTU ◯ ≥5000 BTU
9. Are there any known handling/treatment issues involving this material? ***(i.e. Describe whether the waste stream has ever been the direct or suspected cause of a fire or other reaction, and whether there are any specific controls you use to prevent any adverse reactions?)***
   ◯ Yes ◯ No *If yes*, Describe:

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E. CHARACTERIZATION & CHEMICAL COMPOSITION *(Use additional form if necessary)*

1. **Robstown Facility Customers - Waste/Material Type:** ○ Industrial ○ Non-Industrial ○ N/A **TX State Code:**
Pennsylvania Residual Waste: ○ Yes ○ No **PA State Code(s):**

2. **State Waste Codes:** ☐ None

3. **RCRA Waste Codes:** ☐ None

If None, is it exempt from the definition of "Solid Waste" or "Hazardous Waste"? ○ Yes ○ No
If yes, list reference from 40 CFR Part 261.2, 3, or 4:

4. **If F006-F009, F012, or F019, are Cyanides used in the process?** ○ Yes ○ No *(If yes, Total and Amenable CN (9010/9012) analysis required)*

5. **Knowledge is from:** ☐ Lab analysis *(requires attachment)* ☐ SDS/MSDS *(requires attachment)* ☐ Process/generator knowledge

6. **Chemical Composition** *(include all applicable UHC's, TRI Section 313 chemicals, OSHA Hazardous Materials, PFAS Constituents, etc.)*

Constituent	Units	TCLP	Totals	Typical	Min	Max	UHC	Exceeds LDR
	Select	○	○				☐	☐
	Select	○	○				☐	☐
	Select	○	○				☐	☐
	Select	○	○				☐	☐
	Select	○	○				☐	☐
	Select	○	○				☐	☐
	Select	○	○				☐	☐
	Select	○	○				☐	☐

F. ADDITIONAL PROPERTIES ☐ **None Apply** *(Through Question F23)*

1. **Explosive:** ○ Yes ○ No	2. **Reactive Sulfides:** ____ ppm ○ Yes ○ No
3. **Shock Sensitive:** ○ Yes ○ No	4. **Reactive Cyanides:** ____ ppm ○ Yes ○ No
5. **Radioactive:** ○ Yes ○ No *(If yes, complete Radioactive Waste Acceptance Supplement)*	6. **Reactive Other:** ○ Yes ○ No **Describe:**
7. **Medical/Infectious/Biohazard Waste:** ○ Yes ○ No	8. **Polychlorinated Biphenyls (PCB):** ○ Yes ○ No *(If yes, complete PCB Supplement)*
9. **Dioxins and/or Furans:** ○ Yes ○ No	10. **Metal Fines/Powder/Paste:** ○ Yes ○ No *(Including Aluminum)*
11. **Pyrophoric:** ○ Yes ○ No	12. **Temperature Controlled:** ○ Yes ○ No *(For Transportation Only)*
13. **Thermally Unstable:** ○ Yes ○ No	14. **Biodegradable Sorbents:** ○ Yes ○ No
15. **Compressed Gas:** ○ Yes ○ No *(If yes, complete Compressed Gas Cylinder Supplement)*	16. **Used Oil:** (per 40 CFR Part 279) ○ Yes ○ No *(If yes, complete Used Oil Supplement)*
17. **Oxidizer:** *(List in Section E6)* ○ Yes ○ No	18. **Tires:** *(If yes, must be quartered for landfill)* ○ Yes ○ No
19. **Organic Peroxide:** ○ Yes ○ No	20. **Beryllium:** ○ Yes ○ No
21. **Ammonia/Ammonia Compounds:** ○ Yes ○ No	22. **Per-and Polyfluoroalkyl Substances (PFAS):** ○ Yes ○ No

23. **Asbestos:** ○ Yes ○ No **If Yes:** ○ Friable ○ Non-Friable *(If friable, material must be packaged per 40 CFR Part 61.150)*

24. **Hazardous Secondary Material:** *(Per 40 CFR Part 260.10)* ○ Yes ○ No
If yes, ☐ I certify that this waste/material meets all requirements of legitimate recycling of Hazardous Secondary Materials under 40 CFR Part 260.43 and/or I am complying with the conditions for generators using one verified recycler exclusion.

25. **Are pharmaceutical wastes profiled under this approval subject to a prescription?** ○ Yes ○ No ○ N/A
(If yes, complete Pharmaceutical Certification Supplement)

G. REGULATORY INFORMATION

1. **Volatile Organic Concentration:** *(Per 40 CFR Part 264.1083 & 265.1084)* ○ <500 ppmw ○ ≥500 ppmw

2. **Has the material been treated after the initial point of generation?** ○ Yes ○ No *If yes,* **Describe:**

3. **If RCRA Hazardous:** ○ None Apply
   - ○ Wastewater *WW=<1% TSS & TOC; 40 CFR Part 268.2*
   - ○ Non-wastewater *TSS/TOC>WW*
   - ○ Alternative Treatment Standards for soil *> 50% soil; 40 CFR Part 268.49*
   - ○ Alternative Treatment Standards for debris *40 CFR Part 268.2(g) & (h); >50% of waste is >2.5 inch size*
     - ☐ I confirm debris cannot reasonably be separated from non-debris by simple physical or mechanical means.
     - ☐ I confirm debris has not been mixed/diluted with non-debris as prohibited in *40 CFR Part 268.3.*
   - ○ Waste meets LDR Treatment Standards

4. **Treatment subcategory:** *(if applicable)*

5. **Is the site or waste/material, subject to NESHAP/MACT standard(s)?** ○ Yes ○ No
   If yes, **Please choose the applicable Part:** ○ 61 ○ 62 ○ 63 **Subpart** ____ **of NESHAP/MACT standards** ○ **N/A**

6. **Is the waste/material RCRA Hazardous containing Benzene and originating at a petroleum refinery (SIC 2911), chemical manufacturing plant (SIC 2800 thru 2899) or Coke by-product recovery plant (SIC 3312)?**
   ○ Yes ○ No (*If yes, complete the Benzene Waste Operations Supplement and if applicable the Thermal Supplement.*)

H. GENERATOR'S CERTIFICATION

1. **Is a specific facility or treatment technology requested?** ○ Yes ○ No

2. **Requested Technology:**

3. **Thermal processing:** ○ Yes ○ No *(If yes, complete Thermal Supplement)*

4. **Other specific restrictions requested:**

5. **Requested Facility:**
   (If Chicago Facility, complete Illinois Disposal Supplement)

I certify that all information (including attachments) is complete, factual and is an accurate representation of the known and suspected hazards pertaining to waste/material described herein. I authorize Republic Services' personnel to add supplemental information to the Waste/Material Profile Form, provided I am contacted and grant permission to do so. Republic Services may require re-submittal of the Waste/Material Profile Form if substantial changes are determined necessary. I authorize Republic Services' personnel to obtain a sample from any waste/material shipment for purposes of verification and confirmation and understand that waste/material that does not conform to specifications described in this Waste/Material Profile Form may be rejected by Republic Services. I certify that I am familiar with the waste/material described herein through analysis and/or process knowledge and that all information is true, accurate, representative and complete and that this Waste/Material Profile Form was completed in accordance with the instructions provided.

If I am an agent acting on behalf of the generator, I also certify that I have permission to sign any and all waste/material characterization paperwork on the generator's behalf and that I can produce such certification in writing upon request.

Print Name: **Signature:**

Title: **Company:**

Date:

Figure 4 - Waste Recertification Document Example

RE-APPROVAL NOTICE

Customer Account: _____

Name: _____

Company: _____

Address: _____

City, State Zip: _____

Thank you for selecting US Ecology as your environmental management partner. In the event that a wa
changed, the generator may use this form to re-approve the waste profile.

Generator Name: _____ **EPA ID No.:** _____

For Benzene NESHAP Regulated Generators: Please provide your updated TAB here _____
this field is left blank, it will be assumed that there are no changes to the TAB quantity for your facility.

Waste Common Name: _____

Waste Code(s): _____

Approval No.: Expiration Date:

Please select one of the following options:

❑ Re-approval with No Process Change
❑ Re-approval with Process Change
❑ Process Change

Please provide a detailed description below of the changes to the waste stream:

This Re-approval Notice acknowledges the acceptability of waste material(s) into the EQ facility(s) and ensures tha
has the appropriate permit(s) issued by federal and state regulatory agencies to properly transport, treat, and/or dis
waste material(s). Upon signature and submittal of this form, the waste stream will be reviewed to extend the expir
year.

I certify that all information (including attachments) is complete and factual and is an accurate representation of the
suspected hazards, pertaining to the waste described herein. I authorize EQ to add supplemental information to th
provided I am contacted and give verbal permission. I authorize EQ to obtain a sample from any waste shipment fo
verification and confirmation. I agree that, if EQ approves the waste described herein, all such wastes that are tran
tendered to EQ by Generator or on Generator's behalf shall be subject to, and Generator shall be bound by, the St
Conditions associated with the original Waste Profile. (The Standard Terms and Conditions are incorporated into th

Figure 5 – Land Disposal Restriction Form Example

REPUBLIC SERVICES

LAND DISPOSAL RESTRICTION FORM **Profile #:**
(From Question G3)

Generator Information			
1. Generator:			**2. EPA ID Number:**
3. Manifest Number:	**4. Line Number:**	**5. Waste is a:** ◯ Wastewater (<1% TSS & TOC) ◯ Non-wastewater ◯ Debris	
6. Notification Frequency: ◯ One Time ◯ Required with Each Shipment			
7. Shipment EPA Waste Codes:			
8. UHC's: *(Underlying Hazardous Constituents 40 CFR 268.48)?* ◯ Yes ◯ No *(If yes, list constituents):*			
9. Does a subcategory apply per 40 CFR 268.40? ◯ Yes ◯ No *(If yes, select subcategory):*			
10. Constituents requiring treatment in F001-5, F039, debris, and alternate soils? ◯ Yes ◯ No *(If yes, list):*			

Requires Treatment

☐ **Waste Subject To Treatment (40 CFR 268.7(a) (2))**
The restricted waste identified above must be treated to the applicable treatment standards in 40 CFR 268.40, or treated to comply with applicable Prohibitions set forth in Part 268.32 or RCRA Section 3004(d) and 268.49 (c).

If applicable, under 268.49, this contaminated soil ◯ does or ◯ does not contain listed hazardous waste and ◯ does or ◯ does not exhibit a characteristic of hazardous waste and is subject to the soil treatment standards as provided by 268.49 (c) or the universal treatment standards.

☐ **Hazardous Debris Subject To Treatment (40 CFR 268.45)**
This hazardous debris identified above must be treated to the alternative treatment standards in 40 CFR 268.45.

☐ **Waste De-characterized But Requires Treatment For UHC (40 CFR 268.7 (b) (4) (iv))**
I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49 to remove the hazardous characteristic. This de-characterized waste contains Underlying Hazardous Constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

Waste Meets Treatment Standards

☐ **Waste Meets Treatment Standards (40 CFR 268.7(a) (3))**
The restricted waste identified above meets the treatment standards in 40 CFR 268.40 or Alternative LDR treatment standards for contaminated soil 40 CFR268.49 and can be landfill disposed without further treatment.

If applicable, under 268.49, this contaminated soil ◯ does or ◯ does not contain listed hazardous waste and ◯ does or ◯ does not exhibit a characteristic of hazardous waste and complies with the soil treatment standards as provided by 268.49 (c) or the universal treatment standards.

☐ **I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.**

☐ **Waste Treated To Treatment Standards (40 CFR 268.7(b) (l) & 268.7 (b) (2))**
The treatment residue, or extract of such residue, or the restricted waste identified above has been tested to assure that the treatment residues or Extract meet all applicable treatment standards in 40 CFR 268.40 and/or performance standards in 40 CFR 268.45

☐ **I certify under penalty of law that I personally have examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.**

Waste Soil treated to alternative standards (40 CFR 268.7 (b) (4))

☐ **I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268.49 without impermissible dilution of the prohibited wastes. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.**

I certify and warrant that the information that appears on this form, and appended documents, is true and correct. I have correctly indicated how my waste is to be Managed in accordance with 40 CFR 268. My certification is based on personal examination of the information submitted, or is based on my inquiries of those individuals responsible for obtaining the information.

Print Name:	**Signature:**	**Title:**	**Date:**

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Figure 6 – Fingerprint Tests

Test	Solid Hazardous Waste	Non-Bulk Liquid Hazardous Waste	Bulk Liquid Hazardous waste
Color	X	X	X
Odor	X	X	X
Consistency	X	X	X
pH		X	X
Flashpoint		X	X
Oxidizer (if profile indicates potential)		X	
Specific Gravity			X

Attachment 4

RCRA Part B Permit Application

Inspection Schedule and Forms

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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1. INSPECTION SCHEDULES

AREA/ EQUIPMENT	SPECIFIC ITEM	TYPES OF PROBLEMS EXPECTED	FREQUENCY OF INSPECTIONS
Tanks (T-101, T102, T-103, T-107, T-407, T-408, T-409, and T-410)	1. Tank roof	Malfunction of roofs, seals, loss of fiber	Daily
	2. Internal supports	Deterioration, depressions	
	3. Tank shell	Discoloration, cracks, buckles, & bulges	
	4. Tank bottom (if accessible)	Pitting, sprung seams, holes, depressions, unevenness of bottom, cracking	

AREA/ EQUIPMENT	SPECIFIC ITEM	TYPES OF PROBLEMS EXPECTED	FREQUENCY OF INSPECTIONS
Safety and Emergency Equipment	1. Shovel, broom	Out of stock	Monthly
	2. Vacuum truck fully operational	Breakdown, vacuum pump worn out, insufficient fuel	
	3. Decontamination facility (shower & dressing room)	Insufficient water pressure, leaks	
	4. Flexible hoses with quick couplings	Cracks, or holes, stuck fittings	
	5. Emergency shower & eyewash	Insufficient water pressure, leaks, drainage	
	6. Face shields & extra protective eyeglasses	Broken or dirty equipment	
	7. Respiratory Protection Equipment available	Spent chemical absorbent, bad seals Chemical cartridge respirators; half and full face types	
	8. Fire extinguishers* *Monthly/after each use	Needs recharging	
	9. Telephone system	Power failure	
	10. Public address system	Power failure, speakers not functional	
	11. Emergency lighting system	Electrical failure, lights not functional	
	12. First aid equipment & supplies adequate	Items out of stock or inoperative	
	13. Steam Cleaner or Power-Wash	Inadequate water/fuel supply	
	14. Protective clothing (full body coveralls, gloves, and foot coverings	Holes, excessive wear & tear	
	15. Fire hydrant	Leaking	

AREA/ EQUIPMENT	SPECIFIC ITEM	TYPES OF PROBLEMS EXPECTED	FREQUENCY OF INSPECTIONS
Security Devices	1. Facility fence and secondary gates	Corrosion, damage to chain-link fence or barbed wire, poor condition of secondary gates	Weekly
	2. East gate	Corrosion, damage to metal gate construction, bad lock	
	3. South gate	Corrosion, damage to metal gate construction, bad lock	
	4. Warning signs	Not legible, missing	
	5. Concrete flood wall	Cracks and deterioration	
	6. Flood Gate	Obstruction, Excessive corrosion	

AREA/ EQUIPMENT	SPECIFIC ITEM	TYPES OF PROBLEMS EXPECTED	FREQUENCY OF INSPECTIONS
Containers and Container Storage Areas (CMA-1, CMA-2, CMA-3, CMA-4)	1. Container condition	Corrosion, bulging, cracks, deterioration, discoloration, leaks	Daily
	2. Storage Area	Leaks, spills	
	3. Storage Area paving	Cracks, deterioration, uneven settlement	
	4. Area status	Aisle spacing, access, spills, housekeeping	
	5. Container status	Marking/labeling, leaks, segregation, containers closed, condition	

AREA/ EQUIPMENT	SPECIFIC ITEM	TYPES OF PROBLEMS EXPECTED	FREQUENCY OF INSPECTIONS
Holding areas for Containers and Vehicles loaded with hazardous waste	1. Container condition	Corrosion, bulging, cracks, deterioration, discoloration, leaks	Daily
	2. Storage Area	Leaks, spills	
	3. Container status	Marking/labeling, leaks, segregation, containers closed, condition	

AREA/ EQUIPMENT	SPECIFIC ITEM	TYPES OF PROBLEMS EXPECTED	FREQUENCY OF INSPECTIONS
Tank Systems; External and Equipment	1. Tank shells, tops, bottoms, manholes	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks	Daily
	2. Valves, pipes, flanges, fittings, hoses	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks	
	3. Overfill control valve, manual level indicator	Sticking, damaged handle	
	4. Ladder and catwalk	Unstable structure	
	5. Tank vents	Not functional (i.e., sticking)	
	6. Warning signs	Not legible	
	7. Sump area	Erosion, uneven settlement	
	8. Leak detection system	Valve not operating, presence of liquid	
	9. Secondary containment area	Leaks, spills, cracks, deterioration	
	10. Asphalt paving surrounding Tank Farms	Leaks, discoloration	
	11. Truck unloading area	Spills, damaged hoses and quick connects	
	12. Concrete coating/sealant	Cracks, chips, flaking, etc.	

Required frequency: daily inspections
Department: Treatment Area
Location: Tank Farm 1

		T-101	T-102	T-103	T-107	
Inspection Items	***Things to look for***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Comments or corrective actions taken if yes was circled in previous column***
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	Yes No	Yes No	Yes No	
Valves, pipes, flanges, fittings, hoses	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	Yes No	Yes No	Yes No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes No	Yes No	Yes No	Yes No	
Ladder and catwalk	Unstable structure	Yes No	Yes No	Yes No	Yes No	
Tank vents	Sticking, or not functional	Yes No	Yes No	Yes No	Yes No	
Warning signs	Illegible	Yes No	Yes No	Yes No	Yes No	
Sump area	Erosion, uneven settlement	Yes No	Yes No	Yes No	Yes No	
Leak detection system	Valve not operating, presence of liquid	Yes No	Yes No	Yes No	Yes No	
Storage area (including secondary containment)	Leaks, spills, cracks, deterioration	Yes No	Yes No	Yes No	Yes No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes No	Yes No	Yes No	Yes No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes No	Yes No	Yes No	Yes No	

Inspections Performed by: _____ ***Date Performed:*** _____ **Reviewed by:** _____

Signature: _____ ***Time Performed:*** _____ **Date Reviewed:** _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Tank Systems; External and Equipment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Location: Tank Farm 4

		T-407	T-408	T-409	T-410	
Inspection Items	***Things to look for***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Comments or corrective actions taken if yes was circled in previous column***
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	Yes No	Yes No	Yes No	
Valves, pipes, flanges, fittings, hoses	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	Yes No	Yes No	Yes No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes No	Yes No	Yes No	Yes No	
Ladder and catwalk	Unstable structure	Yes No	Yes No	Yes No	Yes No	
Tank vents	Sticking, or not functional	Yes No	Yes No	Yes No	Yes No	
Warning signs	Illegible	Yes No	Yes No	Yes No	Yes No	
Sump area	Erosion, uneven settlement	Yes No	Yes No	Yes No	Yes No	
Leak detection system	Valve not operating, presence of liquid	Yes No	Yes No	Yes No	Yes No	
Storage area (including secondary containment)	Leaks, spills, cracks, deterioration	Yes No	Yes No	Yes No	Yes No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes No	Yes No	Yes No	Yes No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes No	Yes No	Yes No	Yes No	

Inspections Performed by: _____ ***Date Performed:*** _____ **Reviewed by:** _____

Signature: _____ ***Time Performed:*** _____ **Date Reviewed:** _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Monthly Compliance Inspection:
Safety and Emergency Equipment

Revised 12/20/2024

Required frequency: monthly inspections
Department:

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*	*Corrective Actions Taken if yes was circled in previous column*
Shovel, broom	Out of stock	Yes No	
Vacuum truck fully operational	Breakdown, vacuum pump worn out, insufficient fuel	Yes No	
Decontamination facility (shower & dressing room)	Insufficient water pressure, leaks	Yes No	
Flexible hoses with quick couplings	Crack, or holes, stuck fittings	Yes No	
Emergency shower & eyewash	Insuficient water pressure, leaks, drainage	Yes No	
Face shields & extra protective eyeglasses	Broken or dirty equipment	Yes No	
Respiratory Protection Equipment available	Spent chemical absorbent, bad seats, chemical cartridge respirators; half and full face types	Yes No	
Fire extinguishers Monthly/after each use	Needs recharding	Yes No	
Telephone system	Power failure	Yes No	
Public address system	Power failure, speakers not functional	Yes No	
Emergency lighting system	Electrical failure, lights not functional	Yes No	
First Aid equipment & supplies adequate	Items out of stock or inoperative	Yes No	
Steam Cleaner or Power-wash	Inadequate water/fuel supply	Yes No	
Protective clothing (full body coveralls, gloves, and foot coverings)	Holes, excessive wear & tear	Yes No	
Fire hydrant	Leaking	Yes No	

Inspector's Name: _____ ***OM/OS/Lead's Name:*** _____

Inspector's Signature: _____ ***OM/OS/Lead's Signature:*** _____

Date Performed: _____ ***Date Reviewed:*** _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Security Devices:
Operating and Structural Equipment

Revised 12/20/2024

Required frequency: weekly inspections
Department:

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*	*Corrective Actions Taken if yes was circled in previous column*
Entire facility fence and secondary gates	Corrosion, damage to chain-link fence or barbed wire, poor condition of secondary gates	Yes No	
East gate	Corrosion, damage to metal gate construction, lock integrity compromised	Yes No	
South gate	Corrosion, damage to metal gate construction, lock integrity compromised	Yes No	
Warning signs	Legibility, securely fastened	Yes No	
Concrete flood wall	Cracks, deterioration	Yes No	
Flood gate	Obstructions, excessive corrosion	Yes No	

Inspector's Name:_____ ***OM/OS/Lead's Name:***_____

Inspector's Signature:_____ ***OM/OS/Lead's Signature:***_____

Date Performed:_____ ***Date Reviewed:***_____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Container Management Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Location: Container Management Areas

		Existing Canopy	Existing CMA-1	
Inspection Items	***Things to look for***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Corrective Actions Taken if yes was circled in previous column***
Container integrity	Waste outside of the container, excessive corrosion, leaks, cracks	Yes No	Yes No	
Container integrity	Open containers, damaged lids, tarps, missing or damaged labels	Yes No	Yes No	
Containment	Dirty, broken pallets, full of water, spills	Yes No	Yes No	
Valves and piping integrity	Leaks, damage	Yes No	Yes No	
Storage capacity	Exceeding 10,560 gallons of waste	Yes No	Yes No	
General housekeeping	Trash, debris outside of containment	Yes No	Yes No	
Trailer Inspection	Leaks, spills or damage	Yes No	Yes No	
Spill kits	Missing, damaged, used, or inaccessible	Yes No	Yes No	

Inspector's Name: _____ ***OM/OS/Lead's Name:*** _____

Inspector's Signature: _____ ***OM/OS/Lead's Signature:*** _____

Date Performed: _____ ***Date Reviewed:*** _____

Time Performed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Container Management Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Location: Container Management Areas

		Proposed Canopy	Proposed CMA-1	
Inspection Items	***Things to look for***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Corrective Actions Taken if yes was circled in previous column***
Container integrity	Waste outside of the container, excessive corrosion, leaks, cracks	Yes No	Yes No	
Container integrity	Open containers, damaged lids, tarps, missing or damaged labels	Yes No	Yes No	
Containment	Dirty, broken pallets, full of water, spills	Yes No	Yes No	
Valves and piping integrity	Leaks, damage	Yes No	Yes No	
Storage capacity	Exceeding 33,000 gallons of waste	Yes No	Yes No	
General housekeeping	Trash, debris outside of containment	Yes No	Yes No	
Trailer Inspection	Leaks, spills or damage	Yes No	Yes No	
Spill kits	Missing, damaged, used, or inaccessible	Yes No	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Container Management Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Location: Container Management Areas

