



Texas Commission on Environmental Quality Permit Application for Industrial and Hazardous Waste Storage/Processing/Disposal Facility with Compliance Plan

Part B

Form Availability:

This form, as well as other Industrial and Hazardous Waste documents, Part B electronic checklist, and pertinent rules, is available on the Internet. The TCEQ Home Page is at: <http://www.tceq.texas.gov>. Once you have accessed the home page, select "Forms and Publications" and follow the system prompts. The number for this form is 00376. Questions may be e-mailed to ihwper@tceq.texas.gov.

Introduction:

This permit application is generally a reorganized summary of the Part B information requirements of 40 CFR Part 270 and 30 Texas Administrative Code (TAC) Chapter 305 Subchapters C and D and Chapter 335. The TCEQ may request additional information before a permit is issued, if regulatory requirements change.

The original application plus all copies for New, Renewals, Major Amendments and Class 3 Modifications should be submitted to:

Texas Commission on Environmental Quality
Attention: Waste Permits Division, MC 126
P. O. Box 13087
Austin, Texas 78711-3087

The original application plus all copies for Class 1, Class 1¹, Class 2 Modifications and Minor Amendments should be submitted to:

Texas Commission on Environmental Quality
Attention: Industrial and Hazardous Waste Permits Section, MC 130
Waste Permits Division
P. O. Box 13087
Austin, Texas 78711-3087

Telephone Inquiries:

(512) 239 - 2335 (For RCRA permit application) - Industrial & Hazardous Waste Permits Section, Waste Permits Division

(512) 239 - 6412 (For industrial and hazardous waste classification) - Technical Analysis Team, Industrial & Hazardous Waste Permits Section, Waste Permits Division

(512) 239 - 6413 (For solid waste registration number, EPA identification number, and notice of registration) - Registration and Reporting Section, Permitting and Registration Support Division

(512) 239 - 0272 (For non-combustion units) - Chemical New Source Review Permits Section, Air Permits Division

(512) 239 - 1583 (For combustion units) - Energy/Combustion New Sources Review Permits Section, Air Permits Division

(512) 239 - 0600 (For legal) - Environmental Law Division

(512) 239 - 6150 (For financial assurance) - Financial Assurance Unit, Revenue Operations Section, Financial Administration Division

(512) 239 - 0300 (For payment of permit application fees) - Cashier's Office, Revenue Operations Section, Financial Administration Division

(512) 239 - 2201 (For compliance plan or corrective action) - Voluntary Cleanup Program/Corrective Action Section, Remediation Division

Application Review Prohibition:

The Texas Commission on Environmental Quality (TCEQ) shall not review an application for a new commercial hazardous waste facility, and the application shall be deemed not to have been received, until the emergency response information required by Section III.F. of the application has been reviewed and declared by TCEQ staff to be complete and satisfactory. [30 TAC 281.26, 30 TAC 305.50(a)(12)(C) and (D)]

Permit Issuance Prohibited [30 TAC 335.205]:

The TCEQ shall not issue a permit for:

1. a new hazardous waste management facility or an areal expansion of an existing facility if the facility or expansion does not meet the requirements of 30 TAC 335.204 (relating to Unsuitable Site Characteristics);
2. a new hazardous waste landfill or the areal expansion of an existing hazardous waste landfill if there is a practical, economic, and feasible alternative to such a landfill that is reasonably available to manage the types and classes of hazardous waste which might be disposed of at the landfill;
3. a new commercial hazardous waste management facility as defined in 30 TAC 335.202 (relating to Definitions) or the subsequent areal expansion of such a facility or unit of that facility if the owner/operator proposes to locate the boundary of the unit within 0.5 of a mile (2,640 feet) of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park;
4. a new commercial hazardous waste management facility that is proposed to be located at a distance greater than 0.5 mile (2,640 feet) from an established

residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park unless the applicant demonstrates to the satisfaction of the commission that the facility will be operated so as to safeguard public health and welfare and protect physical property and the environment, at any distance beyond the facility's property boundaries;

5. a proposed hazardous waste management facility, or a capacity expansion of an existing hazardous waste management facility if a fault exists within 3,000 feet of the proposed hazardous waste management facility or of the capacity expansion of an existing hazardous waste management facility unless the applicant performs the demonstration found in 30 TAC 305.50(a)(4)(D) and 305.50(a)(10)(E) ; and
6. A proposed solid waste facility for the processing or disposal of municipal hazardous waste or industrial solid waste which is located within an area of a municipality or county in which the processing or disposal of municipal hazardous waste or industrial solid waste is prohibited by an ordinance or order. [Texas Health and Safety Code Section 363.112]

See 30 TAC 335 Subchapter G: Location Standards for Hazardous Waste Storage, Processing, or Disposal for additional details and information regarding items 1 through 5 above.

Completing The Application and Electronic Checklist:

Prior to submitting a new permit application, please contact the TCEQ Permitting and Registration Support Division to obtain a Solid Waste Registration Number and an EPA Identification Number for inclusion in Section I.A. of this application. The facility's Solid Waste Registration Number may be proposed in Section I.A. as the Permit Number

This permit application form has been designed to solicit specific information, with reports to be attached or inserted. A response must be made for each informational request in the application form. If an item is not applicable please state "not applicable" and explain. All information included in the application must be listed by the format of the application. For example, if an engineering report is attached to the application to fulfill the requirements of Section V, then each subsection of the engineering report must correlate with the corresponding subsection in the application form (e.g., Subsection V.A.3. of the report would be proposed construction schedules). If information is provided which does not correspond with the application form, the specific rule or regulation which requires submittal of the information must be cited. Each report should be attached behind the summary form or table for the report and submitted as one document with the pages sequentially numbered at the bottom. Maps, blueprints, and drawings that cannot be folded to 8-1/2" x 11" may be submitted as separate documents. Engineering plans and specifications submitted with an application must be approved and sealed by a licensed Professional Engineer, with current license and designating the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act. Geology reports, geologic maps, and geologic cross-sections submitted with an application must be approved and sealed by a licensed Professional Geologist, with current license required by the Texas Geoscience Practice Act. Complete the tables in this application rather than substituting.

Facilities which will receive industrial and hazardous wastes from off-site sources must also provide information on these wastes and associated waste management units in accordance with 30 TAC 335.2.

In addition, the electronic checklist has been designed to facilitate the application preparation

and review process, and should be completed and submitted along with applicable applications (see “Submittal” below).

For those who pre-filed a Part A application, certain items may have been omitted. These omissions must be addressed at this time. Additionally, if hazardous waste management methods have changed since the filing of the Part A, please provide an updated Part A.

Pursuant to Section 361.067 of the Texas Health and Safety Code, the TCEQ is required to mail a copy of this application or a summary of its contents to other regulatory agencies. Section I may be considered a summary of the entire application provided that all questions are completely answered. Therefore, Section I responses must not rely solely on cross-references to other sections of the application.

Groundwater Contamination:

If groundwater monitoring has detected the presence of hazardous constituents in the facility groundwater, the owner or operator must submit a Compliance Plan Application that is included as Section XI of this application. For more detailed instructions concerning a Compliance Plan, please see Section XI.

Submittal:

The complete application should be prepared using word processing. The third copy in the submittal package should consist of paper copies or PDF files of all surveys, reports, plot plans, diagrams, P&IDs, maps, etc., and a Compact Disk (CD) of the completed application form document and tables formatted in MS Word. Files may be compressed using PKZIP Ver. 2 or a 100% compatible program. For Renewal, Amendment, and Modification applications, the MS Word files should include both a finalized version and, where available, a redline/strikeout version clearly identifying all proposed changes from the existing permit. For revised application sections and incorporated documents where redline/strikeout versions are not available, submit a detailed listing of all proposed changes to the existing permit. In addition, the submitted electronic version of the application should be easily searchable during the review process by TCEQ staff.

For a new permit application or renewal, submit:

1. an original updated Part A permit application plus three (3) full copies;
2. the original Part B application plus three (3) full copies (including the electronic third copy);
3. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division;
4. Pre-printed mailing labels of the adjacent landowners or an electronic mailing list on Compact Disk (CD) in MS Word format; and
5. Completed RCRA Part B Administrative and Technical Evaluation Electronic Checklist (Form #00136) on CD, DVD, or USB drive.

For a new compliance plan or renewal of an existing compliance plan, please submit the following in addition to the above:

1. Sections I and XI.A. through XI.E., as applicable;
2. Tables XI.A.I., XI.E.I. through XI.E.III., and CP Tables I, II, V, VI through VIII, are required; and CP Tables III, IIIA, IV, and IVA as applicable; and

3. a Sampling and Analysis Plan (SAP) compliant with "Attachment A" requirements and evaluation of monitoring wells compliant with "Attachment B" well specification requirements.

For a post-closure care permit submit:

1. an original updated Part A permit application plus three (3) full copies;
2. the original Part B application (excluding Sections III B and F; IV A, C and D; VII A and B; VIII.B and C; and X) plus three (3) full copies;
3. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division;
4. pre-printed mailing labels of the adjacent landowners or an electronic mailing list on Compact Disk (CD) in MS Word format; and
5. Completed RCRA Part B Administrative and Technical Evaluation Electronic Checklist (Form #00136) on CD, DVD, or USB drive.

For major amendments to an issued hazardous waste permit, submit:

1. (if appropriate) an original updated Part A permit application plus three (3) full copies;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the amendment;
3. an explanation of why the major amendment is needed;
4. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division;
5. pre-printed mailing labels of the adjacent landowners or an electronic mailing list on Compact Disk (CD) in MS Word format; and
6. Completed RCRA Part B Administrative and Technical Evaluation Electronic Checklist (Form #00136) on CD, DVD, or USB drive.

For minor amendments to an issued hazardous waste permit, submit:

1. (if appropriate) an original updated Part A permit application plus three (3) full copies;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the amendment;
3. an explanation of why the minor amendment is needed;
4. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division; and
5. pre-printed mailing labels of the adjacent landowners or an electronic mailing list on diskette on Compact Disk (CD) in MS Word format.

For Class 3 modifications (including adding or revising a Compliance Plan) to

an issued hazardous waste permit, submit:

1. (if appropriate) an original updated Part A permit application plus three (3) full copies;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the modification;
3. a description of the exact changes to be made to the permit conditions and supporting documents referenced by the permit;
4. an explanation of why the Class 3 modification is needed;
5. evidence of the public notice mailing and publication (after the public meeting, please submit a statement that the public meeting was held within the required timeframes);
6. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division;
7. pre-printed mailing labels of the adjacent landowners or an electronic mailing list on Compact Disk (CD) in MS Word format; and
8. Completed RCRA Part B Administrative and Technical Evaluation Electronic Checklist (Form #00136) on CD, DVD, or USB drive.

For Class 2 modifications to an issued hazardous waste permit, submit:

1. (if appropriate) an original updated Part A permit application plus three (3) full copies;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the modification;
3. a description of the exact changes to be made to the permit conditions and supporting documents referenced by the permit;
4. an explanation of why the Class 2 modification is needed;
5. evidence of the public notice mailing and publication (after the public meeting, please submit a statement that the public meeting was held within the required timeframes);
6. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division; and
7. pre-printed mailing labels of the adjacent landowners or an electronic mailing list on diskette on Compact Disk (CD) in MS Word format.

For Class 1¹ modifications to an issued hazardous waste permit, submit:

1. (if appropriate) an original updated Part A permit application plus three (3) full copies;
2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the modification;
3. a description of the exact changes to be made to the permit conditions and

- supporting documents referenced by the permit;
- 4. an explanation of why the Class 1¹ modification is needed;
- 5. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division; and
- 6. Completed RCRA Part B Administrative and Technical Evaluation Electronic Checklist (Form #00136) on CD, DVD, or USB drive, for applications involving the partial transfer of some permitted waste management units.

For Class 1 modifications to an issued hazardous waste permit, submit:

- 1. (if appropriate) an original updated Part A permit application plus three (3) full copies;
- 2. an original Part B application plus three (3) full copies, consisting of, at a minimum, Section I of the Part B plus replacement pages for the changed portions of the application that change as a result of the modification;
- 3. a description of the exact changes to be made to the permit conditions and supporting documents referenced by the permit;
- 4. an explanation of why the Class 1 modification is needed; and
- 5. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division.

If several modifications are submitted as one application, the application review will proceed at rate of the amendment or modification which has the longest timeframe.

Application Revisions:

Please submit any application revisions with a revised date and page numbers at the bottom of the page(s).

Waivers:

Any request for waiver of any of the applicable requirements of this permit application must be fully documented.

Designation of Material as Confidential:

The designation of material as confidential is frequently carried to excess. The Commission has a responsibility to provide a copy of each application to other review agencies and to interested persons upon request and to safeguard confidential material from becoming public knowledge. Thus, the Commission requests that the applicant (1) be prudent in the designation of material as confidential and (2) submit such material only when it might be essential to the staff in their development of a recommendation.

The Commission suggests that the applicant not submit confidential information as part of the permit application. However, if this cannot be avoided, the confidential information should be described in non-confidential terms throughout the application, cross-referenced to Section XIII: Confidential Material, and submitted as a separate Section XIII document or binder, and conspicuously marked "CONFIDENTIAL."

Reasons of confidentiality include the concept of trade secrecy and other related legal concepts which give a business the right to preserve confidentiality of business information to obtain or retain advantages from its right in the information. This includes authorizations under, 18

U.S.C. 1905 and special rules cited in 40 CFR Chapter I, Part 2, Subpart B. Section 361.037 of the Texas Health and Safety Code does not allow an applicant for an industrial solid waste permit to claim as confidential any record pertaining to the characteristics of the industrial solid waste.

The applicant may elect to withdraw any confidential material submitted with the application. However, the permit cannot be issued, amended, or modified if the application is incomplete.

Exposure Assessment:

In accordance with 30 TAC 305.50(a)(8) and 40 CFR 270.10(j), any Part B application submitted for a facility that stores, processes, or disposes of hazardous waste in a surface impoundment or a landfill (including post-closure) must be accompanied by exposure information of the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. This exposure information is considered separate from the permit application, as stated in 40 CFR 270.10(c).

Pre-Application Meeting/Public Participation Activities [30 TAC 335.391 and 30 TAC 39.503]:

The TCEQ encourages applicants to conduct an applicant held public meeting prior to submittal of an application to allow the applicant and the public to identify potential issues. A pre-application public meeting is required prior to submittal of an application for an initial permit for hazardous waste management units, an application for hazardous waste part B applications for renewal of permits which propose a significant change in facility operations that would classify as a Class 3 Modification and an application for a major amendment. The pre-application public meeting requirements are described under 40 CFR Part 124.31(b)-(d).

Applicants are encouraged to request a pre-application meeting with TCEQ Permits Section staff and to notify the Industrial and Hazardous Waste Permits Section, Waste Permits Division of intent to file a permit application.

If a local review committee has been established to facilitate communication between the applicant and the local host community, the applicant should summarize the activities of the committee and submit this summary with the application. Any report completed by a review committee must be submitted.

Bilingual Notice Instructions:

For certain permit applications, public notice in an alternate language is required. If an elementary school or middle school nearest to the facility offers a bilingual program, notice may be required to be published in an alternative language. The Texas Education Code, upon which the TCEQ alternative language notice requirements are based, requires a bilingual education program for an entire school district should the requisite alternative language speaking student population exist. However, there may not be any bilingual-speaking students at a particular school within a district which is required to offer the bilingual education program. For this reason, the requirement to publish notice in an alternative language is triggered if the nearest elementary or middle school, as part of a larger school district, is required to make a bilingual education program available to qualifying students and either the school has students enrolled at such a program on-site, or has students who attend such a program at another location to satisfy the school's obligation to provide such a program.

If it is determined that a bilingual notice is required, the applicant is responsible for ensuring that the publication in the alternate language is complete and accurate in that language. Electronic versions of the Spanish template examples are available from the TCEQ to help the

applicant complete the publication in the alternative language.

Bilingual notice confirmation for this application:

1. Is the school district of the elementary or middle school nearest to the facility required by the Texas Education Code to have a bilingual program?
☒ Yes ☐ No
(**If No**, alternative language notice publication not required)
2. **If Yes** to question 1, are students enrolled in a bilingual education program at either the elementary school or the middle school nearest to the facility?
☐ Yes ☒ No
(**If Yes** to questions 1 and 2, alternative language publication is required; **If No** to question 2, then consider the next question)
3. **If Yes** to question 1, are there students enrolled at either the elementary school or the middle school nearest to the facility who attend a bilingual education program at another location? ☒ Yes ☐ No
(**If Yes** to questions 1 and 3, alternative language publication is required; **If No** to question 3, then consider the next question)
4. **If Yes** to question 1, would either the elementary school or the middle school nearest to the facility be required to provide a bilingual education program but for the fact that it secured a waiver from this requirement, as available under 19 TAC 89.1205(g)?
☐ Yes ☐ No
(**If Yes** to questions 1 and 4, alternative language publication is required; **If No** to question 4, alternative language notice publication not required)

Per question 3, an alternative language publication is required.

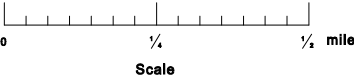
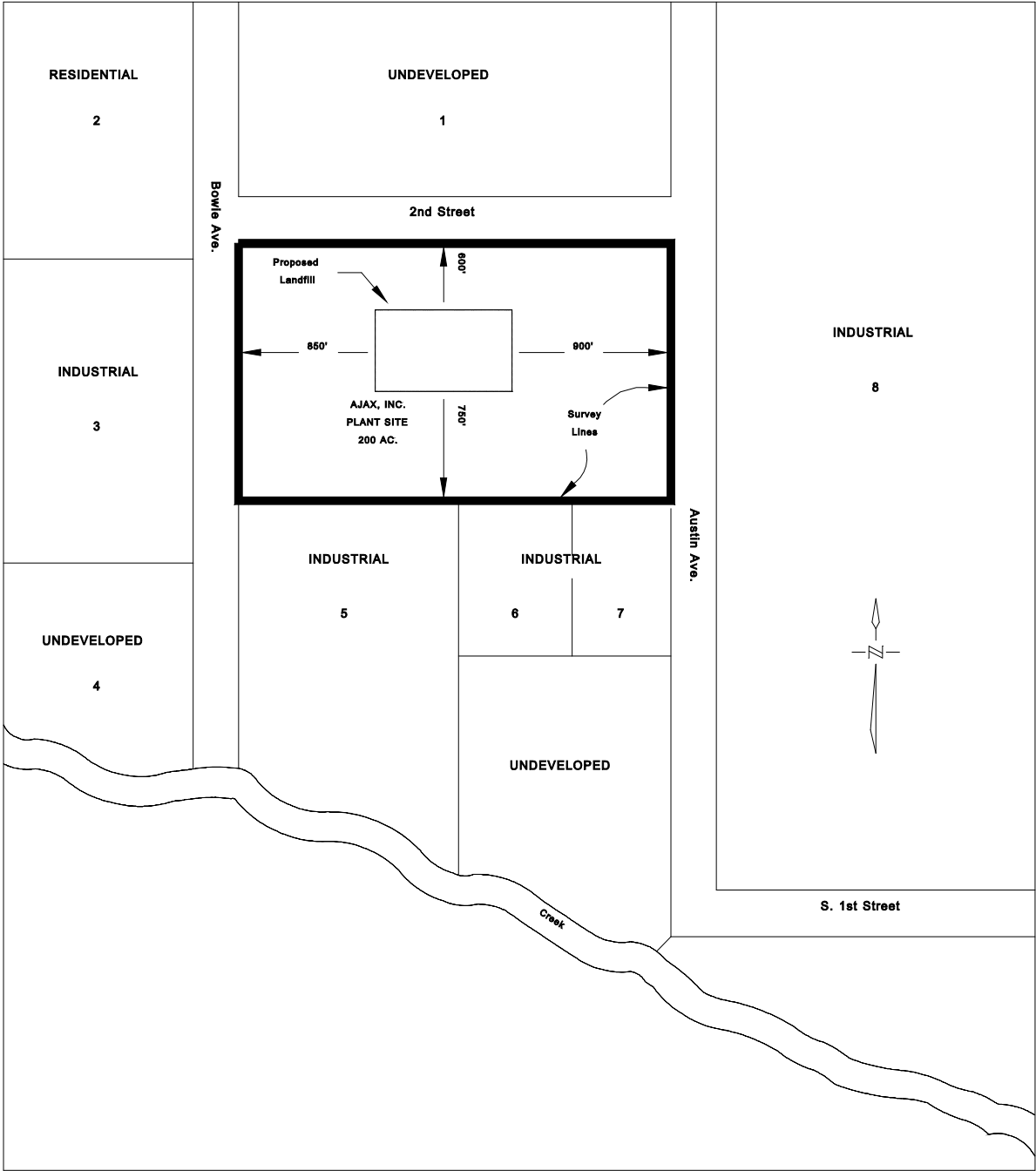
If a bilingual education program(s) is provided by either the elementary school or the middle school nearest to the facility, which language(s) is required by the bilingual program?

Spanish

Landowners Cross-Referenced To Application Map

SAMPLE APPLICATION MAP

ALL ADJACENT LANDOWNERS SHALL BE IDENTIFIED



The persons identified below would be considered as affected persons.

- | | |
|--|--|
| 1. MR & MRS SAMUEL L TEXANS
11901 STARTLE BLVD
ATOWN TX 78759 | 5. GENERIC BREWING CO
4240 KNIGHTS BRIDGE
OUTBACK TX 77640 |
| 2. MR & MRS EDWARD CITIZENS
1405 LINEAR ROAD
LITTLE TOWN TX 76710 | 6. PLAIN COMPANY
6647 CRAIGMOUT LANE
BIG PLACE TX 77590 |
| 3. TEXAS LINKED CORP
8411 NNW HWY
BIG PLACE TX 77590 | 7. ABC CHEMICALS INC
1212 ZIP STREET
BROADBANKS TX 77640 |
| 4. MR & MRS TED GOLDEN
MUSTARD
3210 AVENUE BLVD
FISHINSPOT TX 76724 | 8. BIG LOCAL BOTTLE CO
10024 LOCAL BLVD
URSINUS TX 79402 |

In accordance with 30 TAC 39.5(b), please also submit this list electronically, for mailing labels, in MS Word. The electronic mailing list must contain only the name, mailing address, city, state, and zip code with no reference to the lot number or lot location. The list should contain 30 names, addresses, etc. (3 columns with 10 per column) per page (MS WORD Avery Standard 5160 – ADDRESS template).

Alternatively, the applicant may elect to submit pre-printed mailing labels of this mailing list with the application. If you wish to provide the list on printed labels, please use sheets of labels that have 30 labels (10 labels per column) to a page (for example: Avery® Easy Peel® White Address Labels for Laser Printers 5160). Please provide four complete sets of labels of the adjacent landowners list.

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A. The minimum permit application fee for a permit or a permit renewal for each hazardous waste facility to be used for Storage, Processing, Disposal, or Closure/Post-Closure Care (disposal has already occurred) of hazardous waste shall be \$2,000, plus notice fee, and the maximum shall be \$50,000, calculated according to these instructions:.....	260
B. The application fee for a major amendment or a Class 2 or 3 modification to a hazardous waste permit for operation, closure, or post-closure care is subject to the fees listed below:.....	260
C. The application fee for a minor amendment, a Class 1, or a Class 1 ¹ modification of a hazardous waste permit is \$100 plus the notice fee of \$50.	261
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Table I: General Information**A. Applicant: Facility Operator (or Facility Owner & Operator, if same)**

Name ¹	Frisco Community Development Corporation
Address	7471 Old 5th Street
City, State	Frisco, Texas
Zip Code	75034
Telephone Number	(972) 292-5127
Alternate Telephone Number	
Fax:	N/A
TCEQ Solid Waste Registration No.	30516
EPA I.D. No.	TXD0006451090
Permit No.	50206
County	Collin
Regulated Entity Name	Frisco Community Development Corporation Site - 7471 Old 5th Street
Regulated Entity Reference Number (RN)	RN100218643
Customer Name	Frisco Community Development Corporation
Customer Reference Number:	CN605857168
Charter Number ²	034188001
Previous or Former Names of the Facility (if applicable)	GNB Technologies, Exide Technologies

B. Facility Owner: Identify the Facility Owner if different than the Facility Operator³

☒ Same as Facility Operator?

Name	Frisco Community Development Corporation
Address	
City, State	
Zip Code	
Telephone Number	
Alternate Telephone Number	
Fax:	

C. Facility Contact**1. Persons or firms who will act as primary contact:**

Name, Title:	Mack Borchardt, Special Assistant to the City Manager
Address	6101 Frisco Square Blvd, 5th Floor
City, State:	Frisco, TX
Zip Code	75034
Telephone Number	(927) 292-5127
Alternate Telephone Number	N/A
E-mail	MBorchardt@friscotexas.gov
Fax:	N/A

Persons or firms who will act as primary contact (if more than one):

Name, Title:	Not Applicable
Address	
City, State:	
Zip Code	
Telephone Number	
Alternate Telephone Number	
E-mail	
Fax:	

2. Agent in Service or Agent of Service (if you are an out-of-state company)⁴:

Name, Title:	Not Applicable
Address	
City, State:	
Zip Code	

3. Individual responsible for causing notice to be published:

Name:	Mack Borchardt, Special Assistant to the City Manager
Address	6101 Frisco Square Blvd, 5th Floor
City, State:	Frisco, TX
Zip Code	75034
Telephone Number	(927) 292-5127
Alternate Telephone Number	N/A
E-mail	MBorchardt@friscotexas.gov
Fax:	N/A

4. Public place in county where application will be made available⁵:

Name	Frisco Public Library
------	-----------------------

Address

8000 Dallas Parkway

City, State

Frisco, TX

Zip Code

75034

D. Application Type and Facility Status**1. Application Type**☒ Permit☐ New☐ Interim status☒ Renewal☐ RD&D☒ Compliance Plan☒ Amendment☒ Major☐ Minor☒ Modification☒ Class 3☐ Class 2☐ Class 1¹☐ Class 1**2. Part of a Consolidated Permit Processing request? [30 TAC Chapter 33]**

No

3. Does the application contain confidential material?⁶

No

4. Facility Status. Check all that apply☐ Proposed☒ Existing☒ On-Site☐ Off-Site☐ Commercial☐ Recycle☒ Land Disposal☐ Areal or capacity expansion☒ Compliance plan**5. Is the facility within the Coastal Management Program boundary?**

No

6. Description of Application Changes

Complete Table I.1 - Description of Proposed Application Changes.

Note: List all changes requested in Table I.1. Unlisted requests risk remaining unaddressed or possibly denied if brought to the permit application reviewer's attention at a later time.**7. Total acreage of the facility being permitted:**

94

8. Identify the name of the drainage basin and segment where the facility is located

River Segment Trinity River Above Lake Livingston

River Basin Trinity River Basin, Segment Number 0823

E. Facility Siting Summary:

Is the facility located or proposed to be located:

1. Within a 100-year floodplain?
2. in wetlands?
3. In the critical habitat of an endangered species of plant or animal?
4. On the recharge zone of a sole-source aquifer?
5. In an area overlying a regional aquifer?
6. Within 0.5 mile (2,640 feet) of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park?⁷ [30 TAC 335.202]
If Yes: the TCEQ shall not issue a permit for this facility.

Yes
Yes
No
No
Yes
No
No

7. In an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste?
If Yes: provide a copy of the ordinance or order.

F. Wastewater and Stormwater Disposition

1. Is the disposal of any waste to be accomplished by a waste disposal well at this facility?

No

If Yes: List WDW Permit No(s):

N/A

2. Will any point source discharge of effluent or rainfall runoff occur as a result of the proposed activities?

Yes

3. If Yes, is this discharge regulated by a TPDES or TCEQ permit?

☒ Yes

TCEQ Permit No.

WQ0002964000 and TXR05EU11

TPDES Permit No.

☐ No

Date TCEQ discharge permit application filed

Date TPDES discharge permit application filed:

G. Information Required to Provide Notice

State Officials List [30 TAC 39]

State Senator

Texas State Senate District 8:
Senator Angela Paxton
604 S. Watters Road, Suite 100

TCEQ Part B Application
TCEQ-00376

Revision No.1.1

Revision Date August 9, 2023

State Representative

Allen, Texas 75013

Texas State House District 33:
Representative Justin Holland
101 East Rusk Street, #201
Rockwall, TX 75087

Local Officials List [30 TAC 39]

Mayor

Jeff Cheney
6101 Frisco Square Blvd
Frisco, Texas 75034

Local Health Authority

Jeremy Starritt, Environmental
Services Manager
6616 Walnut Street
Frisco, Texas 76034

County Judge

Chris Hill, Collin County Judge
2300 Bloomdale Road, #4192
McKinney, TX 75071

County Health Authority

Candy Blair, R.N., Collin County
Health Care Services Appointed
Official
Collin County McKinney Plaza
825 N. McDonald Street, Suite 130,
McKinney, TX 75069Based on the questions in the Bilingual Notice Instructions for this form, are you
required to make alternate (Bilingual) notice for this application?

Yes

Bilingual Language(s):

Spanish

TCEQ Core Data Form Submitted?(see Section I Instructions, Item b.)

Yes

Has any information changed on the TCEQ Core Data Form since the last
submittal?

No

Signature on Application Submitted?
(see Section I Instructions, Item c)

Yes

1. Individual, Corporation, or Other Legal Entity Name - must match the Secretary of State's database records for the Facility)
2. If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.
3. The operator has the duty to submit an application if the facility is owned by one person and operated by another [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on Part A of this application [Section 361.087, Texas Health and Safety Code].
4. If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.
5. For applications for new permits, renewals, major amendments and Class 3 modifications a copy of the administratively complete application must be made available at a public place in the county where the facility is, or will be, located for review and copying by the public. Identify the public place in the county (e.g., public library, county court house, city hall), including the address, where the application will be made

available for review and copying by the public.

6. For confidential information cross-reference the confidential material throughout the application to Section XIII: Confidential Material, and submit as a separate Section XIII document or binder conspicuously marked "CONFIDENTIAL".
7. Use only for a new commercial hazardous waste management facility or areal expansion of an existing commercial hazardous waste management facility or unit of that facility as defined in 30 TAC 335.202

Table I.1-Description of Proposed Application Changes

Permit/Compliance Plan Application Appendix/Section	Brief Description of Proposed Change	Modification or Amendment Type	Supporting Regulatory Citation
See Note Below	See Note Below	See Note Below	See Note Below

The Exide Technologies Former Operating Plant is a former oxide manufacturing, battery recycling, and secondary lead smelting facility located at 7471 Old Fifth Street in Frisco, Collin County, Texas.

This RCRA Part B permit renewal application supplemental filing is applicable to the existing RCRA-permitted area, which includes the recycling center's former operational areas (including two demolished, inactive permitted hazardous waste storage and processing facilities), two closed pre-RCRA landfills (the North Disposal Area and the South Disposal Area), one inactive class 2 landfill (the Slag Landfill), and other ancillary facilities. This application proposes to amend the permit to:

- Revise permit conditions to reflect the decommissioning and closure of the facility, including the removal of permit conditions that are no longer applicable, and to add a corrective action program;
- Add a proposed Corrective Action Management Unit (CAMU) within the existing permit boundaries as part of closure, which unit is referred to as the Remediation Consolidation Area (RCA) and will contain on-site remediation wastes and off-site non-hazardous remediation wastes from the adjacent off-site Stewart Creek affected property and, for purposes of this application, will be categorized as a miscellaneous unit since there is not another appropriate classification option available for the CAMU; and
- Expand the existing permit boundaries to include the active Class 2 Landfill Corrective Action Management Unit (listed on the Notice of Registration as the "Landfill, North Property, 1996," and referred to herein as the North CAMU) designated as a CAMU under Agreed Order 2013-2207-IHW-E and update the property description to reflect the February 2019 platting and associated survey of the property.

For the purposes of this application, the requested RCRA-permitted area is referred to as the Former Operating Plant (FOP).