		CMA-2	
Inspection Items	***Things to look for***	***Were any of these issues observed? Circle One.***	***Corrective Actions Taken if yes was circled in previous column***
Container integrity	Waste outside of the container, excessive corrosion, leaks, cracks	Yes No	
Container integrity	Open containers, damaged lids, tarps, missing or damaged labels	Yes No	
Containment	Dirty, broken pallets, full of water, spills	Yes No	
Valves and piping integrity	Leaks, damage	Yes No	
Storage capacity	Exceeding 4,840 gallons of waste	Yes No	
General housekeeping	Trash, debris outside of containment	Yes No	
Spill kits	Missing, damaged, used, or inaccessible	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Container Management Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Drum building
Location: Container Management Areas

		Canopy	CMA-3	
Inspection Items	***Things to look for***	***Were any of these issues observed? Circle One.***	***Were any of these issues observed? Circle One.***	***Corrective Actions Taken if yes was circled in previous column***
Container integrity	Waste outside of the container, excessive corrosion, leaks, cracks	Yes No	Yes No	
Container integrity	Open containers, damaged lids, tarps, missing or damaged labels	Yes No	Yes No	
Containment	Dirty, broken pallets, full of water, spills	Yes No	Yes No	
Valves and piping integrity	Leaks, damage	Yes No	Yes No	
Storage capacity	Exceeding 30,560 gallons of waste	Yes No	Yes No	
General housekeeping	Trash, debris outside of containment	Yes No	Yes No	
Trailer Inspection	Leaks, spills or damage	Yes No	Yes No	
Spill kits	Missing, damaged, used, or inaccessible	Yes No	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Treatment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Area: TA-2a

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*	*Comments or corrective actions taken if yes was circled in previous column*
Container integrity	Waste outside of the container, excessive corrosion, leaks, cracks	Yes No	
Container integrity	Open containers, damaged lids, tarps, missing or damaged labels	Yes No	
Containment	Dirty, broken pallets, full of water, spills/waste	Yes No	
General housekeeping	Trash, debris outside of containment	Yes No	

Inspector's Name:_____

Inspector's Signature:_____

Date Performed:_____

Time Performed:_____

OM/OS/Lead's Name:_____

OM/OS/Lead's Signature:_____

Date Reviewed:_____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Treatment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Area: Existing TA-2b

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*	*Comments or corrective actions taken if yes was circled in previous column*
Container integrity	Waste outside of the container, excessive corrosion, leaks, cracks	Yes No	
Container integrity	Open containers, damaged lids, tarps, missing or damaged labels	Yes No	
Containment	Dirty, broken pallets, full of water, spills/waste	Yes No	
General housekeeping	Trash, debris outside of containment	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Treatment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Area: Proposed TA-2b

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*		*Comments or corrective actions taken if yes was circled in previous column*
Container integrity	Waste outside of the container, excessive corrosion, leaks, cracks	Yes	No	
Container integrity	Open containers, damaged lids, tarps, missing or damaged labels	Yes	No	
Containment	Dirty, broken pallets, full of water, spills/waste	Yes	No	
General housekeeping	Trash, debris outside of containment	Yes	No	

Inspector's Name:_____

Inspector's Signature:_____

Date Performed:_____

Time Performed:_____

OM/OS/Lead's Name:_____

OM/OS/Lead's Signature:_____

Date Reviewed:_____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Treatment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Area: TA-2c

Inspection Items	***Things to look for***	***Were any of these issues observed? Circle One.***	***Comments or corrective actions taken if yes was circled in previous column***
Container integrity	Waste outside of the container, excessive corrosion, leaks, cracks	Yes No	
Container integrity	Open containers, damaged lids, tarps, missing or damaged labels	Yes No	
Containment	Dirty, broken pallets, full of water, spills/waste	Yes No	
General housekeeping	Trash, debris outside of containment	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Tank Systems; External and Equipment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Tank Number: T-101 (TF-1)

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*		*Comments or corrective actions taken if yes was circled in previous column*
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes	No	
Valves, pipes, flanges, fittings	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes	No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes	No	
Ladder and catwalk	Unstable structure	Yes	No	
Tank vents	Sticking, or not functional	Yes	No	
Warning signs	Illegible	Yes	No	
Sump area	Erosion, uneven settlement	Yes	No	
Leak detection system	Valve not operating, presence of liquid	Yes	No	
Storage area (including secondary containment)	Leaks, spills	Yes	No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes	No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes	No	
Concrete coating/sealant	Cracks, chips, flaking, etc.	Yes	No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Tank Systems; External and Equipment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Tank Number: T-102 (TF-1)

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*		*Comments or corrective actions taken if yes was circled in previous column*
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes	No	
Valves, pipes, flanges, fittings	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes	No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes	No	
Ladder and catwalk	Unstable structure	Yes	No	
Tank vents	Sticking, or not functional	Yes	No	
Warning signs	Illegible	Yes	No	
Sump area	Erosion, uneven settlement	Yes	No	
Leak detection system	Valve not operating, presence of liquid	Yes	No	
Storage area (including secondary containment)	Leaks, spills	Yes	No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes	No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes	No	
Concrete coating/sealant	Cracks, chips, flaking, etc.	Yes	No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Tank Systems; External and Equipment Area Inspection

REPUBLIC SERVICES

Required frequency: daily inspections
Department: Treatment Area
Tank Number: T-103 (TF-1)

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*		*Comments or corrective actions taken if yes was circled in previous column*
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes	No	
Valves, pipes, flanges, fittings	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes	No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes	No	
Ladder and catwalk	Unstable structure	Yes	No	
Tank vents	Sticking, or not functional	Yes	No	
Warning signs	Illegible	Yes	No	
Sump area	Erosion, uneven settlement	Yes	No	
Leak detection system	Valve not operating, presence of liquid	Yes	No	
Storage area (including secondary containment)	Leaks, spills	Yes	No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes	No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes	No	
Concrete coating/sealant	Cracks, chips, flaking, etc.	Yes	No	

Inspector's Name:_____ ***OM/OS/Lead's Name:***_____

Inspector's Signature:_____ ***OM/OS/Lead's Signature:***_____

Date Performed:_____ ***Date Reviewed:***_____

Time Performed:_____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Tank Systems; External and Equipment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Tank Number: T-107 (TF-1)

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*		*Comments or corrective actions taken if yes was circled in previous column*
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes	No	
Valves, pipes, flanges, fittings	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes	No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes	No	
Ladder and catwalk	Unstable structure	Yes	No	
Tank vents	Sticking, or not functional	Yes	No	
Warning signs	Illegible	Yes	No	
Sump area	Erosion, uneven settlement	Yes	No	
Leak detection system	Valve not operating, presence of liquid	Yes	No	
Storage area (including secondary containment)	Leaks, spills, cracks, deterioration	Yes	No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes	No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes	No	
Concrete coating/sealant	Cracks, chips, flaking, etc.	Yes	No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Tank Systems; External and Equipment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Tank Number: T-407 (TF-4)

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*	*Comments or corrective actions taken if yes was circled in previous column*
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	
Valves, pipes, flanges, fittings	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes No	
Ladder and catwalk	Unstable structure	Yes No	
Tank vents	Sticking, or not functional	Yes No	
Warning signs	Illegible	Yes No	
Sump area	Erosion, uneven settlement	Yes No	
Leak detection system	Valve not operating, presence of liquid	Yes No	
Storage area (including secondary containment)	Leaks, spills	Yes No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes No	
Concrete coating/sealant	Cracks, chips, flaking, etc.	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Tank Systems; External and Equipment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Tank Number: T-408 (TF-4)

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*	*Comments or corrective actions taken if yes was circled in previous column*
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	
Valves, pipes, flanges, fittings	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes No	
Ladder and catwalk	Unstable structure	Yes No	
Tank vents	Sticking, or not functional	Yes No	
Warning signs	Illegible	Yes No	
Sump area	Erosion, uneven settlement	Yes No	
Leak detection system	Valve not operating, presence of liquid	Yes No	
Storage area (including secondary containment)	Leaks, spills	Yes No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes No	
Concrete coating/sealant	Cracks, chips, flaking, etc.	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Tank Systems; External and Equipment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Tank Number: T-409 (TF-4)

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*	*Comments or corrective actions taken if yes was circled in previous column*
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	
Valves, pipes, flanges, fittings	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes No	
Ladder and catwalk	Unstable structure	Yes No	
Tank vents	Sticking, or not functional	Yes No	
Warning signs	Illegible	Yes No	
Sump area	Erosion, uneven settlement	Yes No	
Leak detection system	Valve not operating, presence of liquid	Yes No	
Storage area (including secondary containment)	Leaks, spills	Yes No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes No	
Concrete coating/sealant	Cracks, chips, flaking, etc.	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Republic Services The Tulsa Facility
2700 S. 25th W. Ave. Tulsa, OK 74107

Tank Systems; External and Equipment Area Inspection

Revised 12/20/2024

Required frequency: daily inspections
Department: Treatment Area
Tank Number: T-410 (TF-4)

Inspection Items	*Things to look for*	*Were any of these issues observed? Circle One.*	*Comments or corrective actions taken if yes was circled in previous column*
Tank shell, top, bottom, manhole protective coating	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	
Valves, pipes, flanges, fittings	Excessive corrosion, bulging, cracks, deterioration, discoloration, leaks, etc.	Yes No	
Overfill control valve, manual level indicator	Sticking, or damaged handle	Yes No	
Ladder and catwalk	Unstable structure	Yes No	
Tank vents	Sticking, or not functional	Yes No	
Warning signs	Illegible	Yes No	
Sump area	Erosion, uneven settlement	Yes No	
Leak detection system	Valve not operating, presence of liquid	Yes No	
Storage area (including secondary containment)	Leaks, spills	Yes No	
Asphalt paving surrounding the base	Leaks, discoloration, anchorage	Yes No	
Truck unloading area	Spills, damaged hoses and quick connects	Yes No	
Concrete coating/sealant	Cracks, chips, flaking, etc.	Yes No	

Inspector's Name: _____

Inspector's Signature: _____

Date Performed: _____

Time Performed: _____

OM/OS/Lead's Name: _____

OM/OS/Lead's Signature: _____

Date Reviewed: _____

Attachment 5

RCRA Part B Permit Application

CONTINGENCY PLAN

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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ATTACHMENT 5 - CONTINGENCY PLAN

This section provides a general description of the US Ecology Tulsa, Inc. (USE Tulsa) hazardous waste management facility as well as procedures to follow in the event of an emergency. USE Tulsa has developed this Contingency Plan in accordance with the requirements of Code of Federal Regulations (CFR) Title 40, Part 264, Subpart D (40 CFR 264, Subpart D) and applicable rules and regulations under the Oklahoma Hazardous Waste Management Act (OHWMA) administered by the Oklahoma Department of Environmental Quality (ODEQ).

This Contingency Plan is designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

1. GENERAL FACILITY INFORMATION

USE Tulsa operates a hazardous waste treatment and storage facility. Currently, hazardous waste management on-site includes storage and treatment of a wide variety of industrial wastes. Waste management on-site may include transfer facility activities such as storage prior to shipment off-site as well as transfer station activities such as bulking, consolidation, etc.. In addition, USE Tulsa conducts solid waste management activities in accordance with the requirements of Oklahoma Administrative Code [OAC] 252:515-3-1(a)(2)(A), (a)(2)(G), and (a)(3).

USE Tulsa is in an industrial area west of Tulsa, Oklahoma. The facility is in Tulsa County outside the Tulsa city limits.

The USE Tulsa waste management facility consists of waste treatment areas, storage building/areas, laboratory facilities, tank storage/treatment areas, container storage/treatment areas, truck unloading areas, staging tanks, pump(s), surface piping, and ancillary equipment as well as administrative offices, truck parking, and employee/visitor parking.

The majority of wastes managed at USE Tulsa originates off-site as a result of industrial processes, remediation activities, or other activities. USE Tulsa customers (i.e., "generators") contract with USE Tulsa for waste management. Specific hazardous wastes managed on-site are identified in the facility Part A Permit Application which is Section A of this application. In addition, solid wastes as defined by 40 CFR 261.2 are managed on-site. Hazardous or solid wastes accepted for

management may originate from industrial generators, other hazardous waste Treatment, Storage, and Disposal Facilities (TSDFs), or from activities regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

2. EMERGENCY COORDINATORS: 40 CFR 264.52(d); 40 CFR 264.55

Primary and Alternate Emergency Coordinators have been designated for the USE Tulsa facility. The Emergency Coordinator (EC), or designee, will be responsible for implementing the Contingency Plan as necessary in the event of an on-site incident. Each of the personnel listed in Appendix 2 - Emergency Coordinators are qualified to assume the responsibilities of the EC (Appendix 2 identifies one primary EC and alternate ECs). The Primary and Alternate ECs will be thoroughly familiar with all aspects of the facility's Contingency Plan, operations, and activities at the facility, the location and nature of wastes handled, the location of records within the facility, and the facility layout.

In the event of an emergency on-site, the Primary EC should be contacted; if the Primary EC is not available, the Alternate ECs should be contacted (in the order listed). The primary EC and alternates have complete authority to commit all resources of the company in the event of an emergency. Appendix 5 - Authorization for Implementation of Contingency Plan, documents this authority. Appendix 3 - List of Coordinating Agencies, identifies organizations that will be contacted by the EC, as deemed necessary, in the event of an emergency.

3. IMPLEMENTATION: 40 CFR 264.52(a); 40 CFR 264.56(d)

The provisions of this plan will be implemented immediately whenever there is an on-site fire, explosion, or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment. The facility EC, or his designee, will implement this plan in the event of an on-site incident (e.g., fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility which, in his/her opinion, threatens human health or the environment).

This plan is intended to be a guide for use in the event of an incident on-site; the EC will consider safety of personnel the top priority when implementing this Contingency Plan. In the event that the EC determines that the facility has had a release, fire, or explosion that could threaten human

health or the environment outside the facility, the EC will report their findings as outlined in Section 4.

4. EMERGENCY RESPONSE PROCEDURES

The following sections outline the procedures to follow in the event of an on-site emergency.

4a. NOTIFICATION: 40 CFR 264.56(a)

Whenever there is an imminent or actual emergency, the emergency coordinator (or designee) will immediately:

- Activate internal facility communication system to notify all personnel.
- Notify appropriate state or local agencies with designated response roles (if deemed necessary).

4b. IDENTIFICATION OF HAZARDOUS MATERIALS: 40 CFR 264.56(b)

Whenever there is a release, fire, or explosion, the EC will (to the extent possible) immediately identify the character, source, amount, and areal extent of any released materials. This can be performed by visual observation, review of facility records, and (if necessary) by chemical analysis. Facility records available for review include waste profiles, manifests, operator records, truck placards, container labels, and waste analysis data on-site. The EC may consider incident character (i.e., size of spill or type of incident) as well as weather conditions when coordinating response actions.

4c. HAZARD ASSESSMENT: 40 CFR 264.56(c); 40 CFR 264.56(d)

Concurrently with implementation of the Contingency Plan, the EC will assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the incident (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

If the EC determines that the facility has had a release, fire, or explosion that could threaten human health or the environment outside the facility, he will follow the procedures outlined below:

- If the assessment indicates that evacuation of local areas may be advisable, the appropriate local authorities must be notified. The EC must be available to help appropriate officials decide whether local areas should be evacuated
- The EC (or designee) will immediately notify (by telephone) the National Response Center (NRC) (24-hour toll free number: 800-424-8802) and provide the following information:
    - Name and telephone number of reporter
    - Name and address of facility
    - Time and type of incident (e.g., release, fire)
    - Name and quantity of material(s) involved, to the extent known
    - The extent of injuries if any
    - The possible off-site hazards to human health or the environment

4d. RESPONSE AND CONTROL PROCEDURES: 40 CFR 264.52(a)

This Contingency Plan outlines the actions facility personnel will take in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility. Potential incidents on-site may include one or more of the following classifications:

- Fire and/or explosions;
- Spills or material releases;
- Injuries of personnel; and/or
- Flood or other natural disasters.

The EC will base any decisions regarding appropriate response actions on the assessment of the incident as outlined in Section 4c. In addition to the actions outlined in Section 4a (i.e.,

activation of facility communication system and notification of local response agencies), the procedures listed below should be implemented as deemed necessary:

- Remove all personnel, with exception of response personnel, from the immediate vicinity of the incident.
- If necessary, initiate the facility Evacuation Plan (see Section 7).
- Coordinate transportation to medical facilities or "first aid" for injured personnel, as appropriate.
- Implement procedures to reduce the impact of the incident on human health or the environment (i.e., installation of temporary containment for released liquid waste, shutdown of processes, etc., as outlined in section 4e).

4e. PREVENTION OF RECURRENCE OR SPREAD OF FIRES, EXPLOSIONS, RELEASES: 40 CFR 264.56(e)

During an emergency, the EC will take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. The measures will include, where applicable:

- Shutdown of processes and operations;
- Collecting and containing released waste;
- Removing or isolating containers; and
- Use, as necessary, of fire control structures, systems, and equipment.

4f. STORAGE AND TREATMENT OF RELEASED MATERIAL AND SOIL: 40 CFR 264.56(g)

Immediately after an incident, the EC (or designee) will arrange for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility. Waste generated by incident response activities will be managed in accordance with state and federal regulations.

If the facility stops operations in response to a fire, explosion, or release, the EC (or designee) will monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment wherever this is appropriate.

4g. INCOMPATIBLE WASTES: 40 CFR 264.56(h)(1)

The EC (or designee) will ensure that (in the affected areas of the facility) wastes which are potentially incompatible with the released material will not be treated, stored, or disposed of until cleanup procedures are completed. To manage incompatible wastes, the EC may utilize information available in facility records, or testing in accordance with the facility waste analysis plan (if required). Portable containment systems may be used to segregate incompatible waste.

4h. POST-EMERGENCY EQUIPMENT MAINTENANCE: 40 CFR 264.56(h)(2); 40 CFR 264.56(i)

After an incident, all emergency equipment listed in this Contingency Plan will be cleaned/replaced to ensure that it is fit for its intended use before operations are resumed (i.e., equipment used for emergency response will be decontaminated by steam cleaning, water washing, or other appropriate method; fire extinguishers will be re-charged, depleted supplies will be restocked, etc.). The EC (or designee) will notify the ODEQ and the Tulsa Area Local Emergency Management Agency that the facility is in compliance with the following requirements prior to resuming operations in the affected area(s) of the facility:

- No waste that may be incompatible with the released material is managed until cleanup procedures are completed.
- All emergency equipment listed in this Contingency Plan will be cleaned and fit for its intended use.
- A written report on the incident is submitted to the ODEQ within 15 days after the incident.

4i. CONTAINER SPILLS AND LEAKAGE: 40 CFR 264.171

In the event that liquids accumulate in container storage areas, accumulated liquids will be contained, collected, and managed in accordance with state and federal regulations. If a

container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the EC (or designee) will transfer the hazardous waste from this container to a container that is in good condition, over-pack the container, or manage the waste in on-site process.

4j. TANK SPILLS AND LEAKAGE: 40 CFR 264.194(c); 40 CFR 264.196

In the event of an incident resulting in spills or leakage from tank systems, the EC (or designee) will follow the procedures specified in sections 4j(i) to 4j(vi).

4j(i). CESSATION OF USE; PREVENTION OF FLOW OR ADDITION OF WASTES: 40 CFR 264.196(a)

The flow of hazardous waste into a tank will be stopped immediately after identification of a spill or leak in the affected tank. A visual inspection of the tank and ancillary equipment will be conducted to identify the cause of the release.

4j(ii). REMOVAL OF WASTE FROM TANK SYSTEM OR SECONDARY CONTAINMENT: 40 CFR 264.196(b)

Within 24 hours of detection of a leak or release from a tank system, waste will be removed (as necessary) to prevent further release of hazardous waste from the tank system. The tank system will be visually inspected and the required repairs performed. If hazardous waste is released to a secondary containment system, all released materials will be removed within 24 hours (or in as timely a manner as possible) to minimize potential harm to human health and the environment.

4j(iii). CONTAINMENT OF VISIBLE RELEASES TO THE ENVIRONMENT: 40 CFR 264.196(c)

In the event of a release of a hazardous waste from a tank system to the environment, USE Tulsa will immediately conduct a visual inspection of the release and (based upon that inspection) conduct actions to:

- Prevent further migration of the leak or spill to soils or surface water; and
- Remove and properly dispose of (or otherwise manage) any visible contamination of the soil or surface water.

4j(iv). NOTIFICATION AND REPORTS

Any release of hazardous waste to the environment (outside of secondary containment) of an amount greater than one pound or noncompliance which may endanger human health or the environment will be reported to the ODEQ within 24 hours of its detection (a report pursuant to 40 CFR 302 will satisfy this requirement). The following information will be included in the notification:

- Information of a release or discharge of hazardous waste or of a fire or explosion, which could threaten the environment or human health outside the facility;
- Date, time, and type of incident;
- Name, address, and telephone number of the facility;
- Name and quantity of material(s) involved;
- The extent of injuries, if any;
- An assessment of actual or potential hazards to the environment and human health outside the facility, when applicable; and
- An estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the facility becomes aware of the circumstances. The written submission will contain a description of:

- The noncompliance and its cause;
- The period of noncompliance including exact dates and times, and if the noncompliance has not been corrected;
- The anticipated time it is expected to continue; and
- Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Director may waive the five day written notice requirement in favor of a written report within fifteen days.

Within 30 days of detection of such a release to the environment, a report containing the following information will be submitted to the ODEQ:

- Likely route of migration of the release;
- Characteristics of the surrounding soul (soil composition, geology, hydrogeology, climate);
- Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data will be submitted to the ODEQ as soon as they become available but not to exceed 60 days;
- Proximity to downgradient drinking water, surface water, and populated areas; and
- Description of response actions taken or planned.

Releases of less than or equal to a quantity of one pound, which are immediately contained and cleaned up, will not be reported.

4j(v). PROVISIONS OF SECONDARY CONTAINMENT, REPAIR, OR CLOSURE: 40 CFR 264.196(e)

As outlined below, damaged tank systems and associated containment systems will be repaired prior to returning these systems to hazardous waste service.

- If the cause of the release was a spill that has not damaged the integrity of the system, the tank system may be returned to service as soon as the released waste is removed and repairs (if necessary) are made.
- If the cause of the release was a leak from the primary tank system into the secondary containment system, the system will be prepared prior to returning the tank system to service.
- If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the component of the system from which the leak occurred will be equipped with secondary containment that satisfies the requirements of 40 CFR 264.193 before returning the unit to service (unless the source of the leak is an above ground portion of a tank system that can be inspected visually). If the source is an above ground component that can be inspected visually, the component will be repaired and may be returned to service without secondary containment after certification as outlined in Section 4j(vi). Replacement tank

systems will be certified in accordance with the requirements for new tank systems (40 CFR 264.192 and 40 CFR 264.193, as applicable). Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an in ground or on ground tank), the entire component will be provided with secondary containment in accordance with 40 CFR 264.193 prior to being returned to service.

Unless the procedures outlined above are completed, the affected tank system will be closed in accordance with the requirements of 40 CFR 264.197.

4j(vi). CERTIFICATION OF MAJOR REPAIRS: 40 CFR 264.196(f)

When a tank system has been repaired as outlined in Section 4j(v) and the repair has been extensive (e.g., installation of an internal liner, repair of a ruptured primary containment or secondary containment vessel), the tank system will not be returned to service until the tank has been certified by an independent, qualified, registered professional engineer (in accordance with 40 CFR 270.11(d)) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification will be submitted to the ODEQ within 7 days after returning the tank system to use.

4k. SURFACE IMPOUNDMENT SPILLS, LEAKAGE, AND SUDDEN DROPS

USE Tulsa does not have existing surface impoundments on-site, therefore, the facility is not subject to these requirements.

5. EMERGENCY EQUIPMENT: 40 CFR 264.52(e)

A list of emergency equipment at the facility (including description and brief outline of capabilities) is presented in Appendix 4 - List of Emergency Equipment. Emergency equipment available includes items such as fire extinguishers, spill control equipment, communication systems (internal and external) and decontamination equipment. The equipment list will be updated as necessary. Location of emergency equipment on-site is shown in Appendices 1 and 1a (Emergency Response Plan).

6. COORDINATION AGREEMENTS: 40 CFR 264.52(c); 40 CFR 264.37

USE Tulsa has forwarded copies of this contingency plan to local response agencies, hospitals, and response contractors to familiarize these entities with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes. Copies of letters to the entities identified in Appendix 3 - List of Coordinating Agencies requesting services (when required) are maintained in the operating record. These entities will be provided with updates to the Contingency Plan. These entities will be provided with updates to the Contingency Plan. At agency request, the facility will provide those agencies (which have coordination agreements with the facility) the opportunity to tour the facility.

7. EVACUATION PLAN: 40 CFR 264.52(f)

The EC will evaluate any emergency and determine whether a facility evacuation will be necessary to protect the health and safety of personnel on-site. Evacuation routes and assembly points are shown on Appendices 1 and 1a (Facility Evacuation Map with Emergency Equipment Locations). The following evacuation procedures are provided as a guide; specifics may be modified as required by the EC.

- The EC (or designee) will initiate the evacuation plan by announcing the need to evacuate over the facility public address system. The verbal announcement will advise personnel of the need to evacuate. Additional information (ex: location/nature of incident, special requirements, or other instructions) regarding the incident may be provided via the public address system.
- All personnel, visitors, and contractors will immediately leave the facility and congregate at the designated rally point as instructed by the EC.
- A “head count” will be conducted by the EC (or designee) at the assembly point to identify missing personnel/visitors. The EC will use the public address system (if possible) to address to establish contact with any missing persons. The EC will be responsible for location of missing personnel; however, re-entry of the facility will be performed only if it is safe to do so. Site personnel will be accounted for by their immediate supervisors.
- Personnel shall not re-enter the facility unless specifically authorized by the EC.

- Additional procedures may be developed (as required) by the EC (ex: alternate evacuation route(s) and assembly point(s) may be selected if designated routes and assembly points are not accessible.

8. REQUIRED REPORTS: 40 CFR 264.56(j)

An emergency event (fire, explosion, spill, etc.) that requires implementation of this contingency plan will be reported in writing to the ODEQ within 15 days.

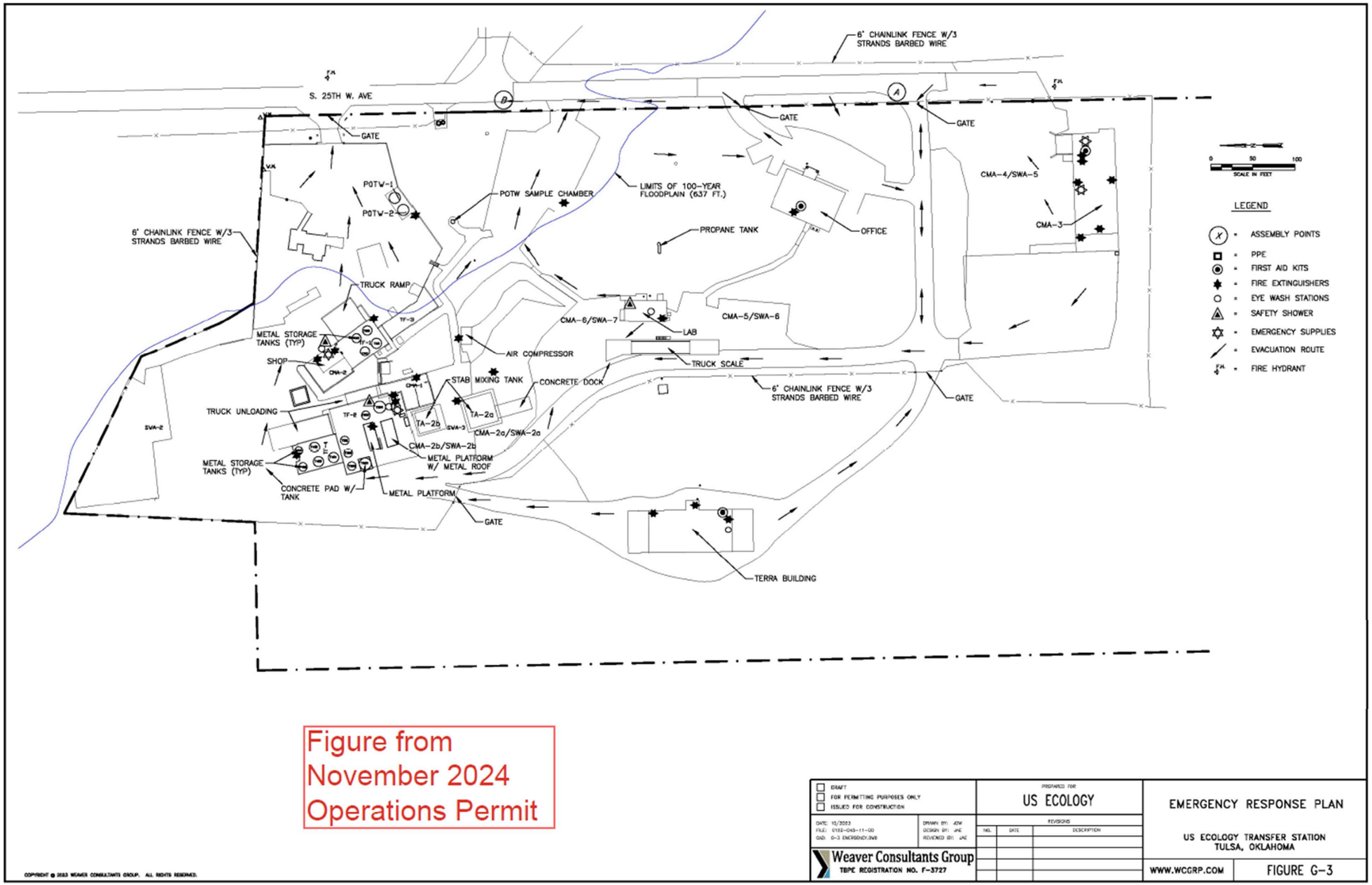
9. AMENDMENTS TO THE CONTINGENCY PLAN: 40 CFR 264.54

The Contingency Plan will be reviewed and immediately amended, if necessary, whenever:

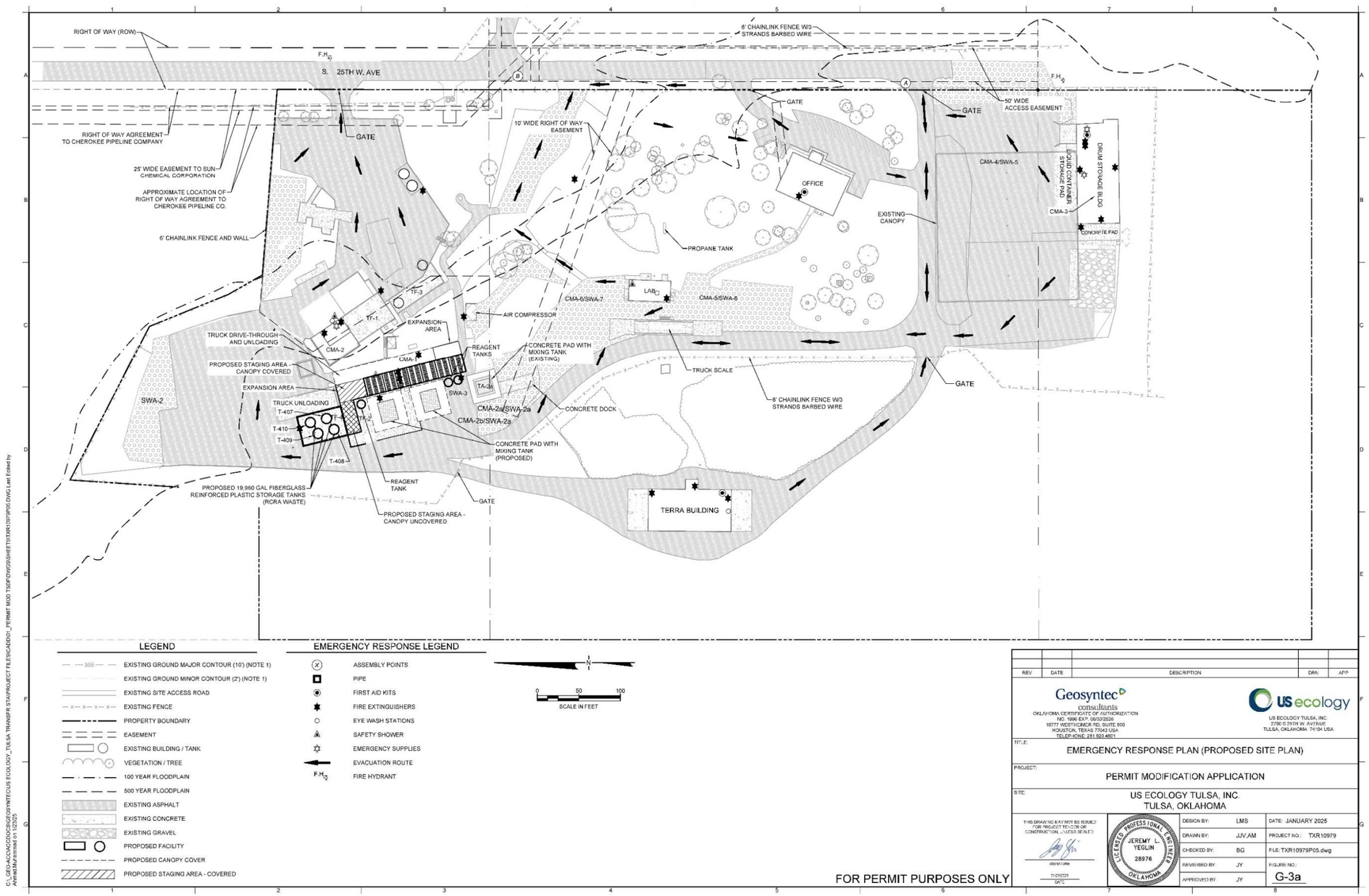
- The facility permit is revised in a way that materially increases the potential for fires, explosions, or releases of hazardous waste constituents, or changes in the response necessary in any emergency;
- The Contingency Plan fails in an emergency;
- The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes in the response necessary in any emergency;
- The list of Emergency Coordinators changes; or
- The list of emergency equipment changes.

---------- END OF SECTION ----------

Appendix 1- Emergency Response Plan



Appendix 1a – Emergency Response Plan (Proposed Site Plan)



Appendix 2- Emergency Coordinators

Primary Emergency Coordinator

TJ Timmons, Operations Manager

US Ecology Tulsa, Inc
2700 S. 25th W. Ave.
Tulsa, Oklahoma 74107
Office: (918) 560-9595

After Hours Contact:
Mobile: (918) 808-1100

Alternate Emergency Coordinator

Megan Salyer, Approvals Supervisor

US Ecology Tulsa, Inc.
2700 S. 25th W. Ave.
Tulsa, Oklahoma 74107
Office: (918) 560-5261

After Hours Contact:
Mobile : (918) 938-2328

Appendix 3- List of Coordinating Agencies

Berryhill Fire Department Michael Hall 2900 S. 65th W. Ave. Tulsa, Oklahoma 74120	918/446-1211 Fire Station 918/640-3261 Fire Chief Cell
Tulsa County Sheriff's Department Operations Division 500 South Denver Avenue Tulsa, Oklahoma 74103	911 or Non-Emergency: 918/596-5601
Emergency Medical Service Authority (EMSA) 1417 N. Lansing Avenue Tulsa, Oklahoma 74106	911 or Emergency Dispatch: 918/596-3015 Non-Emergency: 918/596-3100
Tulsa Area Emergency Management Agency 200 Civic Center Basement Tulsa, Oklahoma 74103	911 or Non-Emergency: 918/596-9899
Hillcrest Medical Center 1120 S. Utica Ave. Tulsa, Oklahoma 74104-4090	918/579-1000
Department of Environmental Quality 3105 E. Skelly Drive Suite 215 Tulsa, Oklahoma 74105	24 Hour Number: 800/522-0206 Non-Emergency: 918/293-1600

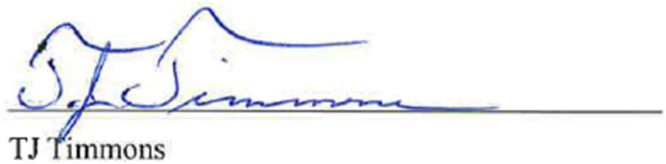
Appendix 4- List of Emergency Equipment

MATERIALS/EQUIPMENT	USES AND NOTES	
Emergency Equipment (Absorbents, shovel, broom)	Absorbents collect liquids; broom and shovel may be used to distribute/collect used absorbents, etc.	Use primarily for control of large spills, and containment and cleanup of small spills. The shovel and broom can be used to move the absorbent as needed.
Flexible hoses with quick couple fittings.	Used for material transfer	Neoprene is resistant to most acids and solvents, but not all. The hoses are used for quick hook-ups to tanker and tanks or vacuuming spills or leaks and run-off/run-on from the facility.
Fire extinguishers.	Dry chemicals may control ignitable liquids, gases, and electrical fires.	Kept in the office, laboratory, treatment area, CMA-3, and tank storage area.
First aid supplies.	Used in minor incidents. Major injuries are referred to medical facilities in the Tulsa area.	The bulk of first aid supplies are kept in the office. A smaller amount is kept in the laboratory and CMA-3.
Bobtail and tank truck.	Has the handling capabilities to pick up, store, and transport waste.	One is used to store and transport site generated solid waste. Can be used to remove spills and contaminated fluids in the diked area.
Emergency eye wash stations and showers.	For flushing face and body when accidents occur where wastes contact the eye or body. May be used to decontaminate the whole body.	A shower is located in the tankand well area. Eye wash stations are located in the laboratory, well, and CMA-3 areas.
Respirators, face shield, and protective clothing.	Cartridges for organic vapors and gases, protective eyeglasses, coveralls, gloves and foot coverings are used.	Needed at a commercial hazardous waste facility for eye and upper respiratory protection from spills and gases.
Communication system.	The telephone and radio system are also connected to the telephone system outside the facility.	The radio system can be used as an alarm at the site in case of an emergency. The telephone can be used to call for outside help.

Appendix 5- Authorization for Implementation of Contingency Plan

To Whom It May Concern:

As Operations Manager of US Ecology Tulsa, Inc., I hereby grant the following authority to commit all company resources (as deemed necessary) to implement the facility Contingency Plan. In the event of an occurrence which warrants implementation of the Contingency Plan, the designated Emergency Coordinator (primary and alternate) are fully authorized to implement all actions deemed necessary. This authority will not be affected by any change of my association with the company.



11-26-2024

TJ Timmons — Date

Operations Manager, US Ecology Tulsa, Inc.

Attachment 6

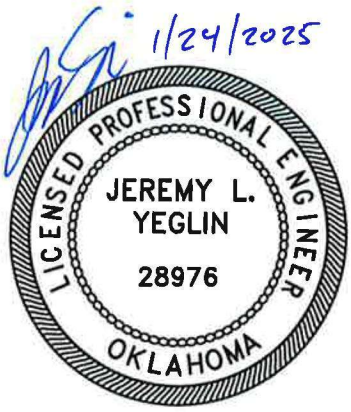
RCRA Part B Permit Application

Procedures to Prevent Hazards

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma



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ATTACHMENT 6 - PROCEDURES TO PREVENT HAZARDS

In accordance with Code of Federal Regulations (CFR), Title 40, Section 264.31 (40 CFR 264.31), the US Ecology Tulsa, Inc. (USE Tulsa) facility is designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or water which could threaten human health or the environment. USE Tulsa is also constructed and has in place safety procedures and equipment to prevent hazards in unloading operations, runoff from hazardous waste areas , contamination of water supplies, effects of equipment/power failure, exposure of personnel to hazardous waste, and releases to atmosphere as required by 40 CFR 270.14(b)(8).

1. PREVENTION OF HAZARDS IN UNLOADING OPERATIONS: 40 CFR 270.14(b)(8)(i)

Unloading operations at the facility take place adjacent to container and tank storage and treatment areas with equipment designed to minimize manual lifting and handling of waste which include forklifts, drum dollies, electric and manual pallet jacks, and drum grabber equipment. Ramps are provided for unloading box trailers parked at the truck dock. For bulk liquid loads, flexible hoses with "quick connect" couplings may be used to transfer wastes directly to treatment or storage tanks. Unloading operations are attended by a USE Tulsa employee to be able to quickly respond in the event of a release. Vehicle wheels are chocked during unloading operations to ensure that the vehicle does not move prematurely. Vehicle and pedestrian traffic in the immediate area of the vehicle being unloaded is limited to ensure that all persons in the area are aware of the hazards involved. All bulk tankers are grounded/bonded while being loaded or off-loaded. All unloading areas are constructed of concrete to prevent releases from impacting groundwater. In the event of a power failure, pumps will stop and check valves will minimize backflow to the unloading tanker. Employees are provided with appropriate personal protective equipment (PPE) to minimize exposure to hazardous chemicals. Containers remain closed during unloading unless venting is required to prevent container failure.

The flood walls provide containment structures for all operating areas within the 100-year flood plain. Details of the wall construction, storage volume, and precipitation information are discussed in Section B, General Information. Hazardous waste activities will not be conducted in areas within the designated 100-year flood plain.

2. PREVENTION OF RUNOFF FROM HAZARDOUS WASTE AREAS AND FLOODING OF THESE AREAS: 40 CFR 270.14(b)(8)(ii)

The area of the facility within the 100-year flood plain is diked by a reinforced concrete wall. The wall is designed for flood protection, but also serves to contain precipitation run-off within this portion of the facility (i.e., accumulated precipitation is contained within the perimeter of the wall). Where hazardous waste management areas are subject to precipitation run-off/run-on (container storage and tank systems), secondary containment systems as required under Subparts I and J of 40 CFR 264 are provided (see Attachment 10 - Process Description for additional details regarding container and tank management practices).

Precipitation accumulated in containment areas (including liquids accumulated within the flood wall) will be managed in accordance with state and federal regulations. Accumulated precipitation is removed from permitted secondary containment areas within 24-hours of the end of the rain event. Prior to removal of the precipitation, the water is visually inspected for discoloration or sheen. Records are reviewed to determine if spills have occurred in the area since the previous precipitation event. If there is no evidence of sheen, discoloration, or spill history in the area, the water is pumped out of the containment area and over the flood wall to the surrounding property. If the water is determined to be contaminated, the volume will be managed as a hazardous waste.

3. PREVENTION OF CONTAMINATION OF WATER SUPPLIES: 40 CFR 270.14(b)(8)(iii)

Waste management practices and facility structures have been designed to prevent contamination of water supplies with the hazardous constituents managed on-site. Hazardous waste storage areas are equipped with secondary containment systems. Secondary containment systems for hazardous waste tank and container storage areas are coated with an impervious, chemically resistant material. Incidental spills will be contained and collected; the residuals will be managed in accordance with state and federal regulations.

4. MITIGATION OF EFFECTS OF EQUIPMENT FAILURE AND POWER OUTAGES: 40 CFR 270.14(b)(8)(iv)

USE Tulsa relies on the local power company for power supply. Operations may be shut down when power supply is interrupted. USE Tulsa may utilize generator power supplies to operate facility process units.

Equipment failure and malfunction will be recorded in the operating record. Maintenance personnel will inspect and repair malfunctioning equipment as needed. Equipment and instrument calibration will be performed as needed by qualified contractors to provide USE Tulsa with quality data reporting. The inspection schedule and inspection log sheets provide for inspection of tanks and accessories to minimize the potential for releases to the environment.

5. PREVENTION OF EXPOSURE OF PERSONNEL TO HAZARDOUS WASTE: 40 CFR 270.14(b)(8)(v)

All facility personnel handling hazardous wastes are provided initial and annual training (see Attachment 7 - Training Programs and Documents) to minimize the potential for harmful exposure to hazardous waste or hazardous waste constituents. Training includes a 24-hour training (as required by 29 CFR 1910.120), general characteristics of hazardous wastes handled at the facility, how to select proper personnel protection for the different hazardous wastes handled, and the locations and use of facility decontamination equipment. Operations personnel are trained to wear PPE for specific tasks when handling hazardous waste. Specific PPE will be selected based on the protection required for various tasks.

The facility maintains the following PPE to facilitate undue exposure:

- Air Purifying Respirators and appropriate cartridges
- Tyvek
- Chemical resistant gloves
- Face shields
- Safety Glasses
- Hard Hats
- Other miscellaneous items such as sleeves, leather gloves, side shields

6. PREVENTION OF RELEASES TO ATMOSPHERE: 40 CFR 270.14(b)(8)(vi)

USE Tulsa utilizes multiple methods to prevent releases to the atmosphere. As identified in the Waste Analysis Plan, USE Tulsa does not accept waste for on-site treatment with a volatile organic compound (VOC) content greater than 500ppm, which minimizes any excess release of material to the atmosphere. However, wastes that will be trans-shipped to another facility may contain VOC concentrations greater than 500ppm. Containers are kept closed when not sampling or processing

waste to prevent releases. Containers are also inspected daily to ensure they are in acceptable condition and will prevent release of its contents to the atmosphere. Tanks on site that store waste are inspected to make sure the roofing, valves, and other associated items are in acceptable condition and will prevent release of its contents to the atmosphere.

7. ACCESS TO COMMUNICATIONS OR ALARM SYSTEMS: 40 CFR 264.34

Whenever hazardous waste is being poured, mixed, or otherwise handled, all personnel involved in the operation have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee. Radios are available for communication between employees, and telephones are available to contact emergency responders. Employees do not work with wastes while alone at the facility, so personnel are available in the event of an emergency.

8. PRECAUTIONS TO PREVENT ACCIDENTAL IGNITION OR REACTION OF IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES: 40 CFR 270.14(b)(9)

USE Tulsa utilizes multiple methods to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes. Ignitable wastes are separated and protected from sources of ignition or reaction. Smoking and open flames are limited to specific locations. If hot work is required in the vicinity of ignitable waste storage, a hot work permit system is in place to ensure that all proper precautions are taken to prevent fires. “No Smoking” signs are placed conspicuously in the area of ignitable or reactive wastes.

Incompatible wastes are segregated from other incompatible wastes to ensure that reactions cannot occur due to leaks from incompatible chemical containers.

----------END OF ATTACHMENT----------

Attachment 8

RCRA Part B Permit Application

Closure and Post Closure Plan with Estimates and Insurance Information

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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ATTACHMENT 8 – CLOSURE AND POST CLOSURE PLAN WITH ESTIMATES AND INSURANCE INFORMATION

1. CLOSURE PLAN

This section provides a general description of the US Ecology Tulsa, Inc. (USE Tulsa) closure plan and financial assurance for closure costs with regard to hazardous waste management units, as required by Code of Federal Regulations (CFR) Title 40 Sections 270.14(b)(13) and 264.112, as well as the applicable rules and regulations under the Oklahoma Hazardous Waste Management Act, 63 O.S., Sections 1-2001 et seq. (as amended) administered by the State of Oklahoma Department of Environmental Quality (ODEQ).

USE Tulsa will maintain a copy of the approved closure plan and all subsequent revisions to the plan on-site until the certification of closure completeness has been submitted to and approved by the ODEQ.

This written plan for closure of hazardous waste management units will be amended, and written notification of or request for a permit modification to authorize the change in the approved closure plan will be submitted to the ODEQ whenever:

- Changes in operating plans or facility design affect the closure plan; or
- In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

USE Tulsa will submit the notification or request for a permit modification including a copy of the amended closure plan, for approval by the ODEQ, at least sixty (60) days prior to the proposed change in facility design or operation, or no later than sixty (60) days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, USE Tulsa will request a permit modification no later than thirty (30) days after the unexpected event.

a. CLOSURE PERFORMANCE STANDARDS

US Ecology Tulsa, Inc. (USE Tulsa) manages hazardous waste in four (4) permitted container management areas (CMAs), two (2) treatment areas (TA), and one (1) tank farm (TF) on-site. Four additional 90-day storage areas are included in the closure plan to ensure testing of the concrete/soil in those areas. The modification application for the hazardous waste would include the management of four (4) permitted container management areas (CMA's), three (3) treatment areas (TAs), and one (1) tank farm (TF) on-site. Tank Farm 1 is to be closed and replaced with Tank Farm 4 for storage of hazardous wastes. Specifics regarding these permitted units are provided in the Part A Permit Application and Attachment 10 - Process Description.