The FOP's original hazardous waste permit, HW-50206, was issued in May 1988. One renewal and several amendments, class 1, and class 2 modifications have been approved since the permit was issued. The Exide Frisco Former Operating Plant ceased operations in 2012. As of May 2019, all buildings at the FOP have been demolished except for the on-site wastewater treatment facility and foundations and equipment mounts. Therefore, this permit renewal application reflects the following updates:

- The Exide Technologies Former Operating Plant is no longer an active oxide manufacturing, battery recycling, and secondary lead smelting facility. Current and proposed closure and corrective action activities consist of filling operations at and implementation of the TCEQ-approved closure plan for the North CAMU and construction, consolidation and capping activities at the RCA, including implementation of a groundwater remedy; construction of cap supplements over the South Disposal Area, the Slag Landfill, and the North Disposal Area; and stormwater management.
- The two previous RCRA-permitted units, located within the proposed RCA, the Battery Receiving/Storage Building and the Raw Material Storage Building, were demolished in 2013 and are inactive units pending final closure.
- Per TCEQ Agreed Order No. 2013-2207-IHW-E, the North CAMU is included in the permitted area of the FOP categorized as a miscellaneous unit for purposes of this application.
- Plans for the proposed RCA are now included. The RCA is proposed to be designated and approved as a CAMU and categorized as a miscellaneous unit for purposes of this application.
- The Compliance Plan application (Section XI) has been completed to reflect the proposed plume management zones at the North CAMU and RCA and additional Corrective Action at the RCA.
- Administrative information, such as changes in the FOP officials' contact information, has been updated.



TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)	
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)	
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input checked="" type="checkbox"/> Other Property Transfer
2. Customer Reference Number (if issued)	3. Regulated Entity Reference Number (if issued)
CN 605857168	RN 100218643

Follow this link to search
for CN or RN numbers in
Central Registry**

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)		5/31/2022	
<input checked="" type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information		<input checked="" type="checkbox"/> Change in Regulated Entity Ownership	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).					
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				If new Customer, enter previous Customer below:	
Frisco Community Development Corporation				Exide Technologies	
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	
0134188001		30117625670		81-1304365	
10. DUNS Number (if applicable)		190075143			
11. Type of Customer:		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited	
12. Number of Employees		<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		13. Independently Owned and Operated?	
				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input type="checkbox"/> Owner		<input type="checkbox"/> Operator		<input checked="" type="checkbox"/> Owner & Operator	
<input type="checkbox"/> Occupational Licensee		<input type="checkbox"/> Responsible Party		<input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:	
15. Mailing Address:		6101 Frisco Square Boulevard			
		5th Floor			
City		Frisco		State	TX
ZIP		75034		ZIP + 4	
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	
				mborchardt@friscotexas.gov	
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)	
(972) 292-5127				(972) 292-5586	

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)	
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input checked="" type="checkbox"/> Update to Regulated Entity Information	
The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).	
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)	
Frisco Community Development Corporation Site – 7471 Old 5th Street	

23. Street Address of the Regulated Entity: (No PO Boxes)	7471 Old 5th Street							
	City	Frisco	State	TX	ZIP	75034	ZIP + 4	
24. County	Collin							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	5 MI N & 1 MI W OF INTX OF SW 121 & 289							
26. Nearest City					State		Nearest ZIP Code	
Frisco					TX		75034	
27. Latitude (N) In Decimal:		33.140347		28. Longitude (W) In Decimal:		-96.827804		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
33	08	25.26	96	49	38.91			
29. Primary SIC Code (4 digits)		30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)		32. Secondary NAICS Code (5 or 6 digits)		
9199				921190				
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
Community development and preservation								
34. Mailing Address:		6101 Frisco Square Boulevard						
		5th Floor						
		City	Frisco	State	TX	ZIP	75034	ZIP + 4
35. E-Mail Address:		mborchardt@friscotexas.gov						
36. Telephone Number			37. Extension or Code			38. Fax Number (if applicable)		
(972) 292-5127						(972) 292-5586		

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input checked="" type="checkbox"/> Industrial Hazardous Waste
				50206
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
	WQ0002964000, TXR05EU11			
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input checked="" type="checkbox"/> Other: Water Quality
				R04100218643 - Complaint investigation 2015

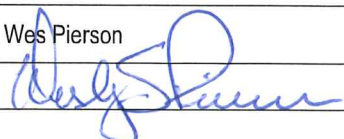
SECTION IV: Preparer Information

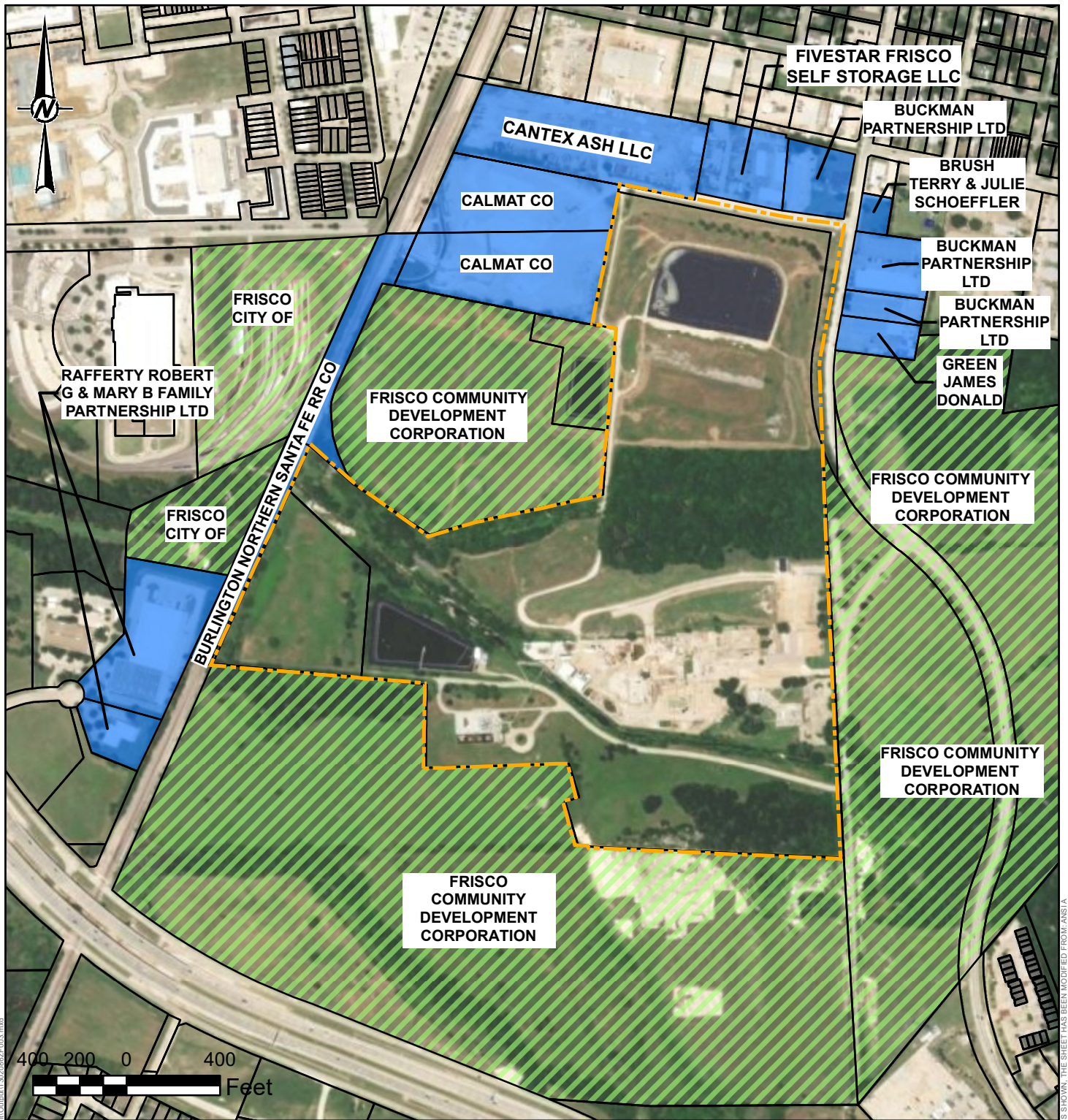
40. Name:	Todd Rees / WSP USA Inc.	41. Title:	Senior Vice President
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(970) 975-0566		() -	todd.rees@wsp.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Frisco Community Development Corporation	Job Title:	Operations Manager for Frisco Community Development Corporation
----------	--	------------	---

Name (In Print):	Wes Pierson	Phone:	972 292-5105
Signature:		Date:	5/11/23



LEGEND

- Approximate RCRA Permitted Boundary
- Parcel Boundary
- Adjacent Properties
- Adjacent Properties Owned by Frisco Community Development Corporation

REFERENCE

1. PARCEL BOUNDARIES - COLLIN COUNTY, 2019
2. AERIAL IMAGERY - SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

Revision No.1.0

Revision Date May 11, 2023

CLIENT

FRISCO COMMUNITY DEVELOPMENT CORPORATION

PROJECT

RCRA PERMIT RENEWAL

TITLE

ADJACENT LANDOWNERS

CONSULTANT



YYYY-MM-DD 2023-05-05

PREPARED RSP

DESIGN JWT

REVIEW RSP

APPROVED THR

PROJECT No.
13-02086-06

CONTROL
1302086ZF003.mxd

Rev.
1

FIGURE
1.1

BRUSH TERRY & JULIE SCHOEFFLER
8749 HUMMINGBIRD DR
FRISCO TX 75034

BUCKMAN PARTNERSHIP LTD
7400 GAYLORD PKWY
FRISCO TX 75034

FRISCO CITY OF
6101 FRISCO SQUARE BLVD
FRISCO TX 75034

BUCKMAN PARTNERSHIP LTD
7400 GAYLORD PKWY
FRISCO TX 75034

BURLINGTON NORTHERN SANTA FE RR
CO PROPERTY TAX DEPARTMENT
PO BOX 961089
FORT WORTH TX 76161

CALMAT CO
6200 UTSA BLVD BLDG 2
SAN ANTONIO TX 78249

GREEN JAMES DONALD
GREEN'S SUPPLY
7850 5TH ST FRISCO TX 75034

CANTEX ASH LLC
1150 EMPIRE CENTRAL PL STE 112,
DALLAS, TX 75247

RAFFERTY ROBERT G & MARY B
FAMILY PARTNERSHIP LTD
IBB HIGHLAND DESIGN CENTER
5798 GENESIS CT
FRISCO TX 75034

FIVESTAR FRISCO SELF STORAGE LLC.
2539 S GESSNER RD SUITE 13,
HOUSTON, TEXAS 77063

Signature Page

I, Wesley S. Pierson, Operations Manager
(Operator) (Title)

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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Wesley S. Pierson Date: 8/11/23

To be completed by the Operator if the application is signed by an Authorized Representative for the Operator

I, _____, hereby designate _____
[Print or Type Name] [Print or Type Name]

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Printed or Typed Name of Operator or Principal Executive Officer

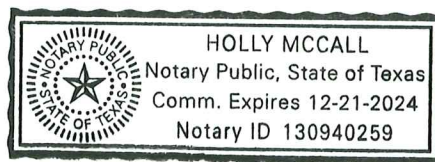
Signature

SUBSCRIBED AND SWORN to before me by the said

On this 11th day of August, 2023

My commission expires on the 21st day of December, 2024

Notary Public in and for Collin County, Texas
[Note: Application Must Bear Signature & Seal of Notary Public]



Holly McCall

Interim Status Land Disposal Unit(s) Certification

For all land disposal units managing wastes which are newly listed or identified as hazardous wastes, the following certification must be executed by or on the date 12 months after the effective date of the rule identifying or listing the waste as hazardous. If the operator fails to certify compliance with these requirements, the operator shall lose authority to operate under interim status. [40 CFR 270.73(d)]

I, Wesley S. Pierson, Operations Manager
(operator) (title)

certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete.

I further certify that in accordance with Section 3005(e)(3) of the Resource Conservation and Recovery Act, as amended, the subject land disposal unit(s) are in compliance with all applicable groundwater monitoring and financial responsibility requirements of 30 TAC Sections 335.112, 335.116, and 335.117. I am aware there are significant penalties for submitting false information, including the possibility of civil penalty, criminal fines, and imprisonment.

Signature: Wesley S. Pierson Date: 8/11/23

II. Facility Siting Criteria

For all new hazardous waste management facilities or areal expansions of existing hazardous waste management facilities provide a report which includes all applicable information regarding Unsuitable Site Characteristics found in 30 TAC Chapter 335, Subchapter G. The report must address each requirement applicable to the type of activity submitted in the application. Reference specific rule numbers whenever possible. Supporting information may be cross-referenced to other parts of this application such as Section V - Engineering Report or Section VI - Geology Report, but information submitted in previous applications must be fully reproduced herein. In addition, provide the information in Sections II.A. through II.G. below as applicable.

For permit renewals provide a report which includes all applicable information regarding Unsuitable Site Characteristics found in 30 TAC Chapter 335, Subchapter G. In addition, provide the information in Sections II.A through II.G below, as applicable. The applicant may resubmit the information submitted with the original permit application provided this information has not changed. For a renewal this information is necessary to ensure a complete application is received.

For capacity expansions of existing facilities, please provide information in Sections II.A through II.G, as applicable. Please note however, that additional technical information may be requested to address any facility siting characteristics noted in Section I.E.

NOTE: The standards contained in §335.204(a)(6) - (9), (b)(7) - (12), (c)(6) - (11), (d)(6) - (11), and (e) (8) - (13) are not applicable to facilities that have submitted a notice of intent to file a permit application pursuant to §335.391 of this title (relating to Pre-Application Review) prior to May 3, 1988, or to facilities that have filed permit applications pursuant to §335.2(a) of this title which were submitted in accordance with Chapter 305 of this title and that were declared to be administratively complete pursuant to §281.3 of this title (relating to Initial Review) prior to May 3, 1988.[30 TAC 335.201(b)]

A. Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills.

Neither the RCA nor the North CAMU, which are both CAMUs and will be the two remaining permitted units upon closure, fall under the foregoing categories of units. However, this section is completed to provide useful or relevant information relating to facility siting. Further, this application does not include any new hazardous waste management facilities or areal expansions of existing hazardous waste management facilities.

Is the facility located or proposed to be located:

1. in wetlands? [as applicable: 30 TAC 335.204(a)(2), (b)(2), (c)(2), (d)(2), and/or (e)(2)]

☒ Yes ☐ No

Provide the source of information.

The United States Fish and Wildlife Service National Wetlands Inventory, updated in May 2016, indicates that portions of the Exide Technologies Frisco Recycling Facility are classified as freshwater emergent and freshwater forested/shrub wetlands. As shown on Figure II.A-1, the wetlands are located south of the North CAMU boundary in a portion of the FOP that is included in the existing boundary of

the RCRA permit. There is no proposed areal expansion into wetlands nor are wetlands present in the proposed location of the RCA.

If Yes: the TCEQ shall not issue a permit for a new hazardous waste management facility or areal expansion of an existing facility into wetlands, pursuant to 30 TAC 335.205(a)(1).

2. in the critical habitat of an endangered species of plant or animal? [as applicable: 30 TAC 335.204(a)(8), (b)(10), (c)(9), (d)(9), and/or (e)(11)]

☐ Yes ☒ No ☐ Not Applicable

Provide the source of information.

According to the United States Fish and Wildlife Service (USFWS) Threatened and Endangered Species Active Critical Habitat Report, updated in June 2016, the facility is not located in the critical habitat of an endangered species of plant or animal.

If Yes: submit in Section V information demonstrating that design, construction, and operational features will prevent adverse effects on such critical habitat.

3. on the recharge zone of a sole-source aquifer? [30 TAC 335.204(a)(3), (b)(3), (c)(3), (d)(3), and/or (e)(3)]

☐ Yes ☒ No

Provide the source of the information.

According to the United States Environmental Protection Agency's database of sole source aquifer locations, there are no sole-source aquifers in the Frisco area.

If Yes, then for storage and processing facilities (excluding storage surface impoundments), submit in Section V information demonstrating that secondary containment is provided to preclude migration to groundwater from spills, leaks, or discharges.

Note: Land treatment facilities, waste piles, storage surface impoundments, and landfills may not be located on the recharge zone of a sole-source aquifer.

4. in an area overlying a regional aquifer? [as applicable: 30 TAC 335.204(a)(4), (b)(4), (c)(4), (d)(4), and/or (e)(4)]

☒ Yes ☐ No

Provide the source of information.

According to the Texas Water Development Board's maps of major aquifers and minor aquifers, the facility is located in an area overlying the Trinity Aquifer (subcrop) and the Woodbine Aquifer (subcrop).

If Yes: submit site-specific information in Section V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1).

5. in areas where soil unit(s) are within five feet of the containment structure, or treatment zone, as applicable, that have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10-5 cm/sec? [as applicable: 30 TAC 335.204(a)(5), (b)(5), (c)(5), (d)(5), and/or (e)(5)]

☒ Yes ☐ No

Provide information to verify the above.

The United States Department of Agriculture's Web Soil Survey classifies the soil types underlying the FOP as follows (the saturated hydraulic conductivities are based on a weighted average of the soil components and were computed across all horizontal layers):

- **AuC2 (Austin Silty clay), $K_{sat} = 4.89 \times 10^{-4}$ cm/sec**
- **HoB (Houston Black clay), $K_{sat} = 2.1 \times 10^{-5}$ cm/sec**
- **HoA (Houston Black clay), $K_{sat} = 2.3 \times 10^{-5}$ cm/sec**
- **Tf (Tinn clay), $K_{sat} = 3.7 \times 10^{-5}$ cm/sec**
- **HcC2 (Heiden clay), $K_{sat} = 2.1 \times 10^{-5}$ cm/sec**
- **ScB (Stephen silty clay), $K_{sat} = 5.6 \times 10^{-4}$ cm/sec**
- **EdD2 (Eddy gravelly clay loam), $K_{sat} = 7.5 \times 10^{-4}$ cm/sec**
- **To (Trinity clay, occasionally flooded), $K_{sat} = 2.1 \times 10^{-5}$ cm/sec**

The boring logs for the FOP with additional soil classification information are included in Appendix B of the Geology Report.

If Yes: provide additional information in Sections V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1)

6. in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system? [as applicable: 30 TAC 335.204 (a)(6), (b)(7), (c)(6), and/or (e)(8)].

☐ Yes ☒ No ☐ Not Applicable

Provide information to verify the above.

According to aerial maps, there are no lakes within one mile of the FOP. Lake Lewisville is located approximately four miles to the west of the FOP.

If Yes: provide information in Section V demonstrating compliance with 30 TAC 335.205(a)(1).

7. in areas of active geologic processes, including but not limited to erosion, submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cuttings, or earthquakes? [as applicable: 30 TAC 335.204(a)(7), (b)(8), (c)(7), (d)(7), and/or (e)(9)]

☐ Yes ☒ No ☐ Not Applicable

Provide the source of the information.

According to the United States Geological Survey (USGS) online Geological Atlas

of Texas, there are no faults in the Frisco area. The nearest faults are near Waxahachie, approximately 50 miles south of the facility.

The United States Department of Agriculture (USDA) Natural Resources Conservation Service Online Web Soil Survey indicated the off-road, off-trail erosion hazard at the FOP as "slight" which indicates that erosion is not likely to occur under normal climactic conditions. The road, trail erosion hazard was listed as "slight" to "moderate," indicating that the roads or trails may require occasional maintenance and only minor erosion control measures are necessary. The majority of the FOP area is listed under surface water management as "somewhat limited" indicating that the soil features are moderately likely to convey surface water across the landscape, which is indicative of a low erosion environment for surface water features.

Historical site investigations have not revealed evidence of erosion, submergence, subsidence, karst formation (expressed at the surface), flooding in alluvial flood wash zones, or meandering riverbank cuttings at the FOP. A full discussion of the geology at the FOP is provided in the Geology Report, which is included as Attachment G.

If Yes: specify in Section V the design, construction, and operational features of the facility that will prevent adverse effects resulting from the geologic processes.

8. within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures? [as applicable: 30 TAC 335.204(a)(9), (b)(12), (c)(11), (d)(11), and/or (e)(13)]

☐ Yes ☒ No ☐ Not Applicable

Provide the source of information.

According to the USGS online Geological Atlas of Texas, there are no faults in the Frisco area. The nearest faults are near Waxahachie, approximately 50 miles south of the facility. More information regarding the identification of faults and the probability of seismic activity at the FOP is included in the Geology Report.

If Yes: specify in Section V the design, construction, and operational features that will prevent adverse effects resulting from any fault movement.

If a fault is found to be present, the width and location of the actual or inferred surface expression of the fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, must be determined by a qualified geologist or geotechnical engineer and reported in Section VI.

B. Additional Requirements for Land Treatment Facilities [30 TAC 335.204(b)]

Is the land treatment facility located or proposed to be located:

1. within 1000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or which is in use at the time the permit application is filed with the commission?

☐ Yes ☐ No

Not applicable. No land treatment facility is proposed in this permit application.

If Yes, the TCEQ shall not issue a permit for a new hazardous waste land treatment unit or an areal expansion of an existing land treatment unit, pursuant to 30 TAC 335.204(b)(6) and 335.205(a).

2. either
- a. within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?
- ☐ Yes ☐ No

Not applicable. No land treatment facility is proposed in this permit application.

If Yes: submit in Section V.F design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

- b. within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula.
- ☐ Yes ☐ No

Not applicable. No land treatment facility is proposed in this permit application.

If Yes: submit Section V.F design, construction and operational features, which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

3. on a barrier island or peninsula?
- ☐ Yes ☐ No ☒ Not Applicable

Not applicable. No land treatment facility is proposed in this permit application.

If Yes: the TCEQ shall not issue a permit for a new hazardous waste land treatment unit or an areal expansion of an existing land treatment unit, pursuant to 30 TAC 335.204(b)(11) and 335.205(a)(1).

C. Additional Requirements for Waste Piles [30 TAC 335.204(c)]

Is the waste pile located or proposed to be located:

1. either
- a. within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?
- ☐ Yes ☐ No

Not applicable. No waste pile is proposed in this permit application.

If Yes: submit in Section V.E design, construction, and operational features on the facility which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

- b. within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula.
- ☐ Yes ☐ No

Not applicable. No waste pile is proposed in this permit application.

If Yes: submit Section V.E design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

2. on a barrier island or peninsula?

☐ Yes ☐ No ☒ Not Applicable

Not applicable. No waste pile is proposed in this permit application.

If Yes: the TCEQ shall not issue a permit for a new hazardous waste pile or an areal expansion of an existing waste pile, pursuant to 30 TAC 335.204(c)(10) and 335.205(a)(1).

D. Additional Requirements for Storage Surface Impoundments [30 TAC 335.204(d)]

Is the storage surface impoundment located or proposed to be located:

1. either

- a. within 1000 feet of an area of active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?

☐ Yes ☐ No

Not applicable. No storage surface impoundment is proposed in this permit application.

If Yes: submit in Section V.D design, construction and operational features of the facility which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

- b. within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barrier island or peninsula?

☐ Yes ☐ No

Not applicable. No storage surface impoundment is proposed in this permit application.

If Yes: then submit in Section V.D design, construction and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

2. on a barrier island or peninsula?

☐ Yes ☐ No ☒ Not Applicable

Not applicable. No storage surface impoundment is proposed in this permit application.

If Yes: the TCEQ shall not issue a permit for a new hazardous waste storage surface impoundment or an areal expansion of an existing storage surface impoundment, pursuant to 30 TAC 335.204(d)(10) and 335.205(a)(1).

E. Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with wastes in place)

Is the landfill located or proposed to be located:

1. within 1000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public

park which is in use at the time the notice of intent to file a permit application is filed with the commission, or which is in use at the time the permit application is filed with the commission?

☐ Yes ☐ No

Not applicable. The North CAMU and RCA being added to this permit renewal application are CAMUs, not landfills, and are categorized as miscellaneous units under the options available for purposes of this application template.

If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(6) and 335.205(a)(1).

2. (for commercial hazardous waste landfills) in the 100-year flood plain of a perennial stream that is delineated on a flood map adopted by the Federal Emergency Management Agency after September 1, 1985, as zone A1-99, VO, or V1-30?

☐ Yes ☐ No

No commercial hazardous waste landfill is covered under this permit renewal application.

If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(7) and 335.205(a)(1).

3. either:
a. within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?

☐ Yes ☐ No

Not applicable. The North CAMU and RCA being added to this permit renewal application are CAMUs, not landfills, and are categorized as miscellaneous units under the options available for purposes of this application template.

If Yes: then submit in Section V.G design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

- b. within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barriers island or peninsula.

☐ Yes ☐ No

Not applicable. The North CAMU and RCA being added to this permit renewal application are CAMUs, not landfills, and are categorized as miscellaneous units under the options available for purposes of this application template.

If Yes: then submit in Section V.G design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.

4. on a barrier island or peninsula?

☐ Yes ☐ No ☒ Not Applicable

Not applicable. The North CAMU and RCA being added to this permit renewal

application are CAMUs, not landfills, and are categorized as miscellaneous units under the options available for purposes of this application template.

If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(12) and 335.205(a)(1).

F. Flooding

1. Identify whether the facility is located within a 100-year flood plain [40 CFR 270.14(b)(11)(iii)]. This identification must indicate the source of data for such determination and include a copy of relevant documentation (e.g., flood maps, if used and/or calculations). The boundaries of the hazardous waste management facility must be shown on the flood plain map. If the facility is not subject to inundation as a result of a 100-year flood event, do not complete Sections II.F.2. through II.F.4. below. An applicant for a proposed hazardous waste landfill, areal expansion of a hazardous waste landfill, or a commercial hazardous waste land disposal unit may not rely solely on flood plain maps prepared by the Federal Emergency Management Agency (FEMA) or a successor agency for this determination.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 48085C0240K, effective as of June 7, 2017, shows that portions of the facility are located in flood zones classified AE (1% chance annual flood) and/or X (0.2% chance annual flood). The effective FEMA model does not account for floodwalls adjacent to the facility. A Conditional Letter of Map Revision (CLOMR) application for submittal to FEMA (through the City of Frisco) has been prepared and submitted to the City of Frisco based on floodwalls along the south and east boundaries of the facility. The floodwall has been designed to meet FEMA levee standards and prevents inundation of the facility due to a 100-year flood event. The CLOMR is being revised to address comments recently received from the City of Frisco and the TCEQ will be copied on any resubmission to address City of Frisco comments and subsequent submission to FEMA.

2. If the facility is located within the 100-year flood plain the applicant must provide information detailing the specific flooding levels and other events (e.g., Design Hurricane projected by Corps of Engineers) which impact the flood protection of the facility. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, construction, operating, or maintaining the facility to withstand washout from a 100-year flood.

The facility is not subject to inundation as a result of a 100-year flood event (see information provided above for Item 1).

3. State whether any flood protection devices exist at the facility (e.g., flood walls, dikes, etc.), designed to prevent washout from the 100-year flood.
Yes, flood protection devices exist at the facility. As described below, there is an existing barrier wall (also referred to as a flood wall) with a proposed vertical and lateral extension.
 - a. **If Yes:** provide in Section V an engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)]

Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]

A barrier wall to protect against potential flood waters from Stewart Creek was constructed along the southern boundary of the FOP as part of a 1987 Agreed Order with the Texas Water Commission. The steel-reinforced concrete barrier wall effectively forms a new bank to the creek. The top of the 10-inch thick barrier wall is 641 feet amsl for a small section at west end, and a constant elevation of 637 feet amsl for the remaining wall length to the east. The effective FEMA model does not account for this existing wall, which shows flood elevations exceeding 637 feet amsl along the east side of the facility.

A Conditional Letter of Map Revision (CLOMR) application was prepared to document the proposed vertical extension of this existing barrier wall and a new lateral extension of this wall along the eastern boundary of the RCA that protects the facility from 100-year flooding of Stewart Creek. Engineering drawings of the flood wall are included as Attachment A. The extended wall sections will be made of varying thicknesses of steel-reinforced concrete. The top of the barrier wall will vary from 641 to 647 feet amsl. The wall extension will provide 100-year flood protection with a minimum 3 feet of freeboard in accordance with FEMA levee certification standards. Information on flood protection systems at the RCA is included in the CLOMR application, which is provided as an appendix to the engineering report for the RCA in Attachment F. Structural engineering analysis of the flood wall system under 100-year flood conditions is provided with the CLOMR application. The CLOMR is being revised to address comments recently received from the City of Frisco and the TCEQ will be copied on any resubmission to address City of Frisco comments and subsequent submission to FEMA.

- b. **If No:** the applicant shall provide in Section V a plan for constructing flood protection devices and a schedule including specific time frames for completion. Provide engineering analyses to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)]

Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]

4. If applicable, and in lieu of the flood protection devices from above, provide a detailed description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded. [40 CFR 270.14(b)(11)(iv)(c)] The procedures should include:
- a. Timing of such movement relative of flood levels, including estimated time to move the waste, to show that such movement can be completed before flood waters reach the facility. Indicate which specific events shall be use to begin waste movement (e.g., Hurricane warning, Flash Flood watch, etc.);
 - b. A description of the location(s) to which the waste will be moved and a demonstration that these facilities will be eligible to receive hazardous waste in accordance with appropriate regulations (i.e., a permitted facility);
 - c. The planned procedures, equipment, and personnel to be used and the means

- to ensure that such resources will be available in time for use; and
- d. The potential for accidental discharges of the waste during movement and precautions taken to preclude accidental discharges.

Exide has and will continue to have flood protection devices in place and does not currently use or propose enacting a flood protection program at the facility that includes removing waste before the facility is flooded.

G. Additional Information Requirements

1. For a new hazardous waste management facility, include a map of relevant local land-use plans and descriptions of the major routes of travel in the vicinity of the facility to be used for the transportation of hazardous waste to and from the facility covering at least a five (5)-mile radius from the boundaries of the facility. [30 TAC 305.50(a)(10)(A)&(D)]
No new hazardous waste management facility is proposed as part of this permit renewal application.
2. For a new commercial hazardous waste management facility as defined in 30 TAC 335.202 or the subsequent areal expansion of such a facility or unit of that facility, indicate on the map the nearest established residence, church, school, day care center, surface water body used for a public drinking water supply, and dedicated public park.
No new commercial hazardous waste management facility, or subsequent areal expansion of a commercial hazardous waste management facility, is proposed as part of this permit renewal application.
3. For new commercial hazardous waste management facilities, submit the following: [30 TAC 305.50(a)(12)(A)]
 - a. the average number, gross weight, type, and size of vehicles used to transport hazardous waste;
 - b. the major highways nearest the facility irrespective of distance; and
 - c. the public roadways used by vehicles traveling to and from the facility within a minimum radius of 2.5 miles from the facility.**No new commercial hazardous waste management facility is proposed as part of this permit renewal application.**
4. Include the names and locations of industrial and other waste-generating facilities within 0.5 miles for a new on-site hazardous waste management facility and the approximate quantity of hazardous waste generated or received annually at those facilities. [30 TAC 305.50(a)(10)(B)&(C)]
No new hazardous waste management facility is proposed as part of this permit renewal application.
5. Include the names and locations of industrial and other waste-generating facilities within 1.0 miles for a new commercial hazardous waste management facility and the approximate quantity of hazardous waste generated or received annually at those facilities. [30 TAC 305.50(a)(10)(B)&(C)]
No new commercial hazardous waste management facility is proposed as part of this permit renewal application.
6. For existing land disposal facility units provide documentation that the

information required by 30 TAC 335.5 has been placed in the county deed records. If previously submitted, please reference the submittal by date and registration number.

The current deed recordations for the FOP are included as Attachment B.

7. If a surface impoundment or landfill (including post-closure) is to be permitted, provide exposure information to accompany this application and in accordance with 30 TAC 305.50(a)(8) and 40 CFR 270.10(j). This information will be considered separately from the TCEQ application completeness determination.
No surface impoundment or landfill is proposed as part of this permit renewal application.
8. For a hazardous waste management facility requesting a capacity expansion of an existing hazardous waste management facility, please provide in Section VI.A.1.a the requested fault delineation information. [30 TAC 305.50(a)(4)(D)]
This is not applicable. Exide is adding an existing TCEQ-approved CAMU to the boundaries of the permit in accordance with the requirements TCEQ Agreed Order No. 2013-2207-IHW-E, but is not creating any new capacity. While not applicable, the requested information is included in Attachment G (Geology Report).

III. Facility Management

A. Compliance History and Applicant Experience

1. Provide listings of all solid waste management sites in Texas owned, operated, or controlled by the applicant as required by 30 TAC 305.50(a)(2).
Exide Technologies does not own, operate, or control any other solid waste management sites in Texas.
2. For a new commercial hazardous waste management facility, provide a summary of the applicant's experience in hazardous waste management as required by 30 TAC 305.50(a)(12)(F).
No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

B. Personnel Training Plan

Provide an outline of the facility training plan which includes all the information required by 40 CFR 264.16. Indicate which training will be repeated annually.

The facility training plan applicable to the North CAMU is outlined in Section 8.0 of the North CAMU Operation & Maintenance Plan (O&M Plan), which is included as Appendix D to the Closure Plan. The facility training plan applicable to the RCA is outlined in Section 8.0 of the RCA O&M Plan, which is included as Appendix L to the Closure Plan. The site-wide Final Closure Plan is included as Attachment C to this permit renewal application.

As described in the two O&M Plans, personnel at the FOP include the site manager, equipment operators, and laborers. The site manager is responsible for training equipment operators and laborers on the requirements of the O&M Plans, the Contingency Plan, and other items as needed. Documentation of on-site training is maintained. Copies of the personnel training records forms are included as Attachment D to this permit renewal application.

C. Security

Describe how the facility complies with the security requirements of 40 CFR 264.14 or submit a justification demonstrating the reasons for requesting a waiver of these requirements.

Unauthorized personnel are not permitted in or near the North CAMU or the RCA. The FOP is not open to the public at any time. FOP security is provided by the existing fencing around the FOP. Additionally, to minimize the possibility that wildlife or unauthorized individuals will enter the North CAMU or the RCA, six-foot high fences with lockable entrance gates will be installed around the units' perimeters following final closure activities. These fences will reduce the possibility for large wildlife or unauthorized individuals to enter the North CAMU or the RCA and potentially damage liners, interfere with operations, come in contact with waste materials, or track waste materials outside of the permitted areas. FOP security measures may be modified in the future (when the facility has completed closure) to be consistent with potential future uses of the Site while still meeting regulatory requirements for security.

During active closure and corrective action operations, the construction manager designates personnel to monitor the entrance to the FOP, the North CAMU, or the RCA, as applicable, and stop each incoming vehicle or person to determine whether they are permitted in the area. At other times the gates to the FOP will be locked.

Warning signs are posted at the gates to the FOP. Each warning sign is legible from a distance of at least 25 feet. Each sign reads “Danger, Authorized Personnel Only” and “Peligro, Solo Personal Autorizado.”

A security guard is contracted for the FOP when the FOP is not staffed. The security system (e.g., existing fences, gates, locks, etc.) is inspected weekly during active operations.

D. Inspection Schedule

Provide an inspection schedule summary for the facility which reflects the requirements of 40 CFR 264.15(b), 264.33 and, where applicable, the specific requirements in 40 CFR 264.174, 264.193(i), 264.195, 264.226, 264.254, 264.273, 264.303, 264.347, 264.552, 264.574, 264.602, 264.1033(f), 264.1034, 264.1052, 264.1053(e), 264.1057, 264.1058, 264.1063, 264.1084, 264.1085, 264.1086, 264.1088, 264.1101(c)(4) and 270.14(b)(5). The inspection schedule should reflect the requirements described below. The schedule should encompass each type of hazardous waste management (HWM) unit (i.e., facility component) and its inspection requirements. For incorporation into a permit, complete Table III.D. - Inspection Schedule for all units to be permitted.

The owner or operator must inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to the release of hazardous waste constituents to the environment or which may pose a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

The owner or operator must develop and follow a written schedule for inspecting other basic elements such as monitoring equipment, safety and emergency equipment, security devices, the presence of liquids in leak detection systems, where installed, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

If the owner or operator of a facility which contains a waste pile wishes to pursue an exemption from the groundwater monitoring requirements for that waste management unit, the inspection schedule must include examination of the base for cracking, deterioration, or other conditions that may result in leaks. The frequency of inspection must be based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates, and subsurface stability).

The full closure and post-closure inspections, maintenance, and monitoring programs for the North CAMU, RCA and facility-wide can be found in Sections 3.0 and 4.0 of the Closure Plan (Attachment C). Table III.D, which summarizes the key components of these North CAMU, the RCA and facility-wide inspection schedules and the deterioration of those components that might be observed, is also attached.

E. Contingency Plan (Not Applicable to Permits for Post-Closure Care Only)

If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this section. Provide a Contingency Plan which includes all the information required by 40 CFR Part 264 Subparts C and D, except for 40 CFR 264.56(d)(1) and 30 TAC 335.153(2). This plan must also include a drawing of the facility which shows the location of all emergency equipment. In addition, complete the following tables to summarize information expressed in more

detail in the plan.

The facility-wide Contingency Plan is included as Appendix J to the Closure Plan, which is included as Attachment C to this permit renewal application. All emergency equipment is stored in the Exide trailer or other areas as shown on Figure 1 of the Contingency Plan. All employees or contractors have either a mobile telephone, or a hand-held two-way radio to call to the trailer, where external emergency assistance can be summoned.

1. Arrangements with Local Authorities

Complete Table III.E.1. - Arrangements With Local Authorities to indicate arrangements (if made) with local authorities to familiarize local fire and police departments, local hospitals, equipment suppliers, and local and State emergency response teams 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. Provide documentation of the attempts and any arrangements made with local authorities and emergency response teams.

Emergency coordination agreements will be sent to the authorities listed in Table III.E.1 following TCEQ's approval of the Contingency Plan. Copies of the emergency coordination agreements will be included as Appendix S to the Closure Plan when received.

2. Emergency Coordinator's List

For inclusion into a permit, list in Table III.E.2. - Emergency Coordinators the persons qualified to act as emergency coordinator. List the alternates in the order in which they will assume responsibility.

The emergency coordinators are listed in Appendix A of the Contingency Plan and in Table III.E.2, attached.

3. Emergency Equipment List

For inclusion into a permit, list in Table III.E.3. - Emergency Equipment all types of emergency equipment at the facility [such as fire-extinguishing systems, spill-control equipment, communications and alarm systems (internal and external), and decontamination equipment], if this equipment is required. Briefly outline the equipment capabilities.

The emergency equipment is listed in Appendix D of the Contingency Plan and in Table III.E.3, attached.

4. Waiver from Preparedness and Prevention Requirements

If the owner or operator wishes to request a waiver from any of the preparedness and prevention requirements, he must submit a justification demonstrating the reasons for requesting the waiver, as discussed below.

The owner/operator does not wish to request a waiver from preparedness and prevention requirements.

F. Emergency Response Plan

For a new commercial hazardous waste management facility, the application shall contain evidence sufficient to demonstrate that emergency response capabilities are available or will be available before the facility first receives waste. An emergency response plan must be provided which satisfies the requirements of 30 TAC

305.50(a)(12)(C) and (D). This plan must show that the proposed facility has sufficient emergency response capabilities for managing a reasonable worst-case emergency condition associated with the operation of the facility. (For financial assurance requirements associated with the emergency response activities, please see Section VIII.C.3.)

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

1. Practice Drills

In addition to the contingency plan required under 40 Code of Federal Regulations Part 270.14(b)(7), provisions specifying procedures and timing of practice facility evacuation drills are required. Provide a description and a frequency for facility evacuation drills.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

2. If a private corporation, municipality or county group will provide emergency response actions at the proposed facility, include a copy of the contract for this type of agreement with this application or state that documentation will be submitted before the facility accepts wastes.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

3. Historical weather data for the area should be documented and submitted. Information regarding how emergency response operations may be affected by weather conditions should be included. (Local rainfall extremes, average rainfall amounts, average wind speeds and directions, potential for major weather events such as hurricanes, tornados, icy conditions, flash flooding etc., should be addressed.)

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

4. A definition of a worst-case emergency for the proposed facility should be described in the application. This worst-case emergency should take into account the possible complications involved with a facility emergency compounded by adverse weather conditions. It should also detail spills, fires, explosions, etc. This worst case scenario should be developed with the help of local governmental entities where possible. Emergency planning should include both unexpected emergencies and emergencies occurring as a result of a predictable event such as a flood or hurricane. For areas which are prone to hurricanes and flash flooding, the worst case which allows for a realistic situation should be used. For example, response teams should be well versed in reacting to events such as a 100-year flood.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

5. A training program for personnel who will respond to these types of emergencies must be provided and must include the requirements described in OSHA Federal Register 1910 and EPA Federal Register 311, the Texas Hazard Communication Act, SARA Title III 302, 304, 311, 312, and 313. If emergency response actions are contracted out, the contracted employees must be properly trained and

documentation of this training must be maintained on-site. All responders to emergencies at the proposed facility must be involved in training and drills at the facility in order to be thoroughly familiar with the facility and its operations.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

6. The application must include a description and identification of first-responders (i.e. all pertinent facility personnel, local responders, and contractors). The duties of the facility employee who is to be the on-scene coordinator (OSC) must be described. Additional information must be provided detailing the OSC's role in the emergency response activities. This person must have the authority to commit the resources needed to carry out the Emergency Response Plan. His duties must be thoroughly described so that it is clear whether he will remain in control once the emergency response team arrives or whether he will relinquish control to another incident commander upon that person's arrival on the scene. Additionally, there must be a qualified OSC on-site or on call 24 hours a day. The name, address and phone numbers (home and work) of the OSC(s) must be listed in the Emergency Response Plan. Where more than one person is listed, one must be named as the primary OSC and others must be listed in the order in which they will assume responsibility as alternates.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

7. Local or regional emergency medical services or hospitals which have experience in hazardous materials training must be identified in the application. The names, addresses and phone numbers of the hospitals or medical centers should be listed here and updated as necessary. Additionally, maps showing the quickest routes to the medical services must be provided. A description of decontamination procedures for injured personnel prior to transport to medical services must also be provided. The decontamination and transport of injured people to appropriate medical centers must be included in the emergency evacuation training and drills.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

8. A pre-disaster plan which includes training drills must be included in the application. This plan should include a schedule for staging evacuations of the facility and for emergency response training drills. At least two evacuations and two emergency response drills should occur annually. The plan should also include additional drills for responding to "predictable" emergencies such as floods and hurricanes. The plan must include the following (or must reference applicable sections of the Contingency Plan): a description of arrangements already in place with local authorities; emergency phone numbers; internal communication or alarm systems and proper alarm codes; a list of all types of emergency equipment at the facility, including a physical description and the capabilities of each item on the list, and the location of each item (a map would be useful here); a description of decontamination equipment; an evacuation plan including signals, evacuation routes and alternate evacuation routes; listing of pertinent first responder emergency phone numbers, and codes for other types of communication devices; and a description of actions that will be performed in the event that a "predictable" emergency occurs.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

9. Describe the mechanism which will be used to notify first responders and appropriate local governmental entities that an emergency has occurred. Also describe the mechanism which will be used to notify all applicable governmental agencies when an incident occurs (i.e., TCEQ, Texas Parks and Wildlife, General Land Office, TCEQ Office of Air Quality, Texas Department of Health, and the Texas Railroad Commission).

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

10. Evidence must be provided that shows coordination with the Local Emergency Planning Committee (LEPC) and any local comprehensive emergency management plan. The applicants should be able to show compliance with SARA Title III.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

11. Any medical response capabilities proposed for the facility property must be detailed in the application.

No new commercial hazardous waste management facility has been proposed as a part of this permit renewal application.

Table III.D. – Inspection Schedule

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
North CAMU: general facility components	Exterior berm slopes erosion	Weekly and after storms
	Access road ponding or washout	
	Surface water control system obstruction	
	Missing lock	
	Fence damage	
	Gates damage	
	Sign damage	
	Surveyed benchmarks	
North CAMU: final cover system	Erosion	Weekly and after storms
	Minor cover settlement (less than 6 inches over 20 feet)	
	Major cover settlement (greater than 6 inches over 20 feet)	
	Ponded water	
	Sparse or eroded vegetation	
	Invasive vegetation	
	Burrowing animals	
	Length of grass	
North CAMU: surface water drainage systems	Erosion of ditches	Weekly and after storms
	Erosion and sediment control devices	
	Culverts and conveyance pipes blockage	
	Excessive vegetation height	
	Ponded water	
North CAMU: leachate collection system	Pump inoperative	Weekly and after storms
	Pump house damage	
	Sump riser and leachate pipe connections	
	Riser cap missing	
	Riser cracked	
	Alarm system or auto-dialer not working	
RCA/SDA: general facility components	Exterior berm slopes erosion	Weekly and after storms
	Access road ponding or washout	
	Surface water control system obstruction	

	Missing lock	
	Fence damage	
	Gates damage	
	Sign damage	
	Surveyed benchmarks	
RCA/SDA: final cover system	Erosion	Weekly and after storms
	Minor cover settlement (less than 6 inches over 20 feet)	
	Major cover settlement (greater than 6 inches over 20 feet)	
	Ponded water	
	Sparse or eroded vegetation	
	Invasive vegetation	
	Burrowing animals	
	Length of grass	
RCA/SDA: surface water drainage systems	Erosion of ditches	Weekly and after storms
	Erosion and sediment control devices	
	Culverts and conveyance pipes blockage	
	Excessive vegetation height	
	Ponded water	
RCA/SDA and North CAMU: groundwater monitoring systems	Protective casing damage	Quarterly and after significant storm events
	Locks	
	Ground surface seal	
	Accumulation of surface water around well	
	Concrete pad and bollards	
RCA: Flood Wall	Flood wall waterstop and joint filters	Quarterly and after significant storm events
	Vegetation (no trees or high vegetation along flood wall)	
	No trash or debris accumulation along flood wall	
	No bank erosion/caving observed that would endanger wall stability	
	Seepage, cracks, or other damage to flood wall	
	Exposed waste or fill material	
RCA: stormwater pond and drainage pipe	Erosion	Quarterly and after significant storm events
	Obstruction of flow	
	Burrowing animals	
RCA: slurry wall perimeter	Erosion or Settling	Quarterly and after significant storm

	Sparse or eroded vegetation	events
	Burrowing animals	
	Excessive vegetation height	
	Ponded water	
RCA: slurry wall piezometers	Protective casing damage	Quarterly and after significant storm events
	Locks	
	Ground surface seal	
	Accumulation of surface water around well	
	Concrete pad and bollards	
RCA: sheet piles	Seepage, cracks, or other damage	Quarterly and after significant storm events
	Erosion or Settling	
	Excessive vegetation height	
	Burrowing animals	
RCA: PRB area	Erosion or Settling	Quarterly and after significant storm events
	Sparse or eroded vegetation	
	Burrowing animals	
	Excessive vegetation height	
	Ponded water	
RCA: sump reactor area	Erosion or Settling	Quarterly and after significant storm events
	Sparse or eroded vegetation	
	Burrowing animals	
	Excessive vegetation height	
	Ponded water	
	Extraction wells	
RCA: PRB transfer piping vault and piping (primary and secondary)	Accumulated Water in Vault	Quarterly and after significant storm events
	Signs of Damage	
	Connection to extraction wells	
	Flow obstruction	
	Manual valves	
	Flow meters	
	Settlement	
RCA: Stewart Creek bank	Erosion	Quarterly and after significant storm events
	Sparse or eroded vegetation	
	Burrowing animals	
	Excessive vegetation height	
	Exposed waste or fill material	
	Accumulation of surface water	

Facility Wide: Safety and emergency equipment (a list of equipment is included in the Contingency Plan included in Attachment C)	Supplies need restocking or equipment is damaged or missing	Weekly and after storms or emergency events (including testing and maintenance if needed)
Facility Wide: Safety and emergency equipment (water)	Not Applicable - The City of Frisco provides fire suppression services for the Facility and has an Insurance Services Office, Inc. Public Protection Classification of 1 (best public protection on a scale of 1 to 10) based on Classification designated by the State Fire Marshal. Water is provided to the Facility by the City of Frisco and is accessible to City of Frisco emergency responders by hydrants available at the Facility. The water pressure from the hydrants is sufficient for emergency response needs at the Facility.	The Frisco Fire Department has its own emergency equipment that is subject to the department's regular inspection and maintenance procedures.
Facility Wide	Fence Damage	Weekly and after storms
	Gate Damage	
	Sign Damage	
	Access road ponding or washout	
	Surveyed benchmarks	

Table III.E.1 – Arrangements with Local Authorities

Police: Frisco Police Department
<p>Address: 7200 Stonebrook Parkway Frisco, TX 75034</p>
<p>Person Contacted: Mr. Greg Ward (Interim Chief of Police) Phone: (972) 292-6100</p>
<p>Agreed Arrangements: The Frisco Police Department is one of two primary emergency authorities that will respond to a potential emergency and 911 call from the FOP.</p>
Fire: Frisco Fire Department (Central Fire Station)
<p>Address: 8601 Gary Burns Drive Frisco, TX 75034</p>
<p>Person Contacted: Mark Piland (Fire Chief/Emergency Management Coordinator) Phone: (972) 292-6300</p>
<p>Agreed Arrangements: The Frisco Fire Department is one of two primary emergency authorities that will respond to a potential emergency and 911 call from the FOP.</p>
Hospital:
<p>Address</p>
<p>Person Contacted: Phone:</p>
<p>Agreed Arrangements:</p>
Other: Emergency Coordinator
<p>Address: Frisco Central Fire Station 8601 Gary Burns Drive Frisco, TX 75034</p>
<p>Person Contacted: Jason Lane, Deputy Emergency Management Coordinator Phone: (972) 292-6347</p>
<p>Agreed Arrangements: The Frisco Fire Department is one of two primary emergency authorities that will respond to a potential emergency and 911 call from the FOP.</p>

Table III.E.2. – Emergency Coordinators

Name	Home Address	Office Phone(s) and/or Pager	Home Phone(s)
Primary Emergency Coordinator:			
Eduardo Salazar, Health and Safety Supervisor	5940 Madison Drive The Colony, Texas 75056	Cell: (972) 786-5404 Office: (972) 335-2121	None
Alternates:			
Brad Weaver, Remediation Director	Office: 7471 Old Fifth Street Frisco, Texas 75034	Office: (972) 335-2121 Cell: (214) 893-4803	None

Table III.E.3. – Emergency Equipment

Equipment	Location	Physical Description	Capabilities
General tools (i.e. pipe wrenches, screwdrivers, hose clamps, wiring splice kits (for underwater), and electrical tape)	Exide trailer and Wastewater Treatment Plant	Standard hardware and tape	General maintenance and emergency repairs
Fire extinguisher	Exide trailers, North CAMU and WWTP¹	Standard, cylindrical, red fire extinguishers, ABC Type	Extinguish minor fires
Eye wash stations and shower	Wastewater Treatment Plant and Stormwater Treatment Plant	<p>The eye wash station looks like a water fountain with a faucet on each side. There is a large sign labeled “Emergency Eye Wash” above the station. The facility also has a bottle eye wash station which consists of two bottles of saline solution stored on a dedicated rack on the wall.</p> <p>The shower looks like a free-standing showerhead. A large, triangular handle hangs from the top of the shower. There is a large sign labeled “Emergency Shower” on the piping.</p>	Decontamination of personnel’s eyes and skin
First Aid Supplies	Exide trailer	Standard first aid supplies	Band-Aids, ointment, gauze, etc.
PPE (leather gloves, nitrile or latex gloves, Tyvek chemical resistant coveralls, safety goggles or glasses,	Exide trailer	Blue and/or white gloves, plastic-like overalls, clear goggles and glasses, and face masks	Hand, eye, and skin protection and protection from inhalation of hazardous chemicals

¹ Note: Locations of the WWTP, SWTP and Exide trailer are depicted on Figure 1.

Equipment	Location	Physical Description	Capabilities
respirators)			
Automated external defibrillator (AED)	Exide trailer	Small case, with handle, labeled "AED"	Cardiac emergency response
Walkie talkies for communication	Exide trailer	Small, hand-held, plastic devices	Communications
Flashlights	Exide trailer	Standard flashlights	Emergency lighting
Spill kits	Exide trailer and Wastewater Treatment Plant	Yellow bucket with absorbent pads	Small spill response
Water for emergency response	City of Frisco Hydrants	Municipal Water Supply	Extinguish major fires

IV. Wastes and Waste Analysis

(Sections IV.A, IV.C, and IV.D do not apply to post closure applications.)

A. Waste Management Information

For a new hazardous waste management facility or for a facility hazardous waste management capacity expansion, complete Table IV.A. - Waste Management Information for each waste, source, and volume of waste to be stored, processed, or disposed of in the facility units to be permitted as required by 30 TAC 305.50(a)(9). For on-site facilities, list "on-site" for the waste source. For off-site facilities, list the source of the waste. If unknown, identify potential sources (e.g., industries/processes to be serviced).

No new hazardous waste management facility or facility hazardous waste management capacity expansion is proposed as part of this permit renewal application.

B. Waste Managed In Permitted Units

For all hazardous waste management facilities and for inclusion into a permit, complete Table IV.B. - Wastes Managed In Permitted Units for each waste and debris to be managed in a permitted unit. Provide a description, EPA waste codes, and TCEQ waste form codes and classification codes. Guidelines for the Classification & Coding of Industrial Wastes and Hazardous Wastes, TCEQ publication RG-22, contains guidance for how to properly classify and code industrial waste and hazardous waste in accordance with 30 TAC 335.501-335.515 (Subchapter R).

Applicants need not specify the complete 8-digit waste code formulas for their wastes but must include the 3-digit form codes and 1-digit classification codes. This allows the applicant to specify major categories of wastes in an overall manner without having to list all the specific waste streams as generated.

The wastes approved for disposal in the North CAMU and the wastes proposed for consolidation in the RCA are described in Table IV.B. All wastes to be placed in the North CAMU and the RCA shall meet the criteria described in 40 CFR 264.552(a). No free liquids, containerized waste, or bulk waste will be placed in either unit.

C. Sampling and Analytical Methods

For inclusion into a permit, complete Table IV.C. - Sampling and Analytical Methods for each waste and debris proposed to be sampled and analyzed and include sampling location, sampling method, sample frequency, analytical method, and desired accuracy level for each waste and debris to be managed in a permitted, storage, processing, or disposal unit at the facility.

The sampling and analytical methods are described in the Waste Analysis Plan (included as Attachment Q) and are summarized in Table IV.C.

D. Waste Analysis Plan

The Waste Analysis Plan must address the requirements of 40 CFR §264.13 and §268.7. The Plan should include supplemental and coordinating information on how the facility will analyze wastes and debris (as listed in Table IV.B) to be managed in permitted units. The plan must address the determination of land disposal restrictions. Generators must determine and certify with the manifest the land disposal restriction status of a waste, even if the waste or debris is not intended for land disposal. Land disposal treatment

facilities must identify the treatment process and analytical procedures to be used, and include them in the waste analysis plan. Land disposal restriction records must be maintained at the facility until closure of the facility [40 CFR §264.73(b)]. Landfill facilities must determine through the Paint Filter Liquids Test (SW-846 Method 9095) if there is free liquid in a bulk or containerized waste to be landfilled. If so, it must be stabilized; adding adsorbents alone is not acceptable, even for containerized waste.

For off-site facilities the waste analysis plan must specify procedures which will be used to inspect and, if necessary, analyze each movement of industrial and hazardous waste or hazardous debris received at the facility to ensure it matches the identity of the waste designated on the accompanying shipping ticket. The plan must describe methods which will be used to determine the identity of each movement of waste and debris managed at the facility and sampling method used if the identification method includes sampling in order to store, process, or dispose of the wastes and debris in accordance with 40 CFR Parts 264 and 268 and any abnormal characteristics which may upset further treatment or processing operations. Include rejection criteria for shipments of waste and debris received at the facility

For on-site facilities the waste analysis plan must specify the normal characteristics of the waste (including EPA hazardous waste codes, EPA hazard codes, and 40 CFR Part 261, Appendix VIII Hazardous Constituents) which must be known to store, process, or dispose of the wastes and debris in accordance with 40 CFR Parts 264 and 268 and any abnormal characteristics which may upset further treatment or processing operations.

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Those sampling methods listed in 40 CFR Part 261 Appendix I, for sampling waste with properties similar to the indicated materials, or equivalent sampling methods approved by EPA under 40 CFR §260.20 and §260.21, will be considered by the TCEQ to be acceptable.

A Waste Analysis Plan prepared in accordance with the requirements outlined above is included as Attachment Q.

Table IV.A. – Waste Management Information

[illegible]

Table IV.B. – Wastes Managed In Permitted Units

No.	Waste	EPA Hazardous Waste Numbers	TCEQ Waste Form Codes and Classification Codes
1	Blast furnace slag (treated)	EPA hazardous waste numbers D006, D008 (only applicable to portions of the waste)	304H, 3042
2	Class 2 remediation waste associated with clean-up activities for the former Undeveloped Buffer Property (J-Parcel) Voluntary Cleanup Program (VCP) No. 2541 owned by Exide Technologies located immediately adjacent to the Exide Technologies Former Operating Plant	N/A	3022
3	Excavated soil, battery case fragments, concrete or other remediation waste from affected properties on-Site that meets Class 2 industrial waste criteria (defined as On-Site Class 2 Remediation Waste)	N/A	3022
4	Excavated soil, battery case fragments, concrete or other remediation waste from affected properties on-Site (defined as on-Site Soil Remediation Waste). This includes soils or debris generated from the installation of monitoring wells at the Site	EPA hazardous waste numbers D004, D006, D008, D010 may be applicable to some portions of the waste	3022, 3021, 302H, 3902, 3901, 3192, 3191, 319H
5	Excavated soils, sediment, battery case fragments, concrete or other remediation waste from off-site Stewart Creek affected property (defined below as Off-site Stewart Creek Remediation Waste)	N/A	5132, 5131, 3022, 3021, 3902, 3901, 3192, 3191
6	Excavated soils, sediment, battery case fragments, concrete or other remediation waste from on-Site Stewart Creek affected property (defined below as on-Site Stewart Creek Remediation Waste)	EPA hazardous waste numbers D004, D006, D008 may be applicable to some portions of the waste	5132, 5131, 513H, 3022, 3021, 302H, 3902, 3901, 3192, 3191
7	Slag segregated from excavated soil or sediment off-site (Not managed in permitted unit).	This waste will not be managed in a permitted unit at the Site, it is included for reference purposes only.	
8	Slag segregated from excavated soil or sediment on-Site	EPA hazardous waste numbers D004, D006, D008 may be applicable to some portions of the waste	3042, 3041, 304H

9	Wastewater generated from decontamination activities or groundwater sampling collected in tanks, totes or 55-gallon drums	D004, D006, D008, D010 (only potentially applicable to portions of the waste)	1141, 1142, 114H
10	Off-Site Soil from the Frisco Railroad Museum	N/A	5132, 5131, 3022, 3021, 3902, 3901, 3192, 3191

Table IV.C. – Sampling and Analytical Methods

See the WAP in Attachment Q for additional discussion.

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
1	These wastes have already been characterized and placed in the CAMU. No further characterization testing is planned.					
2	These wastes have already been characterized and placed in the CAMU. No further characterization testing is planned.					
3 and 4	Soil stockpiles, or roll-off boxes	<u>Stockpile sampling:</u> Excavated soils will be staged on plastic sheeting (minimum 6 mil thickness) in approximately 50 cubic yard stockpiles adjacent to the excavation area. As a result of the excavation, transfer and stockpiling process, excavated material will be thoroughly mixed prior to placement in stockpiles. Samples of the excavated material will be collected from the stockpiles for the purpose of waste characterization/classification. A composite sample will be collected from the stockpiled material at a frequency of approximately one sample for every 50 cy of material (each stockpile). A five-part composite sample will be collected directly from the loose stockpile using a gloved hand and/or decontaminated/disposable soil sampling equipment (e.g., trowels). Soil will be	<u>Stockpile sampling:</u> <ul style="list-style-type: none"> One five-part composite sample per 50 cy of stockpile (if needed) <u>Roll-off container sampling:</u> One five-part composite sample per roll-off box (approximately 10 to 12 cy of soil) (if needed)	RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)	EPA methods 1311, 6010B/6020A, and 7470A	The maximum reporting limits are equal to the following unadjusted method quantitation limits (MQLs) for EPA method 6010B/6020A and 7470A: <ul style="list-style-type: none"> • Arsenic: 0.00300 mg/L • Barium: 0.00500 mg/L • Cadmium: 0.000500 mg/L • Chromium: 0.00500 mg/L • Lead: 0.00250 mg/L • Mercury: 0.000200 • Selenium: 0.00250 mg/L • Silver: 0.00100 mg/L

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		<p>collected from the upper 12 inches of each stockpile at five separate, random, representative areas and combined in a large plastic bag. The material will then be homogenized and a sub-sample will be placed in laboratory-supplied sample jars, labeled with the sample identification, date, and time of collection. See the WAP in Attachment Q for additional discussion.</p> <p><u>Roll-off container sampling:</u> Each roll off box will contain approximately 10 to 12 cy of soil. A composite sample will be collected from the roll off box material at a frequency of one sample per roll off box. The process of excavating and loading the soils into the roll off boxes will sufficiently mix the soil such that material collected from the surface of the roll off box is representative of the contents of the box. A five-part composite sample will be collected directly from the loose/surface material using a gloved hand and/or decontaminated/disposable soil sampling equipment (e.g., trowels).</p>				

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		These discrete samples will be combined directly into a sampling container (e.g., jar or bag) and will then be thoroughly mixed prior to placement in a pre-cleaned, laboratory-supplied glass soil sample jar.				
5 and 6	In-place/pre-excavation, sediment stockpiles, truckloads, or roll-off boxes	<u>TCLP:</u> In-place waste characterization sampling is proposed for sediment, soil or fill material that will be removed from Stewart Creek. A grid will be established over each segment designated for excavation based on predetermination or exposure point concentration sampling such that each grid will represent 50 cubic yards. The exact configuration of the grid will be determined based on the depth of sediment in the area – which will be determined at the time of excavation. Samples will be collected at a rate of one sample per 50 cubic yards of waste. A five-part composite sample will be collected directly from sediment or soil using a gloved hand, decontaminated/disposable	<u>TCLP:</u> <ul style="list-style-type: none"> One five-part composite per 50 cubic yards of in-place material <u>Free liquids:</u> <ul style="list-style-type: none"> One five-part composite sample per 50 cy of stockpile, per truckload, or per roll-off container 	Presence of free liquids, RCRA 8 metals	EPA Method 9095B (Paint Filter Liquids Test), 1311, 6010B/6020A, and 7470A	Per EPA SW-846 test method 9095B, if any portion of the test material collects in the graduated cylinder after 5 minutes of draining, the material is deemed to contain free liquids. For RCRA 8 metals, the maximum reporting limits are equal to the following unadjusted MQLs for EPA method 6010B/6020A 7470A (for

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		<p>soil sampling equipment (i.e., trowels or augers) or an excavator bucket. Soil or sediment will be collected from the entire depth at five separate, random, representative areas and combined in a large plastic bag. The material will then be homogenized and a sub-sample (approximately 8 ounces) will be collected and analyzed for the RCRA 8 metals in Toxicity Characteristic Leaching Procedure (TCLP) extract using EPA Method 1311 TCLP and 6010B/6020A/7470 (metals concentrations).</p> <p><u>Free liquids:</u> Sediment, soil or fill material that will be removed from Stewart Creek will also be tested for the presence of free liquids either in-situ following the application of a stabilization agent or from a stockpile or truck, if the material has been characterized as non-hazardous and stabilization has been performed ex-situ. Samples will be collected at a rate of one sample per 50 cubic yards of waste, one sample per truckload, or one</p>				<p>mercury):</p> <ul style="list-style-type: none"> • Arsenic: 0.00300 mg/L • Barium: 0.00500 mg/L • Cadmium: 0.000500 mg/L • Chromium: 0.00500 mg/L • Lead: 0.00250 mg/L • Mercury: 0.000200 • Selenium: 0.00250 mg/L • Silver: 0.00100 mg/L

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		set per roll-off container. A five-part composite sample will be collected directly from sediment or soil using a gloved hand, decontaminated/disposable soil sampling equipment (i.e., trowels or augers) or an excavator bucket. Soil or sediment will be collected from the entire depth at five separate, random, representative areas and combined in a large plastic bag. The material will then be homogenized and a sub-sample (approximately 100 grams or 100 milliliters) will be used for the paint filter test.				
7	N/A – This waste will assumed to be hazardous (D004, D006, D008) and disposed of off-Site.					
8	Slag segregated from Excavated soil or sediment on-Site	<p>Visible slag will be removed from excavated soil or sediment on-Site and placed in a roll-off container or drum.</p> <p><u>Roll-off container sampling:</u> Each roll off box will contain approximately 10 to 12 cy of material. A composite sample will be collected from the roll off box material at a frequency of one sample per roll off box. The process of excavating and loading the material into the roll off</p>	<p><u>Roll-off container sampling:</u> One five-part composite sample per roll-off box (approximately 10 to 12 cy)</p> <p><u>Drum sampling:</u> One five-part composite sample per 5 drums (approximately 55 gallons per</p>	RCRA 8 metals	EPA methods 1311, 6010B/6020A, and 7470A	<p>The maximum reporting limits are equal to the following unadjusted MQLs for EPA method 6010B/6020A 7470A (for mercury):</p> <ul style="list-style-type: none"> • Arsenic: 0.00300 mg/L • Barium: 0.00500 mg/L • Cadmium: 0.000500 mg/L