Closure of USE Tulsa hazardous waste management units (or partial closure of these units) will be completed in accordance with the requirements of 40 CFR 264.111; specifically, the facility will be closed in a manner that:

- Minimizes the need for further maintenance.
- Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

USE Tulsa will meet this performance standard by removing all hazardous wastes and hazardous waste constituents from hazardous waste tank and container management units. Hazardous waste container storage/treatment units and hazardous waste tank systems are shown in Figure 1: A-2 – General Facility Layout presented in Attachment 1 - Maps and Figures. Specific information regarding hazardous waste management units on-site is presented in Attachment 10 - Process Information. Container and tank management systems will be closed in any one or combination of the following (as appropriate), but decontamination and disposal of the tanks is the basis for the Closure cost estimate, leaving the containment structures in place:

- Tanks, containment structures, and/or ancillary equipment will be dismantled and disposed of as hazardous waste at a RCRA/HSWA permitted off-site facility;

- Tanks, containment structures, and/or ancillary equipment will be dismantled, decontaminated, and disposed of in accordance with solid waste requirements;
- Tanks, containment structures, and/or ancillary equipment will be dismantled, decontaminated, and salvaged for future use either on-site or off-site; or
- Tanks, containment structures, and/or ancillary equipment will be decontaminated, and maintained in place for future use on-site.

In summary, USE Tulsa will close hazardous waste tank and container management units by removal of all hazardous waste and hazardous waste residuals so that there will not be any need for post-closure care (see figure 1 in Appendix 3 at the end of this attachment). Closure of the USE Tulsa hazardous waste management facility (or partial closure of any units) will be completed in a manner that minimizes the need for further maintenance. Additional measures will be taken to control, minimize, or eliminate, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

i. PARTIAL AND FINAL CLOSURE ACTIVITIES

USE Tulsa will close hazardous waste tank and container storage/treatment units in accordance with this closure plan unless an alternate partial or final closure plan has been approved by ODEQ. In accordance with 40 CFR 264.112(e), this closure plan shall not preclude USE Tulsa from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

1. PARTIAL CLOSURE

Facility closure will not be mandated by capacity limitations because hazardous waste management activities subject to these requirements are not limited by disposal capacity. Partial closure of any one tank or container management unit will not necessitate final facility closure. At the time of partial closure, closure of one or more

hazardous waste management units will be in accordance with the final closure procedures or in accordance with a unit specific closure plan approved by the ODEQ.

2. FINAL CLOSURE

Final closure of hazardous waste management units at USE Tulsa will be performed in accordance with the procedures specified in this closure plan unless an alternate plan is approved by the ODEQ. At final closure, individual hazardous management units may be closed individually or as a group. The closure schedule, discussed in Figure 3 of Appendix 2 at the end of this attachment, may be completed for each hazardous waste management unit prior to total facility closure and subsequent certification to the ODEQ. In the event that hazardous waste management units are closed in sequence, USE Tulsa will submit closure certification for affected units after closure of the last unit in the closure sequence.

Temporary storage areas may be developed for storage of wastes which are generated by closure activities. Hazardous wastes generated during closure activities will be stored in temporary storage areas for less than ninety (90) days in accordance with the applicable requirements of 40 CFR 262.34. Specific closure procedures are outlined in Section 1.a.iv.

Closure of any hazardous waste management unit will consist of the following steps:

- The total volume of hazardous waste will be removed from the unit; removed wastes will be managed in on-site processes, stored in other container/tank management units on-site, or sent off-site for management in accordance with state and federal regulations.
- Tank systems (if applicable) will be decontaminated by cleaning with high-pressure water, steam, non-phosphate detergent, or other appropriate method. Rinsate and/or cleaning residuals will be managed in accordance with state and federal regulations. Containment structures will be visually evaluated for evidence of contamination or indications of release of hazardous waste or hazardous waste constituents from the containment

system. In the event that visual contamination is observed, the containment structure will be decontaminated. Decontamination of containment structures will be accomplished by cleaning with high-pressure water, steam, non-phosphate detergent, or other appropriate method. Rinsate and/or cleaning residuals will be managed in accordance with state and federal regulations. Potential releases to soil will be evaluated in accordance with the procedures in Appendix 4 at the end of this attachment.

- Decontaminated tank systems or containment structures may be maintained for non-hazardous waste service until final facility closure.

Final closure will be supervised and certified by an independent registered professional engineer. The engineer, at minimum, will inspect closure activities monthly during closure.

ii. MAXIMUM WASTE INVENTORY: 40 CFR 264.112(b)(3)

Hazardous waste that may be on-site at the time of final or partial closure includes waste stored in tanks and containers; specific Environmental Protection Agency (EPA) waste codes managed are identified in the facility Part A Permit Application (Section A). The maximum inventories expected for each of these units is provided in Figure 2 of Appendix 2.

iii. SCHEDULE FOR CLOSURE: 40 CFR 264.112(b)(6)

USE Tulsa plans to initiate final closure activities of container management units within ninety (90) days after receipt of the final volume of hazardous wastes. Completion of closure will be within one hundred eighty (180) days of receipt of the final volume of hazardous waste. USE Tulsa will notify the ODEQ in writing, at least forty-five (45) days prior to the date on which final closure of hazardous waste management units is expected to begin. The closure schedule (Figure 3 in Appendix 2 at the end of this attachment), provides the schedule for final closure and for intervening closure activities of container storage and treatment areas and tanks.

Because hazardous waste activities are storage and treatment, facility hazardous waste operations are not limited by disposal capacity. Therefore, USE Tulsa does not anticipate final facility closure prior to expiration of the RCRA permit for hazardous waste management activities and an estimated year for final closure is not required.

The final closure schedule (as applicable) will also apply for the partial closure of any hazardous waste management unit. In accordance with 40 CFR 264.115, USE Tulsa will submit to ODEQ (by registered mail, overnight service, or hand delivery), a closure certification within sixty (60) days of completion of final closure. This certification, signed by USE Tulsa and by an independent registered professional engineer, will state that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan.

(1) EXTENSIONS FOR CLOSURE TIME: 40 CFR 264.113(a)&(b)

USE Tulsa does not anticipate that the time for completion of final closure of hazardous waste management units will exceed one hundred eighty (180) days or that treatment or removal of the final volume of hazardous waste will exceed ninety (90) days. USE Tulsa will petition the ODEQ for the extended time if that contingency is required. Justification for the extended time requested will be shown in the petition.

iv. CLOSURE PROCEDURES

During closure operations, USE Tulsa will inspect the immediate area around hazardous waste management areas for indications of contamination. Any visible evidence of contamination such as staining or discoloration will be evaluated for hazardous waste constituents. Affected soil will be evaluated as specified in Figure 1 of Appendix 3 at the end of this attachment. Contaminated soils will be removed and managed in accordance with state and federal regulations. Disposal or decontamination of equipment and structures is addressed in the following sections.

(1) INVENTORY REMOVAL, DISPOSAL, OR DECONTAMINATION OF EQUIPMENT: 40 CFR 264.112(b)(4), 40 CFR 264.114

During the partial and final closure periods, all contaminated equipment, structures, and soils will be properly disposed of or decontaminated unless otherwise specified in 40 CFR Part 264.

Any equipment used during decontamination procedures or other closure activities, and thereby contaminated, will be managed as follows:

- All residual waste adhering to the equipment will be removed (to the greatest degree practicable) by scraping the equipment will be washed using high pressure water and (if deemed necessary) non-phosphate detergent or other appropriate methods[1]; the final rinsate will be evaluated in accordance with the criteria specified in Figure 1 of Appendix 3 at the end of this attachment.
- Decontaminated equipment will be salvaged for future use or disposed of in accordance with solid waste requirements; equipment deemed contaminated with hazardous waste may be disposed of in accordance with hazardous waste requirements; and the solids and liquids thus generated will be managed as hazardous waste or tested and managed in accordance with state and federal regulations.

By removing any hazardous wastes or hazardous waste constituents during partial and final closure, USE Tulsa may become a generator of hazardous waste. Hazardous waste generated during closure activities will be managed in accordance with all applicable state and federal regulations.

(2) CLOSURE OF DISPOSAL UNITS

USE Tulsa does not operate any hazardous waste piles, landfills, surface impoundments, or miscellaneous hazardous waste disposal units in which wastes or contaminated materials are to remain at closure; therefore, this section is not applicable to the USE Tulsa facility.

(3) CLOSURE OF CONTAINER MANAGEMENT UNITS

Unless partial closure is completed prior to final closure, the final inventory of wastes will be removed from permitted hazardous waste container storage areas (i.e., CMA-1, CMA-2, CMA-3, and CMA-4) and managed off-site or treated in accordance with state and federal regulations (if applicable). After the final inventory of waste has been removed, all loose items (i.e., papers, pallets, empty containers, or other debris) will be removed. These residuals will be managed as hazardous waste at an off-site TSDF or tested and managed in accordance with state and federal regulations or decontaminated prior to disposal or reuse.

The secondary containment structures of containment areas will be cleaned using high pressure water containing (if deemed necessary) non-phosphate detergent solution or containment structures will be decontaminated using another suitable method. The wash water will be collected and managed in accordance with state and federal regulations. The structure will then be rinsed twice; rinsate will be collected and managed in accordance with state and federal regulations. The final rinsate from the hazardous waste container management area will be analyzed and, when the decontamination criteria are satisfactory and when no visible residues remain on the containment structure, the structure will be deemed clean-closed. Decontamination criteria are located in Figure 1 of Appendix 3 at the end of this attachment.

After the containment structure has been decontaminated, samples of soil/gravel will be collected around the perimeter of container management area with a minimum of one sample taken from each side of the container management unit. In addition, soil samples will be collected from below the containment structure where visual evidence of a potential release is detected. Soil samples will be evaluated as specified in Appendix 4 - Soil Evaluation Procedures.

(4) CLOSURE OF TANKS

Unless partial closure is completed prior to final closure, the final volume of hazardous waste stored hazardous waste tank systems will be removed and managed off-site or treated (if applicable). Sludges, if present, will be removed from the tank system and

disposed of in accordance with state and federal requirements. Wastes shipped off-site will be managed in accordance with state and federal regulations. USE Tulsa may elect to perform dismantling, cleaning and decontamination of the tanks and associated piping in a sequential manner. The following procedures (as applicable) will be used to decontaminate tank systems.

Tanks will be decontaminated using high pressure water containing (if deemed necessary) non-phosphate detergent solution, or tanks will be decontaminated using another suitable method. The wash water will be collected and managed in accordance with state and federal regulations. The tank will then be rinsed twice; rinsate will be collected and managed in accordance with state and federal regulations. The final rinsate from the tank will be analyzed and, when the decontamination criteria are satisfactory and when no visible residues remain on surfaces, the tank will be deemed clean-closed. Decontamination criteria are located in Figure 1 of Appendix 3.

All the ancillary equipment associated with the tanks in Tank Farm 4 will be detached. The equipment to be disconnected include the piping inlets and outlets. The pipes will be rinsed and decontaminated in accordance with the procedures specified for equipment (or other appropriate method). Any visible spills or leakage detected during the disconnection process will be collected and removed.

US Ecology Tulsa, Inc. will wash the containment structures for the tank systems (i.e., TF-4, TA-2a, TA-2b, and TA-2c) using steam, high pressure water containing (if deemed necessary) non-phosphate detergent solution, or containment structures will be decontaminated using another suitable method. The wash water will be collected and managed in accordance with state and federal regulations. The structure will then be rinsed twice; rinsate will be collected and managed in accordance with state and federal regulations. The final rinsate from each containment system will be analyzed and, when the decontamination criteria are satisfactory and when no visible residues remain on the containment structure, the structure will be deemed to be clean-closed. Decontamination criteria are outlined in Figure 1 of Appendix 3

Soil evaluation procedures outlined in Appendix 4 will be followed during closure of tank containment systems.

(5) CLOSURE OF WASTE PILES: 40 CFR 270.18(h) AND 40 CFR 264.258

USE Tulsa does not operate a hazardous waste pile, therefore this section is not applicable.

(6) CLOSURE OF SURFACE IMPOUNDMENT: 40 CFR 270.17(f)

USE Tulsa does not operate a hazardous waste surface impoundment, therefore this section is not applicable.

(7) CLOSURE OF INCINERATORS: 40 CFR 264.351

USE Tulsa does not operate a hazardous waste incinerator, therefore this section is not applicable.

(8) CLOSURE OF LANDFILLS: 40 CFR 264.310(a) AND 264.280(b)

USE Tulsa does not operate a hazardous waste landfill, therefore this section is not applicable.

(9) CLOSURE OF LAND TREATMENT FACILITIES: 40 CFR 264.280(a)

USE Tulsa does not operate a hazardous waste land treatment facility, therefore this section is not applicable.

(10) CLOSURE OF MISCELLANEOUS UNITS: 40 CFR 264.601

USE Tulsa does not operate miscellaneous hazardous waste units, therefore this section is not applicable. However, other areas associated with waste management that are not permitted storage units will also be cleaned and closed.

2. POST CLOSURE PLAN

USE Tulsa does not operate hazardous waste disposal activities or units subject to this permit and designated for closure in place. At final closure, all hazardous wastes and hazardous waste constituents will be removed from hazardous waste management areas. Ground water monitoring

may, however, continue after closure. Financial assurance has been added in the event that ground water monitoring is required after closure of the facility.

3. NOTICES REQUIRED FOR DISPOSAL FACILITIES

a. NOTICES REQUIRED FOR DISPOSAL FACILITIES

USE Tulsa does not operate hazardous waste disposal activities or units subject to this permit and designated for closure in place. At final closure, all hazardous wastes and hazardous waste constituents will be removed from hazardous waste management areas. Therefore, USE Tulsa is not subject to post-closure requirements.

i. CERTIFICATION OF CLOSURE: 40 CFR 264.115

During closure, an independent registered professional engineer will inspect and certify the closure activities. Within sixty (60) days of completing closure, a certification of closure will be submitted to the ODEQ by an independent registered professional engineer. The closure certification will be signed by both the owner or operator and the independent registered professional engineer.

ii. SURVEY PLAT: 40 CFR 264.116

This section is not applicable since this closure does not address the closure of hazardous waste disposal units.

iii. NOTICE TO LOCAL AUTHORITIES: 40 CFR 264.119

This section is not applicable since this closure does not address the closure of hazardous waste disposal units.

iv. POST CLOSURE CERTIFICATION: 40 CFR 264.120

This section is not applicable since this closure does not address the closure of hazardous waste disposal units.

v. NOTICE IN DEED TO PROPERTY: 40 CFR 270.14(b)(14) AND 40 CFR 264.119

This section is not applicable since this closure does not address the closure of hazardous waste disposal units. However, a notice in the deed to the property has been recorded with

the County Clerk in Book 4762, Page 1726, to notify any potential purchaser of the property of the following:

- a disposal well has operated at the site;
- wastes have been injected into the underground strata;
- additional information may be obtained from the ODEQ.

b. CLOSURE COST ESTIMATES: 40 CFR 270.14(b)(15); 40 CFR 264.142 AND 264.197(c)(3)

The cost associated with closure of the USE Tulsa hazardous waste facility is presented in Figure 1 of Appendix 2 at the end of this attachment. The costs are based on total decontamination and removal of all hazardous wastes and hazardous waste constituents from hazardous waste container and tank management units. Closure costs will be adjusted annually for inflation using price indexes provided by ODEQ.

c. FINANCIAL ASSURANCE MECHANISM FOR CLOSURE: 40 CFR 270.14(b)(15), 40 CFR 264.143

The financial assurance mechanism in place for closure of the USE Tulsa facility is a Certificate of Insurance. This is further discussed below.

i. CLOSURE INSURANCE: 40 CFR 264.143(e)

USE Tulsa has a Certificate of Insurance included in Appendix 1 of this attachment.

d. CONTINGENT POST-CLOSURE COST ESTIMATE: 40 CFR 270.14(b)(16) AND 40 CFR 264.144

There are no units remaining at USE Tulsa which require the use of contingent post closure provisions.

e. FINANCIAL ASSURANCE MECHANISM FOR POST CLOSURE CARE: 40 CFR 270.14(b)(16) AND 40 CFR 264.145

There is no post closure required for this facility.

f. LIABILITY REQUIREMENTS

The following is a discussion of the financial mechanisms in place to fulfill the liability requirements of 40 CFR 264.147.

i. COVERAGE FOR SUDDEN ACCIDENTAL OCCURRENCES: 40 CFR 264.174(a)

USE Tulsa demonstrates its financial ability to compensate third party damages and injuries through a pollution liability issued by Philadelphia Insurance Companies. A copy of the current Certificate of Insurance is provided in Appendix 1- Insurance Documents.

ii. COVERAGE FOR NON-SUDDEN ACCIDENTAL OCCURRENCES: 40 CFR 264.147(b)

USE Tulsa does not operate a surface impoundment, landfill, land treatment facility, or miscellaneous disposal unit that is used to manage hazardous waste, therefore this section does not apply.

iii. REQUEST FOR VARIANCE: 40 CFR 264.147(c)

USE Tulsa is not requesting a variance from liability requirements, therefore this section does not apply.

----------**END OF SECTION**----------

Appendix 1- Closure Insurance

Figure 1 - COI for Closure and/or Post-Closure Care

GREAT AMERICAN INSURANCE GROUP
Environmental Division

397 Eagleview Blvd, Suite 100
Exton, PA 19341
888.828.4320 ph

CERTIFICATE OF INSURANCE FOR CLOSURE AND/OR POST-CLOSURE CARE

Name and Address of Insurer (herein called the "Insurer"):
Great American Insurance Company
301 E. 4th Street
Cincinnati, OH 45202

Name and Address of Insured, (herein called the "Insured"):
US Ecology, Inc.
101 S. Capital Blvd., Suite 1000
Boise, ID 83702

FACILITIES COVERED:

Name:	US Ecology Tulsa, Inc.
Address:	2700 South 25th West Avenue Tulsa, OK 74107
EPA ID Number:	OKD000402396
Closure:	$2,611,623.74
Face Amount:	$2,611,623.74
Policy Number:	CPC E620949 03
Effective Date:	December 31, 2023

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for closure for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 264.143(e), 264.145(e), 265.143(d), and 265.145(d) as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the Executive Director of the Oklahoma Department of Environmental Quality (DEQ), the Insurer agrees to furnish to the DEQ Executive Director a duplicate original of the policy listed above, including all endorsements thereon.

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OK-SOLID WASTE-CPC (1/00)

GREAT AMERICAN INSURANCE GROUP
Environmental Division

397 Eagleview Blvd, Suite 100
Exton, PA 19341
888.828.4320 ph

I hereby certify that the wording of this certificate is identical to the wording specified in 40 CFR 264.151(e), United States Environmental Protection Agency approved amendment, for the State of Oklahoma, as such regulations were constituted on the date shown immediately below.

(Authorized signature for Insurer)

Rick Ringenwald
(Name of person signing)

Divisional Vice President, Executive Underwriter
(Title of person signing)

(Signature of witness or notary)

4/16/2024
(Date)

SEAL:

Commonwealth of Pennsylvania - Notary Seal
Christal Dove, Notary Public
Chester County
My commission expires September 29, 2026
Commission number 1425572
Member, Pennsylvania Association of Notaries

Page 2

OK-SOLID WASTE-CPC (1/00)

Figure 2 - Premises Environmental Coverage Declarations (Pollution Liability)

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

HAZARDOUS WASTE FACILITY LIABILITY ENDORSEMENT

This endorsement modifies and is subject to the insurance provided under the following:

PREMISE ENVIRONMENTAL COVERAGE

It is hereby agreed that the policy is amended as follows:

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at US Ecology Tulsa, Inc., 2700 S. 25th Avenue, Tulsa, OK 74107, EPA I.D. No. OKD000402396, for sudden accidental and nonsudden accidental occurrences. The limits of liability are $4,000,000 each occurrence and $8,000,000 annual aggregate, exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

   (a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

   (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).

   (c) Whenever requested by the Department of Environmental Quality, an agency of the State of Oklahoma, the Insurer agrees to furnish to the Department of Environmental Quality, an agency of the State of Oklahoma a signed duplicate original of the policy and all endorsements.

   (d) Cancellation of this endorsement, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Department of Environmental Quality, an agency of the State of Oklahoma .

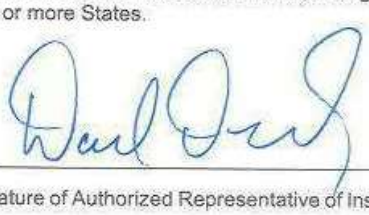
   (e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Department of Environmental Quality, an agency of the State of Oklahoma .

Attached to and forming part of policy No. ER00T3324 issued by Aspen Specialty Insurance Company, herein called the Insurer, of 499 Washington Boulevard, 8th Floor, Jersey City, NJ 07310 to REPUBLIC SERVICES, INC. of 18500 N ALLIED WAY, PHOENIX, AZ 85054 this 12th day of June 2024. The effective date of said policy is June 30, 2024.

I hereby certify that the wording of this endorsement is identical to the wording specified in 40 CFR 264.151(i), United States Environmental Protection Agency approved amendment, for the State of

Page 1 of 2

Oklahoma, as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.



Signature of Authorized Representative of Insurer

Daniel Orseck
Regional Manager, Senior Vice President
Authorized Representative of Aspen Specialty Insurance Company
499 Washington Boulevard, 8th Floor, Jersey City, NJ 07310

All other policy terms and conditions remain unchanged.