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		<p>boxes will sufficiently mix the material such that material collected from the surface of the roll off box is representative of the contents of the box. A five-part composite sample will be collected directly from the loose/surface material using a gloved hand and/or decontaminated/disposable soil sampling equipment (e.g., trowels).</p> <p>These discrete samples will be combined directly into a sampling container (e.g., jar or bag) and will then be thoroughly mixed prior to placement in a pre-cleaned, laboratory-supplied glass soil sample jar.</p> <p><u>Drum Sampling:</u> Each drum will contain approximately 55 gallons of material. One composite sample will be collected per every five drums. A five-part composite sample will be collected directly from the loose/surface material (one part per drum) using a gloved hand and/or decontaminated/disposable soil sampling equipment (e.g., trowels).</p>	drum)			<ul style="list-style-type: none"> • Chromium: 0.00500 mg/L • Lead: 0.00250 mg/L • Mercury: 0.000200 • Selenium: 0.00250 mg/L <p>Silver: 0.00100 mg/L</p>

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		These discrete samples will be combined directly into a sampling container (e.g., jar or bag) and will then be thoroughly mixed prior to placement in a pre-cleaned, laboratory-supplied glass soil sample jar.				
9	Wastewater generated from decontamination activities or groundwater sampling collected in tanks, totes or 55-gallon drums	<p><u>Tank Sampling</u> Grab samples will be collected from each tank from the tank valve at the bottom of the tank. Samples will be placed directly into pre-preserved laboratory-supplied containers (laboratory-supplied bottles containing the appropriate amount of HNO₃) and analyzed for total RCRA metals and any additional analyses requested by the off-Site facility permitted to accept the waste.</p> <p><u>Drum/Tote Sampling</u> Drums will be sampled for disposal and analyzed as requested by the off-Site disposal facility permitted to accept the waste. Samples will be collected by taking a representative composite sample of the entire drum using a bailer or similar piece of equipment. The sample</p>	Tanks and drums will be sampled at a frequency of at least one sample per tank or one sample per five 55-gallon drums.	RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)	EPA Methods 6010B/6020A and 7470	<p>The maximum reporting limits are equal to the following unadjusted method quantitation limits (MQLs) for EPA method 6010B/6020A and 7470A:</p> <ul style="list-style-type: none"> • Arsenic: 0.00300 mg/L • Barium: 0.00500 mg/L • Cadmium: 0.000500 mg/L • Chromium: 0.00500 mg/L • Lead: 0.00250 mg/L • Mercury: 0.000200 • Selenium: 0.00250 mg/L • Silver: 0.00100 mg/L

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		will be composited in a container and then placed directly into pre-preserved laboratory-supplied containers (laboratory-supplied bottles containing the appropriate amount of HNO ₃) and analyzed for total RCRA metals and any additional analyses requested by the off-Site facility permitted to accept the waste.				
10	Off-Site Soil from the Frisco Railroad Museum	Stockpile sampling: Excavated soils will be staged on plastic sheeting (minimum 6 mil thickness) in approximately 50 cubic yard stockpiles. As a result of the excavation, transfer and stockpiling process, excavated material will be thoroughly mixed prior to placement in stockpiles. Samples of the excavated material will be collected from the stockpiles for the purpose of waste characterization/classification. A composite sample will be collected from the stockpiled material at a frequency of approximately one sample for every 50 cy of material (each stockpile). A five-part composite sample will be collected directly from	Stockpile sampling: <ul style="list-style-type: none"> One five-part composite sample per 50 cy of stockpile (if needed) Roll-off container sampling: One five-part composite sample per roll-off box (approximately 10 to 12 cy of soil) (if needed)	RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)	EPA methods 1311, 6010B/6020A, and 7470A	The maximum reporting limits are equal to the following unadjusted method quantitation limits (MQLs) for EPA method 6010B/6020A and 7470A: <ul style="list-style-type: none"> Arsenic: 0.00300 mg/L Barium: 0.00500 mg/L Cadmium: 0.000500 mg/L Chromium: 0.00500 mg/L Lead: 0.00250 mg/L Mercury: 0.000200

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		<p>the loose stockpile using a gloved hand and/or decontaminated/disposable soil sampling equipment (e.g., trowels). Soil will be collected from the upper 12 inches of each stockpile at five separate, random, representative areas and combined in a large plastic bag. The material will then be homogenized; and a sub-sample will be placed in laboratory-supplied sample jars, labeled with the sample identification, date, and time of collection. See the WAP in Attachment Q for additional discussion.</p> <p><u>Roll-off container sampling:</u> Each roll off box will contain approximately 10 to 12 cy of soil. A composite sample will be collected from the roll off box material at a frequency of one sample per roll off box. The process of excavating and loading the soils into the roll off boxes will sufficiently mix the soil such that material collected from the surface of the roll off box is representative of the contents of the box. A five-part composite sample will be collected directly from the</p>				<ul style="list-style-type: none"> • Selenium: 0.00250 mg/L • Silver: 0.00100 mg/L

Waste No. ¹	Sampling Location	Sampling Method ²	Frequency	Parameter	Test Method ²	Desired Accuracy Level ³
		<p>loose/surface material using a gloved hand and/or decontaminated/disposable soil sampling equipment (e.g., trowels).</p> <p>These discrete samples will be combined directly into a sampling container (e.g., jar or bag) and will then be thoroughly mixed prior to placement in a pre-cleaned, laboratory-supplied glass soil sample jar.</p>				

¹ from Table IV.B, first column

² Sampling and Test/Analysis methods should be specified in enough detail to allow determination of whether they are suitable and correct for the purpose indicated while allowing flexibility in selection and future updates to the specified method. Standard methods, such as those from SW-846, will generally require no further submittal. Non-standard and proprietary methods may require additional information to determine suitability. ASTM methods may require submittal of a copy of the specified method.

³ Desired Accuracy Level should provide a specified numeric minimum performance level (maximum acceptable reporting limit) for method detection and quantitation limits that will be accepted from the laboratory performing the analysis and must ensure that reported data will allow determinations of compliance with regulatory limits for the parameter tested.

V. Engineering Reports

The engineering report represents the conceptual basis for the storage, processing, or disposal units at the hazardous waste management (HWM) facility. It should include calculations and other such engineering information as may be necessary to follow the logical development of the facility design. Plans and specifications are an integral part of the report. They should include construction procedures, materials specifications, dimensions, design capacities relative to the volume of wastes (as appropriate), and the information required by 40 CFR 270.14(b)(8), 270.14(b)(10). Since these reports may be incorporated into any issued permit, the report should not include trade names, manufacturers, or vendors of specific materials, equipment, or services unless such information is critical to the technical adequacy of the material. Technical specifications and required performance standards are sufficient to conduct a technical review. For landfills, surface impoundments, and waste piles, a Construction Quality Assurance Plan, which considers the guidance in EPA publication 530-SW-85-014, Minimum Technology Guidance on Double Liner Systems for Landfills and Surface Impoundments; Design, Construction, and Operation, and/or EPA/600/R-93/182, Quality Assurance And Quality Control For Waste Containment Facilities, should be submitted.

For facilities which will receive wastes from off-site sources, the engineering report must also contain information on the units which will manage these off-site wastes in accordance with 30 TAC 335.45(a).

Certain ancillary components or appurtenant devices must be addressed in the Part B application. These include but are not limited to sumps, pipelines, ditches, and canals. The technical information and the level of detail required will vary with the nature, scope, and location of the ancillary component. At a minimum they should be included in descriptions of piping and process flow. More information may be required. A single area containing a large number of ancillary components or a remote appurtenant device in an unusually sensitive location may warrant some specific permit requirements. All ancillary components must be included in calculating closure cost estimates.

In each of the unit-specific sections, describe precautions taken to prevent accidental commingling of incompatible wastes. If reactive or ignitable wastes are to be managed, or if incompatible wastes are deliberately commingled, provide information to ensure that precautions are taken to avoid danger due to:

- generation of extreme heat or pressure, fire, explosion, or violent reaction;
- production of uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
- production of uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion;
- damaging the structural integrity of the device or facility containing the waste; or
- threatening human health or the environment by any other means.

Comprehensive consideration should be given to ensure that the facility is designed in accordance with good public health and hazardous waste management practices. The application will be evaluated primarily for the aspects of design covered by the regulations. Nothing in any approval is intended to relieve the facility owner or operator of any liabilities or responsibilities with respect to the design, construction, or operation of the project.

Engineering Report for Combustion Units

For hazardous waste combustion unit which are subject to regulation by 40 CFR Part 63, Subpart EEE, the requirements 30 TAC Chapter 305 and Subchapters I and Q do not apply

when the unit becomes subject to Resource Conservation and Recovery Act (RCRA) permit requirements after October 12, 2005 (i.e., new unit), or no longer apply when an owner or operator of an existing hazardous waste management unit demonstrates compliance with the air emission standards and limitations in 40 Code of Federal Regulations (CFR) Part 63, Subpart EEE, except for the following:

1. Those provisions the Executive Director determines are necessary to comply with 40 CFR §264.345(a) and 40 CFR §264.345(c) for Phase I sources or 40 CFR §266.102(e)(1) and (2)(iii) for Phase II sources if the permittee or applicant elects to comply with any of the options listed in 40 CFR §270.235(a) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events;
2. Those standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals that a Phase II area source elects to comply with in 40 CFR §§266.105, 266.106, and 266.107;
3. Those standards for particulate matter in 40 CFR 264.343(c) remain in effect for a Phase I source incinerator that elects to comply with the alternative to the particulate matter standard under 40 CFR 63.1206(b)(14) and 63.1219(e); and
4. Those provisions that the Executive Director may apply in 30 TAC Chapter 305, Subchapters I and Q, on a case-by-case basis. The Executive Director may require a permittee or an applicant to submit information in order to establish permit conditions under §305.50(a)(15) or (16) and §305.127(1)(B)(iii) or (4)(A) (i.e., risk-based permit conditions).

For hazardous waste combustion units subject to regulation by 40 CFR Part 63, Subpart EEE, some of the information requested in Sections V.H and V.I. will not be applicable for new units or existing units which have submitted a Notification of Compliance in accordance with 40 CFR 63.1207(j) and 63.1210(d), received a Finding of Compliance pursuant to 40 CFR 63.1206(b)(3), and have the associated RCRA permit conditions removed from the permit. Information which is not applicable or no longer applicable should not be included in the Part B application.

[Please note that the TCEQ will require a Finding of Compliance be made prior to modifying the permit by deleting redundant operating parameter limits and standards for the combustion units. Until such time as the permit is modified to delete the redundant RCRA-based operating parameter limits and standards in the permit or the permit is terminated or revoked, the permittee must comply with the RCRA-based conditions specified in the permit. More stringent risk-based permit conditions will remain in the RCRA permit.]

For the exceptions listed in Items 1.-4., the owner and operator must provide the applicable information requested in the Part B permit application and any additional information required by the Executive Director to establish permit conditions.

A. General Engineering Reports

1. General Information

Complete Table V.A. – Facility Waste Management Handling Units listing all past, current or proposed units. *[Indicate units' status as Active, Closed, Inactive (built but not yet managing waste), Proposed (not yet built), Never Built, Transferred, or Post-Closure. Indicate appropriate units for Capacity information.]* **Note for renewals and modifications involving adding or dropping units from the permit:** List all TCEQ Permit Unit Numbers that have been assigned previously as in a current permit Attachment D –Authorized Facility Units table and do not reuse or reassign permit numbers for units that

have been replaced, closed, removed from the permit, or transferred to other ownership. All Notice of Registration (NOR) Numbers must match the State of Texas Environmental Electronic Reporting System (STEERS) and may not be reused for replacement units.

Provide an overall plan view of the entire facility. Identify each hazardous or industrial solid waste management unit (container storage area, tank, incinerator, etc.) to be permitted in relation to its location and the type of waste managed in that unit. Also provide a plan view at an appropriate scale to clearly show the location of all hazardous waste management units to be permitted on one or more 8 1/2" x 14" sheets. Indicate on this plan view how the design or operation provides for buffer zones or waste segregation as appropriate for incompatible, ignitable, or reactive wastes.

Submit a topographic map or maps of the facility which clearly shows the information specified in 40 CFR 270.14(b)(19), 270.14(c)(3), and 270.14(d)(1)(i) (for large HWM facilities, the TCEQ will allow the use of other scales on a case-by-case basis). Please note that the term "facility" includes all contiguous land, structures, other appurtenances, and improvements on the land for storing, processing, or disposing of hazardous and industrial solid waste.

The Engineering Reports for the North CAMU and the RCA have been submitted with this application as Attachments E and F, respectively. The reports include plan views, topographic maps of the facility, and other figures as necessary. Table V.A has been completed and is included below.

2. Features to Mitigate Unsuitable Site Characteristics

For all new hazardous waste management storage and/or processing facilities or areal expansions of existing hazardous waste management storage and/or processing facilities, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(a)(1) and (a)(3) through (9).

The Engineering Reports for the North CAMU and the RCA have been submitted with this application as Attachments E and F, respectively. Discussions of design features to mitigate unsuitable site characteristics (as described in Section II above) are included in the Engineering Reports and other reports as referenced and included.

3. Construction Schedules

- a. In order to meet the required design standards, extensive retrofitting of some facilities may be required. In the worst case, the applicant may elect to close certain operations rather than comply with the RCRA standards. Thus, the permit may specify a schedule of compliance requiring the accomplishment of given tasks within specific time frames. As required, indicate an appropriate schedule(s) of compliance in this application. The schedule should provide for facility compliance as soon as possible and in accordance with 40 CFR 270.33(a)(2) and 270.33(b).

The construction schedules for the North CAMU and the RCA are discussed in the Closure Plan, which is included with this permit renewal application as Attachment C and the Response Action Plan, which is included with this permit renewal application as Attachment M.

- b. For commercial hazardous waste management facilities, permit applications (new, renewal, or interim status applications), major amendments, and Class 3 modifications must include a construction schedule. A construction schedule must be submitted even if the application does not include an addition of units or a revision to permitted units. This schedule should comply with the requirements of 30 TAC 305.149.

No commercial hazardous waste management facility is proposed as part of this permit renewal application.

4. Provide detailed plans and specifications which when, accompanied by the engineering report, will be sufficiently detailed and complete to allow the Executive Director to ascertain whether the facility will be constructed and operated in compliance with all pertinent permitting requirements. Engineering plans and specifications must be prepared under the supervision of and sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act. For some facilities, plans in the form of a standard piping and instrumentation diagram will be sufficient. Overall dimensions and materials of construction must be shown.

The Engineering Reports for the North CAMU and the RCA have been submitted with this application as Attachments E and F, respectively. The reports include detailed plans and specifications for these two units.

B. Container Storage Areas

No container storage areas are proposed as part of this permit renewal application. The inactive permitted unit (NOR Unit No. 011) that was a container storage area (Battery Receiving/Storage Building) has been demolished and closure certification of the unit will be requested upon completion and closure of the RCA.

1. Provide an engineering report which includes all of the information specified in 40 CFR 264.170-264.173, 264.175-264.177, and 270.15.

Complete Table V.B - Container Storage Areas and list the container storage areas covered by this application to be permitted. List the N.O.R. unit number, the rated capacity or size of each unit (including the maximum number of each type of container to be stored at each unit and total maximum capacity of all types wastes stored in the unit), the areal dimensions, containment volume, aisle space requirements, whether ignitable, reactive, or incompatible waste will be stored in each unit, and whether processing will occur within the unit.
2. Container storage areas must have a containment system that is capable of collecting and holding spills, leaks, and precipitation. In addition to the requirements of 40 CFR 270.15, the design report should include the following:
 - a. Capacity of the containment relative to the number and volume of containers to be stored; in addition, for unenclosed areas, the amount of rainfall collected prior to removal. The TCEQ recommends using a 25-year, 24-hour rainfall event for this extra capacity; and
 - b. Run-on into the containment system must be prevented, or a collection system with sufficient excess capacity must be provided. If run-on is collected

within the containment system, delineate the area(s) from which run-on is collected. The 25-year, 24-hour rainfall event should be used to calculate the excess capacity.

3. Wastes Containing No Free Liquids

With the exception of 40 CFR 264.175(d), storage areas that hold only wastes that do not contain free liquids need not have a containment system, provided that compliance with 40 CFR 264.175(c) is demonstrated. This demonstration must be submitted as part of the application and must include:

- a. test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and
- b. a description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

4. Managing Ignitable or Reactive Wastes

If a container storage area will manage ignitable or reactive waste, as indicated on Table V.B, provide in the engineering report drawings demonstrating compliance with the buffer zone requirement of 40 CFR 264.17 and 264.176.

5. Managing Incompatible Wastes

If a container storage area will manage incompatible waste, as indicated on Table V.B, provide in the engineering report a description of the procedures used to ensure compliance with 40 CFR 264.17 and 264.177.

6. Managing Nonhazardous Wastes and/or Universal Wastes

If a container storage area will manage nonhazardous wastes, and/or universal wastes in addition to hazardous waste, provide a description of all types of wastes managed in the engineering report and procedures used to ensure compliance with 40 CFR 264 Subpart I.

C. Tanks and Tank Systems

No tanks or tank systems are proposed as part of this permit renewal application.

Provide an engineering report which includes all of the information specified in 40 CFR 264.190-264.194, 264.196, 264.198-264.199, and 270.16.

1. For inclusion into a permit, complete Table V.C - Tanks and Tank Systems and list the tanks covered by this application to be permitted. List the N.O.R. unit number, whether the unit is for storage and/or processing, the waste managed in each unit, the rated capacity of each unit, overall dimensions of each unit, containment volume, and whether ignitable, reactive, or incompatible waste will be stored in each unit.
2. If a tank will manage ignitable or reactive waste, as indicated on Table V.C, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.198 and provide drawings demonstrating compliance with any applicable buffer zone requirements and 40 CFR 264.17.
3. If a tank will manage incompatible waste, as indicated on Table V.C, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.199.
4. Submit written assessments that were reviewed and certified by an independent,

qualified licensed Professional Engineer that attests to the structural integrity and suitability of handling the hazardous waste for each tank system, as required under 40 CFR 264.191-264.192 for existing tanks which do not have secondary containment meeting the standards of 40 CFR 264.193. The engineer signing the written assessment must make the certification specified in 40 CFR 270.11(d). The certification must be sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act.

5. If a tank has been de-rated or if the permitted capacity is otherwise different from the design capacity, specify any such change(s) in the engineering report.

Provide in the report any additional information for tanks and tank systems as specified in the above regulatory citations including: specifics of leak, spill, and unfit for use systems responses; assessments of tank systems; new tank systems or components; overfill control and prevention; special requirements for ignitable and/or reactive wastes; incompatible wastes; air emissions control; detection of leaks into secondary containment; ancillary equipment; and plans and specifications individually sealed by a licensed professional engineer with current Texas registration with the Registered Engineering Firm's name and Registration number.

D. Surface Impoundments

No surface impoundments are proposed as part of this permit renewal application.

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(6), 335.168, 335.169, and 40 CFR 264.19, 264.220, 264.221, 264.222, 264.223, 264.226(a) and (c), 264.227, 264.229-264.231, and 270.17.

For storage surface impoundments at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(d). For any surface impoundment to be closed as a landfill (where wastes will remain after closure of the impoundment) at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(e).

For all impoundments, include in the report the following information.

1. Complete Table V.D.1 - Surface Impoundments and list the surface impoundments, covered by this application, to be permitted. List the waste(s) managed in each unit and the rated capacity or size of each unit.
2. If a surface impoundment will manage ignitable or reactive waste, as indicated on Table V.D.1., describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.229.
3. If a surface impoundment will manage incompatible waste, as indicated on Table V.D.1., describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.230.
4. If a surface impoundment will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.D.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.231.
5. Describe the surface impoundment. Detailed plan view and cross-sectional

6. Freeboard

If the impoundment is inflow sensitive, it should be equipped with a high-level alarm based on a different level sensor than that used for automatic control.

7. Waste Flow

If the surface impoundment is a flow-through facility describe the flow of waste, including a hydraulic profile.

8. Dike Construction

a. If dikes are used, include the following certification as part of the engineering report:

"I, (qualified licensed Professional Engineer), Texas P.E. License Number , of Registered Firm (Name) Registered Firm No. (Registration Number) certify under penalty of law that I have personally examined and am familiar with the design and construction of the dikes that are a portion of (surface impoundment unit name) .

I further certify that I have evaluated the dike design and materials of construction using accepted engineering procedures, and have determined that the dike, including the portion of the dike providing freeboard, has structural integrity, and

- (1) will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and
- (2) will not fail due to scouring or piping, without dependence on any liner system included in the impoundment construction.

Date: "

"(Signature)"

"(Seal)"

b. The structural integrity of the dike system must be certified by a qualified Professional Engineer before a permit is issued. If the impoundment is not being used, the dike licensed system must be certified before it can be put into use. The certification must be sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act.

c. A report shall accompany the dike certification which summarizes the activities, calculations, and laboratory and field analyses performed in support of the dike certification. Describe the design basis used in

construction of the dikes. Provide the following analyses as attachments to the engineering report (A Quality Assurance Project Plan <QAPP> should be included in the report to ensure that each analysis is performed appropriately):

- (1) Slope Stability Analysis
 - (2) Hydrostatic and Hydrodynamic Analysis
 - (3) Storm Loading
 - (4) Rapid Drawdown
- d. Earthen dikes should have a protective cover to minimize wind and water erosion and to preserve the structural integrity of the dike. Describe the protective cover used and describe its installation and maintenance.

9. Containment System

We suggest that the applicant use available recognized guidance documents, such as EPA publication 530-SW-85-014, which provide design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after installation by an electrical leak location test, such as the electric field method described in EPA Technical Guidance Document EPA/600/R-93/182, Quality Assurance and Quality Control for Waste Containment Facilities, or an equivalent method, such as those found in ASTM publications, and approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.

- a. Complete Table V.D. 6. - Surface Impoundment Liner System for each surface impoundment to be permitted.
- b. In the engineering report, describe the design, installation and operation of liner and leak detection components. The description must demonstrate that the liner and leak detection system will prevent discharge to the land, and ground and surface water. Include the following analyses as attachments to the engineering report (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

- (1) Seaming method
- (2) Surface preparation method
- (3) Tensile Strength
- (4) Impact Resistance
- (5) Compatibility Demonstration
- (6) Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

- (7) Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated waste constituents
- (8) Atterberg Limits, % passing a #200 sieve, and Permeability
- (9) Moisture Content
- (10) Standard Proctor Density, Compaction Data

For leachate collection systems:

- (11) Pipe Material and Strength
- (12) Pipe Network Spacing and Grading
- (13) Collection Sump(s) Material and Strength

- (14) Drainage Media Specifications and Performance
 - (15) Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
 - (16) Compatibility Demonstration
 - (17) Capacity of System
 - (a) rate of leachate removal
 - (b) capacity of sumps
 - (c) thickness of mounding and maximum hydraulic head
 - c. Specify the liner system installation date and expected lifetime of liner system (years).
 - d. Specify whether the liner is chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.
 - e. Submit a quality assurance/quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.
 - f. Submit a Response Action Plan that proposes actions to be taken if the Action Leakage Rate for the surface impoundment exceeds. At a minimum the Response Action Plan must include the requirements of 40 CFR 264.223.
10. Surface impoundments that receive waste on or after May 8, 1985 (or for newly-regulated units, the effective date of the new RCRA regulation) into new units and/or lateral expansions or replacements of existing units must meet the minimum technological requirements of the Hazardous and Solid Waste Amendments of 1984, unless an appropriate waiver is granted by the Commission. The owner or operator of each new surface impoundment unit for which the construction commences after January 29, 1992, or each lateral expansion of an existing surface impoundment unit where construction commences after July 29, 1992, or replacement of an existing surface impoundment unit that commence reuse after July 29, 1992 must install two or more liners and leachate collection and removal system unless commission approves alternate design or operating practices. Plans and specifications for both new and existing surface impoundments must demonstrate conformity with 30 TAC 335.168 and 40 CFR 264.221
11. Run-on Diversion
- Describe in detail how the surface impoundment system will manage stormwater run-on away from the surface impoundment. Stormwater run-on must be diverted away from a surface impoundment. Use at least a 100-year, 24-hour rainfall event in the design and analysis of diversion structures. Where dikes are used to divert run-on, they must be protected from erosion. Include all analyses used to calculate run-on volumes.
12. The Commission may approve an alternate design or operating practice for a surface impoundment if the owner or operator demonstrates that such design or operating practices, together with location characteristics [40 CFR 264.221(d)]:
- a. Will prevent the migration of hazardous constituents into the groundwater or surface water at least as effectively as the liners and leachate collection and removal system required by 40 CFR 264.221; and
 - b. Will allow detection leaks of hazardous constituents through the top liner at least as effectively.

13. Exemption from Double-Liner Requirements for Monofills [264.221(e)]

Owners or operators of hazardous waste surface impoundment monofills will be exempted from the double-liner requirements if the Commission finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics are at least as effective as a double liner in preventing migration of hazardous constituents to the groundwater or surface water. If an exemption is sought, submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time.

E. Waste Piles

No waste piles are proposed as part of this permit renewal application.

This section applies to owners or operators of industrial solid waste facilities that store or process hazardous waste in piles. A hazardous waste pile that will be closed with wastes left in place must be managed as a landfill. Existing portions of waste piles are those areas that were listed on the original Part A and on which wastes have been lawfully placed.

Provide an engineering report which includes all of the information specified in 30 TAC 335.170 and 40 CFR 264.19, 264.250, 264.251, 264.252-264.253, 264.254(a) and (c), 264.256, 264.257, 264.259, and 270.18.

For waste piles at a new hazardous waste management facility or which are part of any areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(c).

For all waste piles, include in the report the following information.

1. For inclusion into a permit, complete Table V.E.1 - Waste Piles and list the waste piles covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.
2. If a waste pile will manage ignitable or reactive waste, as indicated on Table V.E.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.256.
3. If a waste pile will manage incompatible waste, as indicated on Table V.E.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.257.
4. If a waste pile will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.E.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.259.
5. Describe the waste pile, including any structure surrounding or enclosing the waste pile.
6. Containment System

We suggest that the applicant use available recognized guidance documents, such as EPA publication 530-SW-85-014, which provide design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after

installation by an electrical leak location test, such as the electric field method described in EPA Technical Guidance Document EPA/600/R-93/182, Quality Assurance and Quality Control for Waste Containment Facilities, or an equivalent method, such as those found in ASTM publications, and approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.

- a. For inclusion into a permit, complete Table V.E. 3 - Waste Pile Liner System and specify the type of containment/liner system.
- b. In the engineering report, describe the design, installation, construction, and operation of the liner and leachate collection system. The description must demonstrate that containment systems will prevent discharge to the land, surface water, or groundwater. Include the following analyses as attachments to the engineering report, when applicable to the containment system being described (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

- (1) Seaming method
- (2) Surface preparation method
- (3) Tensile Strength
- (4) Impact Resistance
- (5) Compatibility Demonstration
- (6) Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

- (7) Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated constituents.
- (8) Atterberg Limits, % passing a #200 sieve, and Permeability
- (9) Moisture Content
- (10) Standard Proctor Density, Compaction Data

For leachate detection, collection, and removal system:

- (11) Capacity of system
 - (a) rate of leachate removal
 - (b) capacity of sumps
 - (c) thickness of mounding and maximum hydraulic head
- (12) Pipe Material and Strength
- (13) Pipe Network Spacing and Grading
- (14) Collection Sump(s) Material and Strength
- (15) Drainage Media Specifications and Performance
- (16) Analysis showing that pipe and perforation size will prevent clogging and allow free liquid access to the pipe.
- (17) Compatibility Demonstration

- c. Containment/liner system installation date and expected lifetime of liner system (years).
- d. Specify whether the containment/liner system is chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.
- e. Submit a quality assurance/quality control plan for all components to

demonstrate that all components will be properly installed and will perform to design specifications.

- f. Submit a Response Action Plan that proposes actions to be taken if the Action Leakage Rate for the waste pile exceeds. At a minimum the Response Action Plan must include the requirements of 40 CFR 264.253.

7. Wind Dispersal [30 TAC 335.170(j)]

Waste piles containing hazardous waste which could be subject to dispersal by wind must be covered or otherwise managed so that wind dispersal is minimized. Describe practices to control wind dispersal (e.g., cover or frequent wetting) of the hazardous waste.

8. Run-on Diversion [30 TAC 335.170(g)]

Describe in detail the measures used to control and divert run-on from the unit. The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 100-year, 24-hour storm.

Include all analyses used to calculate: flow rates; run-on volume and depth; and back-water calculations for the ditches on plant property.

Any tanks or basins associated with the run-on control systems must be emptied or otherwise managed expeditiously after a storm to maintain the design capacity of the system. [30 TAC 335.170(i)]

9. Run-off Control [30 TAC 335.170(h)]

Describe in detail the measures used to control run-off from the unit. Include all analyses used to calculate the run-off volumes.

The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 100-year, 24-hour storm.

Collection and holding facilities (e.g., tanks or basins) associated with the run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system. [30 TAC 335.170(i)]

10. Give a description of design and operating procedures to properly manage and/or dispose of any residuals (e.g., leachate) that may be generated during waste management. Describe the management process and any equipment used.

11. Provide a description and list of all equipment and procedures used to place the waste in or on the waste pile, and how the liner surface will be exposed for inspection, if necessary. A containment system must be protected from plant growth which could puncture any component of the system.

12. Exemption from Liner and Leachate Collection Requirements

The Commission may approve an alternate design or operating practice for a waste pile if the owner or operator demonstrates that such design or operating practices, together with location characteristics [40 CFR 264.251(d)]:

- a. Will prevent the migration of hazardous constituents into the groundwater or surface water at least as effectively as the liners and leachate collection and removal system; and
- b. Will allow detection leaks of hazardous constituents through the top liner at

least as effectively.

13. Exemption from Groundwater Monitoring under 40 CFR 264.250(c)

A waste pile may be exempt from groundwater monitoring if the following standards are met:

- a. The waste pile (including its underlying liners) must be located entirely above the seasonal high water table; and
- b. The waste pile is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated, provided that:
 - (1) Liquids or materials containing free liquids are not placed in the pile;
 - (2) The waste pile is protected from surface water run-on by the structure or in some other manner;
 - (3) The waste pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and
 - (4) The waste pile will not generate leachate through decomposition or other reactions; or
- c. The waste pile must have a leachate collection and removal system above the top liner; and
- d. Underlayment:
 - (1) either:
 - (a) The waste pile must be underlain by two liners, which are designed and constructed in a manner that prevents the migration of liquids into or out of the space between the liners and a leak detection system which must be designed, constructed, maintained, and operated between the liners to detect any migration of liquids into the space between the liners; and
 - (b) A demonstration must be made that there is a low potential for migration of liquid from the waste pile to the uppermost aquifer during the life of the waste pile (including the closure period). The owner or operator must base any predictions made on assumptions that maximize the rate of liquid migration;
 - (2) or:
 - (a) The waste pile must be underlain by a liner (base) that is designed, constructed, and installed in a manner that prevents the migration of liquids or waste beyond the liner; and
 - (b) The wastes in the waste pile must be removed periodically, and the liner must be inspected for deterioration, cracks, or other conditions that may result in leaks. The frequency of inspection will be specified in the inspection plan and must be based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates and subsurface stability).

The liner(s) used to satisfy V.D.13.d. must be of sufficient strength and thickness to prevent failure due to puncture, cracking, tearing, or other physical damage

from equipment used to place waste in or on the pile or to clean and expose the liner surface for inspection.

F. Land Treatment Units

No land treatment units are proposed as part of this permit renewal application.

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(6), 335.171, 335.172, 40 CFR 264.270-264.272, 264.273, 264.276, 264.278, 264.279, 264.281-264.283, and 270.20 for each land treatment unit.

For land treatment units at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(b).

For all land treatment units, include in the report the following information.

1. Complete Tables V.F.1 - Land Treatment Units and V.F.2 - Land Treatment Unit Capacity and list the land treatment units covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If different wastes are placed on separate portions of the land treatment area, each portion is considered a land treatment unit, and requires a separate summary form and engineering report.

The treatment zone is defined as the soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized. In this section, specify the depth of the treatment zone. The maximum depth of the treatment zone for new land treatment units must be [40 CFR 264.271(c)]:

- a. No more than 1.5 meters (5 feet) from the surface; and
 - b. More than 1 meter (3 feet) above the seasonal high water table.
2. If a land treatment unit will manage ignitable or reactive waste, as indicated on Table V.F.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.281.
 3. If a land treatment unit will manage incompatible waste, as indicated on Table V.F.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.282.
 4. If a land treatment unit will manage F020, F021, F022, F023, F026 and F027 waste, as indicated on Table V.F.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.283.
 5. Describe the land treatment unit. The report shall include all the information requested in this section including drawings. At a minimum, a plan view and cross-section of the unit should be included with the engineering report.
 6. Complete Table V.F.3. - Land Treatment Principal Hazardous Constituents and list the wastes for which the treatment demonstration will be made and the principal hazardous constituents in each waste. Specify in the report the data sources to be used to make the demonstration such as laboratory data, field data, operating data, literature, or other.
 7. Run-on Diversion

Describe in detail the measures used to control run-on and divert run-on from the unit. Include all the analyses used to calculate the run-on volumes.

The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the land treatment unit during peak discharge from a 100-year, 24-hour storm. [30 TAC 335.171(3)]

Collection holding facilities (e.g., tanks or basins) associated with the run-on control system must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system. [30 TAC 335.171(5)]

8. Run-off Control

Describe in detail the measures used to control the run-off from the unit, and minimize hazardous constituents in the run-off, include all the analyses used to calculate the run-off volumes.

The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 100-year, 24-hour storm. [30 TAC 335.171(4)]

Collection and holding facilities (e.g., tanks or basins) associated with run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system. [30 TAC 335.171(5)]

9. Wind Dispersal

The owner or operator of a land treatment unit containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the land treatment unit so that wind dispersal is minimized. Describe practices to control wind dispersal (e.g., cover or frequent wetting) of the hazardous waste. [30 TAC 335.171(6)]

10. Treatment Demonstration

A description of the treatment demonstration required under 40 CFR 264.272 and 270.20(a) shall be included with the engineering report. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration, he must obtain a treatment or disposal permit.

11. The owner or operator must establish an unsaturated zone monitoring program in accordance with 40 CFR 264.278 and a detailed monitoring program must be included in the application.

12. Food Chain Crops [40 CFR 264.276]

Several conditions must be satisfied if food-chain crops are to be grown in or on the treatment zone. A demonstration must be prepared similar to the one described in the Treatment Demonstration and submitted at least 90 days prior to the planting of crops. The demonstration need not be submitted with this application. However, a description of the demonstration must be included as part of the engineering report. This demonstration may be combined with the Treatment Demonstration description, as some of the information required is identical.

G. Landfills

No landfills are proposed as part of this permit renewal application. The North CAMU is an

existing corrective action management unit and the RCA is a proposed corrective action management unit, both are regulated under 40 CFR Part 264, Subpart S. Because some of the design requirements listed in this Section of the Part B permit renewal application are relevant to the North CAMU and the RCA, Section V.G requirements have also been addressed in the Engineering Reports where appropriate.

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(5), (6), (9), (10), and (12), 335.173, 40 CFR 264.19, 264.300, 264.301, 264.302, 264.303(a), 264.304, 264.309, 264.312, 264.313, 264.315-264.317, and applicable requirements of 270.21. The text of the report should be written to supplement engineering plans, specifications, and test results necessary to provide a detailed description of how the landfill will comply with these standards.

For landfills at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(e).

For all landfills, include in the report the following information.

1. Complete Table V.G.1 - Landfills and list the landfills (and number of cells, if applicable) covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If wastes are segregated in some manner, list the cell number in which wastes are placed next to each waste type.
2. If a landfill will manage ignitable or reactive waste, as indicated on Table V.G.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.312.
3. If a landfill will manage incompatible waste, as indicated on Table V.G.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.313.
4. If a landfill will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.G.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.317.
5. Describe the landfill. A plan view and cross-section of the landfill should be included with the engineering report. As appropriate, detailed plan, elevation, cross-section of landfill containment facilities shall be included with the report.
6. Containment System

We suggest that the applicant use available recognized guidance documents, such as EPA publication 530-SW-85-014, which provide design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after installation by an electrical leak location test, such as the electric field method described in EPA Technical Guidance Document EPA/600/R-93/182, Quality Assurance and Quality Control for Waste Containment Facilities, or an equivalent method, such as those found in ASTM publications, and approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.

- a. Complete Table V.G.3. - Landfill Liner System and specify the type of liner used for the landfill.
- b. In the engineering report, describe the design, installation, construction, and operation of the liner and leachate collection system. The description must

demonstrate that the liner system will prevent discharge to the land, groundwater, and surface water. The following analyses should be included as attachments to the engineering report (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

- (1) Seaming method
- (2) Surface preparation method
- (3) Tensile Strength
- (4) Impact Resistance
- (5) Compatibility Demonstration
- (6) Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

- (7) Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated waste constituents
- (8) Atterberg Limits, % passing a #200 sieve, and Permeability
- (9) Moisture Content
- (10) Standard Proctor Density, Compaction Data

For Leachate Collection System

For incorporation into the permit, complete Table V.G.4. - Landfill Leachate Collection System used for the landfill.

- (11) Capacity of the system:
 - (a) rate of leachate removal
 - (b) capacity of sumps
 - (c) thickness of mounding and maximum hydraulic head
 - (12) Pipe Material and Strength
 - (13) Pipe Network Spacing and Grading
 - (14) Collection Sump(s) Material and Strength
 - (15) Drainage Media Specifications and Performance
 - (16) Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
 - (17) Compatibility Demonstration
- c. State whether the liner system components are chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.
 - d. Provide a quality assurance/quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.
 - e. Whether the leachate collection components are chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.
 - f. Provide a Response Action Plan that proposes actions to be taken in the case of exceedance of the landfill Action Leakage Rate. At a minimum the Response Action Plan must include the requirements of 40 CFR 264.304.

7. For Dikes:

- a. Slope Stability Analysis;

- b. Hydrostatic and Hydrodynamic Analyses
 - c. Ability to withstand scouring from leaking liner.
8. Landfills that receive waste on or after May 8, 1985 (or for newly-regulated units, the effective date of the new RCRA regulation) into new units and/or lateral expansions or replacements of existing units must meet the minimum technological requirements of the Hazardous and Solid Waste Amendments of 1984, unless an appropriate waiver is granted by the Commission. The owner or operator of each new landfill unit for which the construction commences after January 29, 1992, or each lateral expansion of an existing landfill unit where construction commences after July 29, 1992, or replacement of an existing landfill unit that commence reuse after July 29, 1992 must install two or more liners and leachate collection and removal system unless commission approves alternate design or operating practices. Plans and specifications for both new and existing landfills must demonstrate conformity with 30 TAC 335.173 and 40 CFR 264.301(c).
9. Site Development Plan
- Describe the methods used to deposit waste in the landfill. This description should include rate of waste deposition, waste segregation, average lift size, maximum lift, average cell or trench size, maximum cell or trench size, and other information necessary to depict how the landfill will be developed. Do not include liner or leachate collection system information, closure information, or handling of special wastes. This will be included elsewhere in the report.
10. Run-on Control [30 TAC 335.173(g)]
- The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 100-year, 24-hour storm.
- In the engineering report, include the following analyses:
- a. Run-on volume and depth calculations from the peak discharge of the 100-year, 24-hour storm; and
 - b. For ditches on the plant property, back-water calculations.
- Collection and holding facilities (e.g., tanks or basins) associated with the run-on control system must be emptied or otherwise managed expeditiously. [30 TAC 335.173(i)]
11. Run-off Control [30 TAC 335.173(h)]
- The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control the water volume resulting from a 100-year, 24-hour storm.
- Include all analyses used to calculate run-off volumes.
- Collection and holding facilities (e.g., tanks or basins) associated with run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system. [30 TAC 335.173(i)]
12. Wind Dispersal [30 TAC 335.173(j)]
- If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to

minimize wind dispersal. Based upon the characteristics of the material to be landfilled describe the likelihood of wind dispersal occurring. Describe in detail any method and/or control mechanism used to prevent wind dispersal.

13. Liquid Waste

If liquid waste or waste containing free liquids is to be stabilized and then placed in the landfill, the procedures used to stabilize the waste must be described in the engineering report. The waste must be treated prior to landfilling using a treatment technology that does not solely involve the use of a material that functions primarily as a sorbent. Provide supporting documentation to verify that an appropriate stabilization procedure is used to comply with 30 TAC 335.175.

14. The Commission may approve an alternate design or operating practice for a landfill if the owner or operator demonstrates that such design or operating practices, together with location characteristics [40 CFR 264.301(d)]:

- a. Will prevent the migration of hazardous constituents into the groundwater or surface water at least as effectively as the liners and leachate collection and removal system; and
- b. Will allow detection leaks of hazardous constituents through the top liner at least as effectively.

15. Exemption from Double-Liner Requirements for Monofills [264.301(e)]

Owners or operators of hazardous waste monofills will be exempted from the double-liner requirements if the Commission finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics are at least as effective as a double liner in preventing migration of hazardous constituents to the groundwater or surface water. If an exemption is sought, submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time.

16. Above-grade Benefits

The engineering report must evaluate the benefits, if any, associated with the construction of the landfill above existing grade at the proposed site, the costs associated with the above-grade construction, and the potential adverse effects, if any, which would be associated with the above-grade construction. [TX. Health and Safety Code 361.108]

H. Incinerators

No incinerators are proposed as part of this permit renewal application.

As applicable, provide an engineering report which includes all of the information specified in 30 TAC 305.171-305.176, 40 CFR 264.340, 264.342-264.346, 264.347(a), and 270.19. In addition, the Executive Director may require additional information to address the requirements in 30 TAC 305.50(a)(15).

Note: Please review the information provided in the section above entitled "Engineering Report for Combustion Units" and 40 CFR 270.19(e) to determine applicability of standards and associated requirements in 40 CFR Part 264, Subpart O. If the permit

contains risk-based permit conditions, please ensure that all applicable supporting information is included in the engineering report.

1. Complete Table V.H.1 - Incinerators and list the incinerators covered by this application and list the waste managed in each unit.
2. Complete Table V.H.2 - Incinerator Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems for each Incinerator.
3. Complete Table V.H.3 - Maximum Constituents Feed Rate for each Incinerator.
4. Complete Table V.H.4 - Maximum Allowable Emission Rates for each Incinerator.
5. For use during the shakedown period, the trial burn period and the period after completion of the initial trial burn, complete Table V.H.5 - Incinerator Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff-Short-Term Operation for each new or modified Incinerator.
6. If an incinerator will manage reactive or incompatible waste, as indicated on Table V.H.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17.
7. If an incinerator will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.H.1, the DRE requirement is 99.9999%.
8. If a trial burn for a modified unit and Comprehensive Performance Test under 40 CFR Part 63, Subpart EEE (HWC MACT) (for all new and modified units) will be performed, designate one or more of the 40 CFR 261 Appendix VIII organic compounds present in the wastes to be incinerated as Principal Organic Hazardous Constituents (POHCs). Selection will be based upon the degree of difficulty of incineration of these compounds and upon their concentration or mass in the waste feed. These POHCs will be used to determine the destruction and removal efficiency (DRE) specified in the performance standards of 40 CFR 264.343 and HWC MACT. In addition, complete Table V.H.8 - Principal Organic Hazardous Constituents.
9. Submit a Quality Control/Quality Assurance Plan for all sampling, analysis, and monitoring activities which will occur in conjunction with the trial burn.
10. As applicable, facilities with existing permits may request that the Executive Director to address permit conditions that minimize emissions from startup, shutdown, and malfunction events in accordance with the options under 40 CFR 270.235 when requesting the removal of permit conditions that are no longer applicable according to 30 TAC 305.175. Please provide the relevant information needed to process the requested option to minimize emissions identified in 40 CFR 270.235(1)(a)(i)-(iii). (30 TAC 305.176)

I. Boilers and Industrial Furnaces

No boilers or industrial furnaces are proposed as part of this permit renewal application.

As applicable, provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(13), 305.571-573, 40 CFR 266.100 and 266.102 (as incorporated by reference in 30 TAC 335.221 through 335.225), 266.104-266.112, and 270.22. In addition, the Executive Director may require additional information to address the requirements in 30 TAC 305.50(a)(15).

Note: Please review the information provided in the section above entitled "Engineering Report for Combustion Units" and 40 CFR 270.22 to determine applicability of standards and associated requirements in 40 CFR Part 266, Subpart H. Area sources that elect to comply with the standards and associated requirements of 40 CFR 266.105, 266.106, and 266.107 should address those elected standards and requirements in the engineering report. If the permit contains risk-based permit conditions, please ensure that all applicable supporting information is included in the engineering report.

1. Complete Table V.I.1 - Boilers and Industrial Furnaces and list the boilers and/or industrial furnaces covered by this application to be permitted and list the waste managed in each unit.
2. Complete Table V.I.2 - Boiler and Industrial Furnace Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems for each unit.
3. Complete Table V.I.3 - Maximum Constituent Feed Rate for each unit.
4. Complete Table V.I.4 - Maximum Allowable Emission Rates for each unit.
5. For use during the shakedown period, trial burn period and the period after completion of the initial trial burn, complete Table V.I.5 - Boiler and Industrial Furnace Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems-Short-Term Operation for each new or modified unit.
6. If a boiler or industrial furnace will manage reactive or incompatible waste, as indicated on Table V.I.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17.
7. If a boiler and industrial furnace will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.I.1, the DRE requirement is 99.9999%.
8. If a trial burn for modified units and Comprehensive Performance Test under 40 CFR Part 63, Subpart EEE (HWC MACT) (for all new and modified units) will be performed, designate one or more of the 40 CFR 261 Appendix VIII organic compounds present in the wastes to be incinerated as Principal Organic Hazardous Constituents (POHCs). Selection will be based upon the degree of difficulty of incineration of these compounds and upon their concentration or mass in the waste feed. These POHCs will be used to determine the destruction and removal efficiency (DRE) specified in the performance standards of 40 CFR 266.104 and HWC MACT. In addition, complete Table V.I.8 - Principal Organic Hazardous Constituents.
9. Submit a Quality Control/Quality Assurance Plan for all sampling, analysis, and monitoring activities.
10. As applicable, facilities with existing permits may request that the Executive Director to address permit conditions that minimize emissions from startup, shutdown, and malfunction events in accordance with the options under 40 CFR 270.235 when requesting the removal of permit conditions that are no longer applicable according to 30 TAC 305.571(b). Please provide the relevant information needed to process the requested option to minimize emissions identified in 40 CFR 270.235(1)(a)(i)-(iii). [30 TAC 305.572(a)(6)]

J. Drip Pads

No drip pads are proposed as part of this permit renewal application.

Provide an engineering report which includes all of the information specified in 40 CFR 264.570-573 and 270.26.

1. Complete Table V.J.1. - Drip Pads and list the drip pads, covered by this application, to be permitted. List the N.O.R. unit number, the waste managed in each unit, the rated capacity of each unit, and the overall dimensions of the unit (including perimeter curb or berm height) that will be in contact with the waste.
2. For either new drip pads² or existing drip pads for which the owner/operator elects to comply with the synthetic liner requirement of 40 CFR 264.573(b), please complete Table V.J.2. - Drip Pad Synthetic Liner System.
3. In the engineering report, describe the design, installation, construction, and operation of the liner and leakage collection system. The description must demonstrate that the liner system will prevent discharge to the land, groundwater, and surface water. The following analyses should be included as attachments to the engineering report (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

- a. Seaming method
- b. Surface preparation method
- c. Tensile Strength
- d. Impact Resistance
- e. Compatibility Demonstration
- f. Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For Leakage Collection System

- g. Capacity of the system:
 - (1) rate of leachate removal
 - (2) capacity of sumps
 - (3) thickness of mounding and maximum hydraulic head
- h. Pipe Material and Strength
- i. Pipe Network Spacing and Grading
- j. Collection Sump(s) Material and Strength
- k. Drainage Media Specifications and Performance
- l. Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
- m. Compatibility Demonstration

K. Miscellaneous Units

The North CAMU and the RCA are corrective action management units regulated under 40 CFR

² New drip pads are those drip pads constructed after 12/06/90 and which had no binding contract for construction. If electing to comply with 40 CFR 264.573(b), the requirement to install a leakage collection system of 40 CFR 264.573(b)(3) applies only to those drip pads constructed after 12/24/92 and which had no binding contract for construction.

Part 264, Subpart S. They are not miscellaneous units but are categorized as miscellaneous units under available options for purposes of this permit application template. Because some of the requirements listed in this Section of the Part B permit renewal application are relevant to the North CAMU and the RCA, relevant information is provided below and Section V.K requirements have also been addressed in the Engineering Reports where appropriate.

A miscellaneous unit is a unit other than a container, tank, incinerator, boiler, industrial furnace, landfill, surface impoundment, waste pile, underground injection well, land treatment area, drip pad, or unit eligible for an R, D & D permit that is used to process, store, or dispose of hazardous waste.

For each miscellaneous unit for which an operating permit is sought, provide an engineering report which includes all of the information specified in 40 CFR 264.600-264.602, and 270.23.

1. Complete Table V.K - Miscellaneous Units and list the miscellaneous units covered by this application. List the waste managed in each unit and the rated capacity or size of the unit. If the information requested is not applicable, an explanation must be submitted.

The North CAMU was previously approved as a CAMU by TCEQ Agreed Order No. 2013-2207-IWH-E and only class 2 waste will be placed in the North CAMU in connection with the implementation of the FOP Response Action Plan (RAP), as described in the attached Closure Plan (Attachment C). The Engineering Reports for the North CAMU and the RCA have been submitted with this application as Attachments E and F, respectively. Table V.K has been completed and is included below. While these units are categorized as miscellaneous units for purposes of this permit application template, they are subject to the CAMU standards set forth in 40 CFR Part 264, Subpart S.

Exide is requesting by this application that TCEQ designate the RCA as a CAMU. The areal configuration of the RCA is shown on Figure V.A-3 of the RCA Engineering Report. Exide has provided a detailed design of the RCA, an Operation & Maintenance Plan, a Compliance Plan including groundwater monitoring and a Closure Plan to demonstrate how the RCA meets and will maintain compliance with CAMU requirements in the Engineering Report and RAP (Appendix M).

Exide requests TCEQ's approval under 40 CFR 264.552(e)(3)(ii) (B) of alternate design requirements for the design of the RCA based on a demonstration that this CAMU will 1) be established in an area with existing significant levels of contamination, and 2) the proposed design will prevent migration from the RCA that would exceed long-term remedial goals.

Exide proposes to consolidate CAMU-eligible wastes, consisting of impacted media and remediation waste, onto an area of the FOP that has existing significant levels of contamination in a design that does not include a liner. The proposed multi-layer low permeability, RCRA-compliant cap combined with the proposed funnel and gate permeable reactive barrier and flood wall improvements would prevent migration from the unit that would exceed long-term remedial goals. Post-closure maintenance and long-term groundwater monitoring would also be implemented to confirm the goals are met. The RCA Engineering Report and RAP (Attachment M) further discuss the RCA's compliance with the CAMU standard in support of this approval request.

2. Provide any other information which is descriptive of the relationship between the miscellaneous unit and the environment. Application information may

include design requirements of 30 TAC 305 and 335, 40 CFR Part 264 Subparts I through O, and Part 270 that are appropriate for the miscellaneous unit or portions of the unit being permitted.

The Engineering Reports for the North CAMU and the RCA have been submitted with this application as Attachments E and F, respectively. The reports include design information descriptive of the relationships between the units and the environment.

3. For a unit which involves combustion, please provide emissions data or a trial burn plan. Tables V.H.1-5 for incinerators or Tables V.I.1-5 for boilers and industrial furnaces may be adapted as appropriate to provide operation, monitoring, and emission information for a miscellaneous combustion unit.

Neither the North CAMU nor the RCA use combustion processes.

L. Containment Buildings

No containment buildings are proposed as part of this permit renewal application. The inactive permitted unit (NOR Unit No. 005) that was a containment building (Raw Material Storage Building and also referred to as the Containment Building) has been demolished and closure certification of the unit will be requested upon completion and closure of the RCA.

Provide an engineering report which includes all of the information specified in 40 CFR 264.1100-1101(c)(3), and 264.1101(d)-(e).

Complete Table V.L. - Containment Buildings and list the containment buildings covered by this application to be permitted. List the N.O.R. unit number, whether the unit is for storage and/or processing, the waste or debris managed in each unit, the rated capacity of each unit, and the overall dimensions of the unit (including containment wall height) that will be in contact with the waste or debris.

Table V.A. – Facility Waste Management Handling Units

TCEQ Permit Unit No. ¹	Unit Name	NOR No. ¹	Unit Description ³	Capacity	Unit Status ²
001	Raw Material Storage Building	005	Containment building (building has been demolished)	4,150 tons	Inactive (demolished) Exide is seeking closure of this unit upon implementation and approval of completion of the FOP RAP since it is located within the footprint of the RCA (Proposed Unit 004), which is addressed in the RAP.
002	Battery Receiving/Storage Building	011	Container storage area (building has been demolished)	3,581 cy	Inactive (demolished) Exide is seeking closure of this unit upon implementation and approval of completion of the FOP RAP since it is located within the footprint of the RCA (Proposed Unit 003) which is addressed in the RAP.
Proposed (003)	North CAMU (listed in NOR as “Landfill, North Property, 1996”)	012	Miscellaneous unit (listed in NOR as a landfill)/CAMU	190,000 cy	Active; being added to permit boundary
Proposed (004)	Remediation Consolidation Area (RCA)	Proposed	Miscellaneous unit/CAMU	82,000 cy	Proposed (not yet built) To include contaminated media to be managed in place and

TCEQ Permit Unit No. ¹	Unit Name	NOR No. ¹	Unit Description ³	Capacity	Unit Status ²
					consolidated remediation wastes from implementation of RAP. It is noted that inactive Units 001 and 002 are located within the footprint of the RCA.

1. Permitted Unit No. and NOR No. cannot be reassigned to new units or used more than once and all units that were in the Attachment D of a previously issued permit must be listed.
2. Unit Status options: Active, Closed, Inactive (built but not managing waste), Proposed (not yet built), Never Built, Transferred, Post-Closure.
3. If a unit has been transferred, the applicant should indicate which facility/permit it has been transferred to in the Unit Description column of Table V.A.

Table V.B. – Container Storage Area

Permit Unit No.	Container Storage Area	N.O.R. No.	Waste Nos. ⁴	Rated Capacity ³	Dimensions	Containment Volume (including rainfall for unenclosed areas)	Unit will manage Ignitable ¹ , Reactive ¹ , or Incompatible ² waste (state all that apply)
0002	Battery Receiving/Storage Building	011	N/A – wastes no longer stored in this area and the building has been demolished	N/A – wastes no longer stored in this area and the building has been demolished	Container storage area (building has been demolished)	N/A – wastes no longer stored in this area and the building has been demolished	N/A – wastes no longer stored in this area and the building has been demolished

1 Containers managing ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

2 Incompatible waste must be separated from other waste or materials stored nearby in other containers, piles, open tanks, or surface impoundments by means of a dike, berm, wall, or other device.

3 Container Storage Areas need to include in capacity calculations any nonhazardous wastes and universal wastes managed in the unit in addition to hazardous wastes.

4 from Table IV.B, first column

Table V.C. – Tanks and Tank System

Permit Unit No.	Tank	N.O.R. No.	Storage and/or Processing	Waste Nos. ¹	Rated Capacity	Dimensions	Containment Volume (including rainfall for unenclosed areas)	Unit will manage Ignitable, Reactive, or Incompatible Waste (state all that apply)

¹ from Table IV.B, first column

Table V.D.1. – Surface Impoundments

Permit Unit No.	Surface Impoundment	N.O.R. No.	Waste Nos. ¹	Rated Capacity	Dimensions ²	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage Ignitable, Reactive, Incompatible, or F020, F021, F022, F023, F026, and F027 Waste (state all that apply)

¹from Table IV.B, first column

²Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table V.D.6. – Surface Impoundment Liner System

Surface Impoundment	Primary Liner			Secondary Liner			Clay Liner		
	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness

Table V.E.1. – Waste Piles

Permit Unit No.	Waste Pile	N.O.R. No.	Waste Nos. ¹	Rated Capacity	Dimensions ²	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage Ignitable, Reactive, Incompatible, or F020, F021, F022, F023, F026, and F027 Waste (state all that apply)

¹from Table IV.B, first column

²Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table V.E.3. – Waste Pile Liner System

Waste Pile	Primary Liner			Secondary Liner			Clay Liner		
	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness

Table V.F.1. – Land Treatment Units

List the land treatment units covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.

Permit Unit No.	Land Treatment Unit	N.O.R. No.	Waste Nos. ^{1,2}	Dimensions ³	Distance from lowest liner to groundwater	Unit will manage Ignitable, Reactive, Incompatible, or F020, F021, F022, F023, F026, and F027 Waste (state all that apply)

¹from Table IV.B, first column

²If cadmium is present in the waste, state the concentration in the report.

³Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table V.F.2. – Land Treatment Unit Capacity

For the land treatment units listed in Table IV.F.1, specify the waste treatment capacity.

Permit Unit No.*	Land Treatment Unit	N.O.R. No.	Rated Capacity				Treatment Zone Depth
			Monthly Hydraulic Loading	Monthly Organic Loading	Monthly Inorganic Loading	Cumulative Lifetime Loading	

* This number should match the Permit Unit No. given on Table V.F.1.

List the wastes for which the demonstration will be made and the principal hazardous constituents in each waste. Indicate by an (*) asterisk which constituents will be treated and rendered nonhazardous.

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Table V.G.1. – Landfills

Permit Unit No.	Landfill	N.O.R. No.	Waste Nos. ¹	Rated Capacity	Dimensions ²	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage Ignitable, Reactive, Incompatible, or FO20, FO21, FO22, FO23, FO26, and FO27 Waste (state all that apply)

¹from Table IV.B, first column

²Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table V.G.3. – Landfill Liner System

Permit Unit No.*	Landfill	Primary Liner			Secondary Liner			Clay Liner		
		Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness

* This number should match the Permit Unit No. given on Table V.G.1.

Table V.G.4. – Landfill Leachate Collection System

Landfill	Primary Leachate Collection System					Secondary Leachate Collection System				
	Drainage Media	Collection Pipes (including risers)	Filter Fabric	Geofabric	Sump Material	Drainage Media	Collection Pipes (including risers)	Filter Fabric	Geofabric	Sump Material

Table V.H.1. – Incinerators

List the incinerators covered by this application to be permitted. List the waste managed in each unit and the rated capacity or size of each unit.

Permit Unit No.*	Incinerators	N.O.R. No.	Waste Nos. ¹	Waste Physical Form (Pumpable or Non-pumpable)	Reactive, Incompatible, or F020, F021, F022, F023, F026, or F027 Waste

¹From the first column of Table IV.B.

* If the unit is already permitted, use the established "Permit Unit No." If the unit is not yet permitted, the number given here for the unit will become the "Permit Unit No." The numbers should be in an order that will be convenient for the facility operator.

Table V.H.2. – Incinerator Permit Conditions, Monitoring and Automatic Waste Feed Cutoff Systems

[Use a table for each unit and fill in all columns with the appropriate information]

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
Operating Parameters						
Maximum Total Hazardous Waste Feed Rate <i>[Additional hazardous waste feed limits shall be added as determined necessary based upon feed mechanism and/or waste-specific needs]</i>		<i>[Volumetric Flow Meter³ or Mass Flow Meter as applicable to the feed mechanism]</i>	Feed System	lb/hr	Y	Y
Maximum Total Pumpable Hazardous Waste Mass Feed Rate <i>[Not applicable for Tier I or Tier I adjusted metals control limits]</i>		Volumetric Flow Meter ³ or Mass Flow Meter	Feed System	lb/hr		
Minimum Primary Combustion Chamber Temperature		Thermocouple <i>[or other device]</i>	Primary Chamber Exit	lb/hr		
Minimum Secondary Combustion Chamber Temperature		Thermocouple <i>[or other device]</i>	Secondary Chamber Exit	°F	Y	Y
Maximum Secondary and/or Primary Combustion Chamber Temperature [Include if using Tier II, III metals controls only]		Thermocouple <i>[or other device]</i>	Secondary Chamber Exit	°F	Y	Y
Maximum Flue Gas Temperature at PM Control Device Inlet [Tier II and Tier III Metals only as applicable]		Thermocouple <i>[or other device]</i>	At entrance to PM Control	°F	Y	Y
Maximum Combustion Gas Velocity Indicator <i>[If condition is something other than "maximum combustion gas velocity", write specific name of condition]</i>					Y	Y
Atomization parameters <i>[as necessary]</i>						[as appropriate]
Feed Rates: (Metals, Total Chlorine, and Ash)			Volumetric Flow Meter ³			

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
or Mass Flow Meter	Feed Systems	Limits Specified in Table _____ [Maximum Constituent Feed Rates]	N	N		
Secondary Combustion Zone Pressure [or other method for fugitives monitoring]				e.g., in. H ₂ O	[Yes, if neg. pressure is used to control fugitives.]	[Yes, if neg. pressure is used to control fugitives.]
Primary Combustion Zone Pressure [or other method for fugitives monitoring]				e.g., in. H ₂ O	[Yes, if neg. pressure is used to control fugitives.]	[Yes, if neg. pressure is used to control fugitives.]
CEMS Monitoring Parameters						
Stack Oxygen	Continuous	CEMS	Stack	No Limit (for correction to 7% O ₂)	N	N
Stack CO	Continuous HRA	CEMS	Stack	100 ppmv HRA, 7% O ₂ , dry basis	Y	Y
Stack THC [If specified in the permit]	Continuous HRA	CEMS	Stack	20 ppmv HRA, 7% O ₂ , dry basis	Y	Y
APCD Parameters						
Pressure drop across Baghouse [or fabric filter]				_____ in. W.C.		
[Wet Scrubbers:]						
Ionizing Wet Scrubber minimum voltage				_____ kilovolts (kV)		

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
Minimum liquid to flue gas ratio (L/G)				_____ gallons/1000 actual cubic feet (acf)		
Minimum scrubber blowdown				_____ gallons/min		
Minimum scrubber water pH				_____		
[Venturi Scrubbers:]						
Venturi scrubber minimum liquid to gas ratio (L/G)				_____ gallons/1000 actual cubic feet minute (acfm)		
Minimum differential gas pressure across venturi scrubber				_____ in. W.C.		
[Dry Scrubbers:]						
Minimum alkaline reagent <i>[insert name of reagent here, such as lime]</i> flow to the dry scrubber				_____ pounds per minute		
Maximum flue gas flow rate				_____ acfm		
[Absorbers:]						
Absorber minimum pH of incoming liquid				_____		
Absorber minimum liquid to gas ratio (L/G)				_____ gallons/1000 actual cubic feet (acf)		
Other Air Pollution Control Devices permit conditions as necessary						

¹Instantaneous as defined in 40 CFR 266.102(e)(6)(i)(A) shall mean a value which occurs at any time. A value shall be determined by the monitoring device no less than every 15 seconds.

Continuous monitor is one which continuously samples or measures the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

Hourly Rolling Average (HRA) as defined in 40 CFR 266.102(e)(6)(i)(B).

- For carcinogenic metals and lead feed rates: Instantaneous as defined above or, rolling average as defined in 40 CFR 266.102(e)(6)(ii).

2AWFCO: Automatic Waste Feed Cutoff. For AWFCOs indicated by "Y", the Permit Limit in the table triggers an AWFCO.

3The respective specific gravity and constituent concentration of each stream associated with a volumetric rate must be known to determine the mass feed rate.

Table V.H.3. – Maximum Constituent Feed Rates

[Multi-chamber Incinerators (e.g., rotary kilns) may need feed rate limits to each combustion chamber.] The total feed rate of constituents to the incinerator(s) shall not exceed the following limitations in grams per hour (g/hr) or tons per year (T/yr), as noted. The metals limitations have been evaluated through the risk assessment. The ash and chlorine limits are based upon testing or regulatory limits.