Appendix 2

Figure 1a - Existing Layout Closure Estimates (2009$)

	Container Management Areas									Tank Management Areas												
	CMA-1		CMA-2	CMA-3	CMA-4	CMA-5	CMA-6	CMA-2A	CMA-2B	T-101		T-102		T-103		T-107		TA-2A		TA-2B	
Permitted Waste Volume	10,560	gal	4,840 gal	30,560 gal	900 yd^3	90-day	90-day	90-day	90-day	16,800	gal	19,960	gal	19,960	gal	13,077	gal	42.7	yd^3	36.3	yd^3
Containment Area Footprint	1,444	ft^2	1,089 ft^2	3,240.7 ft^2	No Secondary Cont.	No Secondary Cont.	No Secondary Cont.	No Secondary Cont.	No Secondary Cont.	1,900.80	ft^2	With T101		With T101		With T101		1,239	ft^2	585.6	ft^2
Borings/Samples	4		4	4	6	4	4	2	2	4		0		0		0		4		4	
Removal of Waste (CS-03)	$576.25		$273.62	$1,651.00	$341.40	$-	$-	$-	$-	$702.05		$842.46		$842.46		$505.48		$365.07		$308.90	
Flushing the Piping (TS-05)	$-		$-	$-	$-	$-	$-	$-	$-	$66.91		$66.91		$66.91		$66.91		$-		$-	
Excavation, Disassembly, and Loading (TS-06)	$-		$-	$-	$-	$-	$-	$-	$-	$3,080.44		$3,312.37		$3,312.37		$3,047.46		$1,533.21		$1,304.39	
Decontamination (DC-01)	$3,348.22		$2,597.76	$7,095.30	$-	$-	$-	$-	$-	$19,107.76		$8,785.15		$8,785.15		$7,567.62		$11,459.40		$9,312.97	
Sampling and Analysis (SA-02)	$16,724.18		$16,504.94	$13,978.29	$52,088.87	$15,240.29	$15,240.29	$7,617.64	$7,620.14	$16,504.94		$1,269.65		$1,269.65		$1,269.65		$16,504.94		$16,504.94	
Transportation (TR-01)	$6,768.00		$3,384.00	$13,536.00	$50,760.00	$-	$-	$-	$-	$6,768.00		$6,768.00		$6,768.00		$5,076.00		$5,076.00		$5,076.00	
Treatment and Disposal (TD-01)	$83,609.04		$38,565.08	$241,431.96	$355,752.00	$-	$-	$-	$-	$51,233.58		$62,288.85		$62,288.85		$37,902.90		$30,456.21		$24,533.21	
Subtotal	$111,025.69		$61,325.40	$277,692.55	$458,942.27	$15,240.29	$15,240.29	$7,617.64	$7,620.14	$97,463.68		$83,333.39		$83,333.39		$55,436.02		$65,394.83		$57,040.41	
% Engineering Costs	10%		10%	10%	10%	10%	10%	10%	10%	10%		10%		10%		10%		10%		10%	
Engineering Expenses	$11,102.57		$6,132.54	$27,769.26	$45,894.23	$1,524.03	$1,524.03	$761.76	$762.01	$9,746.37		$8,333.34		$8,333.34		$5,543.60		$6,539.48		$5,704.04	
Certification of Closure (CS-07)	$3,286.16		$3,286.16	$3,286.16	$3,286.16	$-	$-	$-	$-	$3,286.16		$3,286.16		$3,286.16		$3,286.16		$3,286.16		$3,286.16	
Subtotal	$125,414.42		$70,744.10	$308,747.97	$508,122.66	$16,764.32	$16,764.32	$8,379.40	$8,382.15	$110,496.21		$94,952.89		$94,952.89		$64,265.78		$75,220.47		$66,030.61	
% Contingency Allowance	20%		20%	20%	20%	20%	20%	20%	20%	20%		20%		20%		20%		20%		20%	
Contingency Allowance	$25,082.88		$14,148.82	$61,749.59	$101,624.53	$3,352.86	$3,352.86	$1,675.88	$1,676.43	$22,099.24		$18,990.58		$18,990.58		$12,853.16		$15,044.09		$13,206.12	
TOTAL COST OF CLOSURE	$150,497.30		$84,892.92	$370,497.56	$609,747.19	$20,117.18	$20,117.18	$10,055.28	$10,058.58	$132,595.45		$113,943.47		$113,943.47		$77,118.94		$90,264.57		$79,236.73	

Container Management Areas = **$ 1,275,983.20**

Tank Management Areas = **$ 607,102.62**

TOTAL CLOSURE COST ESTIMATE (2009$) =** **$ 1,883,085.83

Cost Estimate Assumptions

1. 200 feet of piping with each of T-101, T-102, T-103, T-107
2. Analytical costs based on analyzing for Volatile Organics (Method 8260), Semi-volatile organics (Method 8270), Hexavalent Chromium, Cold Vapor Mercury, TCLP
3. All tank rinse/wash waters shipped in bulk containers; Piping rinse waters shipped in drums.
4. Tanks assumed to be decontaminated and disposed of and containment structures remaining in place.
5. 90-day storage areas sampled for contamination, but inventory disposal not included.
6. All wastes shipped 300 miles to disposal facility.
7. All closure cost estimate calculations based on USEPA's CostPro 6 estimating software with unit costs in 2009 dollars.
8. All storage areas are sampled at each corner (except TA-2a and TA-2b because small).
9. All default unit costs and unit rates within the program were used.

Figure 1b – Existing Layout Closure Cost Estimate Annual Inflation Adjustment

Year	From BEA Tbl. 1.1.9*	Closure Cost ($)
2009	88.556	$ 1,883,085.83
2010	89.632	$ 1,905,966.27
2011	91.481	$ 1,945,284.05
2012	93.185	$ 1,981,518.51
2013	94.771	$ 2,015,243.77
2014	96.421	$ 2,050,329.94
2015	97.316	$ 2,069,361.54
2016	98.241	$ 2,089,031.06
2017	100.00	$ 2,126,435.05
2018	102.291	$ 2,175,151.68
2019	103.979	$ 2,211,045.90
2020	105.361	$ 2,240,433.24
2021	110.172	$ 2,342,736.03
2022	118.026	$ 2,509,746.24
2023	122.273	$ 2,600,055.94
3Q2024	125.532	$ 2,669,356.45

* From U.S. Bureau of Economic Analysis (BEA) - https://apps.bea.gov/iTable/?reqid=19&step=2&isuri=1&categories=survey, Table 1.1.9, Implicit Price Deflators for Gross Domestic Product

Figure 2a - Proposed Layout Closure Estimates (2024$)

	Container Management Areas																							
	CMA-1		CMA-2		CMA-3		CMA-4		CMA-5	CMA-6	CMA-2A	CMA-2B	T-407		T-408		T-409		T-410		TA-2a		TA-2b		TA-2c	
Permitted Waste Volume	33,000	gal	4,840	gal	30,560	gal	900	yd3	90-day	90-day	90-day	90-day	19,960	gal	19,960	gal	19,960	gal	19,960	gal	42.7	yd^3	219.2	yd^3	219.2	yd^3
Containment Area Footprint	5,947	ft^2	1,089	ft^2	3,240.70	ft^2	No Secondary Cont.		No Secondary Cont.	No Secondary Cont.	No Secondary Cont.	No Secondary Cont.	1,821	ft^2	With T-407		With T-407		With T-407		1,239	ft^2	500	ft^2	500	ft^2
Borings/Samples	4		4		4		6		4	4	2	2	4		0		0		0		4		4		4	
Removal of Waste (CS-03)	$2,552.69		$387.87		$2,340.36		$483.95		$-	$-	$-	$-	$1,194.22		$1,194.22		$1,194.22		$1,194.22		$517.50		$2,247.85		$2,247.85	
Flushing the Piping (TS-05)	$-		$-		$-		$-		$-	$-	$-	$-	$94.85		$94.85		$94.85		$94.85		$-		$-		$-	
Excavation, Disassembly, and Loading (TS-06)	$-		$-		$-		$-		$-	$-	$-	$-	$4,695.43		$4,695.43		$4,695.43		$4,695.43		$2,173.39		$9,491.98		$9,491.98	
Decontamination (DC-01)	$14,832.03		$3,682.44		$10,057.90		$-		$-	$-	$-	$-	$32,180.85		$12,453.33		$12,453.33		$12,453.33		$16,244.20		$67,769.98		$67,769.98	
Sampling and Analysis (SA-02)	$23,707.26		$23,396.47		$19,814.84		$73,838.25		$21,603.78	$21,603.78	$10,798.34	$10,801.88	$27,797.24		$1,799.78		$1,799.78		$1,799.78		$23,396.47		$23,396.47		$23,396.47	
Transportation (TR-01)	$29,981.05		$4,796.97		$19,187.87		$71,954.52		$-	$-	$-	$-	$9,593.94		$9,593.94		$9,593.94		$9,593.94		$7,195.45		$36,937.78		$36,937.78	
Treatment and Disposal (TD-01)	$370,373.34		$54,667.69		$342,240.35		$504,294.01		$-	$-	$-	$-	$88,297.17		$88,297.17		$88,297.17		$88,297.17		$43,173.01		$178,526.84		$178,526.84	
Subtotal	$441,446.35		$86,931.43		$393,641.33		$650,570.72		$21,603.78	$21,603.78	$10,798.34	$10,801.88	$163,853.69		$118,128.72		$118,128.72		$118,128.72		$92,700.03		$318,370.89		$318,370.89	
% Engineering Costs	10%		10%		10%		10%		10%	10%	10%	10%	10%		10%		10%		10%		10%		10%		10%	
Engineering Expenses	$44,144.64		$8,693.14		$39,364.13		$65,057.07		$2,160.38	$2,160.38	$1,079.83	$1,080.19	$16,385.37		$11,812.87		$11,812.87		$11,812.87		$9,270.00		$31,837.09		$31,837.09	
Certification of Closure (CS-07)	$4,658.28		$4,658.28		$4,658.28		$4,658.28		$-	$-	$-	$-	$4,658.28		$4,658.28		$4,658.28		$4,658.28		$4,658.28		$4,658.28		$4,658.28	
Subtotal	$490,249.27		$100,282.85		$437,663.73		$720,286.07		$23,764.15	$23,764.15	$11,878.17	$11,882.07	$184,897.34		$134,599.87		$134,599.87		$134,599.87		$106,628.31		$354,866.25		$354,866.25	
% Contingency Allowance	20%		20%		20%		20%		20%	20%	20%	20%	20%		20%		20%		20%		20%		20%		20%	
Contingency Allowance	$98,049.85		$20,056.57		$87,532.75		$144,057.21		$4,752.83	$4,752.83	$2,375.63	$2,376.41	$36,979.47		$26,919.97		$26,919.97		$26,919.97		$21,325.66		$70,973.25		$70,973.25	
TOTAL COST OF CLOSURE	$588,299.12		$120,339.42		$525,196.48		$864,343.29		$28,516.99	$28,516.99	$14,253.81	$14,258.48	$221,876.80		$161,519.84		$161,519.84		$161,519.84		$127,953.97		$425,839.50		$425,839.50	

Container Management Areas = **$ 2,183,724.57**

Tank Management Areas = **$ 1,686,069.30**

TOTAL CLOSURE COST ESTIMATE (2024$) =** **$ 3,869,793.87

Cost Estimate Assumptions

1. 200 feet of piping with each of T-407, T-408, T-409, T-410
2. Analytical costs based on analyzing for Volatile Organics (Method 8260), Semi-volatile organics (Method 8270), Hexavalent Chromium, Cold Vapor Mercury, TCLP
3. All tank rinse/wash waters shipped in bulk containers; Piping rinse waters shipped in drums.
4. Tanks assumed to be decontaminated and disposed of and containment structures remaining in place.
5. 90-day storage areas sampled for contamination, but inventory disposal not included.
6. All wastes shipped 300 miles to disposal facility.
7. All closure cost estimate calculations based on USEPA's CostPro 6 estimating software with unit costs in 2009 dollars.
8. All default unit costs and unit rates within the program were used.

Figure 2b – Proposed Layout Closure Cost Estimate Annual Inflation Adjustment

Year	From BEA Tbl. 1.1.9*	Closure Cost ($)
2009	88.556	$ 1,883,085.83
2010	89.632	$ 1,905,966.27
2011	91.481	$ 1,945,284.05
2012	93.185	$ 1,981,518.51
2013	94.771	$ 2,015,243.77
2014	96.421	$ 2,050,329.94
2015	97.316	$ 2,069,361.54
2016	98.241	$ 2,089,031.06
2017	100.00	$ 2,126,435.05
2018	102.291	$ 2,175,151.68
2019	103.979	$ 2,211,045.90
2020	105.361	$ 2,240,433.24
2021	110.172	$ 2,342,736.03
2022	118.026	$ 2,509,746.24
2023	122.273	$ 2,600,055.94
3Q2024[1]	125.532	$ 3,869,793.87

* From U.S. Bureau of Economic Analysis (BEA) - https://apps.bea.gov/iTable/?reqid=19&step=2&isuri=1&categories=survey, Table 1.1.9, Implicit Price Deflators for Gross Domestic Product

1. 3Q2024 closure cost incorporates the new facility modifications, resulting in a larger increase in cost.

Figure 3 **Maximum Extent of Unclosed Hazardous Waste Management Units**				
Hazardous Waste Management Type (Process)	**Current Permitted Volume (cubic yards)**	**Proposed Permitted Volume (cubic yards)**	**Current Permitted Volume (gallons)**	**Proposed Permitted Volume (gallons)**
Current Tank Storage - 4 Tanks in TF-1	-	-	69,797	-
Proposed Tank Storage – 4 Tanks in TF-4	-	-	-	79,840
Current Tank Storage/Treatment – TA-2A & TA-2B	79.0	-	-	-
Proposed Tank Storage/Treatment – TA-2a, TA-2b, & TA-2c	-	481.1	-	-
Container Storage (solid/liquids)	-	-	45,960	-
Proposed Container Storage (solids/liquids)	-	-	-	68,940
Container Storage (no free liquids)	900	900	-	-
Total Volume - Hazardous Waste Storage	**979**	**1,381.1**	**115,757**	**148,780**

Figure 4
Closure Schedule for Hazardous Waste Management Units

Closure Activity	Days Elapsed
Notification in writing to ODEQ of intent to begin closure activities.	- 45
Receipt of known final volume of hazardous waste into container or tank management unit or receipt of ODEQ approval of closure plan, whichever is later **(see note 1)**	0
Begin treatment and/or removal all hazardous wastes from container or tank management unit(s) **(see note 2)**	30
Complete treatment and/or removal of all hazardous wastes from container or tank management unit(s).	90
Complete removal and (if necessary) decontamination of ancillary equipment, tanks, and empty containers.	120
Complete decontamination of secondary containment structures.	135
Conduct visual investigation for evidence of contamination of surrounding/underlying soil and (if necessary) begin soil sampling/remediation activities.	150
Complete final closure activities.	180
Submit certification to the ODEQ (by USE Tulsa and independent registered professional engineer) that the hazardous waste management unit/facility has been closed in accordance with the specifications of the approved closure plan **(see note 3)**	240

Notes

1. If an unexpected event during closure of a hazardous waste management unit requires modification of the approved closure plan, USE Tulsa will request a permit modification within 30 days of the unexpected event.
2. In the event that there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, USE Tulsa will initiate closure activities no later than one year after the date on which the unit received the most recent volume of hazardous waste as specified under 40 CFR 264.112(d)(2).
3. Requirements for inspection and certification by an independent engineer do not apply to partial closure activities

Appendix 3 - Analysis Parameters of Decontamination Rinsate

Figure 1- Analysis Parameters of Decontamination Rinsate[1]

Contaminant	Maximum Concentration Level[2] (mg/L)
Arsenic	5.0
Barium	100.0
Benzene	0.5
Cadmium	1.0
Carbon tetrachloride	0.5
Chlordane	0.03
Chlorobenzene	100.0
Chloroform	6.0
Chromium	5.0
o-Cresol	200.0
m-Cresol	200.0
p-Cresol	200.0
Cresol	200.0
2,4-D	10.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
2,4-Dinitrotoluene[3]	0.13
Endrin	0.02
Heptachlor (and its epoxide)	0.008
Hexachlorobenzene[3]	0.13
Hexachlorobutadiene	0.5
Hexachloroethane	3.0
Lead	5.0
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine[3]	5.0
Selenium	1.0
Silver	5.0
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
2,4, 5-Trichlorophenol	400.0

2,4,6-Trichlorophenol	2.0
2,4,5-TP (Silvex)	1.0
Vinyl chloride	0.2

Notes

1. Concentrations based on regulatory levels for the toxicity characteristic specified in 40 CFR 261.24, as amended July 1993
2. The structure, ancillary equipment, or other item being decontaminated will be considered clean when the difference between the contaminant concentration in the final rinsate and the contaminant concentration in the rinse water before use if less than these levels.
3. Quantification limit is greater than the calculated regulatory level. Hence, the quantification limit becomes the regulatory level as provided in 40 CFR 261.24.

Appendix 4 - Soil Evaluation Procedures

1. **Background Sample:** A composite background sample will be obtained from 3 locations on-site considered unaffected by facility operations. These samples will be taken at a depth of 0.5 to 1.0 feet using US EPA (Compendium of ERT Soil Sampling and Surface Geophysics Procedures**.** EPA/540/P-91/006, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington DC 20460 (Section 2.0, Soil Sampling: SOP #2012) or equivalent sampling method.

2. **Visually Contaminated Soil:** All visible contaminated soil will be removed, evaluated for TCLP constituents, and managed in accordance with state and federal regulations. After removal of visually contaminated soil, 1 sample will be taken at a depth of 0.5 to 1.0 feet using a USEPA sampling method or equivalent method. The soil sample will be evaluated for TCLP constituents specified in 40 CFR 261.24.

3. **Clean Criteria:** Soil will be considered clean for closure when results of sample analysis are comparable to background levels or less than the regulatory levels for the toxicity characteristic specified in 40 CFR 261.24 (as amended July 1993), whichever is greater. If soil does not meet these conditions, an additional 0.5 feet of soil will be removed and evaluation will be repeated as specified in step 2 above. USE Tulsa will repeat the sequence until the clean criteria are satisfied. Soil will be removed or otherwise managed in accordance with the requirements of 40 CFR 262.

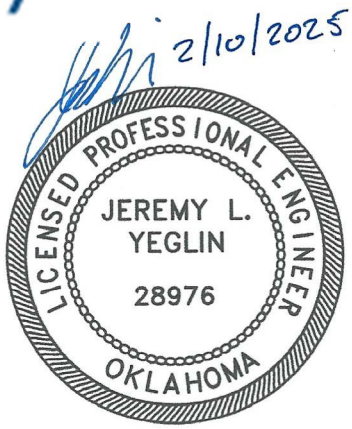
Attachment 10

RCRA Part B Permit Application

Process Description

US Ecology Tulsa, Inc.

Tulsa, Oklahoma



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Attachment 10 - Process Description

This section provides specific process information regarding the management of hazardous waste at the US Ecology Tulsa, Inc. (USE Tulsa) facility located near Tulsa, Oklahoma. Waste management practices at USE Tulsa have been designed in accordance with the requirements of 40 Code of Federal Regulations (CFR) 264 Subpart I and Subpart J which are incorporated by reference into Oklahoma Administrative Code (OAC) 252:205-3-2(f). USE Tulsa accepts hazardous waste as identified in the facility Part A Permit (Section A of this document) for treatment, container/tank storage, and other management on-site. In addition, USE Tulsa may generate hazardous wastes as a result of waste management operations on-site. USE Tulsa also handles other industrial wastes (i.e., wastes not designated as "hazardous" in accordance with 40 CFR Part 261 and OAC 252:515 [see Attachment 12 – Solid Waste Activities for details regarding solid waste activities on-site]). Although solid waste management may parallel hazardous waste activities where appropriate, this section is not applicable to non-hazardous waste management. However, non-hazardous wastes may be managed in tanks or container areas permitted for hazardous waste service so long as compatibility issues are addressed. Hazardous waste in containers may be stored and/or treated in Container Management Areas (CMAs) at four locations on the facility: CMA-1, CMA-2, CMA-3, and CMA-4. Of these units, CMA-1 is proposed for expansion. The locations of the existing CMAs and proposed expanded CMA-1 are shown on Figures 1and 1-b presented in Attachment 1 - Maps and Figures.

Containers may be located within other areas on-site. Site generated wastes, such as but not limited to, discarded Personal Protective Equipment (PPE), tank bottoms, process residues, and laboratory waste may be managed in accordance with generator standards for satellite accumulation as specified in 40 CFR 262.15. All other generated waste may be accumulated for ninety (90) days or less in containers complying with the requirements of 40 CFR Part 264 Subpart I and located only within permitted areas onsite.

USE Tulsa currently stores and treats liquid hazardous waste in four (4) tanks located in one tank farm (TF-1) and treats hazardous waste in two (2) TA-series treatment tanks. Tanks designated for non-hazardous waste service previously present on-site at the 200 and 400 series Tank Farms (i.e.,

TF-2 and TF-4, respectively) will be removed. After the existing non-hazardous waste tanks have been removed from TF-4, the TF-4 containment area will be improved, four (4) new hazardous waste tanks will be installed in TF-4 to take over the hazardous waste tank operations being conducted in TF-1, and the tanks in TF-1 will be removed. In addition, existing treatment tank TA-2b will be replaced with a larger tank, also called TA-2b, and new treatment TA-2c, with the same design as TA-2b, will be added. The locations of the existing and proposed tank farms and tanks are shown on Figures 1 and 1-b presented in Attachment 1 - Maps and Figures.

USE Tulsa does not manage hazardous waste in waste piles, surface impoundments, incinerators, landfills, land treatment units, or miscellaneous units.

1. CONTAINER DESIGN

Containers managed in USE Tulsa CMAs may include units of any size composed of a variety of materials of construction; non-bulk as well as bulk containers may be used (40 CFR 260.10 includes a definition of the term container as any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled. Non-bulk and bulk containers are distinguished based on capacity and net mass (49 CFR §171.8). Non-bulk containers have a capacity of 450 liters (119 gallons) or less for a liquid or a solid and a net mass of 400 kilograms (882 pounds) or less for a solid. Bulk containers have a capacity greater than 450 liters (119 gallons) for a liquid or a solid and a net mass greater than 400 kilograms (882 pounds) for a solid material.

Most containers managed on-site are "55 gallon drums"; however, containers accepted at USE Tulsa may include containers of any capacity (e.g., pint sized cans, 5 gallon pails, 30 gallon drums, tote tanks, glass bottles, "Marino Bags," overpack containers, etc.). In addition, bulk containers such as gondolas, sludge boxes, roll-on/roll-off boxes, and intermodal containers may be managed on-site. Containers may be constructed of carbon steel, aluminum, other metals, plastic lined metal containers, various plastics, fiberglass, glass, wood, cardboard, or other appropriate materials. Containers used to store hazardous waste on-site will comply with the requirements of Subpart I, 40 CFR Part 264. Where applicable, US Department of Transportation (US DOT) Performance Oriented Packaging Standards will be used for wastes offered for shipment off-site. The facility may receive and ship hazardous wastes in any appropriate US DOT approved or performance

specified container (used or new); other types of containers may be used for storage and processing of site generated hazardous wastes or for specific on-site processes.

CMAs are permitted for capacity based in volume (i.e., gallons or cubic feet) to facilitate management of different container sizes. The facility Part A Permit Application provides capacity information for the permitted container storage areas.

a. CONTAINERS WITH FREE LIQUIDS AND/OR F020, F021, F022, F023, F026, AND F027 WASTES

Containerized hazardous waste with free liquids and/or F020, F021, F022, F023, F026, and F027 wastes will be stored in permitted areas equipped with secondary containment systems only. Containment systems for these container storage areas will be designed and operated as follows:

- Containment systems will be equipped with a base for containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and remove.;
- The base of containment systems will be sloped or the containment system will be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation (e.g., concrete floor will be sloped, or the containers will be elevated, or containers will be otherwise protected from contact with accumulated liquids).
- Containment systems will have sufficient capacity to contain 10% of the total volume of containers or the volume of the largest container, whichever is greater (containers that do not contain free liquids need not be considered in this determination).
- Run-on into the containment system will be prevented unless the collection system has sufficient excess capacity (in addition to 10% of the volume of containers or the volume of the largest container, whichever is greater) to contain any run-on which might enter the system.