Constituent	Maximum Allowable Feed Rate In All Feedstreams Hourly Basis (g/hr)	Maximum Allowable Feed Rate In All Hazardous Waste Feedstreams Hourly Basis (g/hr) ¹	Maximum Allowable Feed Rate in All Pumpable Hazardous Waste Feedstreams Hourly Basis (g/hr) ¹	Maximum Allowable Feed Rate in All Feedstreams Annual Basis (T/yr)
Arsenic				
Beryllium				
Cadmium				
Total Chromium				
Antimony				
Barium				
Lead				
Mercury				
Silver				
Thallium				
(Others as Necessary)				
Total Chlorine		Not applicable	Not applicable	Not applicable
Ash to Secondary Combustion Chamber or Other Primary Chamber if Only Pumpable Waste is Fed		Not applicable	Not applicable	Not applicable

¹Not applicable for Tier I or Tier I adjusted metals feed rate screening limits.

[Hourly feed rate limits must comply with the requirements of 40 CFR 266.106 for carcinogenic metals and non-carcinogenic metals. As applicable, the feed rate limit for chromium may be specified as hexavalent and total chromium limits.]

Table V.H.4. – Maximum Allowable Emission Rates

[Use a table for each operating mode as applicable]

Carcinogenic Constituent (Compliance Tier)	Maximum Allowable Emission Rate ¹	Units ²
Arsenic (Tier____)		g/hr
Beryllium (Tier____)		g/hr
Cadmium (Tier____)		g/hr
Chromium, Total (Tier____)		g/hr
Non-Carcinogenic Constituent(Compliance Tier)	Maximum Allowable Emission Rate ¹	Units ²
Antimony (Tier____)		g/hr
Barium (Tier____)		g/hr
Lead (Tier____)		g/hr
Mercury (Tier____)		g/hr
Silver (Tier____)		g/hr
Thallium (Tier____)		g/hr
Hydrogen Chloride (Tier____)		g/hr
Free Chlorine (Tier____)		g/hr
Particulate Matter	0.08	Grains/dscf

¹ Not applicable for Tier I or Tier I adjusted feed rate screening limits.

²g/hr denotes grams per hour. Grains/dscf denotes grains per dry standard cubic foot (standard conditions: 760 mm

Hg, 68 °F) after correction to a stack gas concentration of 7% oxygen.

Note: Site-specific dispersion modeling factor x.xxx *[insert dispersion factor for Tier III as applicable]* micrograms per cubic meter per grams per second emission rate.

Table V.H.5. - Incinerator Permit Conditions, Monitoring and Automatic Waste Feed Cutoff Systems - Short-Term Operation

[Use this table for each new or modified Incinerator unit and fill in all columns with the appropriate information]

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Short-Term Operating Permit Limits			Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
				Pre-Trial Burn - Shakedown	Trial Burn	Post Trial Burn		
Operating Parameters								
Maximum Total Hazardous Waste Feed Rate <i>[Additional hazardous waste feed limits shall be added as determined necessary based upon feed mechanism and/or waste-specific needs]</i>		<i>[Volumetric Flow Meter³ or Mass Flow Meter as applicable to the feed mechanism]</i>	Feed System	lb/hr			Y	Y
Maximum Total Pumpable Hazardous Waste Mass Feed Rate <i>[Not applicable for Tier I or Tier I adjusted metals screening limits]</i>		Volumetric Flow Meter ³ or Mass Flow Meter	Feed System	lb/hr				
Minimum Primary Combustion Chamber Temperature		Thermocouple <i>[or other device]</i>	Primary Chamber Exit	°F			Y	N
Minimum Secondary Combustion Chamber Temperature		Thermocouple <i>[or other device]</i>	Secondary Chamber Exit	°F			Y	Y
Maximum Secondary and/or Primary Combustion Chamber Temperature <i>[Include if using Tier II/ III metals controls.]</i>		Thermocouple <i>[or other device]</i>	Secondary Chamber Exit	°F			Y	Y
Maximum Flue Gas Temperature at PM Control Device Inlet <i>[Tier II/III metals controls as applicable.]</i>		Thermocouple <i>[or other device]</i>	At entrance to PM Control Device	°F			Y	Y
Maximum Combustion Gas Velocity Indicator <i>[If condition is something other than "maximum combustion gas velocity", write specific name of condition]</i>							Y	Y

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Short-Term Operating Permit Limits			Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
				Pre-Trial Burn - Shakedown	Trial Burn	Post Trial Burn		
Atomization parameters <i>[as necessary]</i>								<i>[as appropriate]</i>
Feed Rates: (Metals, Total Chlorine, and Ash)		Volumetric Flow Meter ³ or Mass Flow Meter	Feed Systems	Limits Specified in Table _____			N	N
Secondary Combustion Zone Pressure <i>[or other method for fugitives monitoring]</i>				e.g., in. H ₂ O			<i>[Yes, if neg. pressure is used to control fugitives.]</i>	<i>[Yes, if neg. pressure is used to control fugitives.]</i>
Primary Combustion Zone Pressure <i>[or other method for fugitives monitoring]</i>				e.g., in. H ₂ O			<i>[Yes, if neg. pressure is used to control fugitives.]</i>	N
CEMS Monitoring Parameters								
Stack Oxygen	C	CEMS	Stack	No Limit (for correction to 7% O ₂)			N	N
Stack CO	C, HRA	CEMS	Stack	100 ppmv HRA, 7% O ₂ , dry basis			Y	Y
Stack THC <i>[If specified in the permit]</i>	C, HRA	CEMS		20 ppmv HRA, 7% O ₂ , dry basis			Y	Y
APCD Parameters								
Pressure drop across Baghouse <i>[or fabric filter]</i>				_____ in. W.C.				
[Wet Scrubbers:]								

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Short-Term Operating Permit Limits			Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
				Pre-Trial Burn - Shakedown	Trial Burn	Post Trial Burn		
Ionizing Wet				_____ kilovolts (kV)				
Scrubber minimum voltage								
Minimum liquid to flue gas ratio (L/G)				_____ gallons/1000 actual cubic feet (acf)				
Minimum scrubber blowdown				_____ gallons/min				
Minimum scrubber water pH				_____				
[Venturi Scrubbers:]								
Venturi scrubber minimum liquid to gas ratio (L/G)				_____ gallons/1000 actual cubic feet minute (acfm)				
Minimum differential gas pressure across venturi scrubber				_____ in. W.C.				
[Dry Scrubbers:]								
Minimum alkaline reagent [insert name of reagent here, such as lime] flow to the dry scrubber				_____ pounds per minute				
Maximum flue gas flow rate				_____ acfm				
[Absorbers:]								
Absorber minimum pH of incoming liquid				_____				

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Short-Term Operating Permit Limits			Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
				Pre-Trial Burn - Shakedown	Trial Burn	Post Trial Burn		
Absorber minimum liquid to gas ratio (L/G)				gallons/1000 actual cubic feet (acf)				
Other Air Pollution Control Devices permit conditions as necessary								

¹ **(I)** *Instantaneous* as defined in 40 CFR 266.102(e)(6)(i)(A) shall mean a value which occurs at any time. A value shall be determined by the monitoring device no less than every 15 seconds.

(C) *Continuous monitor* is one which continuously samples or measures the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(HRA) *Hourly Rolling Average* as defined in 40 CFR 266.102(e)(6)(ii).

For carcinogenic metals and lead feed rates: *Instantaneous* as defined above or, *Rolling average* as defined in 40 CFR 266.102(e)(6)(ii)

²**AWFCO:** *Automatic Waste Feed Cutoff*. For AWFCOs indicated by "Y", the Permit Limit in the table triggers an AWFCO.

³The respective specific gravity and constituent concentration of each stream associated with a volumetric rate must be known to determine the mass feed rate.

Table V.H.8 - Principal Organic Hazardous Constituents

List the wastes for which the trial burn demonstration will be made and the principal organic hazardous constituents (POHCs) in each waste.

Waste	Principal Organic Hazardous Constituents

Table V.I.1. - Boilers/Industrial Furnaces

Permit Unit No.	Boilers/Industrial Furnaces	N.O.R. No.	Waste Nos. ¹	Waste Physical Form (Pumpable or Non-pumpable)	Reactive, Incompatible, or F020, F021, F022, F023, F026, or F027 Waste

¹From the first column of Table IV.B.

* If the unit is already permitted, use the established "Permit Unit No." If the unit is not yet permitted, the number given here for the unit will become the "Permit Unit No." The numbers should be in an order that will be convenient for the facility operator.

Table V.I.2. - Boiler/Industrial Furnace Permit Conditions, Monitoring and Automatic Waste Feed Cutoff Systems

[Use a table for each unit and fill in all columns with the appropriate information]

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	AWFCO Y/N ²
Operating Parameters					
Maximum Total Hazardous Waste Feed Rate <i>[Additional hazardous waste feed limits shall be added as determined necessary based upon feed mechanism and/or waste-specific needs]</i>		<i>[Volumetric Flow Meter³ or Mass Flow Meter as applicable to the feed mechanism]</i>	Feed System	lb/hr	Y
Maximum Total Pumpable Hazardous Waste Mass Feed Rate <i>[Not applicable for Tier I or Tier I adjusted metals control limits]</i>		Volumetric Flow Meter ³ or Mass Flow Meter	Feed System	lb/hr	
Minimum Primary Combustion Chamber Temperature		Thermocouple <i>[or other device]</i>	Primary Chamber Exit	°F	Y
Minimum Secondary Combustion Chamber Temperature		Thermocouple <i>[or other device]</i>	Secondary Chamber Exit	°F	Y
Maximum Secondary and/or Primary Combustion Chamber Temperature <i>[Include if using Tier II, III metals controls only]</i>		Thermocouple <i>[or other device]</i>	Secondary Chamber Exit	°F	Y
Maximum Flue Gas Temperature at PM Control Device Inlet <i>[Tier II and Tier III Metals only as applicable]</i>		Thermocouple <i>[or other device]</i>	At entrance to PM Control Device	°F	Y
Maximum Combustion Gas Velocity Indicator <i>[If condition is something other than "maximum combustion gas velocity", write specific name of condition]</i>					Y
Atomization parameters <i>[as necessary]</i>					
Feed Rates: (Metals, Total Chlorine, and Ash)		Volumetric Flow Meter ³			
or Mass Flow Meter	Feed Systems	Limits Specified in Table _____ <i>[Maximum Constituent Feed Rates]</i>	N	N	

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	AWFCO Y/N ²
Secondary Combustion Zone Pressure <i>[or other method for fugitives monitoring]</i>				e.g., in. H ₂ O	<i>[Yes, if neg. pressure is used to control fugitives.]</i>
Primary Combustion Zone Pressure <i>[or other method for fugitives monitoring]</i>				e.g., in. H ₂ O	<i>[Yes, if neg. pressure is used to control fugitives.]</i>
CEMS Monitoring Parameters					
Stack Oxygen	Continuous	CEMS	Stack	No Limit (for correction to 7% O ₂)	N
Stack CO	Continuous HRA	CEMS	Stack	100 ppmv HRA, 7% O ₂ , dry basis	Y
Stack THC <i>[If specified in the permit]</i>	Continuous HRA	CEMS	Stack	20 ppmv HRA, 7% O ₂ , dry basis	Y
APCD Parameters					
Pressure drop across Baghouse <i>[or fabric filter]</i>				_____ in. W.C.	
[Wet Scrubbers:]					
Ionizing Wet Scrubber minimum voltage				_____ kilovolts (kV)	
Minimum liquid to flue gas ratio (L/G)				_____ gallons/1000 actual cubic feet (acf)	
Minimum scrubber blowdown				_____ gallons/min	
Minimum scrubber water pH				_____	
[Venturi Scrubbers:]					

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Permit Limit	AWFCO Y/N ²
Venturi scrubber minimum liquid to gas ratio (L/G)				_____ gallons/1000 actual cubic feet minute (acfm)	
Minimum differential gas pressure across venturi scrubber				_____ in. W.C.	
[Dry Scrubbers:]					
Minimum alkaline reagent <i>[insert name of reagent here, such as lime]</i> flow to the dry scrubber				_____ pounds per minute	
Maximum flue gas flow rate				_____ acfm	
[Absorbers:]					
Absorber minimum pH of incoming liquid				_____	
Absorber minimum liquid to gas ratio (L/G)				_____ gallons/1000 actual cubic feet (acf)	
Other Air Pollution Control Devices permit conditions as necessary				_____ gallons/1000 actual cubic feet (acf)	

¹ *Instantaneous* as defined in 40 CFR 266.102(e)(6)(i)(A) shall mean a value which occurs at any time. A value shall be determined by the monitoring device no less than every 15 seconds.

Continuous monitor is one which continuously samples or measures the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

Hourly Rolling Average as defined in 40 CFR 266.102(e)(6)(ii).

For carcinogenic metals and lead feed rates: *Instantaneous* as defined above or, *Rolling average* as defined in 40 CFR 266.102(e)(6)(ii)

²AWFCO: *Automatic Waste Feed Cutoff*. For AWFCOs indicated by "Y", the Permit Limit in the table triggers an AWFCO.

³The respective specific gravity and constituent concentration of each stream associated with a volumetric rate must be known to determine the mass feed rate.

Table V.I.3 - Maximum Constituent Feed Rates

The total feed rate of constituents to the boiler/industrial furnace(s) shall not exceed the following limitations in grams per hour (g/hr) or tons per year (T/yr), as noted. The metals limitations have been evaluated through risk assessment. The ash and chlorine limits are based upon testing or regulatory limits.

Constituent	Maximum Allowable Feed Rate In All Feedstreams Hourly Basis (g/hr)	Maximum Allowable Feed Rate In All Hazardous Waste Feedstreams Hourly Basis (g/hr) ¹	Maximum Allowable Feed Rate in All Pumpable Hazardous Waste Feedstreams Hourly Basis (g/hr) ¹	Maximum Allowable Feed Rate in All Feedstreams Annual Basis (T/yr)
Arsenic				
Beryllium				
Cadmium				
Total Chromium				
Antimony				
Barium				
Lead				
Mercury				
Silver				
Thallium				
(Others as Necessary)				
Total Chlorine		Not applicable	Not applicable	Not applicable
Ash		Not applicable	Not applicable	Not applicable

¹Not applicable for Tier I or Tier I adjusted metals feed rate screening limits.

[Hourly feed rate limits must comply with the requirements of 40 CFR 266.106 for carcinogenic metals and non-carcinogenic metals. As applicable, the feed rate limit for chromium may be specified as hexavalent and total chromium limits.]

Table V.I.4. - Maximum Allowable Emission Rates

[Applicant to use a table for each operating mode as applicable and for each unit]

Carcinogenic Constituent (Compliance Tier)	Maximum Allowable Emission Rate ¹	Units ²
Arsenic (Tier____)		g/hr
Beryllium (Tier____)		g/hr
Cadmium (Tier____)		g/hr
Chromium, Total (Tier____)		g/hr
Non-Carcinogenic Constituent(Compliance Tier)	Maximum Allowable Emission Rate ¹	Units ²
Antimony (Tier____)		g/hr
Barium (Tier____)		g/hr
Lead (Tier____)		g/hr
Mercury (Tier____)		g/hr
Silver (Tier____)		g/hr
Thallium (Tier____)		g/hr
Hydrogen Chloride (Tier____)		g/hr
Free Chlorine (Tier____)		g/hr
Particulate Matter	0.08	Grains/dscf

¹ Not applicable for Tier I or Tier I adjusted feed rate screening limits.

² g/hr denotes grams per hour. *Grains/dscf* denotes grains per dry standard cubic foot (standard conditions: 760 mm Hg, 68 °F) after correction to a stack gas concentration of 7% oxygen.

Note: Site-specific dispersion modeling factor 'x.xxx *[insert dispersion factor for Tier III as applicable]* micrograms per cubic meter per grams per second emission rate.

Table V.I.5 - Boiler/Industrial Furnace Permit Conditions, Monitoring and Automatic Waste Feed Cutoff Systems - Short-Term Operation

[Use this table for each new or modified Boiler/Industrial Furnace unit and fill in all columns with the appropriate information]

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Short-Term Operating Permit Limits			Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
				Pre-Trial Burn - Shakedown	Trial Burn	Post Trial Burn		
Operating Parameters								
Maximum Total Hazardous Waste Feed Rate <i>[Additional hazardous waste feed limits shall be added as determined necessary based upon feed mechanism and/or waste-specific needs]</i>		<i>[Volumetric Flow Meter³ or Mass Flow Meter as applicable to the feed mechanism]</i>	Feed System	lb/hr			Y	Y
Maximum Total Pumpable Hazardous Waste Mass Feed Rate <i>[Not applicable for Tier I or Tier I adjusted metals screening limits]</i>		Volumetric Flow Meter ³ or Mass Flow Meter	Feed System	lb/hr				
Minimum Primary Combustion Chamber Temperature		Thermocouple <i>[or other device]</i>	Primary Chamber Exit	°F			Y	N
Minimum Secondary Combustion Chamber Temperature		Thermocouple <i>[or other device]</i>	Secondary Chamber Exit	°F			Y	Y
Maximum Secondary and/or Primary Combustion Chamber Temperature <i>[Include if using Tier II/ III metals controls.]</i>		Thermocouple <i>[or other device]</i>	Secondary Chamber Exit	°F			Y	Y
Maximum Flue Gas Temperature at PM Control Device Inlet <i>[Tier II/III metals controls as applicable.]</i>		Thermocouple <i>[or other device]</i>	At entrance to PM Control Device	°F			Y	Y
Maximum Combustion Gas Velocity Indicator <i>[If condition is something other than "maximum combustion gas velocity", write specific name of condition]</i>							Y	Y

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Short-Term Operating Permit Limits			Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
				Pre-Trial Burn - Shakedown	Trial Burn	Post Trial Burn		
Atomization parameters <i>[as necessary]</i>								<i>[as appropriate]</i>
Feed Rates: (Metals, Total Chlorine, and Ash)		Volumetric Flow Meter ³ or Mass Flow Meter	Feed Systems	Limits Specified in Table _____			N	N
Secondary Combustion Zone Pressure <i>[or other method for fugitives monitoring]</i>				e.g., in. H ₂ O			<i>[Yes, if neg. pressure is used to control fugitives.]</i>	<i>[Yes, if neg. pressure is used to control fugitives.]</i>
Primary Combustion Zone Pressure <i>[or other method for fugitives monitoring]</i>				e.g., in. H ₂ O			<i>[Yes, if neg. pressure is used to control fugitives.]</i>	N
CEMS Monitoring Parameters								
Stack Oxygen	C	CEMS	Stack	No Limit (for correction to 7% O ₂)			N	N
Stack CO	C, HRA	CEMS	Stack	100 ppmv HRA, 7% O ₂ , dry basis			Y	Y
Stack THC <i>[If specified in the permit]</i>	C, HRA	CEMS		20 ppmv HRA, 7% O ₂ , dry basis			Y	Y
APCD PARAMETERS								
Pressure drop across Baghouse <i>[or fabric filter]</i>				_____ in. W.C.				
[Wet Scrubbers:]								

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Short-Term Operating Permit Limits			Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
				Pre-Trial Burn - Shakedown	Trial Burn	Post Trial Burn		
Ionizing Wet				_____ kilovolts (kV)				
Scrubber minimum voltage								
Minimum liquid to flue gas ratio (L/G)				_____ gallons/1000 actual cubic feet (acf)				
Minimum scrubber blowdown				_____ gallons/min				
Minimum scrubber water pH				_____				
[Venturi Scrubbers:]								
Venturi scrubber minimum liquid to gas ratio (L/G)				_____ gallons/1000 actual cubic feet minute (acfm)				
Minimum differential gas pressure across venturi scrubber				_____ in. W.C.				
[Dry Scrubbers:]								
Minimum alkaline reagent [insert name of reagent here, such as lime] flow to the dry scrubber				_____ pounds per minute				
Maximum flue gas flow rate				_____ acfm				
[Absorbers:]								
Absorber minimum pH of incoming liquid				_____				

Parameter	Monitoring Basis ¹	Monitoring Device	Device Location	Short-Term Operating Permit Limits			Primary Combustion Chamber AWFCO Y/N ²	Secondary Combustion Chamber AWFCO Y/N ²
				Pre-Trial Burn - Shakedown	Trial Burn	Post Trial Burn		
Absorber minimum liquid to gas ratio (L/G)				gallons/1000 actual cubic feet (acf)				
Other Air Pollution Control Devices permit conditions as necessary								

1 **(I) Instantaneous** as defined in 40 CFR 266.102(e)(6)(i)(A) shall mean a value which occurs at any time. A value shall be determined by the monitoring device no less than every 15 seconds.

(C) Continuous monitor is one which continuously samples or measures the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(HRA) Hourly Rolling Average as defined in 40 CFR 266.102(e)(6)(i)(B).

- For carcinogenic metals and lead feed rates: *Instantaneous* as defined above or, *Rolling average* as defined in 40 CFR 266.102(e)(6)(ii).

2 **AWFCO: Automatic Waste Feed Cutoff.** For AWFCOs indicated by "Y", the Permit Limit in the table triggers an AWFCO. During the Trial Burn phase, AWFCOs will be as necessary to ensure protection of human health and the environment.

3 The respective specific gravity and constituent concentration of each stream associated with a volumetric rate must be known to determine the mass feed rate

Table V.I.8. - Principal Organic Hazardous Constituents

List the wastes for which the trial burn demonstration will be made and the principal organic hazardous constituents in each waste.

Waste	Principal Organic Hazardous Constituents

Table V.J.1. - Drip Pads

Permit Unit No.*	Drip Pad	N.O.R. No.	Storage and/or Processing	Waste Nos. ¹	Overall Dimensions	Collection System Volume

¹from Table IV.B, first column

* If the unit is already permitted, use the established "Permit Unit No." If the unit is not yet permitted, the number given here for the unit will become the "Permit Unit No." The numbers should be in an order that will be convenient for the facility operator.

Table V.J.2 - Drip Pad Synthetic Liner System

Drip Pad	Synthetic Liner			Leakage Detection System			Leak Collection System		
	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness

Table V.K. - Miscellaneous Units

Permit Unit No.*	Miscellaneous Unit	N.O.R. No.	Storage, Processing, and/or Disposal	Waste Nos. ¹	Rated Capacity	Dimensions	Unit will manage Ignitable, Reactive, or Incompatible Waste (state all that apply)
Proposed (003)	North CAMU (monofill with 15 cells)	012	Disposal	1-3	~190,000 cubic yards (~12,000 cubic yards/cell)	Length: 660 feet Width: 550 feet Depth: 17 feet Total area: 8.25 acres	No ignitable, reactive, incompatible, or F020, F021, F022, F023, F026, or F027 wastes will be disposed of at the North CAMU.
Proposed (004)	RCA (monofill)	Proposed	Disposal	3,4,5,6,8, 10	82,000 cy	Length: 1,375 ft Width: 700 ft Depth (height): approx. 0-17ft Area: 17.67 ac	No ignitable, reactive, incompatible, or F020, F021, F022, F023, F026, or F027 wastes will be disposed of at the RCA.

¹from Table IV.B, first column

*If the unit is already permitted, use the established "Permit Unit No." If the unit is not yet permitted, the number given here for the unit will become the "Permit Unit No." The numbers should be in an order that will be convenient for the facility operator.

Table V.L. - Containment Buildings

Permit Unit No.*	Containment Building	N.O.R. No.	Storage and/or Processing	Waste Nos. ¹	Rated Capacity	Overall Dimensions
0001	Raw Material Storage Building (also referred to as the Containment Building)	005	N/A – wastes no longer stored in this area and the building has been demolished	N/A – wastes no longer stored in this area and the building has been demolished	N/A – wastes no longer stored in this area and the building has been demolished	N/A – wastes no longer stored in this area and the building has been demolished

¹ from Table IV.B, first column

*If the unit is already permitted, use the established "Permit Unit No." If the unit is not yet permitted, the number given here for the unit will become the "Permit Unit No." The numbers should be in an order that will be convenient for the facility operator.

VI. Geology Report

This portion of the application applies to owners or operators of new hazardous waste management facilities; areal and/or capacity expansions of existing hazardous waste management facilities; and existing industrial solid waste facilities that store, process or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles (except those waste piles that meet the requirements of Section V.E.10.b. of this application), and tanks or drip pads which require a contingent post-closure plan.

For a new Compliance Plan or modification/amendment to an existing Compliance Plan of Section XI of this application, submit a Geology Report which contains updated site geologic information derived from on-going investigations since submittal of the last Permit modification/amendment application.

Submit a Geology Report which includes at a minimum the following information. This report and all specifications, details, calculations/estimates and each original sheet of plans, drawings, maps, cross-sections, other graphics, such as limits of contamination maps, etc. or any other geoscientific work must be signed and sealed by a Professional Geoscientist licensed in the State of Texas under the Professional Geoscientists Practice Act.

A. Geology and Topography

1. Active Geologic Processes

Provide a description and interpretation of the active geologic processes in the vicinity of the facility. This description should include:

- a. An identification of any faults (active or otherwise) in the area of the facility. The preparer should determine which Holocene sediments or man-made structures have been displaced. The report should contain a description of the investigation techniques used to identify faults and should assess the degree, if any, to which a particular fault increases the long-term potential for waste migration. The clearance required from active faults to ensure that liner systems will not be disrupted will be based upon site specific factors such as the zone of significant surface deformation, uncertainty in locating the fault, activity of the fault, and a distance to provide a reasonable margin of safety. These issues should be addressed when discussing the offset of an industrial solid waste facility unit from an active fault.

To satisfy the requirements of 30 TAC 305.50(a)(4)(D) and 305.50(a)(10)(E), for a proposed hazardous waste management facility or a modification or amendment of a permit which includes a capacity expansion of an existing hazardous waste management facility, submit the following.

- (1) A geologic literature review should be conducted, from which useful information on the possibility of faulting at a given site may be revealed. This includes, but is not limited to, maps of surface faults, subsurface structure, and field investigations by the author(s).
- (2) Descriptions and maps of faulting, fracturing, and lineations in the area are necessary. An aerial photo with lineation interpretations is suggested.
- (3) The maps and cross-sections are to be constructed using an amount of data necessary to adequately describe the geology of the

area. Surface data, including data regarding known surface expressions, such as surface faults, gas seeps, lineations, etc., should be accounted for in the subsurface interpretations. A surface structure map should be prepared, incorporating all of the subsurface data as well as known surface features.

- (4) A minimum of two structural cross-sections, utilizing available oil field and/or water well electric log data, shall be made perpendicular to each other, crossing at the proposed surface unit location. These cross-sections should define geologic units, indicating especially Holocene sediments and Underground Sources of Drinking Water (USDWs), as well as lithology. The cross-sections should be constructed from the surface, down through the shallowest major structure or the base of the Holocene, whichever is deeper. These cross-sections need to be on a scale necessary to depict the local geology (3000' radius from the site location minimum). If needed to adequately describe the local geology, then a larger radius or deeper area of review may be necessary.
 - (5) A minimum of two structural subsurface maps need to be prepared. One map should be made on the shallowest mappable subsurface marker, the other on a deeper horizon that shows the underlying major structure. Additional maps may be necessary.
 - (6) Field surveillance will be necessary to check the area of the facility for surface features, such as lineations, and to investigate potential surface faults as indicated by, but not limited to, aerial photos, topographic maps, and seismic and subsurface structural maps.
 - (7) The above requirements do not limit the use of any additional information, such as seismic data, isopach maps, or potentiometric maps, that may help in defining the geology of the area of review.
 - (8) If faulting exists within 3000 feet of the surface unit, it must be demonstrated that the fault has not had displacement within Holocene time. If such a fault does exist, it cannot pass within 200 feet of the surface unit.
 - (9) If a fault that has been active within the Holocene is located within 3000 feet of the surface unit, it must be demonstrated that, a.) the fault is not transmissive, i.e., it will not provide for groundwater movement that would result in endangerment to human health or the environment, and b.) there is no actual and/or potential problem of subsidence, which could endanger the stability of the surface unit.
- b. A discussion of the extent of land surface subsidence in the vicinity of the facility including total recorded subsidence and past and projected rates of subsidence. For facilities located at low elevations along the coast which have experienced appreciable rates of subsidence, the potential for future submergence beneath Gulf water should be addressed.
 - c. A discussion of the degree to which the facility is subject to erosion. The potential for erosion due to surface water processes such as overland flow, channeling, gulying, and fluvial processes such as meandering streams and undercut banks should be evaluated. If the facility is located in a low-lying coastal area, historical rates of shoreline erosion should also be provided.

d. Complete Table VI.A.1. – Major Geologic Formations.

The Geology Report for the FOP has been submitted with this Part B permit renewal application as Attachment G. The Geology Report includes the required submittal listed above and a completed copy of Table VI.A.1.

2. Regional Physiography and Topography (applicable only to owners or operators of facilities that store, process, or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles, except waste piles exempt from groundwater monitoring requirements, and tanks which require a contingent post-closure plan)

- a. Distance and direction to nearest surface water body
- b. Slope of land surface
- c. Direction of slope
- d. Maximum elevation of facility
- e. Minimum elevation of facility

The Geology Report for the FOP has been submitted with this Part B permit renewal application as Attachment G. The Geology Report includes the required submittal listed above.

3. Regional Geology (applicable only to owners or operators of facilities that store, process, or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles, except waste piles exempt from groundwater monitoring requirements, and tanks which require a contingent post-closure plan)

Provide a description of the regional geology of the area. This section should include:

- a. A geologic map of the region with text describing the stratigraphic and lithologic properties of the map units. An appropriate section of a published map series such as the Geologic Atlas of Texas prepared by the Bureau of Economic Geology is acceptable.
- b. A description of the generalized stratigraphic column in the facility area from the base of the lowermost aquifer capable of providing usable groundwater to the land surface. At least the uppermost 1,000 feet of section below the facility should be described. The geologic age, lithology, variation in lithology, thickness, depth, geometry, hydraulic conductivity, and depositional history of each geologic unit should be described based upon available geologic information. Regional stratigraphic cross sections should be provided, where available.

The Geology Report for the FOP has been submitted with this Part B permit renewal application as Attachment G. The Geology Report includes the required submittal listed above.

4. Subsurface Soils Investigation Report

This section should contain the results of an investigation of subsurface conditions for each land based unit and/or unit which requires contingent closure and post-closure care. If several units are in close proximity, a single investigation for the area will suffice. This report should include:

- a. The logs of borings performed at the waste management area. All borings must be conducted in accordance with established field exploration methods.

Investigation procedures should be discussed in the report. A sufficient number of borings should be performed to establish subsurface stratigraphy and to identify and allow assessment of potential pathways for pollution migration. Borings must be sufficiently deep to allow identification of the uppermost aquifer and underlying hydraulically interconnected aquifers. Borings should penetrate through the uppermost aquifer and all deeper hydraulically interconnected aquifers, deep enough to identify the aquiclude at the lower boundary. Borings should be completed to a depth at least 30 feet below the deepest excavation planned at the waste management area. The required number of borings will increase or decrease depending on the heterogeneity of subsurface materials. Locations with stratigraphic complexities such as non-uniform beds which pinch out, vary significantly in thickness, coalesce, or grade into other units, will require a significantly greater degree of subsurface investigation than areas with simple hydrogeologic frameworks. Boring logs should include a detailed description of materials encountered including any discontinuities such as fractures, fissures, slickensides, lenses or seams. Whenever possible, electric logs should be run on each borehole. The hollow stem auger boring method is recommended in those instances where an accurate determination of initial water levels is important. A key explaining both the symbols used on the boring logs and the classification terminology for soil type, consistency, and structure should be provided.

- b. Cross-sectional drawings prepared from the borings depicting the generalized soil strata profile at the site. For small waste management areas two cross sections prepared perpendicular to each other will normally suffice.
- c. A text which describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation. If appropriate, soils may be assigned to generalized strata to aid in the discussion.
- d. Complete Table VI.A.4. - Waste Management Area Subsurface Conditions and provide in the report data which describes the geotechnical properties of the subsurface soil materials. All laboratory and field tests must be performed in accordance with recognized procedures. A brief discussion of test procedures should be included. All major strata encountered during the field investigation phase should be characterized with regard to: Unified Soil Classification, moisture content, percent less than number 200 sieve, Atterberg limits (liquid limit, plastic limit, and plasticity index), and coefficient of permeability. Field permeability tests should be used to determine the coefficient of permeability of sand or silt units and should also be used to supplement laboratory tests for more clay-rich soils. In addition, particle size distribution and relative density based upon penetration resistance should be determined for coarse-grained soils. For fine-grained soils the following parameters should also be determined: cohesive shear strength based upon either penetrometer or unconfined compression tests, dry unit weight, and degree of saturation(s). For the major soil strata encountered, the maximum, minimum, and average for each of these variables should be compiled.
- e. For land treatment units, provide a description of the surficial soils at the site which includes:
 - (1) The name and description of the soil series at the site;
 - (2) Important physical properties of the series such as depth,

- permeability, available water capacity, soil pH, and erosion factors;
- (3) Engineering properties and classifications such as USDA texture, Unified Soil Classification, size gradation, and Atterberg limits (liquid limit, plastic limit, and plasticity index); and
 - (4) The cation exchange capacity (CEC) of the soil(s) expressed in units of meq/100g.