- Spilled or leaked waste and accumulated precipitation will be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system:
    - Precipitation and liquid accumulated in secondary containment areas is inspected to determine if it has been contaminated by hazardous waste by visually inspecting the surface for a sheen on the liquid surface or observing if there is contamination associated with waste managed in that area. If a sheen or released waste is observed, the liquid is presumed to have been contaminated and will be managed as a hazardous waste. If a sheen or other anomalous indications are not observed, and there has not been a release that might have contaminated the water, the water will be released to the surface outside the containment area similar to rainfall falling outside of containment.
    - If the collected material is a hazardous waste as defined in 40 CFR Part 261, it will be managed as a hazardous waste in accordance with all applicable requirements of 40 CFR Parts 262 through 266, 268, and 279.

i. BASIC DESIGN PARAMETERS, DIMENSIONS, AND MATERIALS OF CONSTRUCTION

Storage of hazardous waste in containers is conducted in four (4) CMAs (CMA-1, CMA-2, CMA-3, and CMA-4). Locations of the existing units and proposed expanded CMA-1 are shown on Figures 1 and 1-b (A-2, Facility Layout (Existing Conditions) and A-2b, Facility Layout (Proposed Site Plan), respectively) - presented in Attachment 1 - Maps and Figures. Design parameters, dimensions, and materials of construction of the secondary containment systems for the CMAs are presented in Section C of this application. Per 40 CFR 264.175(c), the Container Management Area 4 (CMA-4) need not be provided with secondary containment since only containers with no free liquids are stored in these areas. In addition, these areas are sloped so that the containers do not sit in rainwater, or they are elevated to protect the container from accumulated liquid. Appendix 4, Permitted Hazardous Waste Container Management Area Information Table in Section C -

Information Requirements for Containers provides additional details regarding containment and capacity of these units.

ii. DESCRIPTION OF HOW DESIGN PROMOTES DRAINAGE OR HOW CONTAINERS ARE KEPT FROM CONTACT WITH STANDING LIQUIDS IN CONTAINMENT SYSTEMS

Containment systems for CMAs at USE Tulsa are designed with slopes for drainage of liquids or are otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, except where the containers are elevated or are otherwise protected from contact with accumulated liquids. Hazardous waste in containers may be managed on pallets or directly on the container management area floor. Standard operating procedures include daily inspections in accordance with container inspection requirements outlined in Attachment 4 - Inspection Schedules and Forms and Attachment 6 - Procedures to Prevent Hazards. The inspections facilitate the detection and appropriate management of liquids accumulated in CMAs.

iii. CAPACITY OF THE CONTAINMENT SYSTEM RELATIVE TO THE NUMBER AND VOLUME OF CONTAINERS TO BE STORED

In accordance with 40 CFR 264.175, containment systems for container storage areas that may contain free liquids must have sufficient capacity to contain 10% of the total volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination. Section C and Section T of this application for details regarding capacity of containment systems for container storage areas. CMAs which share containment structures with tank storage areas (CMA-1 and Tank Farm 4 [TF-4]) will be equipped with adequate containment for 10% of the total volume of hazardous waste storage capacity (containers and tanks), the volume of the largest container, or the volume of the largest tank, whichever is greatest. In accordance with the containment requirements for tank systems, any tank and container co-management area will be provided with a containment volume adequate to contain the additional volume of the precipitation of the 24-hour, 25-year rainfall event, if the co-management area is not protected from precipitation.

iv. PROVISIONS FOR PREVENTION OR MANAGING RUN-ON

CMA-1, CMA-2, and CMA-3 are equipped with secondary containment structures which are designed to contain accumulated liquid within containment systems. Containment structures will minimize the potential for run-on of precipitation into containment systems. Where installed, the roof or canopy (or equivalent cover) will minimize the accumulation of precipitation in containment systems.

v. HOW ACCUMULATED LIQUIDS CAN BE ANALYZED AND REMOVED TO PREVENT OVERFLOW

USE Tulsa operating procedures include inspections designed to identify accumulated liquids in a timely manner (inspection schedule and criteria are outlined in Attachment 4 - Inspection Schedules and Forms and Section 6 - Procedures to Prevent Hazards). After discovery, spilled or leaked waste and accumulated precipitation will be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. Accumulated liquids will be identified by visual observation, review of facility records, and (if deemed necessary) by chemical analysis. If required, analyses will be conducted in accordance with the facility Waste Analysis Plan presented in Attachment 2 - Waste Characteristics and Waste Analysis Plan.

b. CONTAINERS WITHOUT FREE LIQUIDS OR F020, F021, F022, F023, F026, AND F027 WASTES

Except for hazardous wastes identified as F020, F021, F022, F023, F026, and F027, containers holding wastes that do not contain free liquids may be stored in areas not equipped with secondary containment. In accordance with the requirements of 40 CFR 264.175, test procedures and results or other documentation that the wastes do not contain free liquids will be obtained prior to storage of these wastes in these areas not equipped with secondary containment systems. This documentation may include use of the Paint Filter Liquids Test, Method 9095 in SW-846 or other equivalent method.

Hazardous wastes designated as F020, F021, F022, F023, F026, and F027 will not be stored in areas not equipped with a secondary containment system.

c. CONTAINER MANAGEMENT

Permitted hazardous wastes managed in containers on-site are identified in the facility Part A Permit Application.

Types of containers managed on-site are described previously; compatibility of waste with containers is discussed in Section ii below.

Container management at the USE Tulsa facility consists of storage of waste in a variety of container types. Container management activities include bulking, consolidating, and decanting to combine compatible waste streams into a single container for ease of storage. Secondary containment is not required for containers that do not contain or involve free liquids and meet the requirements of 40 CFR 264.175(c).

i. CONDITION OF CONTAINERS: 40 CFR 264.171

USE Tulsa may reject any container of hazardous waste if the container is in poor condition, the container is incompatible with the waste, or if the container is not in compliance with US DOT requirements. If an accepted hazardous waste is in a container that is not in good condition (e.g., severe rusting, apparent structural defects) or if the container begins to leak, USE Tulsa personnel will transfer the hazardous waste from this container to a container that is in good condition, will provide an "over-pack" for the affected container, or manage the waste in on-site processes. Other deficiencies in containers of incoming wastes will be addressed on a "case-by-case" basis.

ii. COMPATIBILITY OF WASTE WITH CONTAINERS: 40 CFR 264.172

When placing waste in a container, USE Tulsa will use a container made of or lined with materials which will not react with, and is otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

iii. MANAGEMENT OF CONTAINERS: 40 CFR 264.173

Management of containers at USE Tulsa is conducted as follows:

- Containers holding hazardous waste will always be closed during storage, except when it is necessary to add, remove, or inspect waste.

- Sampling of containers may occur during pre-acceptance, staging, or storage; sampling methods are presented in Attachment 2 - Waste Characteristics and Waste Analysis Plan.
- Any container holding hazardous waste will not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

1. HANDLING PROCEDURES

Containerized hazardous wastes may remain on the transport vehicle during completion of acceptance protocol and will be inspected daily; acceptance protocol is outlined in Attachment 2 - Waste Characteristics and Waste Analysis Plan. Acceptance protocol will be completed within ten (10) days. After the acceptance protocol is completed, wastes will be transferred into designated permitted CMAs within 24 hours of acceptance. Containerized wastes will be moved to an appropriate CMA if analysis identifies any compatibility problems. Containment (permanent or portable) will be provided for hazardous waste pending acceptance. Examples of portable containment include overpack drums, self-contained pallets and portable spill berms. Portable containment is intended to be used for non-bulk or small bulk containers that have been unloaded from the vehicle for sampling and are waiting for receipt approval.

2. CONTAINER TYPES, QUANTITY, AND STACKING ARRANGEMENTS

As discussed in Section l, USE Tulsa may accept containers of any size for management on-site. To accommodate operational requirements and depending on compatibility requirements, any container management area may be used for any container type or volume provided the permitted volume is not exceeded. If applicable, containment systems will be decontaminated prior to storage of an incompatible waste type in the unit.

Permitted storage of hazardous waste in containers occurs in four (4) CMAs on-site. Section C of this application includes details regarding permitted volumes and design parameters for these areas.

Single containers may be unloaded and/or moved manually or with mechanical drum handling equipment such as hand carts, drum dollies, forklifts, backhoe or equivalent equipment. Forklifts or industrial trucks may be used for palletized containers. Equipment is available for over-packing, repackaging, or bulking operations. Ramps (permanent or portable) as well as portable containment units may be used during unloading, staging, or storage of containers.

USE Tulsa conducts regular inspections to facilitate the detection of accumulated liquids in containment areas and to assess container status (i.e., that containers are sealed, stacked properly, and are in good condition). Specifics regarding facility inspections are presented in Attachment 4 - Inspection Schedules and Forms and Attachment 6 - Procedures to Prevent Hazards. Accumulated liquids will be removed from containment systems in CMAs within 24 hours of detection. Response to container leaks and spills (including identification of accumulated liquids in CMAs) is addressed in Attachment 5 - Contingency Plan.

Minimum aisle space of three (3) feet will be maintained in CMAs to facilitate inspections and (if necessary) the movement of emergency equipment. Where applicable, stacking of compatible wastes in containers is conducted in accordance with the National Fire Protection Association (NFPA) code. Containers may only be stacked if they have sufficient strength and stiffness to resist bending or buckling and remain vertical without perceptible leaning. Fifty-five (55) gallon size or larger containers may be double stacked during storage; pallets, skids, plywood or equivalent devices may be used to facilitate container management. Smaller containers may be stored in stacks of multiple containers. Total stack height will be limited to eight (8) feet or less unless all drums are secured on pallets and pallet racks are used. Configuration of pallets will be in rows approximately four to five (4-5) feet wide. Shipments of palletized containers may be "banded," "shrink-wrapped," or otherwise consolidated for shipping purposes and, after acceptance approval, may be placed in storage "as is." Containers holding multiple smaller containers (such as lab packs) may be double-stacked or multi-

stacked, as applicable, for the size of the consolidating container. Total volume of containerized hazardous wastes will not exceed the permitted capacity.

3. LOCATION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTE

Management practices for ignitable, reactive, and incompatible wastes at USE Tulsa have been designed to minimize the potential for fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak. A specific procedure for the management of these wastes is outlined in Section B.9, Prevention of Accidental Ignition, Reaction of Ignitable, Reactive, or Incompatible Waste. USE Tulsa will not place incompatible wastes, or incompatible wastes and materials in the same container, unless the requirements of 40 CFR 264.17(b) are complied with. In addition, hazardous waste will not be placed in an unwashed container that previously held an incompatible waste or material.

Containers holding ignitable or reactive wastes will be located at least 50 feet from the USE Tulsa facility property line. Any container holding a hazardous waste that is incompatible with any waste or other materials will be separated from the other materials by means of a dike, berm, wall, or other equivalent device; portable containment units may be used for this purpose.

4. MARKINGS AND LABELS FOR CONTAINERS

USE Tulsa will store wastes subject to the Land Disposal Restrictions (LDR) in accordance with the applicable requirements of 40 CFR 268.50(a). Specifically, incoming LDR wastes will be dated during acceptance procedures (i.e., the container will be clearly marked to identify its contents and the date each period of accumulation begins). Lab pack wastes will be marked on the outside of the lab pack. Palletized shipments of small containers will be marked on each side of the consolidated stack.

5. CLOSURE

USE Tulsa has developed a closure plan for final and partial closure which is presented in Attachment 8 – Closure and Post-Closure Plan with Estimates and Insurance

Information. During final closure, all hazardous waste and hazardous waste residues will be removed from CMAs. Containment structures will be decontaminated or removed.

iv. CONTAINER INSPECTIONS: 40 CFR 264.174

As required under 40 CFR 264.174, USE Tulsa will inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. See Attachment 4 Inspection Schedules and Forms for details regarding inspection of CMAs.

2. TANK SYSTEMS

USE Tulsa currently uses the above ground tank system in TF-1 for storage and treatment of liquid hazardous waste and two treatment tanks (TA-2a and TA-2b) for hazardous waste treatment. Locations of the existing tanks are shown on Figure 1: A-2, Facility Layout (Existing Conditions) presented in Attachment 1- Maps and Figures. As previously described, the tanks in TF-1 will be removed and new hazardous waste tanks will be installed in TF-4. In addition, the existing treatment tank TA-2b will be replaced with a larger tank and new treatment TA-2c will be added. Locations of the proposed tanks are shown on Figure 1: A-2b, Facility Layout (Proposed Site Plan) presented in Attachment 1 – Maps and Figures.

Treatment activities in tanks conducted at USE Tulsa include chemical oxidation, deactivation via chemical reduction of oxidizers and reactive waste streams, alkaline chlorination of cyanide waste streams, decanting, bulking, consolidation, encapsulation, fuel bulking, neutralization, permissible dilution, precipitation, solidification, stabilization, size reduction, or equivalent procedures. Treatment activities will take place only in permitted waste management units, TA-2a, TA-2b, and TA-2Ac. The following are descriptions of the treatment techniques:

- Deactivation via Chemical Reduction (oxidizing or reactive property waste) – The deactivation treatment technology removes the hazardous characteristics of a waste via chemical reduction reagents (such as ferrous sulfate) due to its ignitability, corrosivity, and/or reactivity. Common safety practices include examples such as removal of combustible organic material, hydration of waste, metered addition into the treatment

tanks, utilization of pH adjusting reagents such as lime, and reducing reagents such as ferrous sulfate or sodium sulfide, among other similar products or waste.

- Neutralization (Acidic or basic waste) – Adjusting corrosive hazardous waste to a pH level desired for the purpose of rendering waste to a less hazardous, and no longer regulated, state. This includes either raising acidic waste pH or lowering alkaline waste pH. Common safety practices for acidic waste streams include examples such as creating an alkaline "slurry" utilizing pH adjusting reagents such as lime and water, among other similar products or waste, and metering the addition of waste and reagent into the treatment tanks.

- Stabilization (metal contaminated waste) – Stabilization is the use of reagents to chemically bind waste streams generally with heavy metals to prevent them from leaching into groundwater once disposed of in a landfill. This can be accomplished using reagents such as lime kiln dust, ferrous sulfate, sodium sulfide, among other similar products or waste.

- Alkaline Chlorination (reactive property waste) – The chemical oxidation of cyanide uses bleach to convert cyanide to a cyanate, and the high pH environment hydrolyzes the cyanate into nitrogen and carbon dioxide. Common practices include but are not limited to hydration of waste and subjecting them to reagents such as hypochlorites, permanganates, and/or peroxides, among other similar products or waste, then deactivating. Safety practices include keeping the pH of the waste environment alkaline (>11 s.u.)

- Solidification is the addition of an absorbent reagent to eliminate free liquids and pass a Paint Filter Liquids Test (Method 9095 in SW-846 or other equivalent method).

- Chemical Oxidation (reductive or organic waste) is binding a carbon atom usually with oxygen. This method is a way to break down hazardous waste into a less dangerous state, which is no longer regulated under RCRA. Common practices include, but are not limited to, hydration of waste and subjecting the waste to reagents such as hypochlorites, permanganates, and/or peroxides, among other similar products or waste, then deactivating.

- Macro-encapsulation –of waste will be treated to comply with 40 CFR 268.45, with surface coating materials such as polymeric organics (e.g., resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure (and without leaving any empty spaces) to potential leaching media. Section T of this application provides information regarding the number of tanks, tank volumes, and material of construction as well as containment system design.

Management practices for reactive and incompatible wastes at USE Tulsa have been designed to minimize the potential for fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if tank systems ruptured or failed. Specific procedures for the management of these wastes are outlined in Attachment 6 - Procedures to Prevent Hazards. USE Tulsa will not place incompatible wastes, or incompatible wastes and materials in the same tank unless the requirements of 40 CFR 264.17 are complied with. In addition, hazardous waste will not be placed in a tank that has not been decontaminated and previously held an incompatible waste or material unless the requirements of 40 CFR 264.17(b) are met.

Where reactive waste will be stored or treated in a tank system, USE Tulsa will comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in the National Fire Protection Association (NFPA) code, "Flammable and Combustible Liquids Code," Tables 2-1 through 2-6, 1990. NFPA Tables 2-1 through 2-6, 1977 or 1981, are incorporated by reference into 40 CFR 260.11).

In the waste profile reviewing stage, if an SDS accompanies the waste stream it will be reviewed to ensure current treatment technologies to be executed can account for normal processing and treatment capabilities, and current safety protocols in place. The current treatment technology for removing the reactivity characteristic is neutralization and/or deactivation, depending on the waste stream. Safety precautions in place for water reactive waste, air reactive waste, and reactive waste capable of detonation or explosive decompositions are subject to hydration and limiting batch sizes to control anticipated reactions in the treatment tank.

In addition, reactive waste will not be placed in the tank systems, unless the waste is treated by deactivation/neutralization during or immediately after placement in the tank system so that:

- The resulting waste, mixture, or dissolved material no longer meets the definition of reactive waste under 261.23 and the requirements of 40 CFR 264.17(b) are complied with.
- The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react.

The facility Part A Permit Application identifies specific US Environmental Protection Agency (EPA) waste codes managed onsite; waste information including associated waste characteristics are addressed in Attachment 2-Waste Characteristics and Waste Analysis Plan. Waste types managed in tank systems are addressed in the tank certification documents presented in Section T of this application.

a. EXISTING TANK SYSTEMS

i. ASSESSMENT OF EXISTING TANK SYSTEM'S INTEGRITY: 40 CFR 264.191; 40 CFR 270.16(a)

Per 40 CFR 261.10, "Existing tank system" is defined as the tank system that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to July 14, 1986. Tanks T-101, T-102, T-103 and T-107 in TF-1 were installed after 1986. Hence, this section does not apply to USE Tulsa.

ii. EXTERNAL CORROSION PROTECTION

This subsection for the existing aboveground tank system of TF-1 does not apply to USE Tulsa. However, the fiberglass tanks (T-101, T-102 T-103 and T-107) are finished with a "gel-coat" which provides weather protection.

b. NEW TANK SYSTEMS

i. ASSESSMENT OF NEW TANK SYSTEM'S INTEGRITY: 40 CFR 264.191; 40 CFR 270.16(a)

TF-4 will be developed as the new hazardous waste tank to replace TF-1. A written assessment, reviewed and certified by an independent, qualified, registered professional engineer, on the structural integrity and suitability of each new tank system for handling

hazardous waste will be presented in Section T of this application after the tank system is constructed. The assessment will show that the foundation, structural support, seams, connections and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength and compatibility with the waste to be managed to ensure that it will not collapse, rupture, or fail. Information provided in the assessment and associated documents will include the following:

- Design standards (where applicable) according to which tank and ancillary equipment is (or will be) constructed;
- Hazardous characteristics of the wastes that are and will be handled;
- Corrosion assessment (where applicable);
- Documented or estimated age of tank system;
- Design considerations to ensure that tank foundations will maintain the load of a full tank;
- Results of a leak test, internal inspection, or other tank integrity examination (as applicable).

ii. EXTERNAL CORROSION PROTECTION

The proposed aboveground TF-4 tanks are fiberglass. These tanks will not be in contact with soil or water. Therefore, this subsection for the proposed TF-4 tank system does not apply to USE Tulsa.

iii. TANK INSTALLATION AND TESTING

Prior to placement of a tank system in hazardous waste service, an independent, qualified installation inspector or an independent, qualified registered professional engineer will inspect the tank system for the following items: 1) weld breaks; 2) punctures; 3) scrapes of protective coatings; 4) cracks; 5) corrosion; 6) other structural damage or inadequate construction/installation. In addition, the inspection will specify how all discrepancies were (or will be) repaired, how tank systems (including ancillary equipment) was (or will be)

tightness tested, and how ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

c. DIMENSIONS AND CAPACITY OF EACH TANK SYSTEM

Details regarding dimensions and capacity of each tank system are provided in Section T of this application. Tank farms for hazardous waste tanks will have secondary containment systems. Design parameters, dimensions, and materials of construction of the secondary containment systems for the tanks are presented in Section T of this application.

d. DESCRIPTION OF FEED SYSTEMS, SAFETY CUTOFF, BYPASS SYSTEMS, AND PRESSURE CONTROLS

USE Tulsa uses closed top tanks for storing liquid hazardous waste which are equipped with loading and unloading ports and vents; tank details for existing tanks T-101, T-102, T-103 and T-107 and proposed tanks T-407, T-408 T-409 and T-410 are provided in Section T of this application. These tanks on-site are typically loaded using top fill lines and unloaded through bottom discharge lines or loaded/unloaded from bottom fill/discharge lines. Where present, manholes are used for inspection and cleaning operations.

e. TREATMENT IN T-101, T-102, T-103, T-107, T-407, T-408, T-409, AND T-410

Existing tanks T-101, T-102, T-103, and T-104 and proposed tanks T-407, T-408, T-409, and T-410 will store and treat characteristically hazardous waste. Waste types include containerized waste and bulk loads in liquid or sludge physical state. Waste streams will be combined based on compatibility determination of the fingerprint data, treatability study laboratory results, and/or generator and/or chemistry knowledge. Typical reagents include (but are not limited to) lime kiln dust, quick lime, ferrous sulfate, sodium sulfide, and sodium hydroxide. Process controls include specific instructions on anticipated safety concerns, such as order of waste, water, and reagents to be added to the treatment tank, and expected chemical reactions (if any). Volumes and/or ratios of reagents to waste to be treated will be distributed by an individual knowledgeable in chemistry to avoid impermissible dilution. The minimum mixing time shall be specified in specific Standard Operating Procedures (SOPs) and treatment instructions, based on the waste treatment type. All treatments must be mixed into a final homogenous treated batch. The treated waste is analyzed by the laboratory for verification of

treatment. If batches fail the verification treatment, the tank will undergo a retreatment. Batches that pass treatment standards will be accompanied by the appropriate laboratory analysis, manifest, and LDR paperwork as required and kept on record. Disposal of treated waste will be scheduled to an appropriate landfill and paperwork retained on file.

f. TREATMENT IN TA-2a, TA-2b, AND TA-2c

Wastes that are characteristically hazardous may be treated in Treatment Tank TA-2a, TA-2b, and TA-2c (after it is constructed). Treatment chemicals can include, but are not limited to, cement kiln dust (CKD), bed ash, fly ash, lime kiln dust (LKD), quick lime, bleach, waster, ferrous sulfate, sodium hydroxide, sawdust, or Z-pellets. Other chemicals may be used after determination of a treatment protocol through laboratory studies, Safety Data Sheet (SDS) review, chemistry knowledge, etc.

The laboratory's treatment protocol for compatibility can include treatability studies as well as generator and chemical knowledge. During treatment, contents of each container will be visually inspected prior to addition into the treatment tanks. Any material that shows signs of discrepancies or reaction other than those expected during treatment (e.g., heat generation, off gassing, bubbling) shall be communicated to the Lab Manager and the Operations Manager immediately, those containers will be reviewed, and the containers will be marked with labels that indicate the containers are on hold, as applicable. If applicable, communications will be initiated with the CSR and Corporate Sales personnel of the issue with the container.

The waste will be reviewed during the approvals process to ensure that the Subpart CC volatile organic concentrations are less than 500 parts per million (ppm) before approving for onsite treatment. Materials above 500 ppm volatile organics are not permissible for treatment in TA-2a, TA-2b, and TA-2c.

An excavator will be used to mix the waste and chemicals. The bucket of the excavator is maintained over the containment tank at all times. The bucket is cleaned before leaving the containment area.

Daily Inspection of the TA-2a, TA-2b, and TA-2c areas will be performed and documented to ensure safe and compliant operations. All spills are cleaned up immediately and management notified promptly.

Waste materials are mixed to a uniform and homogenous consistency before a representative sample is obtained. The mixture sample is tested for Toxicity Characteristic Leaching Procedure (TCLP) and Underlying Hazardous Constituent (UHC) requirements before characteristic waste can be de-classified.

Fugitive particulate air emissions while handling dusty materials are controlled using several methods. Water may be added to the mixing container prior to materials being introduced, water can be added to the containers prior to introduction to the treatment tank, or a fine spray misted over the treatment tank. Materials will be introduced and mixed in a manner that helps reduce the amount of dust emissions. During inclement weather processing will be adjusted to the safest manner possible.

For TA-2a, the liquid processing volume for the 42.7 yd^3 (8,625 gallons) treatment tank will be limited to 4,000-gallon batches maximum. This is required to allow for the containment to hold 100% of the mixing volume and allow for the displacement of the treatment tank. For TA-2b and TA-2c, the liquid processing volume for each 229.2 yd^3 (42,500 gallons) tank will be limited to 21,250-gallons. This will allow for the outer containment volume to hold 100% of the treatment tank volume while allowing for the volume displacement for the box. USE Tulsa will perform periodic metal thickness testing using an ultrasonic probe to ensure that the wall thickness is adequate, as established in paragraph of Section T. In addition, a visual inspection shall be performed on days when the treatment tank is in use.

For waste that will undergo deactivation, chemical oxidization, or alkaline chlorination treatment technologies in the treatment tank, tank walls and floor will be inspected and cleaned of all potentially organic matter prior to beginning the oxidizing treatment. If water is used for cleaning, it can remain in the treatment tank and will be used for process water for the new mix. This will ensure that any potential oxidizing substances are hydrated and safe.

For treating corrosive materials, the treatment/neutralization chemicals will be added to the treatment tank prior to the addition of the corrosive materials. The use of water may be needed to control the heat of reaction.

For treating monolithic oxidizing waste streams or pool chemicals in the form of pucks, pre-treatment via size reduction will be performed first prior to proceeding into the deactivation treatment technology. An example of accomplishing this would be utilizing the bucket of the excavator or a grinding attachment and crushing the waste into flowable solid.

For pre-treatment of light bulbs, USET can utilize a bulb crusher with a built-in filter to contain any airborne hazards. This will allow USET to stabilize the crushed bulbs and filters in treatment tanks.