Much of this information may be obtained by consulting the county soil survey published by the United States Department of Agriculture, Soil Conservation Service. If available, a copy of an aerial photograph showing soil series units on the land treatment area should be provided.

If an aerial photograph is not available, include a soil series map as an attachment to this subsurface soils investigation report.

The Geology Report for the FOP has been submitted with this Part B permit renewal application as Attachment G. The Geology Report includes the required submittal listed above and a completed copy of Table VI.A.4.

B. Facility Groundwater

If past monitoring has shown the presence of hazardous constituents in the groundwater, the owner or operator must submit a Compliance Plan Application with this application. The Compliance Plan Application and instructions can be found in Section XI of this application form.

1. Regional Aquifers

Provide a description of the regional aquifers in the vicinity of the facility based upon available geologic references. The section should provide:

- a. Aquifer names and their association with geologic units described in Section VI.A.3.b.;
- b. A description of the constituent materials of the aquifer(s);
- c. A description of the water-bearing and transmitting properties of the aquifer(s);
- d. Whether the aquifers are under water table or artesian conditions;
- e. Whether the aquifers are hydraulically connected;
- f. A regional water table contour map or potentiometric surface map for each aquifer, if available, from published references;
- g. An estimate of the rate of groundwater flow in units of ft/yr;
- h. Values for total dissolved solids content of groundwater from the aquifers;
- i. Identification of areas of recharge to the aquifers; and

Note: An application for a new hazardous waste surface impoundment, waste pile, land treatment unit, or landfill, which is to be located in the apparent recharge zone of a major or minor aquifer, as designated by the Texas Water Development Board, must include a hydrogeologic report documenting the potential effects, if any, on the regional aquifer in the event of a release from the waste containment system. See the publication entitled *Water for Texas, Today and Tomorrow* (1990) or subsequent revision (Available at <http://www.twdb.texas.gov/waterplanning/swp/1990/index.asp>) for more information [30 TAC 305.50(6)]

- j. The present use of groundwater withdrawn from aquifers in the vicinity of the facility.

The preparer should update Section III.C.1.e. of the Part A permit application to ensure that all water wells within 1 mile of the property boundaries of the facility have been located. The aquifer(s) yielding water should be identified for each well.

The Geology Report for the FOP has been submitted with this Part B permit renewal application as Attachment G. The Geology Report includes the required submittal listed above. A water well survey is included as Attachment G to the Part A permit renewal application for the FOP.

- 2. Provide groundwater conditions for each land based unit or unit which requires post closure care which includes all the information specified in 30 TAC 335.156-335.167. This discussion should also include:
 - a. Records of water level measurements in borings. The boring logs prepared in response to Section VI.A.4.a. should be annotated to note the level at which groundwater is first encountered and the level of groundwater after equilibration. Normally a 24-hour period is adequate for equilibration of groundwater but an extended period may be required for saturated clay deposits. This information should also be presented on the cross-sections required in Section VI.A.4.b. and recorded and retained in the facility groundwater monitoring record.
 - b. Records of historical maximum and minimum static water level measurements in monitor wells. Historic water level measurements made during any previous groundwater monitoring should be presented in a table for each well.
 - c. Upper and lower limits of the uppermost aquifer and deeper aquifers which are hydraulically interconnected to it beneath the facility boundary. In most cases this identification would include surface contour maps of the top and bottom surfaces. Indicate the typical depth at which groundwater is first encountered.
 - d. A site specific water table contour map or potentiometric surface map for the uppermost aquifer, and the basis for such identification (the information obtained from hydrogeologic investigations of the facility area). The predicted groundwater flow direction and rate should be indicated.
 - e. A discussion of the variation of hydraulic gradient across the site, including vertical gradient. Calculations for the maximum, minimum, and average groundwater flow velocities for each aquifer identified should also be provided, including pump test data where appropriate.
 - f. An analysis of the most likely pathway(s) for pollutant migration in the event that the primary barrier liner system is penetrated.

The Geology Report for the FOP has been submitted with this Part B permit renewal application as Attachment G. The Geology Report includes the required submittal listed above.

- 3. Description of the Detection Monitoring Program

The groundwater monitoring standards apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in surface impoundments, waste piles, land treatment units, landfills, or tanks without

satisfactory secondary containment for which a post-closure care plan or permit is required. If a waste management unit meets certain standards it may qualify for an exemption to the groundwater monitoring requirements. An exemption for a unit does not exempt an entire facility. (See the instructions for each type of unit for a specific exemption.) A facility-wide exemption is described in Section VI.C.

It is important to note that even if the proposed program may use the same well system as the present program, the sampling parameters may be different.

- a. Include in the design report a description of the proposed detection monitoring program. This description should contain all requirements of 30 TAC 335.163-335.164.
- b. Provide a justification for the selected suite of waste specific parameters specified in Table VI.B.3.c. - Groundwater Sample Analysis based on toxicity, mobility, persistence, and concentrations in light and dense non-aqueous phase components of the waste.
- c. (Sampling and Analysis Plan) Describe the proposed sampling and analysis methods, as well as statistical comparison procedures to be utilized in evaluating groundwater monitoring data. Note: Methods listed for use in groundwater programs may provide flexibility allowing for updates of the base method. For methods other than the standard acceptable methods, applicant must provide a demonstration that the proposed methods are appropriate for groundwater analysis per 30 TAC 335.163(5).
- d. Specify the statistical method and process for determining whether constituent concentrations in groundwater are above background, in accordance with 30 TAC 335.163. Refer to the EPA guidance document entitled Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities – Unified Guidance (March 2009) (document # EPA 530-F-09-020) for recommended methods.

All data submitted to the TCEQ shall be in a manner consistent with the latest version of the *"Quality Assurance Project Plan for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation Recovery Act and Underground Injection Control"* (TCEQ QAPP) which can be found on the agency's website.

Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity. The method used to obtain a representative sample of the material to be analyzed shall be the appropriate method from **Ground Water, Volume II: Methodology**, (document # EPA/625/6-90/016b) or an equivalent method approved by the Executive Director of the TCEQ. Laboratory methods shall be those specified in **Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846**, 1987, as revised; **Standard Methods for the Examination of Water and Wastewater, Fifteenth Edition**, 1980, and 1981 supplement, or current adopted edition; **RCRA Ground-Water Monitoring: Draft Technical Guidance**, 1992, **OSWER Directive 9950.1**, or an equivalent method approved in writing prior to use by the Executive Director. [30 TAC Section 305.125(11)(A)]

- e. For inclusion into a permit, complete Table VI.B.3.b. - Unit Groundwater Detection Monitoring System to specify the proposed well system for each

- unit or waste management area which requires groundwater monitoring.
- f. For inclusion into a permit, complete Table VI.B.3.c to specify:
- (1) the suite of waste specific parameters (indicator parameters, waste constituents, or reaction products) which will be analyzed at each sampling event for each well or group of wells. These parameters must provide a reliable indication of the presence of hazardous constituents in the groundwater;
 - (2) the sampling frequencies and calendar intervals (e.g., monthly; quarterly within the second 30 days of each quarter; semiannually within the first 30 days of the 2nd and 4th quarters, etc.);
 - (3) the analytical method and the laboratory predicted detection limit and predicted Practical Quantification Limit (PQL) of the sample preparation and analysis methods for the selected parameters. This detection limit will represent the capability of the sampling and analysis to reliably and accurately determine the presence of the selected parameters in the sample; and
 - (4) the concentration limit which will be the basis for determining whether a release has occurred from the waste management unit/area. Concentration limits shall be based on background values for the waste management unit/area, or PQL values developed through laboratory data obtained using practices consistent with the latest version of the TCEQ QAPP. If background values are lower than PQLs, the applicant may choose respective PQLs as concentration limits for hazardous constituents.
- g. Submit drawings depicting the monitoring well design, current and proposed.
- h. Submit at least one map of the entire facility and additional maps or drawings if necessary on one or more 8.5" x 11" sheets of sufficient scale to show the following in adequate detail:
- (1) Monitoring well locations, current and proposed;
 - (2) Soil-pore liquid and core sampling points, current and proposed;
 - (3) Waste management unit(s)/area;
 - (4) Property boundary;
 - (5) Point of compliance;
 - (6) Direction of groundwater flow; and
 - (7) Extent of any known plume of contamination
- i. For the description of site-specific groundwater for inclusion in permit summary documents, please complete the following brief description:
- Groundwater is typically encountered approximately [###] feet below grade ([###] feet *[above/below]* Mean Sea Level) in the uppermost aquifer. The uppermost aquifer is part of the *[Name]* Formation and consists of *[brief lithological description]* ranging in thickness from *[### to ###]* feet. Groundwater flow is generally toward the *[north/east/south/west]*.
- The Geology Report for the FOP has been submitted with this Part B permit renewal application as Attachment G. The Geology Report includes the required submittal listed above. Groundwater monitoring plans for the North CAMU and FOP are included as Attachments K and L, respectively.**

C. Exemption from Groundwater Monitoring for an Entire Facility

In accordance with 30 TAC 335.156(b)(4), a waste management facility may be exempt from groundwater monitoring if the owner or operator can demonstrate that there is no potential for migration of liquid from any regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and post-closure care period. This demonstration must be submitted with the permit application, and must be certified by a qualified geologist or geotechnical engineer.

This exemption does not apply to Unsaturated Zone Monitoring. Owners and operators of Land Treatment Units must monitor the unsaturated zone under all circumstances.

The following areas should be addressed in the demonstration, and any predictions must be made on assumptions that maximize the rate of liquid migration:

1. Thickness of soil between the base of the unit and saturated zone;
2. Thickness of saturated zone;
3. Head pressure of the fluids;
4. Properties of the saturated and unsaturated zone (including permeability, effective porosity, and homogeneity), and
5. Total life of facility

The criteria used for the evaluation of this demonstration are more stringent than those used for evaluations of demonstrations submitted prior to permitting. Thus it is necessary for an owner or operator to submit another demonstration even if one was submitted and approved previously.

This type of exemption differs from the exemptions described in Sections V.D. (Surface Impoundments), V.E. (Waste Piles), and V.G. (Landfills). An owner or operator may pursue a facility-wide exemption as well as an exemption for a particular unit, if the owner or operator wishes.

Exide does not request an exemption from groundwater monitoring at the FOP.

D. Unsaturated Zone Monitoring

This section applies only to facilities which contain land treatment units. Attach any previous monitoring data to the monitoring report. Provide any additional information necessary to demonstrate compliance with 40 CFR 264.278.

1. List all hazardous constituents that have been or will be monitored.
 - a. Current parameters.
 - b. Proposed parameters.
2. Number of soil-pore liquid sampling points.
 - c. Depth of sampling points.
 - d. Equipment used for soil pore liquid monitoring.
3. Number of soil core sampling points.
 - e. Depth of soil core sampling points.
 - f. Indicate on a facility map locations of all sampling points.

The FOP does not contain a land treatment unit.

Table VI.A.1. – Major Geologic Formations

Names Of Major Geologic Formation(s) Beneath The Facility	Lithology Of The Major Geologic Formation	Formation Thickness (Feet)	Depth To Top Of Formation	
			Feet/MSL ⁽¹⁾	Feet/BGS ⁽²⁾
See Table VI.A.1 in Attachment G.				

(1) *MSL*: Mean Sea Level
MLGL: Mean Low-tide Gulf Level
(2) *BGS*: Below Grade Surface

Table VI.A.4 – Waste Management Area Subsurface Conditions

Boring Number	Depth Below Grade	Stratum	USC Symbol	Liquid Limit*	Plasticity Index*	Percent Passing #200 Sieve*	Permeability*	Percent Porosity*
See Table VI.A.4 in Attachment G.								

Maximum depth: feet below grade
 feet above MSL

*For the major soil strata encountered, record the minimum, maximum, and average values of these parameters as applicable.

Table VI.B.3.b. – Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name ¹	See Table VI.B.3.b in Attachment G.					
Well Number(s):						
Hydrogeologic Unit Monitored						
Type (e.g., point of compliance, background, observation, etc.)						
Up or Down Gradient						
Casing Diameter and Material						
Screen Diameter and Material						
Screen Slot Size (in.)						
Top of Casing Elevation (Ft, MLGL or MSL)						
Grade or Surface Elevation (Ft, MLGL or MSL)						
Well Depth (Ft, Below Grade Surface <i>[BGS]</i>)						
Well Depth (Ft, Below Top of Casing <i>[BTOC]</i>)						
Screen Interval From(Ft, BGS) To(Ft, BGS)						
Screen Interval From(Ft, BTOC) To(Ft, BTOC)						

Waste Management Unit/Area Name ¹	See Table VI.B.3.b in Attachment G.					
Facility Coordinates (e.g., lat./long. or company coordinates)						

¹From Tables in Section V.

MSL: Mean Sea Level; *MLGL*: Mean Low-tide Gulf Level; *BGS*: Below Grade Surface; *BTOC*: Below Top of Casing

Table VI.B.3.c. – Groundwater Detection Monitoring Parameters

Unit/Waste Management Area:

Well No(s):

Parameter	Sampling Frequency	Analytical Method	Method Detection Limit (MDL) or Method Quantification Limit (MQL) Value, (units), MDL or MQL ²	Concentration Limit ¹
See Table VI.B.3.c in Attachment G.				

¹ The concentration limit is the basis for determining whether a release has occurred from the waste management unit/area.

² a. Enter the laboratory expected *Method Detection Limit* if determination of *Statistically Significant Increase* (SSI) occurrence is based on detection of the presence of the constituent of concern in the sample.

2 b. Enter the laboratory expected Method Quantification Limit if determination of SSI is based on statistical analysis of detection monitoring data or direct comparison to a limit value.

This should be based on the laboratory's minimum expected level of performance. Please designate which type of limit has been entered for each constituent, with its value and units.

VII. Closure and Post-Closure Plans

Submit a full closure plan and post-closure plan, if applicable, which contains all the information required by 30 TAC 335.8, 335.169, 335.172, 335.174, 335.177, 335.178, 335.551-335.569, 30 TAC Chapter 350, 40 CFR 264.112, 264.118, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.575, 264.601, 264.603, 264.1102, 270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(2) & (3), and 270.26(c)(16) where applicable. The owner of property on which an existing disposal facility is located must also submit documentation that a notation has been placed in the deed to the facility that will in perpetuity notify any potential purchasers of the property that the land has been used to manage hazardous wastes and its use is restricted (see 30 TAC 335.5). For hazardous waste disposal units that were closed before submission of the application, the applicant should submit documentation to show that plats and notices required under 40 CFR 264.116 and 264.119 have been filed.

Closure and post-closure plans for the North CAMU were described in the Class 2 Landfill CAMU Final Closure Plan, which was submitted to TCEQ on January 14, 2016, and was conditionally approved in a letter from TCEQ dated April 29, 2016. The Class 2 Landfill CAMU Final Closure Plan has been updated to serve as a closure plan for the FOP and now covers the rest of the FOP, including the RCA and permitted Units 001 and 002, which were previously demolished and are within the boundaries of the RCA, and is included with this application as Attachment C. The plan addresses the requirements of closure and post-closure for the North CAMU as described in TCEQ Agreed Order No. 2013-2207-IHW-E and the closure and post-closure plan for the RCA.

A. Closure

This section applies to the owners and operators of all hazardous waste management facilities to be permitted. The applicant must close the facility in a manner that minimizes need for further maintenance and controls, or eliminates, to the extent necessary to protect human health and the environment, the post-closure release of hazardous waste, hazardous constituents, leachate, contaminated rainfall, or waste decomposition products to the groundwater, surface waters, or to the atmosphere.

The facility type and type of unit to be closed can determine the level of detail sufficient for a closure plan.

For each unit to be permitted, complete Table VII.A. - Unit Closure and list the facility components to be decontaminated, possible methods of decontamination, and possible methods of disposal of wastes and waste residues generated during unit closure. All ancillary components must be included in calculating closure cost estimates.

Additionally, if the applicant plans to close a surface impoundment in accordance with 30 TAC 335.169(a)(1) and the impoundment does not comply with the liner requirements of 30 TAC Section 335.168(a) then the closure plan for the impoundment must include both a plan for complying with 30 TAC 335.169(a)(1) and a contingent plan for complying with 30 TAC 335.169(a)(2).

Guidance on design of a closure cap and final cover for landfills is given in TCEQ Technical Guideline No. 3, and EPA publication 530-SW-85-014 presents guidance on construction quality assurance of liner construction.

If a waste pile does not comply with the liner requirements of 30 TAC Section 335.170(a)(1) then the closure plan for the waste pile must include both a plan for complying with 40 CFR 264.258(a) and a contingent plan for complying with 40 CFR 264.258(b).

The final certification of closure of a land treatment unit may be prepared by an

independent licensed Professional Geoscientist in lieu of an independent licensed Professional Engineer. [30 TAC 335.172(b)]

The components of the North CAMU and the RCA that will be decontaminated following closure are described in the O&M Plans for the two units, which are included in Attachment C. The decontamination procedures are also summarized in Table VII.A. Permitted Units 001 and 0002 were previously decontaminated and demolished (in 2013) in accordance with the Decontamination and Demolition Work Plan dated January 25, 2013, which was approved by TCEQ on February 15, 2013. Units 001 and 002 are within the boundaries of the RCA.

B. Closure Cost Estimate (including contingent closure) [30 TAC 335.178, 40 CFR 264.142]

This section applies to owners or operators of all hazardous waste facilities, except state and federal agencies. A detailed estimate, in current dollars, of the cost of closing the facility should be included in the report. The cost estimate must include the cost of closure at the point in the facilities operating life when the extent and manner of its operation would make closure the most expensive. The TCEQ has published Technical Guideline No. 10, Closure and Post-Closure Cost Estimates, for calculating closure costs which should be consulted. Closure costs should be developed on the basis of abandonment of the site at full capacity and closure activities to be conducted by a third party with no operable on-site equipment. The costs for closing each unit must be detailed.

1. If closure costs are based on contractor bids, the applicant should submit a copy of the bid specification and each contractor's response.
2. If closure costs are based on a detailed analysis, the applicant should submit details of item costs and number of each item, and details of costs for equipment rental, third party labor and supervision, transportation, analytical costs, etc. Provide an itemized cost on Table VII.B. - Unit Closure Cost Estimate for a complete, third party permitted facility closure.

As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

3. The closure plan may propose on-site disposal of wastes, residues, etc. during closure of a unit, and this may be executed if on-site capacity exists in other units during closure of a unit. However, the cost estimate for closure must be based on off-site shipment and disposal during closure of all wastes, waste residues, wastes generated by decontamination, contaminated stormwater, and leachate.
4. For each surface impoundment, waste pile, or tank system required to have a contingent closure plan, the cost for closure under the contingent closure plan should be detailed, as well as the cost of proposed closure. The more expensive of the cost of the proposed closure of a unit versus the cost of the contingent closure of the unit should be used in the total facility closure cost estimate.

Closure cost estimates are included in Table VII.B, below, and as Attachment O.

C. Post-closure

This section applies to owners or operators of all hazardous waste disposal facilities.

This section also applies to certain waste piles, tanks and surface impoundments from which the owner or operator intends to remove wastes at closure but which are required to have contingent post-closure plans.

Post-closure care of each hazardous waste management unit must continue for 30 years after the date of completing closure of the unit and must consist of monitoring and reporting of the groundwater monitoring systems in addition to the maintenance and monitoring of waste containment systems. Continuation of certain security requirements may be necessary after the date of closure. Post-closure use of property on or in which hazardous waste remains after closure must never be allowed to disrupt the integrity of the containment system. In addition, submit the following information.

1. The post-closure care plan for a landfill or of a surface impoundment, waste pile, miscellaneous unit, or tank system closed with wastes or waste constituents left in place, or closed under a contingent closure plan, must demonstrate compliance with 30 TAC 335.174(b).

Post-closure plans for the North CAMU and the RCA are described in the Closure Plan, which is included with this application as Attachment C.

2. The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure period; and

**Brad Weaver
Director, Remediation
Exide Technologies
P.O. Box 250
7471 Old Fifth Street
Frisco, TX 75034
(972) 335-2121 (phone)
(972) 377-2707 (fax)**

3. A discussion of the future use of the land associated with each unit.
Future land use will be deed restricted to commercial/industrial and subject to TCEQ approval for other uses.
4. For landfills, surface impoundments, waste piles, and land treatment areas closed under interim status, submit the required documentation of 40 CFR 270.14(b)(14).
Not applicable. The North CAMU and the RCA are corrective action management units regulated under 40 CFR Part 264, Subpart S and are categorized as miscellaneous units under available options for purposes of this permit application.
5. Landfills, surface impoundments, waste piles and land treatment areas that received hazardous wastes after July 26, 1982 or for which closure was certified after January 26, 1983 must be included in post-closure care plans unless they have been determined to have closed by removal equivalent to the closure standards in 40 CFR 264 Subpart G. If such a demonstration has been made pursuant to 40 CFR 270.1(c)(5), but an equivalency determination has not been made, please submit a copy of the demonstration documentation. If an equivalency determination has been made pursuant to 40 CFR 270.1(c)(6), applicant should submit a copy of the determination. Complete Table VII.C.5. -

Land-Based Units Closed Under Interim Status for all land based units closed under interim status.

Not applicable. The North CAMU and the RCA are corrective action management units regulated under 40 CFR Part 264, Subpart S and are categorized as miscellaneous units under available options for purposes of this permit application. However, these units are included in the post-closure plans set forth in the Closure Plan included as Attachment C.

D. Post-closure Cost Estimate [40 CFR 264.144]

This section regarding post-closure cost estimate applies to owners or operators of all hazardous waste disposal facilities, except state and federal agencies, and certain waste piles, tank systems, and surface impoundments from which the owner or operator intends to remove wastes at closure, but which are required to have contingent closure and post-closure plans. A detailed estimate, in current dollars, of the annual cost of monitoring and maintenance of the facility in accordance with the applicable post-closure regulations must be included in the report. The TCEQ has published Technical Guideline No. 10 for calculating post-closure costs, which should be consulted. Costs should be developed in detail for 30 years of post-closure care activities to be conducted by a third party, for each applicable unit.

1. The applicant should submit details of item costs and number of each item for off-site disposal of leachate and bailed monitor well water, labor and supervision, monitor well sampling and analyses, inspection and repair of the cap(s), mowing and re-seeding of the vegetative cover, maintaining site security, etc. Provide an itemized cost estimate on Table VII.D. - Unit Post-Closure Cost Estimate for complete, third party permitted facility post-closure care.
2. As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.
3. Total annual cost of post-closure care for the facility including costs of contingent post-closure care should be multiplied by 30 years.

Post-closure cost estimates are included in the FOP RAP (Attachment M) as well as in Table VII.D, below and in Attachment O.

Closure and Post-Closure Cost Summary

Please complete Table VII.E.1 - Permitted Unit Closure Cost Summary.

Please complete Table VII.E.2 - Permitted Unit Post-Closure Cost Summary.

Tables VII.E.1 and VII.E.2 are included below.

Table VII.A. - Unit Closure

For each unit to be permitted, list the facility components to be decontaminated, the possible methods of decontamination, and the possible methods of disposal of wastes and waste residues generated during unit closure:

Equipment or HWM Unit	Possible Methods of Decontamination ¹	Possible Methods of Disposal ¹
0001	N/A - permitted Unit 001 was previously decontaminated and demolished (in 2013) in accordance with the Decontamination and Demolition Work Plan dated January 25, 2013, which was approved by TCEQ on February 15, 2013. Unit 001 is within the boundaries of the RCA.	The building foundation and any remaining impacted media to be included in the RCA.
0002	N/A- permitted Unit 002 was previously decontaminated and demolished (in 2013) in accordance with the Decontamination and Demolition Work Plan dated January 25, 2013, which was approved by TCEQ on February 15, 2013. Unit 002 is within the boundaries of the RCA.	The building foundation and any remaining impacted media to be included in the RCA.
Equipment used during unit operation and closure of North CAMU (Proposed Unit 003) or RCA (Proposed Unit 004)	<p>An equipment decontamination area will be constructed near the unit (i.e., the North CAMU or the RCA, as applicable) with berms around the perimeter. The decontamination area will be large enough to accommodate the largest piece of equipment that will be used during the operation and closure activities. The area will be graded to drain to one corner to allow the fluids generated during decontamination to be removed. A 40-mil high density polyethylene (HDPE) geomembrane will be placed over the graded area extending over the berms. The HDPE geomembrane will be anchored at the bottom of the berms to prevent it from becoming windblown. Timbers will be installed over the HDPE geomembrane to protect it from the tracks and tires of the heavy equipment during the decontamination activities.</p> <p>The equipment will be decontaminated using potable water</p>	<p><u>Decontamination residue:</u> The decontamination fluids will be pumped out of the lined decontamination area (either the existing decontamination pad near the on-site wastewater treatment plant or a temporary pad) into a tank and transferred to the FOP's onsite wastewater treatment facility for treatment and disposal in accordance with applicable regulations or will be disposed of off-site in accordance with applicable regulations (see the WAP included in Attachment Q). Other solid decontamination residue will be containerized and transferred to a less than 90-day container for characterization, storage and disposal in accordance with local, state and federal requirements. If the decontamination residue meets class 2 non-hazardous waste criteria, it will be placed in the North CAMU or the RCA, provided capacity is available for this waste. Decontamination residue which</p>

	<p>and high-pressure washers. To limit the generation of contact storm water, the decontamination pad will be covered with poly sheeting weighted with sandbags during periods of inactivity and during significant storm events.</p>	<p>does not meet class 2 non-hazardous waste criteria and is non-hazardous or meets applicable CAMU treatment standards will be placed in the RCA, provided capacity is available for this waste. If there is not sufficient capacity in either of the two units, as applicable, or the decontamination residue is hazardous and does not meet or is not treated in less than 90 day tanks and containers to meet applicable treatment standards, the decontamination residue will be containerized and transferred to a less than 90-day container for characterization, storage and disposal in accordance with local, state and federal requirements.</p> <p><u>Decontamination pad:</u> The geomembrane and timbers will be decontaminated using high pressure water which will subsequently be collected and transferred to the FOP's onsite wastewater treatment facility for treatment and disposal in accordance with applicable regulations or will be disposed of off-site in accordance with applicable regulations. Once decontamination is complete, the liner and timbers will be transferred to a less than 90-day container for characterization, storage and disposal in accordance with applicable regulations. If the liner and timbers meet class 2 non-hazardous waste criteria, they will be placed in the North CAMU or the RCA provided capacity is available for this waste. Liner and timbers which do not meet class 2 non-hazardous waste criteria and is non-hazardous or meets applicable CAMU treatment standards will be placed in the RCA, provided capacity is available for this waste. If there is not sufficient capacity in either of the two units, as applicable, or the liner and timbers are hazardous and do not meet or are not treated in less than 90 day tanks and containers to meet applicable treatment standards, the liner and</p>
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		<p>timbers will be containerized and transferred to a less than 90-day container for characterization, storage and disposal in accordance with local, state and federal requirements.</p> <p>Following completion of decontamination activities and removal of the decontamination pad, three grab samples will be collected from beneath the decontamination area.</p> <p>If the decontamination pad is within the North CAMU or the RCA, the samples will be analyzed for toxic characteristic leaching procedure (TCLP) lead, cadmium, arsenic, antimony and selenium. Should any of the results exceed class 2 standards for any of these five metals, a minimum of six (6) inches of material underlying the decontamination area will be removed and placed into a temporary less than 90-day container meeting applicable standards for waste characterization and analysis. This process will be repeated as required until the grab samples exhibits TCLP results that meet the class 2 standards for these four metals. Material that does not meet the class 2 standards will be placed in the RCA if it is non-hazardous or meets applicable CAMU treatment standards or will be transported offsite for disposal in accordance with local, state and federal requirements.</p> <p>If the decontamination pad is outside the North CAMU or the RCA, the samples will be analyzed for total lead, cadmium, arsenic, antimony and selenium. Should any of the results exceed applicable Protective Concentration Limits (PCLs) for any of these four metals, a minimum of six (6) inches of material underlying the decontamination area will be removed and placed into a temporary less than 90-day container meeting applicable</p>
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		<p>standards for waste characterization and analysis. This process will be repeated as required until the grab samples exhibits results that meet the PCLs for these five metals. Material exceeding PCLs will be disposed of in the RCA if it is non-hazardous or meets applicable CAMU treatment standards, if there is sufficient capacity. and. If there is not sufficient capacity in either of the two units, as applicable, or the material is hazardous and does not meet or is not treated in less than 90 day tanks and containers to meet applicable treatment standards the material will be containerized and transferred to a less than 90-day container for characterization, storage and disposal in accordance with local, state and federal requirements.</p>
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¹Applicants may list more than one appropriate method.

Table VII.B. - Unit Closure Cost Estimate

Task	Cost
<i>North CAMU, 4.10 acres engineered cap</i>	
18" top soil (9,922 cy @ \$38/cy)	\$ 381,302
18" cover soil (9,922 cy @ \$35/cy)	\$ 348,262
Geocomposite (4.10 acre @ \$33,617/acre)	\$ 137,831
Geotextile (4.10 acres @ \$14,636/acre)	\$ 60,008
Geomembrane: installation cost only (material has already been purchased by Exide) (4.10 acres @ \$11,000/acre)	\$ 45,100
GCL (4.10 acres @ \$36,991/acre)	\$ 151,662
Working Surface Layer Prep (Particle Size Reduction) (4.10 acres @ \$17,429/acre)	\$ 71,459
Working Surface 4" Layer Placement (2,205 cy @ \$35/cy)	\$ 77,392
New/Replacement Monitoring Well Installation	\$ 42,600
Program Management	\$ 143,960
Subtotal	\$ 1,459,576
Contingency (10% minimum)	\$ 145,958
Total Unit Closure Cost	\$ 1,605,534

Task	Cost
Former Operating Plant (FOP) Area	
<i>RCA new engineered cap (Includes Closure of Units 001 and 002 within footprint of the RCA), 17.67 acre new engineered cap</i>	
6" top soil (14,254 cy @ \$38/cy)	\$ 547,774
30" cover soil (71,269 cy @ \$35/cy)	\$ 2,501,542
Geocomposite (7.96 acres @ \$33,617/acre)	\$ 267,595
Geotextile (9.71 acres @\$14,636/acre)	\$ 142,117
Geomembrane (17.67 acres @ \$35,847/acre)	\$ 633,419
GCL (17.67 acres @ \$36,991/acre)	\$ 653,624
RCA Working Surface Area Prep (Particle Size Reduction) (17.67 acres @ \$17,429/acre)	\$ 307,970
RCA Working Surface Area Prep (Placement of 4" Top Layer) (9,503 cy @ \$35/cy)	\$ 333,555
Landfill subgrade prep (FOP Area)	\$ 200,000
New/Replacement Monitoring Well Installation	\$ 150,370
Program Management	\$ 631,876

South Disposal Area, 1.4 acre cap upgrade	
6" top soil (1,129 cy @ \$38/cy)	\$ 43,400
18" cover soil (3,388 cy @ \$35/cy)	\$ 118,919
Geocomposite (1.4 acres @ \$33,617/acre)	\$ 47,064
Geotextile (none for SDA)	\$ -
Geomembrane (1.4 acres @ \$35,847/acre)	\$ 50,186
Program Management	\$ 29,354
Other Closure Costs – Detailed line item costs provided as Attachment O	
Flood Wall Improvements (<i>estimated from GWC dated 8/22/18</i>)	\$ 2,026,297
Excavation and Consolidation of Soil Remediation Waste and Parkwood Parcel	\$ 2,316,858
Excavation and Consolidation of Sediment Remediation Waste	\$ 6,160,947
Program Management for Other Closure Costs	\$ 2,179,840
Subtotal	\$ 19,342,707
Contingency (10% minimum)	\$ 1,934,271
Total Unit Closure Cost	\$ 21,276,978
Total Permitted Facility Closure Cost (<i>all unit costs combined</i>)	\$ 22,882,512

Table VII.C.5. - Land-Based Units Closed Under Interim Status

N.O.R. Unit #	Unit Description ^{1,2}	Date of Receipt of Last Waste ³	Date of Closure Certification ³

¹Indicates a unit for which a 40 CFR 264 closure equivalency determination has been requested pursuant to 40 CFR 270.1(c)(5).