----------**END OF ATTACHMENT**----------

Appendix 1 – Proposed Storage and Treatment Increases

Permitted Values					
Existing			Proposed		
Storage			Storage		
CMA-1	10,560	gal	T-407	19,960	gal
CMA-2	4,840	gal	T-408	19,960	gal
CMA-3	30,560	gal	T-409	19,960	gal
CMA-4	181,776	gal	T-410	19,960	gal
			CMA-1	33,000	gal
			CMA-2	4,840	gal
			CMA-3	30,560	gal
			CMA-4	181,776	gal
Treatment			Treatment		
TA-2a	25,851	gal	TA-2a	12,000	gal
TA-2b	21,991	gal	TA-2b	82,000	gal
T101	16,800	gal	TA-2c	82,000	gal
T102	19,960	gal			
T103	19,960	gal			
T107	13,077	gal			

Existing Storage	227,736	gal	Proposed Storage	330,016	gal
Existing Treatment	117,639	gal	Proposed Treatment	176,000	gal

% Storage Increase	44.9%
% Treatment Increase	49.6%

Attachment 11

RCRA Part B Permit Application

RCRA Air Emission Controls

US Ecology Tulsa, Inc.

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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Attachment 11 – RCRA Air Emissions

SUBPART AA/BB/CC REQUIREMENTS

1. SUBPART AA – PROCESS VENTS

US Ecology Tulsa, Inc. (USE Tulsa) does not operate any units subject to the Air Emission Standards for Process Vents in accordance with Title 40 Code of Federal Regulations (CFR) Part 264 Subpart AA.

2. SUBPART CC - TANKS

All of the hazardous wastes managed in the existing and proposed tanks at USE Tulsa (existing: T-101, T-102, T-103, T-107, TA-2a, and TA-2b; and proposed: T-407, T-408, T-409, T-410, TA-2a (no changes proposed to existing), TA-2b (existing to be removed and replaced), and TA-2c) have an average volatile organic (VO) concentration at the point of waste origination of less than 500 parts per million by weight (ppmw), making the 40 CFR 264 Subpart CC regulations not applicable to the USE Tulsa tanks and ancillary equipment. The VO concentration determination is based on a statement made by relevant generators as part of their waste profile certification. This certification is confirmed at least once every 12 months, in compliance with 40 CFR 264.1082(c)(1).

3. SUBPART CC - CONTAINERS

The requirements of 40 CFR 264 Subpart CC also apply to containers in hazardous waste service at the USE Tulsa facility. USE Tulsa handles containers of hazardous waste as described in Section C of the permit document and controls air pollutant emissions from the containers as described below.

Non-bulk containers of a size greater than 0.1 m^3 (>26.4 gallons) and less than or equal to 0.46 m^3 (≤121 gallons) meet the Level 1 control requirements of 40 CFR 264.1086(c) by either:

- meeting the US Department of Transportation (DOT) regulations on packaging hazardous materials for transportation, or

- being equipped with a cover and closure device that forms a continuous seal over the container opening such that when closed and sealed, there are no visible holes, gaps, or other open spaces into the interior of the container, or
- being covered with a vapor-suppressing foam.

When hazardous wastes with a VO concentration of greater than 500 ppmw are in non-bulk containers, all covers and closure devices are closed and secure except when adding or removing wastes, maintenance or sampling is required, after which the cover is promptly closed. If a container with a VO concentration of greater than 500 ppmw is not removed or emptied within 24 hours of receipt, the container will be visually inspected to check for visible cracks, holes, gaps or other open spaces. If defects are identified, first attempts to repair the container are made within 24 hours of determination, and repairs are completed within 5 days. If not able to be repaired within 5 days, the waste will be placed in a container that can be properly closed.

Bulk containers larger than 0.46 m^3 (>121 gallons) are presumed to be in light material service unless a demonstration is made that the waste contains less than 500 ppm VO and it is entered into the facility operating record. The bulk containers in light material service will meet the Level 2 requirements of 40 CFR 264.1086(d) by either:

- meeting the US DOT regulations on packaging of hazardous materials for transportation, or,
- operating with no detectable emissions as defined by 40 CFR 265.1081, or,
- the container has been demonstrated within the 12 preceding months to be vapor-tight.

When hazardous wastes with a VO concentration of greater than 500 ppmw are in bulk containers, all covers and closure devices are closed and secure except when adding or removing wastes, maintenance or sampling is required, after which the cover is promptly closed. If the containers are not removed or emptied within 24 hours of receipt, the container will be visually inspected to check for visible cracks, holes, gaps or other open spaces. If defects are identified, first attempts to repair are made within 24 hours of determination, and repairs completed within 5 days. If not able to be repaired within 5 days, the waste will be placed in a container that can be properly closed.

USE Tulsa does not utilize containers for the treatment of hazardous waste containing volatile organics at concentration greater than 500 ppmw by stabilization, and thus, Subpart CC Level 3 controls are not required for such containers holding > 500 ppmw of volatile organics.

4. SUBPART BB – ANCILLARY EQUIPMENT

As a result of the tanks at USE Tulsa storing only hazardous wastes containing less than 500 ppm VO, the ancillary equipment (e.g., pumps, valves, connectors, etc.) for existing tanks T-101, T-102, T-103, and T-107 and proposed tanks T-407, T-408, T-409, and T-410 is therefore presumed to not be subject to the Air Emission Standards for Equipment Leaks in accordance with 40 CFR 264 Subpart BB. Existing mixing tanks TA-2a and TA-2b do not have ancillary equipment associated with their operation. TA-2a will be retained as part of the proposed facility plan, TA-2b will be removed and replaced, and TA-2c will be added as part of the proposed facility plan. These tanks will also not have ancillary equipment associated with their operation. There are no other pieces of ancillary equipment at USE Tulsa subject to the Subpart BB regulations.

----------END OF ATTACHMENT----------

Attachment 12

SOLID WASTE MANAGEMENT ACTIVITIES

US Ecology Tulsa, Inc.

EPA ID: OKD000402396

Tulsa, Oklahoma

1/24/2025

LICENSED PROFESSIONAL ENGINEER
JEREMY L. YEGLIN
28976
OKLAHOMA

Permit Modification Application **January 2025**

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ATTACHMENT 12 – SOLID WASTE MANAGEMENT ACTIVITIES

I. GENERAL INFORMATION

1. OWNER/OPERATOR INFORMATION

Owner/Operator: US Ecology Tulsa, Inc.

Address: 2700 South 25th West Avenue Tulsa, Oklahoma 74107

2. FACILITY NAME AND TYPE

Facility Name: US Ecology, Inc. Tulsa (USE Tulsa)

Facility Type: Solid Waste Disposal Site and Solid Waste Transfer Station

3. LEGAL DESCRIPTION OF PROPOSED PERMIT BOUNDARY

The facility property boundary is shown on Figure A-2 General Facility Layout (Existing Conditions)) in Attachment 1 of the permit document. The latitude/longitude are as follows:

Latitude: 36 degrees 7 minutes 22 seconds

Longitude: 96 degrees 1 minute 13 seconds

Township and range for the facility is: SE¼ of NE¼ of SW¼; the NE¼ of SE¼ of SW¼; and N½ of SE¼ of SE¼ of SW¼ of Section 15, Township 19 N, Range 12 E. The legal description of the property is provided in Paragraph 11.a of Section B of the permit document.

4. LOCATION

The facility is located west of Interstate 244 and south of the Covanta Tulsa Plant at West 21st Street and South Yukon. Section B-4 describes vehicular access to the facility. Both the physical location and mailing address are:

US Ecology Tulsa

2700 South 25th West Avenue

Tulsa, Oklahoma 74107

The proximity of the proposed site to various areas and places is summarized by the following list:

- Residence: greater than 1/4 mile

- Airport: 0.4479 miles - Channel 8 Heliport
  greater than 5 miles - Tulsa International Airport
  greater than 5 miles - R. Jones Airport
- Flood Prone Area: adjacent
- Scenic River: greater than 1 mile
- Endangered Species: greater than 1 mile
- Public Recreation Area: greater than ½ mile
- Preservation Area: greater than ½ mile

Attachment 12, Appendix 12-1, Correspondence, presents previous correspondence associated with airports, scenic rivers, endangered species, public recreation areas, and preservation areas.

5. LAND USE

Land use within two (2) miles of the facility is primarily industrial, undeveloped, or agricultural.

6. OPERATIONS

The principal solid waste management operations at the USE Tulsa facility will be the transfer and management of nonhazardous solid waste. These activities include transfer station operations. Both liquids and solids will be managed in drums, containers, and tanks. Hazardous waste processes are specified in the facility Part A application form and other sections of the permit document. Waste determined to be non-hazardous may be processed by the following methods: solidification, stabilization, bulking, decanting, size reduction, neutralization, consolidation, chemical oxidation, encapsulation, alkaline chlorination, deactivation via chemical reduction, or equivalent processes. The waste may also be consolidated for transfer to an appropriate disposal facility. With the exception of contaminated sewage, the facility does not accept municipal solid waste[1].

[1] Although the facility is not a "landfill type" disposal facility, USE Tulsa facility operations meet the definition of "disposal site" as defined in O.S. Supp. 27A § 2-10-103.3, which includes transfer stations as well as waste processing facilities. Therefore, the facility is designated as a Solid Waste Disposal Site.

Prior to utilizing tanks for solid waste storage which previously stored hazardous waste, the tanks go through "RCRA clean closure."

Solid wastes may be stored in the following areas as shown on Figures 1 and 1b in Attachment 1:

- SWA-2
- CMA-2Aa/SWA-2a
- CMA-2Ab/SWA-2b
- SWA-3
- CMA-4/SWA-5
- CMA-5/SWA-6
- CMA-6/SWA-7

In addition to solid wastes, USE Tulsa also manages Universal Wastes managed under 40 CFR 273 in the Terra Building which is outside the permitted area fencing on the west side of the property.

Standard hours of facility operation are from 7:00 am to midnight; when business necessitates longer hours of operation, the facility will be open twenty-four hours per day. The facility will utilize pumps, mixers, separators, pug mills, jaw crushers, shredders, and bobcats (or other appropriate equipment) to manage the waste.

7. WASTE

The anticipated volumes of waste managed will fluctuate.

8. POPULATION

Since the facility will not process municipal solid waste, this question is not applicable.

9. LIFE

The estimated life of the facility is ten (10) years or more.

10. ACCESS ROADS

Access to the facility is shown on Figure 5 included in Attachment 1. Paragraph 10 of Section B describes the road construction and materials.

II. MAPS & DRAWINGS

11. GENERAL LOCATION MAP

Figure 8 in Attachment 1 shows the location of the facility in relation to the City of Tulsa. The location of the site is shown on these maps.

12. FLOOD PLAIN MAP

Figure 7 in Attachment 1 is a flood plain map. The facility location is shown on the map.

13. EXISTING CONTOUR MAP

Figures 3 and 3a of Attachment 1 is a contour map showing the topographic contours at the facility at an interval of two (2) feet.

14. SITE MAP

Figures 1, 1a, and 1b in Attachment 1 are site maps. The following items are indicated on these maps:

- storage & disposal boundaries, both existing (Figure 1) and proposed (Figure 1b);
- buffer zone;
- receiving & process boundary areas;
- wells;
- surface drainage;
- fencing;
- gates;
- utility lines;
- easements;
- access roads; and
- employee & equipment shelters.

15. AESTHETIC ENHANCEMENT

The facility is at the end of a dead-end road and consequently isolated. Both the facility and surrounding property have a large number of trees. During operation of the facility, detrimental impact to these positive attributes will be minimized to protect the positive aesthetic enhancement which they naturally provide. USE Tulsa will continue to mow grass adjacent to office areas.

III. WATER MANAGEMENT

16. RUN-ON CONTROL SYSTEM

Paragraph 1.d of Section C describes the controls to prevent run-on to the facility.

17. RUN-OFF CONTROL SYSTEM

Paragraph 2 of Attachment 6 describes the run-off control protections.

18. LEACHATE

Because USE Tulsa does not operate landfill units or manage municipal solid waste, leachate, as defined traditionally, is not generated. However, some liquids[2] from solid waste management activities on-site are generated; this "leachate" is treated as hazardous waste.

IV. LOCATION STANDARDS

19. 100-YEAR FLOOD PLAIN

Paragraph 11.c of Section B describes the 100-year flood plain.

20. BUFFER ZONE

A buffer zone of at least fifty (50) feet in width, within the proposed permit boundary will be located between the developed portions of the facility and adjacent property. The buffer zone requirement does not apply to facility areas previously used for solid waste management activities as allowed for in OAC 252:515-19-38. The buffer zone is located within property controlled by USE Tulsa but does not correspond with the RCRA hazardous waste permitted facility boundary. USE Tulsa will not establish new solid waste management units within the buffer zone in accordance with OAC 252:515-19-38.

[2] 30AC 252:515-1-2 defines liquids generated by solid waste as leachate.

21. UTILITY SEPARATION

USE Tulsa does not operate any landfill units; therefore, this requirement is not applicable.

22. AIRPORTS

The correspondence from the New Mexico/Oklahoma Airport Development Office in Appendix 1 indicates that the closest airport is the Channel 8 heliport which is 0.4479 miles away. Tulsa International Airport is greater than 5 miles away. Since the facility will not process municipal solid waste, which is putrescible, the facility will not pose a bird hazard to aircraft.

23. WETLANDS

Appendix 1 presents correspondence regarding wetland from the Oklahoma Conservation Commission (OCC) and the Army Corps of Engineers. The correspondence states that the USE Tulsa facility contains no jurisdictional wetlands or other waters of the United States. If additional filling or dredging is proposed in the delineated wetlands a permit may be required.

24. ENDANGERED & THREATENED SPECIES

No endangered or threatened wildlife or plant species were identified within a one (1) mile radius of the proposed facility. Determination letters from the Oklahoma Biological Survey (Oklahoma Natural Heritage Survey) are included in Appendix 1.

25. SCENIC RIVERS

The proposed facility is not located within the drainage basin of any river designated under the Oklahoma Scenic Rivers Commission (OSRC). A determination letter obtained from the OSRC is included in Appendix 1.

26. RECREATION/PRESERVATION AREAS

The proposed facility was not found to be located within one-half (1/2) mile of an area dedicated & managed for public recreation or natural preservation by a governmental agency. Determination letters from the Tulsa County Engineer, the Oklahoma Tourism and Recreation Dept., the Oklahoma Historical Society, and the Oklahoma Archeological Survey are found in Appendix 1.

V. OPERATIONAL PLAN

27. ACCESS ROAD

Access to the USE Tulsa facility is shown on Figure 8 in Attachment 1. Paragraph 10 in Attachment B describes the road construction and materials.

28. EMPLOYEE FACILITY

An office with restroom facilities is available at the facility to provide suitable shelter and sanitary facilities for site personnel and the public accessing the facility.

29. MEASURING PROCEDURES

The type, quantity and source of non-hazardous industrial wastes received from persons disposing greater than 10 cubic yards of Non-Hazardous Industrial Waste (NHIW) in a calendar month will be recorded and the report will be submitted to the DEQ no later than the last day of the month following the reporting month, per the requirements of 27A O.C. 252:515-31-4.

30. FIRE PROTECTION

The Contingency Plan, Attachment 5, describes procedures to prevent hazards. Attachment 6, Procedures to Prevent Hazards, includes procedures to reduce the potential for fires.

31. PUBLIC ACCESS CONTROL

A sign is located at the entrance of the proposed facility to identify the site name, RCRA permit number, and hours of operation. Public access, prevention of unauthorized traffic, and uncontrolled dumping is controlled by two access points.

32. LITTER

Since the facility will typically not accept municipal solid waste, litter should not be a problem. However, loose or scattered litter will be picked up by the facility personnel.

33. MAINTENANCE

Safety is a very important aspect of the day to day operations of the facility. In order to minimize the potential for accidents due to malfunctioning equipment, as well as to keep equipment costs as low as possible, a regular maintenance schedule will be implemented. Maintenance will be performed in accordance with equipment manufacturer recommendations

or as needed. Maintenance plan and records of maintenance will be kept on file. Inspection schedules are presented in Attachment 4 – Maintenance Schedule and Forms.

34. PROCESSING

Since the facility does not accept municipal solid waste that is putrescible, this section is not applicable.

35. LARGE AND BULKY ITEMS

Large and/or bulky items that cannot be handled by the facilities equipment will not be accepted.

36. SALVAGE

Salvaging will not be permitted at the facility. No commercial recycling activities are proposed at this time. The USE Tulsa facility will (when appropriate) re-use containers emptied on-site and may re-use equipment when possible in accordance with the facility Waste Minimization Plan. In addition, as specified in the Waste Minimization Plan, waste chemicals may be used for treatment or other site activities, if appropriate, emptied containers may be sent off-site for recycling.

37. VECTOR CONTROL

Since the facility will not accept municipal solid waste, vector control will not be an issue. Standing water will be minimized where possible to reduce mosquito-breeding areas.

38. ANIMAL EXCLUSION

Attachment 3 describes access control. Both access control and the fact that the facility will not process municipal, solid waste will effectively prevent animals from entering the facility. All domestic animals will be excluded from the operations areas of the facility. No animals will be allowed to feed from the garbage.

39. DUST CONTROL

The roadway system to the facility is paved. The distance and speed of the vehicles delivering or transferring wastes to the site will be minimal; therefore, dust generation from the site is expected to be minimal. On-site roads are constructed of asphalt to minimize dust generation from the access road.

40. WATER MANAGEMENT

The facility does not discharge pollutants off-site into waterways. The USE Tulsa site is designed and operated to prevent run-off to the environment from waste handling facilities. Container management areas and tank systems are equipped with dike or wall systems (i.e., containment systems). Containment systems for tank and container storage areas are described in Sections C and T. A description of the flood protection wall is provided in Appendix B-1 of Section B.

41. Accident Prevention and Safety

Attachment 6 - Procedures to Prevent Hazards and Attachment 5 - Contingency Plan, detail safety training, fire extinguisher locations, and first aid procedures.

42. RECORD KEEPING AND REPORTING

Information on the type, quantity and source of non-hazardous industrial wastes received from persons disposing greater than 10 cubic yards of NHIW in a calendar month will be recorded and the report will be submitted to the DEQ no later than the last day of the month following the reporting month, per the requirements of 27A O.C. 252:515-31-4.

43. RESIDUE MANAGEMENT

All processed materials is disposed of or treated by a properly permitted facility. The facility has developed a Waste Minimization Plan to address waste generation issues. A copy of this plan is provided as Appendix 2.

44. LIQUIDS RESTRICTION AND CO-DISPOSAL

When wastes are processed for off-site disposal at a properly permitted landfill, any free liquids will be solidified to meet landfill requirements.

45. EXCLUSION OF HAZARDOUS AND OTHER INAPPROPRIATE WASTE

USE Tulsa conducts hazardous waste management activities in accordance with a permit issued by the ODEQ. Waste analysis procedures are specified in the facility waste analysis plan as outlined in Attachment 2 - Waste Characteristics and Waste Analysis Plan. These procedures were designed to screen incoming wastes to facilitate proper waste management in on-site processes.

46. CLOSURE PLAN

Attachment 8, Closure and Post Closure Plan with Estimates and Insurance Information, presents the Closure Plan.

47. POST CLOSURE PLAN

There are no units at the facility that require post-closure planning.

VI. CLOSURE PLAN

Attachment 8 presents the Closure Plan, closure cost estimates, and the Financial Assurance for closure for the USE Tulsa facility.

VII. POST-CLOSURE PLAN

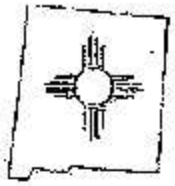
There are no units at the facility that require post-closure planning.

----------END OF ATTACHMENT----------

Appendix 12-1

Correspondence

1. FAA-Fort Worth to Cardinal Environmental, December 4, 1996
2. Oklahoma Tourism and Recreation Dept. to Cardinal Environmental, November 8, 1996
3. Oklahoma Historical Society to Perma-Fix Treatment Services, January 30, 2006
4. Oklahoma Archeological Survey to Perma-Fix Treatment Services, January 10, 2006
5. Oklahoma Conservation Commission to Cardinal Environmental, November 18, 1996
6. Oklahoma Scenic Rivers Commission to Cardinal Environmental, November 12, 1996
7. Oklahoma Natural Heritage Inventory to Cardinal Environmental, November 7, 1996
8. Tulsa County to Cardinal Environmental, November 25, 1996
9. Department of the Army to Mintech, Inc., September 24, 1997



NEW MEXICO/OKLAHOMA
AIRPORT DEVELOPMENT OFFICE

MAILING ADDRESS:
Department of Transportation
Federal Aviation Administration
Fort Worth, TX 76193-0640

(817) 222-5640

LOCATION ADDRESS:
DFWINA
2601 Meacham Boulevard
Fort Worth, TX 76137-4298

FAX COVER SHEET

DATE: 2/21/96

PAGES: 2
(NOT INCLUDING COVER PAGE)

TO: Mark Gray

FROM: Michael Francis

COMMENTS:

FORT WORTH
FAX (817)222-5966

ALBUQUERQUE
FAX (505)766-1259

OKLAHOMA CITY
FAX (405)954-2093

EDWARD H. COOK
CABINET SECRETARY
EXECUTIVE DIRECTOR

FRANK KEATING
GOVERNOR

OKLAHOMA
NATIVE AMERICA

November 8, 1996

Mark Gray, Hydrogeologist
Cardinal Environmental, Inc.
6520 North Western, Suite 206
Oklahoma City, Oklahoma 73116

Dear Mr. Gray:

We have reviewed our records for possible park and recreation sites in the area of the proposed solid waste transfer station located in Section 15, Township 19 North, Range 12 East, Tulsa County, Oklahoma.

Several park areas which have received federal funds from the Land & Water Conservation fund are in this area. A location map of these parks is enclosed. We ask that a visual inspection be made of this site to determine if any of these park sites are within 1/2 mile of the proposed project.

Thank you for notifying us of the proposed project. Please contact me at (405) 521-2973 if you have any questions or need further information.

Sincerely,

Kristina S. Marek, Director
Planning & Development Division

THE COLCORD BUILDING 15 N. ROBINSON AVE. SUITE 100 TOURISM AND RECREATION DEPARTMENT OKLAHOMA CITY, OKLAHOMA 73102-5403 (405) 521-2413

Oklahoma Historical Society *Founded May 27, 1893*
State Historic Preservation Office • 2704 Villa Prom • Shepherd Mall • Oklahoma City, OK 73107-2441
Telephone 405/521-6249 • Fax 405/947-2918

January 30, 2006

Mr. Mike Hayter
Compliance Manager
Perma-Fix Treatment Services
2700 South 25th West Ave.
Tulsa, OK 74107

RE: File #0750-06; Perma-Fix Permit Renewel Application, #OKD000402396

Dear Mr. Hayter:

The referenced project in Tulsa County does not include construction or earth-moving activities. Comments or opinions by this office are inappropriate for this project.

Should further projects include construction or earth-moving activities, an opinion should be requested from this office.

If you have any questions, please contact Charles Wallis, RPA, Historical Archaeologist, at 405/521-6381.

Further correspondence pertaining to this project must reference the above underlined file number. Thank you.

Sincerely,

Melvena Heisch

Melvena Heisch
Deputy State Historic
Preservation Officer

MH:bh

Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

January 10, ~~2005~~ 2006, PRE. ATTACHED POSTMARK

Mike Hayter
Perma-Fix Treatment Services
2700 South 25th West Ave.
Tulsa, Oklahoma 74107

Re: Class 1 Permit Renewal Application Modification. EPA ID No. OKD000402396, Permit No. 000402396. Legal Description: Part of Section 15 T19N R12E, Tulsa County, Oklahoma.

Dear Mr. Hayter:

The Community Assistance Program staff of the Oklahoma Archeological Survey has reviewed the above referenced project in order to identify potential areas that may contain prehistoric or historic archaeological materials (historic properties). The location of your project has been crosschecked with the state site files containing approximately 18,000 archaeological sites that are currently recorded for the state of Oklahoma. No sites are listed as occurring within your project area, and based on the topographic and hydrologic setting; no archaeological materials are likely to be encountered. Thus an archaeological field inspection is not considered necessary. However, should construction activities expose buried archaeological materials such as chipped stone tools, pottery, bone, historic crockery, glass, metal items or building materials, this agency should be contacted immediately at (405) 325-7211. A member of our staff will be sent to evaluate the significance of these remains.

This environmental review and evaluation is performed in order to locate, record, and preserve Oklahoma's prehistoric and historic cultural heritage in cooperation with the State Historic Preservation Office, Oklahoma. Historical Society. In addition to our review comments, under 36CFR Part 800.3 you are reminded of your responsibility to consult with the appropriate Native American tribe/groups to identify any concerns they may have pertaining to this undertaking and potential impacts to properties of traditional and/or ceremonial value. Thank you.

Sincerely,

Nekole Alligood
Staff Archaeologist

Robert L. Brooks
State Archaeologist

:ls

Cc: SHPO

111 E. Chesapeake, Room 102, Norman, Oklahoma 73019-5111 PHONE: (405) 325-7211 FAX: (405) 325-7604
A UNIT OF ARTS AND SCIENCES SERVING THE PEOPLE OF OKLAHOMA

MASON MUNGLE
EXECUTIVE DIRECTOR

BEN POLLARD
ASSISTANT DIRECTOR

STATE OF OKLAHOMA
OKLAHOMA CONSERVATION COMMISSION

November 18, 1996

Mr. Mark Gray, Hydrogeologist
Cardinal Environmental, Inc.
6520 N. Western, Suite 206
Oklahoma City, OK 73116

Dear Mr. Gray:

Your request for a wetland determination for the proposed solid waste transfer station in Tulsa County, as described in your letter of November 6, 1996, has been reviewed. Due to the potential for riparian wetland an on-site investigation may be needed. Your request has been referred to the U.S. Army Corps of Engineers for a determination. Their address and phone number is:

U.S. Army Corps of Engineers
Regulatory Branch
Post Office Box 61
Tulsa, Oklahoma 74121-0061
(918) 669-7400

If you have further questions or concerns, please call me at 405/521-2384.

Sincerely,

DAN SEBERT
District Operations Director

DS/di

c: Mason Mungle, Executive Director
U.S. Army Corps of Engineers

2800 NORTH LINCOLN BOULEVARD, SUITE 160 • OKLAHOMA CITY, OKLAHOMA 73105-4210 • (405) 521-2384 • FAX (405) 521-6686
recycled paper

ED FITE
ADMINISTRATOR

FRANK KEATING
GOVERNOR

STATE OF OKLAHOMA
OKLAHOMA SCENIC RIVERS COMMISSION

November 12, 1996

Mark Gray
Cardinal Environmental, Inc.
6520 N. Western, Suite 206
Oklahoma City, OK 73116

Dear Mr. Gray:

This letter is to certify that the proposed solid waste transfer station located at 2700 & 2801 South 25th Street West, in the City of Tulsa, Tulsa County, Oklahoma, will have no adverse impact on any of Oklahoma's "Scenic River Areas." Additionally, there are no designated "Scenic River Areas" within Tulsa County, Oklahoma.

In closing, the Oklahoma Scenic Rivers Commission would like to thank you for soliciting our comments on this project. Feel free to contact us if we can further assist you and/or your office.

Sincerely,

Ed Fite, III
Administrator

EHF/rkt

P.O. BOX 292, TAHLEQUAH, OK 74465-0292 • (918) 456-3251 • FAX (918) 456-8466

OKLAHOMA NATURAL HERITAGE INVENTORY
Oklahoma Biological Survey
NFORMATION REQUEST RESPONSE

IR LOG: OTH *CEI *96* 386

nformation Requested by: Mark Gray
Cardinal Environmental, Inc.

Quad Name: Sapulpa North
QuadCode: 36096I1

Date Requested: November 7, 1996

County: Tulsa

Project and Location: T19N - R12E - Section 15

Type of Information: Federal/State Listed, Proposed, or Candidate Species ☒
Any Tracked Species ☐

REVIEW

☞ On-Site Occurrences listed below are tagged with ✓ ; Otherwise, within 1 mile radius.

LISTED OR CANDIDATE ENDANGERED SPECIES (FEDERAL OR STATE SPECIES)

☒ No known listed or candidate spp. in database

OTHER RARE SPECIES OR COMMUNITIES

☒ No known other rare spp. or communities records in database

PUBLIC LANDS (FEDERAL, STATE OR MUNICIPAL PARKS, REFUGES, MANAGEMENT AREAS)

☒ No known public lands records in database

NON-PROFIT MANAGED AREAS (NATURE PRESERVES, REGISTRY NATURAL AREAS)

☒ No known managed areas records in database

Tulsa County

County Engineer

A Department of the Board of County Commissioners
Tulsa County Administration Bldg. • 500 South Denver
Tulsa, Oklahoma 74103-3692 • (918) 596-5730

RAY JORDAN
COUNTY ENGINEER

November 25, 1996

Cardinal Environmental, Inc.
6520 N. Western, Suite 206
Oklahoma City, Ok. 73116

Attn: Mr. Mark Gray

Dear Mr. Gray

This office has reviewed your letter concerning the Perma-Fix Treatment Services, Inc. solid waste transfer station to be located in Section 15, Township 19 North, Range 12 East in Tulsa County. This office is not aware of any public recreation or natural preservation areas within one-half (1/2) mile of the proposed site under the jurisdiction of Tulsa County.

If we can be of further assistance, please feel free to contact this office.

Sincerely,

Ray Jordan

County Engineer

xc: File

DEPARTMENT OF THE ARMY
TULSA DISTRICT, CORPS OF ENGINEERS
P. O. BOX 61
TULSA, OKLAHOMA 74121-0061

REPLY TO ATTENTION OF:
Operations Division
Regulatory Branch

September 24, 1997

Ms. Catherine R. Orban
Mintech, Inc.
4608 South Garnett Road, Suite 100
Tulsa, OK 74146

Dear Ms. Orban:

This is in reference to your request from September 15, 1997, for a wetland determination on the Perma-Fix, Inc., property located in the South ½ of Section 15, Township 19 North, Range 12 East, Tulsa County, Oklahoma. You were interested in a wetland determination for the existing Perma-Fix facilities and the former Sun Ink facility. The area marked in red on the enclosed map denotes the limits of the property examined under this request.

We have examined the property and concluded that the referenced property, within the fence lines of the existing facilities, contains no jurisdictional wetlands or other "waters of the United States" subject to Section 404 of the Clean Water Act. However, northeast of these facilities, Cherry Creek flows from northwest to southeast. Cherry Creek, as shown in blue on the enclosed map, is considered a part of "waters of the United States" subject to Section 404 of the Clean Water Act. Additionally, the flood plain of Cherry Creek, north and east of these facilities, contains wetlands. The approximate boundary of these wetlands is depicted in green on the enclosed map. Placement of fill material, excavation, or heavy mechanized landclearing within the wetlands or in Cherry Creek will require prior authorization from the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act.

We believe this determination to be an accurate assessment of the presence of jurisdictional wetlands and other waters on the site which are subject to Section 404. This is a final determination of Federal jurisdiction on the property pursuant to Section 404. This determination is valid for 5 years from the date of this letter unless new information warrants revision of the determination before the expiration date.

RECD SEP 29 1997

Appendix 12-1.1

Notices

1. Perma-Fix Treatment Services Public Notice, December 27, 1996
2. Perma-Fix Treatment Services Proof of Publication, January 6, 1997
3. Perma-Fix Treatment Services Proof of Publication, January 31, 1997

PERMA-FIX
ENVIRONMENTAL SERVICES

December 27, 1996

Public Notice

RE: Perma-Fix Treatment Services, Inc. (PTS)
EPA ID No. OKD000402396 Permit Number 000402396
Tier III/Class Three Permit Modification Request Dated December 20, 1996

Perma-Fix Treatment Services, Inc. (PTS) owns and operates an industrial waste management facility located at 2700 S. 25th W. Avenue, Tulsa, Oklahoma 74107 (918/582-9595). PTS stores/processes hazardous and solid waste in accordance with the requirements of OAC 252:200 and 252:520; hazardous and solid waste management activities at the facility are administered by the Oklahoma Department of Environmental Quality (DEQ).

PTS recently gave notice to the DEQ of a Tier III/Class 3 modification to the Permit referenced above. This modification was submitted with correspondence dated December 20, 1996. PTS has completed acquisition of the property adjoining the PTS facility. This property includes existing tank storage and warehouse space suitable for waste management uses by PTS. Other changes to the facility permit/permit application have been made in conjunction with incorporation of additional units into the facility operating permit; these changes include updating the permit application document to reflect DEQ rule changes, facility redesign in response to the new areas/operations of the facility, additional solid waste processing methods, and increase of permitted volumes for tank and container management as well as some changes at the request of the DEQ.

The modification package and facility permit may be viewed during normal business hours at the following locations:

1. Tulsa City-County West Regional Library, 2224 West 51st Street, Tulsa OK 74107 (918/591-4366).

2. Oklahoma Department of Environmental Quality, Waste Management Division, 1000 N.E. 10th, Oklahoma City, OK 73117-1212; H.A. Caves (405) 271-5338.

No later than 60 days after the date of this notice, any person may submit written comments regarding this modification to the DEQ at the above Oklahoma City address. A public meeting to discuss the permit modification package has been scheduled for 7:00 PM on January 29, 1997 at the West Regional Library located at the Tulsa address shown above; an alternate date of 7:00 PM on February 4, 1997 has been reserved for use if weather conditions require rescheduling the January date.

This notice is made in accordance with the requirements of OAC 252:2-15-29 and 40 CFR 270.42(c). The permittee's compliance history during the life of the permit being modified is available from the Agency contact person.

Please contact Stacy Kisler of the facility at telephone number 918/582-9595 if you have any questions or require any additional information.

2700 SOUTH 25TH WEST AVENUE - TULSA, OK 74107 - TEL (918) 582-9595 - FAX (918) 582-6618
EPA-PERMITTED TSD FACILITY • HAZARDOUS WASTE MANAGEMENT • WASTEWATER TREATMENT • DEEP WELL INJECTION • ON-SITE TREATMENT

PERMA-FIX
TREATMENT SERVICES, INC.

January 6, 1997

H. A. Caves, Division Director
Waste Management Division
State of Oklahoma
Department of Environmental Quality
1000 Northeast 10th Street
Oklahoma City, Oklahoma 73117-1212

RE: Perma-Fix Treatment Services, Inc. (PTS)
EPA ID No. OKD000402396 Permit Number 000402396
Tier III/Class 3 Permit Modification Request Permit Revision 5
Public Notice - Proof of Publication

Dear Mr. Caves:

Public notice regarding submittal of the Tier III/Class 3 permit modification request referenced above was published in the Tulsa World on December 27, 1996. Enclosed is an original "proof of publication" in accordance with OAC 252:2-15-29(b), which requires submittal of a written affidavit of publication for a published notice within 20 days of publication.

If you have any questions regarding these matters, please call Stacy Kisler of the facility at telephone number 918/582-9595 or Catherine Orban at 918/641-0700.

Sincerely,

Perma-Fix Treatment Services, Inc.

Michael J. Zumwalt
Vice President

cc: Stacy Kisler, PTS
Steve Mason, Cardinal Environmental Inc.

FACILITY
2700 SOUTH 25TH WEST AVENUE TULSA, OKLAHOMA 74107 (918) 582-9595 FAX (918) 582-6618
ATLANTA, ALBUQUERQUE, DALLAS, HOUSTON, KANSAS CITY, OKLAHOMA CITY, ST. LOUIS, TULSA

MINTECH INC.
4608 S GARNETT STE 100
TULSA OK 74146-5213

Ad number: 427148

PROOF OF PUBLICATION

TITLE MINTECH INC.

STATE OF OKLAHOMA, }
COUNTY OF TULSA, } SS.

AFFIDAVIT:

I, DOROTHY J. MATHEWS, of lawful age, being duly sworn, upon the oath deposes and says that he / she is the CLERK of TULSA WORLD, a daily newspaper printed in the City of Tulsa, County of Tulsa, State of Oklahoma, and a bonafide paid general circulation therein, printed in the English language, and that the notice by publication, a copy of which is hereto attached, was published in said newspaper for

1 days, the first publication being on the 27TH day of December, 1996, and the last day of publication being on the 27TH day of December, 1996, and that said newspaper has been continuously and uninterruptedly published in said county during the period of more than One Hundred and Four (104) weeks consecutively, prior to the first publication of said notice, or advertisement, as required by Section one, Chapter four, Title 25 Oklahoma Session Laws, 1943, as amended by House Bill No. 495, 22nd Legislature, and thereafter, and complies with all of the prescriptions and requirements of the laws of Oklahoma. (The advertisement above referred to is a true and printed copy. Said notice was published in all editions of said newspaper and not in a supplement thereof.)

The advertisement above referred to, a true and printed copy of which is hereto attached, was published in said NEWSPAPER on the following dates, to-wit:

December 27, 1996

Said notice was published in the regular edition of said newspaper and not in a supplement thereof.

Publishing Fee	$	213.40
Notary Fee	$	
Affidavit	$	
TOTAL	$	213.65

Dorothy J. Mathews (Signature)

Subscribed and sworn to before me this 27TH day of DECEMBER, A.D., 19 96

My commission expires 0-21-98

JUDY SOLE NOTARY PUBLIC TULSA COUNTY

Notary Public

PUBLISHED in the Tulsa World, Dec. 27 1996, Tulsa, OK.

Public Notice

RE: Perma-Fix Treatment Services, Inc. (PTS)
EPA ID No. OKD000433276
Permit Number 00043276
Tier II/Class Three Permit Modification Request Dated December 20, 1996

Perma-Fix Treatment Services, Inc. (PTS) owns and operates an industrial waste management facility located at 2700 S. 35th W. Avenue, Tulsa, Oklahoma, 74107 (918/587-7593). PTS stores/processes hazardous and solid waste in accordance with the requirements of OAC 252:200 and 252:500. hazardous and solid waste management activities at the facility are administered by the Oklahoma Department of Environmental Quality (DEQ).

PTS recently gave notice to the DEQ of a Tier II/Class Three modification to the Permit referenced above. This modification was submitted with correspondence dated December 20, 1996. PTS has completed construction of the necessary additions to the PTS facility. This permit modification includes existing tank storage and warehouse space additions for which application have been made in conjunction with incorporation of additional units into the facility operating permit. These changes include updating the permit application document to reflect DEQ rule changes; facility realignment to reconcile to the new areas of the facility permit may be viewed during normal business hours at the following locations:

1. Tulsa City-County West Regional Library, 2224 West 51st Street, Tulsa OK, 74107 (918/591-4316)
2. Oklahoma Department of Environmental Quality, Waste Management Division, 1000 NE 10th, Oklahoma City, OK 73117-1212 H.A. Caves (405) 271-5338

No later than 45 days after the date of this notice, any persons may submit written comments regarding this modification to the DEQ at the above Oklahoma City address. A public meeting to discuss the permit modification request has been scheduled for 7:00 P.M. January 27, 1997 at the W. Regional Library located at the Tulsa address shown above. An alternate date of 7:00 PM February 3, 1997 has been reserved for use if weather conditions require rescheduling the January date. This notice is made in accordance with the requirements of OAC 252:215-29 and 40 C.F.R. 270.42(c). The permit modification history during the life of the permit being modified is available from the Agency contact person. Please contact Stacy Kisle at the facility at telephone number (918/582-9573 if you have any questions or require additional information.

PERMA-FIX
TREATMENT SERVICES, INC.

January 31, 1997

H. A. Caves, Division Director
Waste Management Division
State of Oklahoma
Department of Environmental Quality
1000 Northeast 10th Street
Oklahoma City, Oklahoma 73117-1212

RE: Perma-Fix Treatment Services, Inc. (PTS)
EPA ID No. OKD000402396 Permit Number 000402396
Tier III Filing - Opportunity to Request Process Meeting
Public Notice - Proof of Publication

Dear Mr. Caves:

Public notice regarding the Tier III filing and opportunity to request a process meeting was published in the Tulsa World on January 27, 1997. Enclosed is an original "proof of publication" in accordance with OAC 252:2-15-29(b), which requires submittal of a written affidavit of publication for a published notice within 20 days of publication.

If you have any questions regarding these matters, please call Stacy Kisler of the facility at telephone number 918/582-9595 or Catherine Orban at 918/641-0700.

Sincerely,

Perma-Fix Treatment Services, Inc.

Michael J. Zumwalt
Vice President

cc: Stacy Kisler, PTS

FACILITY
2700 SOUTH 25TH WEST AVENUE TULSA, OKLAHOMA 74107 (918) 582-9595 FAX (918) 582-6618
ATLANTA, ALBUQUERQUE, DALLAS, HOUSTON, KANSAS CITY, OKLAHOMA CITY, ST. LOUIS, TULSA

MINTECH INC
4608 S GARNETT STE 100
CATHERINE R ORBAN
TULSA OK 74146-5213

Ad number: 452127

PROOF OF PUBLICATION

TITLE _____MINTECH INC

STATE OF OKLAHOMA, }
COUNTY OF TULSA, } SS.

AFFIDAVIT:

I, DOROTHY J. MATHEWS, of lawful age, being duly sworn, upon the oath deposes and says that he / she is the CLERK of TULSA WORLD, a daily newspaper printed in the City of Tulsa, County of Tulsa, State of Oklahoma, and a bonafide paid general circulation therein, printed in the English language, and that the notice by publication, a copy of which is hereto attached, was published in said newspaper for

1 days, the first publication being on the 27TH day of January, 1997, and the last day of publication being on the 27TH day of January, 1997, and that said newspaper has been continuously and uninterruptedly published in said county during the period of more than One Hundred and Four (104) weeks consecutively, prior to the first publication of said notice, or advertisement, as required by Section one, Chapter four, Title 25 Oklahoma Session Laws, 1943, as amended by House Bill No. 495, 22nd Legislature, and thereafter, and complies with all of the prescriptions and requirements of the laws of Oklahoma. (The advertisement above referred to is a true and printed copy. Said notice was published in all editions of said newspaper and not in a supplement thereof.)

The advertisement above referred to, a true and printed copy of which is hereto attached, was published in said NEWSPAPER on the following dates, to-wit:

January 27, 1997

Said notice was published in the regular edition of said newspaper and not in a supplement thereof.

Publishing Fee	$	246.40
Notary Fee	$	
Affidavit	$	
TOTAL	$	246.40

Dorothy J Mathews
(Signature)

Subscribed and sworn to before me this 27th day of JANUARY, A.D., 19 97

My commission expires 9-26-2000

Judy Sole
Notary Public

JUDY SOLE NOTARY PUBLIC STATE OF OKLAHOMA TULSA COUNTY Comm. Exp. 9-26-2000

PUBLISHED in the Tulsa World, Tulsa, OK January 27, 1997

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

NOTICE OF FILING TIER III APPLICATION AND OF OPPORTUNITY TO ASK FOR PROCESS MEETING

RE: Permafix Treatment Services, Inc. (PTS), EPA ID No. OKD000402326, Tier III/Class 3 Permit Modification Request Dated December 20, 1996, Permit Number 00202324.

A Tier III application for a Class 3 permit modification to incorporate adjacent property (including tanks and warehouse space) for waste management activities into existing permit referenced above has been filed with the Department of Environmental Quality (DEQ) by the applicant, Permafix Treatment Services, Inc. (PTS).

The applicant requests approval to modify current solid hazardous waste management activities to include new areas/units at its existing facility, located at 2916 S. 25th W. Avenue, Tulsa, Oklahoma 74107 (918/582-2973). The facility legal description is provided in the permit application document. Other changes to the facility permit/permit application have been made in connection with incorporation of additional units into the facility operating permit. These changes include updating the permit application document to reflect DEQ rule changes, facility revision in response to the new areas/operations of the facility, additional solid waste processing methods, and increase of permitted volumes for tank and container management as well as some changes of the request of the DEQ.

If you are interested in finding out what you can give your view on this application, write to the DEQ within 15 days of the date of this notice and ask it to hold a PROCESS MEETING. A PROCESS MEETING IS NOT A COMMENT MEETING FOR PROTESTS. Instead it is a meeting held soon after the application is complete. At your process meeting request to the DEQ person listed below. Meanwhile, you may review a copy of the application and the facility permit, during normal business hours, at the following locations:

1. Tulsa City-County West Regional Library, 2224 West 51st Street, Tulsa, OK 74107, (918/596-7944).
2. Oklahoma Department of Environmental Quality, Waste Management Division, 1000 N.E. 10th, Oklahoma City, OK 73117-1212, Bruce Lucas at 405/271-5338.

For more information about the application, contact the applicant's representative, Stacy Kiker at 918/582-2973 or 2916 S. 25th W. Avenue, Tulsa, Oklahoma 74107. For more information about the review and comment process, contact Bruce Lucas at the DEQ at 405/271-5338 or at the DEQ address shown above.

Appendix 12-2

Waste Minimization Plan

Revision 2: March 2007

Introduction and Applicability

Section 3002 of the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), requires a certification that a generator has implemented a program to reduce the volume and toxicity of hazardous wastes generated to the extent economically practicable. This Waste Minimization Plan (WMP) has been developed for US Ecology Tulsa (USET), has been designed to comply with the requirements of sections 3002 (b) and 3005 (h) of the SWDA (as amended), and to serve as an instructional document for training applications. This WMP will be reviewed and (if necessary) revised at least every two years.

USET provides waste management services to industrial customers. Because of the nature of the waste management business, traditional waste minimization programs are not applicable to operations at USET. Waste management processes often result in reduction of toxicity of wastes, thereby resulting in waste minimization for USET customers. Standard goals for reduction of wastes generated on-site are not appropriate to USET processes. However, USET will comply with applicable waste minimization requirements.

Purpose

This plan describes the procedures and objectives of waste minimization activities at USET. However, because USET is a waste management facility, waste generation by USET is a function of the volume of waste received from off-site. USET will endeavor to improve waste management practices on-site to reduce the volume of hazardous waste generated by site process and/or the toxicity of the wastes managed at the facility. The purpose of this WMP is facilitate, where appropriate, waste minimization activities on-site.

Definitions

Waste minimization is defined as the reduction, to the extent feasible, of hazardous waste that is generated and subsequently treated, stored, or disposed of. Waste minimization includes any activity undertaken by a generator that results in the reduction of the total volume and/or toxicity of hazardous waste thereby reducing the threat to human health or the environment.

Responsibilities

Support by USET management and cooperation by operations personnel will be critical to waste minimization activities at the facility. To the extent possible, each employee will be encouraged to identify waste minimization opportunities. Suggestions from operations personnel will be evaluated by the waste minimization committee, and (where feasible) incorporated into facility standard operating procedures. The waste minimization committee will be designated by the facility manager and will meet on a periodic basis (at least once a year). The committee will review waste generating processes associated with current operations, review waste minimization activities for the previous year, and make recommendations for future minimization activities.

Procedures

Certain services provided by USE Tulsa constitute waste minimization for USE Tulsa customers. For example, stabilization services reduce toxicity of the waste. USE Tulsa anticipates that wastes generated by on-site processes will increase along with the growth of waste management services provided by the facility.

Although traditional waste minimization activities are not appropriate for USET, the facility will incorporate the following practices into waste management operations at the facility:

- Where feasible, USE Tulsa will substitute waste for purchased chemicals in facility operations;
- By appropriate waste treatment, USE Tulsa will reduce toxicity of hazardous waste;
- USE Tulsa will evaluate facility operations (including operations areas and "housekeeping" practices as well as the laboratory) for possible waste minimization activities;
- Through proper training, USE Tulsa employees will have the knowledge to minimize the volume of hazardous wastes generated by site processes; e.g., spill prevention practices, process knowledge to prevent operator error which could result in increases

in waste volumes/toxicity, or inappropriate use of Personal Protective Equipment (PPE)[3].

Conclusions

Because USE Tulsa provides waste management services to industrial customers, traditional waste minimization programs are not applicable to operations at USE Tulsa. Although standard goals for reduction of wastes generated on-site are not appropriate to USE Tulsa processes, USE Tulsa will comply with applicable waste minimization requirements as outlined in this WMP.

[3] Waste minimization practices will not take precedent over safety issues; i.e., use of PPE will not be reduced if worker safety will be compromised, waste minimization with regards to PPE will be limited to training regarding proper use and (where applicable) reuse. Under no circumstances will employees by expected to forgo necessary equipment in the pursuit of waste minimization.