²Indicates a unit for which a 40 CFR 264 closure equivalency determination has been made pursuant to 40 CFR 270.1(c)(6).

³Enter month, day, and year.

Table VII.D. - Unit Post-Closure Cost Estimate

Task	Cost
<i>North CAMU (See North CAMU OM&M Sheet for Details)</i>	
Groundwater Monitoring and Reporting	\$ 16,437
Routine Site Inspections	\$ 7,210
Maintenance of Cap & Monitoring Systems (landfill cover, property, monitoring well maintenance and repair)	\$ 13,325
Annual Leachate Disposal Cost (12,000 gallons @\$1.88/gallon)	\$ 22,560
Subtotal	\$ 59,532
Contingency (10% minimum)	\$ 5,953
Total Unit Post-Closure Care Cost x 30 yrs. (or other post-closure care period)	\$ 1,964,558
<i>Former Operating Plant (FOP)/RCA Area (Includes Post-Closure of Units 001 and 002 within footprint of the RCA, see FOP OM&M for Details)</i>	
Groundwater Monitoring and Reporting	Included in RCA Compliance Plan
Routine Site Inspections	\$ 7,210
Maintenance of Cap & Monitoring Systems (landfill cover, property, monitoring well maintenance and repair)	\$ 34,390
Subtotal (excluding capital)	\$ 41,600
Contingency (10% minimum)	\$ 4,160
Total Unit Post-Closure Care Cost x 30 yrs. (or other post-closure care period)	\$ 1,372,800
Total Permitted Facility Post-Closure Cost (all unit costs combined)	\$ 3,337,358

Table VII.E.1. - Permitted Unit Closure Cost Summary

Existing Unit Closure Cost Estimate	
Unit	Cost
North CAMU	\$ 1,605,534
Total Existing Unit Closure Cost Estimate	\$ 1,605,534

Proposed Unit Closure Cost Estimate	
Unit	Cost
<i>RCA (Includes Final Closure of Units 001 and 002 within footprint of the RCA)</i>	\$ 21,276,978
Total Proposed Unit Closure Cost Estimate	\$ 21,276,978

¹ As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

Table VII.E.2. - Permitted Unit Post-Closure Cost Summary

Existing Unit Post-Closure Cost Estimate	
Unit	Cost
North CAMU	\$ 1,964,558
Total Existing Unit Post-Closure Cost Estimate	\$ 1,964,558

Proposed Unit Post-Closure Cost Estimate	
Unit	Cost
<i>RCA (Includes Final Post-Closure of Units 001 and 002 within footprint of the RCA)</i>	\$ 3,337,358
Total Proposed Unit Post-Closure Cost Estimate	\$ 3,337,358

¹ As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

VIII. Financial Assurance

A. Financial Assurance Information Requirements for all Applicants (30 TAC Chapter 37, Subchapter P, 305.50(a)(4)(A-E), 335.152(a)(6) and 335.179)

1. Financial Assurance for Closure

An owner or operator must establish financial assurance for the closure of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

2. Financial Assurance for Post-Closure Care (applicable to disposal facilities and contingent post-closure care facilities only)

An owner or operator subject to post-closure monitoring or maintenance requirements must establish financial assurance for the post-closure care of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Please refer to 30 TAC Chapter 37, Subchapter P for the financial assurance requirements for post-closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

3. Financial Assurance for Corrective Action

An owner or operator must establish financial assurance for corrective action of the facility no later than 60 days after the permit or order requiring the corrective action financial assurance is signed by the executive director or commission [30 TAC Section 37.31(b)]. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision and indicate below the type of financial assurance mechanism to cover corrective action for the facility.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving permit transfers, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

4. Liability Requirements (not required for post-closure care)

All owners or operators must establish financial assurance for third party sudden liability coverage of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Owners or operators of disposal facilities must establish financial assurance for third party sudden and nonsudden liability coverage of the facility no later than 60 days prior to the first receipt of hazardous waste. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for liability coverage, and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

B. Applicant Financial Disclosure Statements for a new permit, permit amendment, or permit modification, or permit renewal (30 TAC 305.50(a)(4))

Refer to the Supplemental Technical Information Guidance for Applicants Subject to Financial Capability Requirements, included in Section VIII.B., and the requirements listed below as you complete this section.

1. Provide information required in 30 TAC 305.50(a)(4), as applicable to the application request.
2. Complete Table VIII.B. if requesting capacity expansion or new construction.
3. For new commercial hazardous waste management facility applications, a written statement signed by an authorized signatory per 30 TAC 305.44 explaining how the applicant intends to provide emergency response financial assurance per 30 TAC 305.50(a)(12)(C) or (D).
4. For renewal applications with no capacity expansion, please complete and submit the attached Financial Disclosure Letter.

The Financial Disclosure Letter was completed and submitted under separate cover to Robert Patton of the TCEQ and a copy is included as Attachment S.

Information for Applicants Subject to Financial Capability Requirements

Certain applications involving Hazardous Waste facilities are subject to review of the applicant's financial ability to construct, operate, and/or close the facility, perform post-closure care and corrective action at the facility in accordance with State law as specified in Section 361.085 of the Texas Health and Safety Code. TCEQ refers to these reviews as financial capability reviews. This document summarizes and clarifies the information required in an application to meet the TCEQ requirements of 30 Texas Administrative Code (TAC) 305.50.

Information requirements vary depending on the type of financial information available to applicants, primarily whether audited financial statements are available as well as the type of application submitted. For each scenario described below, financial information must be provided for the specific applicant.

I. New Facilities, Facility Expansions and Permit Transfers

A. Publicly traded Entities

1. Securities and Exchange Commission (SEC) Form 10-Ks

This portion of the requirement calls for the two most recent 10-K reports filed.

2. SEC Form 10-Q

This portion of the requirement calls for a copy of the most recent quarterly report.

3. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure care, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met. (ie. which financial assurance mechanism is or will be used).

4. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

B. Privately held entities with audited financial statements

1. Audited financial statements

This portion of the requirement calls for complete copies of the audited financial statements for each of the most recent two fiscal years. If an audit has not been completed for one of the previous two years, a complete copy of the fiscal year end financial statement and federal tax return may be substituted in lieu of the audit not performed. The tax return must be certified by original signature of an authorized signatory as being a "true and correct copy of the return filed with the Internal Revenue Service." Financial statements must be prepared consistent with generally accepted accounting principles and include a balance sheet, income statement, cash flow statement, notes to the financial statement, and an accountant's opinion letter.

2. Quarterly financial statement

This portion of the requirement calls for a complete copy of the most current quarterly financial statement prepared consistent with generally accepted accounting principles. Internally prepared statements are satisfactory.

3. Supplementary information statement

This portion of the requirement calls for a written statement detailing the information that would normally be found in SEC's Form 10-K including descriptions of the business and its operations; identification of any affiliated relationships; credit agreements and terms; any legal proceedings involving the applicant; contingent liabilities; and significant accounting policies.

4. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

5. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure care, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

C. Entities without audited financial statements or entities choosing not to provide the information listed above

1. Financial Plan

This portion of the requirement calls for a financial plan (including balance sheets listing assets, liabilities and capital accounts) sufficiently detailed to clearly demonstrate that the applicant will be in a position to readily secure financing for construction, operation, and closure, post-closure, and corrective action if the permit is issued. At least 3 balance sheets should be included as of: a) approximately the date of the permit application, b) 12 months after any construction is completed (or assumption of operational control for a permit transfer), and c) 24 months after any construction is completed (or assumption of operational control for a permit transfer).

2. Letters of opinion

The submitted financial plan must be accompanied by original letters of opinion from two financial experts, not otherwise employed by the applicant, who have the demonstrated ability to either finance the facility or place the required financing. If the permit action sought involves construction of a new facility or expansion of an existing facility, the opinion letters must certify that financing is obtainable within 180 days of permit approval and include the time schedule contingent upon permit finality for securing the financing as well as certify the financial plan is reasonable. Even if the application does not involve a facility or capacity expansion, the opinion letters must certify that the financial plan is reasonable. Only one opinion letter from a financial expert, not otherwise

employed by the applicant, is required if the letter renders a firm commitment to provide all the necessary financing.

Letters of opinion are usually issued by investment or commercial bankers but there could be additional sources. Applicants are encouraged to verify the adequacy of the credentials of their chosen financial expert with TCEQ's financial assurance unit prior to a formal engagement. Financial experts should describe their qualifications and disclose their independence from the applicant and/or any entity or person affiliated with the applicant.

3. Operating and cash flow statement

This portion of the requirement calls for a written detail of the annual operating costs of the facility and a projected cash flow statement including the period of construction and first two years of operation. The cash flow statement must demonstrate the financial resources to meet operating costs, debt service, and provide financial assurance for closure, post-closure care, and liability coverage requirements. A list of the assumptions made to forecast cash flow must also be provided.

4. Explanation statement

This portion of the requirement calls for a statement addressing how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

5. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

D. Entities with a resolution from a governing body approving or agreeing to approve the issuance of bonds to satisfy financial assurance requirements (e.g. a city or county)

1. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

2. Certified copy of the resolution from the governing body,

3. Certification by the governing body of passage of the resolution.

II. Permit Renewals

Complete the attached letter with applicable information inserted into the parentheses. *Note that additional information must be provided if requested by TCEQ.*

The Financial Disclosure Letter was completed and submitted under separate cover to Robert Patton of the TCEQ and a copy is included as Attachment S.

[Date]

Mr. Robert Patton, Jr.
Manager, Industrial and Hazardous Waste Permits Section
Texas Commission on Environmental Quality
Building F, MC 130
12100 Park 35 Circle
Austin, Texas 78753

Re: Financial Disclosure Letter for [name of applicant]
Permit Renewal
Hazardous Waste Permit No. [xxxxx] / Compliance Plan No. [xxxxx]
Industrial Solid Waste Registration No. [xxxxx]
EPA ID No. [TXDxxxxxxxxx]
RN[xxxxxxxxx]; CN[xxxxxxxxx]

Dear Mr. Patton:

This letter is furnished to you in response to financial disclosure requirements as applicable under Texas Health and Safety Code Section 361.085 and Title 30, Texas Administrative Code (30 TAC), Section 305.50 to provide assurance that [name of applicant] has sufficient financial resources.

In keeping with the above law and rule requirements I hereby certify that [name of applicant] is adequately capitalized and has sufficient financial resources to operate, close, provide post-closure care for and perform corrective action for the above-referenced facility in a safe manner, and in compliance with the permit and all applicable rules.

[name of applicant] currently provides a [describe type of mechanism, i.e., letter of credit, surety bond, etc.] financial assurance mechanism as set out in 30 TAC, Chapter 37, Subchapter C to meet [name of applicant]'s financial assurance obligations.

I am authorized to make these statements on behalf of [name of applicant]. I understand that the TCEQ may request additional information as part of their review.

Sincerely,

[Signature block]

[Title of Signatory]

[Note: signatory must be person whose title and job responsibilities meet the requirements in 30 TAC § 305.44]

Table VIII.B - Estimated Capital Costs

	Estimated Capital Costs
Site preparation, fencing, paving, curbing, lighting, roadways:.....	\$ _____
Foundations, buildings, other structures, utilities and connections, drainage system, HVAC system, electrical system, wastewater system:.....	\$ _____
Process and control equipment:.....	\$ _____
Auxiliary equipment, including but not limited to exhaust hoods fans, ducting, pumps, piping, conveyors, stacks, storage tanks, process tanks, waste disposal facilities, pollution control equipment, and fire protection system:.....	\$ _____
Process integration and instrumentation:.....	\$ _____
Emergency response equipment:.....	\$ _____
Transportation equipment:.....	\$ _____
Office equipment:.....	\$ _____
Engineering design, supervision, overhead:.....	\$ _____
Construction expenses including permits, insurance, temporary facilities, and clean-up.....	\$ _____
Contractor's fees and overhead.....	\$ _____
Contingency.....	\$ _____
Total	\$ _____

The estimates listed above were derived from the following sources:

IX. Releases from Solid Waste Units and Corrective Action

The Texas Solid Waste Disposal Act, 30 TAC 335.167, 40 CFR 270.14(d) and Section 3004(u) of the Hazardous and Solid Waste Amendments of 1984 (HSWA) *require that each hazardous waste management permit application review shall address corrective action for all releases of hazardous waste and hazardous constituents* listed in 40 CFR 261, Appendix VIII, 40 CFR Part 264, Appendix IX, and/or other constituents of concern from any solid waste management unit (SWMU) and/ or Areas of Concern (AOCs) at a facility, regardless of the time at which waste was placed in such unit³. Current EPA interpretation of this requirement has resulted in a Corrective Action process that begins with a RCRA Facility Assessment (RFA) to determine if corrective action is necessary.

The first step in the RFA is the development of a Preliminary Review (PR) from all available documentation for a facility (including but not limited to all facility documents, Part A, and Part B of the permit application, TCEQ correspondence files and inspection reports, etc.). The PR compiles available information on every SWMU and/or AOC that has ever existed at the facility. A unit checklist is completed for each SWMU and/ or AOC. On a unit-by-unit basis, the PR may recommend no further action for:

- well-designed and well-managed units;
- units that have not managed hazardous wastes or wastes containing hazardous constituents;
- units already under corrective action by enforcement order; or
- units scheduled to be addressed in a compliance plan.

In addition, the unit checklists are summarized in a *Facility Checklist*. If there is a known release or potential for a release of hazardous waste or hazardous constituents from a unit/area, the PR may recommend a *RCRA Facility Investigation* (RFI), or an *Affected Property Assessment* (APA), if 30 TAC Chapter 350, Texas Risk Reduction Program (TRRP) applies, to determine the extent of the release for future corrective action, or stabilization as an appropriate and immediate corrective action.

The second step is a *Visual Site Inspection* (VSI) of the entire facility. The RFA is the combination of the PR and VSI documentation and any sample results. The RFA process should be scheduled so as to be completed during the latter stages of the Technical Review process or no later than one month in advance of the preparation of an initial draft permit for the facility. The RFA includes recommendations for whether further investigation or corrective action is warranted.

The requirements for an RFI or any other corrective action will be included in the permit, in the associated compliance plan which is mandatory for facilities with known groundwater contamination, or pursuant to 40 CFR 270.14(d)(3), the applicant may be required to start the RFI or other corrective action before the permit is issued. The RFI shall comply with all the applicable items contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994, unless an alternate investigation approach is approved by the Executive Director. An RFI workplan may typically include a soil

³For the purposes of HSWA Corrective Action, a SWMU may include, but is not limited to, any landfill, surface impoundment, land treatment unit, waste pile, underground injection well, incinerator, boiler, industrial furnace, tank, container storage area, drip pad, containment building, miscellaneous unit; any units exempt from hazardous waste permitting requirements, such as wastewater treatment units, elementary neutralization units, totally enclosed treatment units, waste recycle/reuse units, and 90-day accumulation time units; or process units or areas which may have routine and/or systematic releases to the environment (e.g., process drainage ditches or product storage tanks).

boring program, installation of monitoring wells, and sampling and analysis for 40 CFR 261 Appendix VIII and 40 CFR 264 Appendix IX hazardous constituents for surface soils, subsurface strata, surface water, groundwater, and/or air.

The permittee shall perform the RFI or APA and report the results. Corrective Action under 30 TAC Chapter 350 consists of an APA, determination of protective concentration levels, selection of a remedy standard (if necessary), development and implementation of a response action (if necessary), and submittal of required report according to 30 TAC Chapter 350.

If the RFI report indicates releases of hazardous waste or hazardous constituents for SWMUs and/or AOCs that have been grandfathered under 30 TAC Chapter 335 Subchapters A and S, Corrective Action shall consist of, if necessary, Interim Corrective Measures, *Baseline Risk Assessment* (BLRA)/*Corrective Measures Study* (CMS) Report, and *Corrective Measures Implementation* (CMI).

For grandfathered SWMUs and/or AOCs, the permittee may continue to complete the Corrective Action requirements under 30 TAC Chapter 335, Subchapter A and S, provided the permittee complies with the notification and schedule requirements pursuant to 30 TAC 335.8 and 350.(2)(m).

This report shall evaluate the risk, identify and evaluate corrective measure alternatives, and recommend appropriate corrective measure(s) to protect human health and the environment. The BLRA/CMS Report shall address all of the applicable items in 30 TAC 350, 30 TAC 335 Subchapter S, and the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994.

Upon approval of the BLRA/CMS Report by the TCEQ, the permittee shall submit a CMI Workplan to address all of the items for CMI Workplan contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994. For projects conducted under TRRP, the risk assessment process shall be addressed in the *Affected Property Assessment Report* (APAR), and the evaluation of corrective measures shall be conducted as part of the remedy standard selection process provided in the *Response Action Plan* (RAP). If the CMI or RAP does not propose a permanent remedy, then a CMI Workplan or RAP shall be submitted as part of a new compliance plan application or as a modification/amendment application to an existing compliance plan. The workplan or RAP shall contain detailed final engineering design, monitoring plans, and schedules necessary to implement the selected remedy. Implementation of the corrective measures shall be addressed through a new and/or a modified/amended compliance plan. Upon installation of a corrective action system based upon the approved CMI Workplan or RAP, the permittee shall submit a CMI Report or RAP which includes as-built drawings of the corrective action system. To report the progress of the corrective measures, the permittee shall submit periodic CMI Progress Reports or Response Action Effectiveness Reports to the TCEQ in accordance with the schedule specified in the compliance plan. Upon completion of the corrective action requirements, the permittee shall submit CMI Report or Response Action Completion Reports for review and approval.

Please note that the applicant/permittee may perform voluntary corrective action, stabilization, or "interim measures" at any time prior to or during the RFA/RFI/CMS/CMI or the APAR/RAP process without prior TCEQ approval. The TCEQ strongly supports these actions when undertaken to mitigate releases or reduce or minimize exposure and releases to human health and the environment.

A. Preliminary Review Checklists

For Applications for a New Hazardous Waste Permit:

- For all facility Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs), complete the accompanying forms entitled "Preliminary Review Facility Checklist" and "Preliminary Review Unit Checklist". Make additional copies as necessary.

For Applications for a Renewal/Amendment/Modification of an Existing Hazardous Waste Permit:

- Update the Preliminary Review Facility Checklist to include any newly identified SWMUs and/or AOCs that were not incorporated into the previous permit issuance (new, amendment, modification, or renewal), and to update the status of all previously identified SWMUs or AOCs which are incorporated into the existing permit under either Section IX – Corrective Action for Solid Waste Management Units, or Section XI – Compliance Plan. Status updates should include notes regarding whether the SWMU or AOC has been incorporated into a compliance plan, has received approval of no further action (NFA), has had changes in its corrective action status, or has had other determinations issued by the TCEQ. Include the date of the status change in the updated checklist;
- Complete the Preliminary Review Unit Checklists for any newly identified SWMUs or AOCs that were not incorporated into the previous permit issuance (new, amendment, modification, or renewal);
- Update the status on the Preliminary Review Unit Checklists for all previously identified SWMUs or AOCs that had not yet received TCEQ approval of NFA at the time of the previous permit issuance;
- Provide copies of the letters from the TCEQ approving NFA or other determinations that were issued since the previous permit issuance;
- For previously identified SWMUs and/or AOCs which are incorporated into the existing permit and are included in Section XI – Compliance Plan of this application, you may forego filling out the Preliminary Review Unit Checklists for these units. Briefly note on the Preliminary Review Facility Checklist that the SWMUs or AOCs are addressed in Section XI. Provide the location where the SWMU's are addressed in Section XI. Or
- If all previously identified SWMUs and/or AOCs reached NFA status at or before the last permit issuance you may forego filling out the Preliminary Review Unit Checklists, indicate Not Applicable, and provide a brief explanation of the facts.

Since 1983, numerous investigations have been conducted to characterize the FOP's soil, groundwater, surface water, and sediments and to evaluate the presence of chemicals of concern (COCs) in these media. Where historical data indicated PCL exceedances, additional investigation was conducted in those areas. A detailed explanation of the historical investigations of the FOP and North CAMU can be found in the Affected Property Assessment Report for the Exide Frisco Recycling Facility, which was submitted in May 2014, and in the supplement to the 2014 APAR which was submitted to TCEQ on September 1, 2015. TCEQ conditionally approved the 2014 APAR and 2015 Supplement to the APAR in a letter dated February 11, 2016. The Screening Level Ecological Risk Assessment (SLERA) for Stewart Creek was submitted January 16, 2017.

The final approval of the APAR was issued in a letter dated February 3, 2017. The 2014 APAR, the 2015 Supplement to the APAR, and the 2017 SLERA are included as Attachments H, I, and J respectively. Additional investigation data is presented in Attachment M (RAP).

CP Table 2 includes a list of all previously identified SWMUs and/or AOCs that require corrective action and are included in Section XI. These SWMUs and AOCs are also discussed in the 2014 APAR discussed above.

Instructions for Preliminary Review Facility Checklist

Fill out the information block at the top of the page (the reviewer space should remain blank for the TCEQ authorized agent).

Facility: _____ City: _____

ISW Reg. No: _____ Date: _____

Permit No: _____ Reviewer: _____

EPA ID No: _____

Waste Management Units:

RCRA Regulated Units: List all units that received hazardous wastes after July 26, 1982 or for which closure was certified after January 26, 1983 with the appropriate information under the three provided column headings as explained in the Unit Checklist instructions. [40 CFR 264.90(a)(2)]

Solid Waste Management Units, and/or Areas of Concern (AOC):

List all remaining SWMUs and/or AOCs.

Reviewed Documents:

Enter the appropriate information for sub-items 1-6, including document dates (item 6 should include pertinent company files).

Summary:

Provide an overall summary of the results of this Preliminary Review noting units and areas of concern.

Recommended Actions:

Summarize the Unit Checklist Recommended Actions and list those units recommended for further investigation including appropriate Unit No.

Provide the following information for EACH unit or area of concern:

- A. Waste Management Unit: Enter SWMU and/or AOC name and facility designated number (e.g., Tank 101)
- B. N.O.R. No.: enter TCEQ Notice of Registration (N.O.R.) Number or, if unassigned, a letter designation (i.e., A-Z)
- C. Description: enter type of unit (e.g., above-grade processing tank) and Process Code as listed below:

Instructions for Preliminary Review Unit Checklist (Continued)

Process Types Table

Process Code	Unit Type	Process Code	Unit Type
Disposal		Miscellaneous (Subpart X)	
D79	Injection Well	X01	Open Burning/Open Detonation
D80	Landfill	X02	Mechanical Processing
D81	Land Application	X03	Thermal Unit
D83	Surface Impoundment - Disposal	X04	Geologic Repository
D99	Other Disposal	X99	Other Subpart X
Storage			
S01	Container	S05	Drip Pad
S02	Tank - Storage	S06	Containment Building - Storage
S03	Waste Pile	S99	Other Storage
S04	Surface Impoundment - Storage		
Treatment			
T01	Tank - Treatment	T86	Blast Furnace
T02	Surface Impoundment - Treatment	T87	Smelting, Melting, or Refining Furnace
T03	Incinerator	T88	Titanium Dioxide Chloride Process Oxidation Reactor
T04	Other Treatment	T89	Methane Reforming Furnace
T80	Boiler	T90	Pulping Liquor Recovery Furnace
T81	Cement Kiln	T91	Combustion Device Used in Recovery of Sulfur Values from Spent Sulfuric Acid
T82	Lime Kiln	T92	Halogen Acid Furnace
T83	Aggregate Kiln	T93	Other Industrial Furnaces Listed in 40 CFR 260.10
T84	Phosphate Kiln	T94	Containment Building - Treatment
T85	Coke Oven		

D. Dates of Operation:

Enter the date the unit was placed into service and any other dates the unit changed status (active, inactive, closed, post-closure) with the appropriate status designation.

E. Wastes Managed:

List all solid wastes ever managed in the unit and include the TCEQ NoR waste #, EPA Hazard Codes, and EPA waste codes. For each waste, list any hazardous constituent listed in 40 CFR 261 Appendix VIII and 264 Appendix IX, as appropriate.

F. Evidence of Release:

Completely describe the release, including time frame, waste amount, to what media, and any corrective measures taken.

G. Pollutant Dispersal Pathways:

Completely describe the possible and actual run-off pathways (i.e., to which tributary, creek, river, and bay or through subsoil to which aquifer with groundwater flow gradient, speed, and direction and any discharge point).

H. Summary:

Provide complete unit description including unit type, elements of construction, location, age, condition, dimensions, size, capacity (i.e., gallons, square feet, cubic yards, etc.), and potential for release.

I. Recommended Action:

Recommend No Further Action, Stabilization (interim measures), or Further Investigation and justify. Note, corrective action under another authority is justification for No Further Action.

Preliminary Review Facility Checklist

Facility:_____ City:_____

ISW Reg No:_____ Date:_____

Permit No:_____ Reviewer:_____

EPA ID No:_____

A. Waste Management Units:

RCRA Regulated Units:

NOR No.	Description	Status
---------	-------------	--------

Solid Waste Management Units:

NOR No.	Description	Status
---------	-------------	--------

B. Reviewed Documents:

RCRA:

Part A _____

Part B _____

Permit _____

CERCLA:

Inspection Reports:_____

Enforcement Actions:_____

Exposure Information:_____

Other Information:_____

C. Summary:

D. Recommended Action:

Preliminary Review Unit Checklist

Facility:_____ City:_____

ISW Reg No:_____ Date:_____

Permit No:_____ Reviewer:_____

EPA ID No:_____

Waste Management Unit:

A. NOR No:

B. Description:

C. Dates of Operation:

Wastes Managed:

Evidence of Release:

Pollutant Dispersal Pathways:

Summary:

Recommended Action:

Appendices to Preliminary Review (PR)

The PR should also include Appendices I-IV to correspond to the Roman numerals in the Unit Checklist:

Appendix I. FACILITY and SWMU LOCATION MAPS

- Regional Location Map
- Site Location Map
- Facility SWMU Map - Use the Notice of Registration (NOR) number to show the location of each unit on a replicate of the topographic map required in Section V.A.1 of this application. Also, please note that the term "facility" includes the entire contiguous property under the control of the owner or operator, which in most cases is the area shown as the legal description of the site in the facility's Part A permit application.

Appendix II. WASTES MANAGED

- List all wastes managed and 40 CFR 261 Appendix VIII and 40 CFR 264 Appendix IX hazardous constituents. Provide pertinent health, safety, and risk data on each.

Appendix III. EVIDENCE of RELEASE

- Provide any applicable documentation on a release. Provide a map of release locations, SWMU identification, and paths traveled.

Appendix IV. POLLUTANT DISPERSAL PATHWAYS

- Provide a facility, local, and regional map identifying all possible and eventual pathways in which a release from any unit could or did travel. Provide a facility general cross-section to illustrate vertical pathways and lateral movements in groundwater, including discharges (i.e., seeps, creeks, etc.).

Preliminary Review Submittal Format

The PR should be bound with a cover page and contain a Table of Contents with the Facility Checklist entered first followed by all the Unit Checklists in unit NOR numerical order and alphabetical order.

X. Air Emission Standards

Section X.D. applies to Permittees with "one-stop" permits applying for an amendment, modification, or renewal of the Air Permits Division portions of their combined "one-stop" permit.

The air monitoring programs for the North CAMU and the RCA are discussed in their respective Air Monitoring Plans, which are included with the Closure Plan in Attachment C.

A. Process Vents

Does the facility have process vents and equipment subject to the requirements of 40 CFR Part 264, Subpart AA?

☐ Yes ☒ No

If Yes: please provide a report that includes all of the information required by 40 CFR §270.24. Indicate on a facility plot plan the approximate location of process vents.

1. For incorporation into the permit, complete Table X.A - Process Vents for all vents on waste management units that manage hazardous waste with an annual average total organics concentration of 10 ppmw or greater ("process vents"). Specifically include:
 - a. process vents on distillation, fractionation, thin-film evaporation, solvent extraction, air or steam stripping operations, and vents on condensers serving these operations; and
 - b. process vents on tanks (e.g., distillate receivers, bottom receivers, surge control tanks, separator tanks, and hot wells) associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping processes if emissions from these process operations are vented through the tanks.

Emissions caused by natural means such as daily temperature changes or by tank loading and unloading are not subject to control.

2. For process vents, include the following certification as part of the air emissions report:

I, [owner or operator] , certify that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

I further certify that the control device is designed to operate at an efficiency of 95 weight percent or greater.

OR

I further certify that the total organic emission limits of 40 CFR §264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent.

[Signature] _____ [Date] _____.

B. Equipment Leaks

Does the facility have equipment subject to the requirements of 40 CFR Part 264, Subpart BB?

☐ Yes ☐ No ☒ Not Applicable (facility contains no regulated ancillary equipment types associated with permitted units)

If No: please provide the regulatory exclusion/exemption(s):

If Yes: please provide a report that includes all of the information required by 40 CFR §270.25.

1. For incorporation into the permit, complete Table X.B. – Equipment Leaks for all valves, pumps, compressors, pressure relief devices, sampling connection systems, and open-ended valves or lines that contain or contacts hazardous waste streams with organic concentrations of 10% by weight or greater. Equipment in vacuum service is not subject to control if identified in the facility operating record.

2. For equipment, include the following statement as part of the air emissions report:

I, [owner or operator] , certify that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur.

I further certify that the control device is designed to operate at an efficiency of 95 weight percent or greater.

[Signature] _____ *[Date]* _____.

C. Tanks, Surface Impoundments, and Containers

Does the facility have tanks subject to the requirements of 40 CFR Part 264, Subpart CC?

☐ Yes ☐ No ☒ Not Applicable (no permitted tanks)

If No: provide the regulatory exception/exemption(s) for each tank subject to regulation under 40 CFR Part 264, Subpart J:

Does the facility have surface impoundments subject to the requirements of 40 CFR Part 264, Subpart CC?

☐ Yes ☒ No ☐ Not Applicable (no permitted surface impoundments)

If No: provide the regulatory exception/exemption(s) for each permitted surface impoundment subject to regulation under 40 CFR Part 264, Subpart K:

Does the facility have containers subject to the requirements of 40 CFR Part 264, Subpart CC?

☐ Yes ☐ No ☒ Not Applicable (no permitted container storage areas)

If No: provide the regulatory exception/exemption(s) applicable to the authorized containers subject to regulation under 40 CFR Part 264, Subpart I:

If the facility contains tanks, surface impoundments, and containers subject to the requirements of 40 CFR Part 264 Subpart CC, please provide a report that includes all of the information required by 40 CFR §270.27.

1. For incorporation into the permit, complete Table X.C.

2. As applicable, include the following floating roof cover certification as part of the air emissions report for tanks:
I, _____ [owner or operator] _____, certify that the floating roof cover meets the applicable design specifications as listed in 40 CFR §264.1084(e)(1) or 40 CFR §264.1084(f)(1).
[Signature] _____ [Date] _____.
3. As applicable, include the following floating membrane cover certification as part of the air emissions report for surface impoundments:
I, _____ [owner or operator] _____, certify that the floating membrane cover meets the applicable design specifications listed in 40 CFR §264.1085(c)(1).
[Signature] _____ [Date] _____.
4. As applicable, include the following container certification as part of the air emissions report for containers:
I, _____ [owner or operator] _____, certify that the requirements of 40 CFR Part §264, Subpart CC, are met for all containers subject to control.
[Signature] _____ [Date] _____.
5. As applicable, include the following control device certification as part of the air emissions report:
I, _____ [owner or operator] _____, certify that the control device is designed to operate at the performance level documented by a design analysis as specified in 40 CFR 264.1089 (e)(1)(ii) or by performance tests as specified in 40 CFR §264.1089(e)(1)(iii) when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.
[Signature] _____ [Date] _____.

D. "One-Stop" Permits:

Does the facility have a "one-stop" permit?

☐ Yes ☒ No

If yes: does this permit application propose to delete the "one-stop" portion of the permit?

☐ Yes ☐ No

Does the facility want the application processed in accordance with 30 TAC Chapter 33 – Consolidated Permit Applications?

☐ Yes ☐ No

If yes: please provide a copy of the notification of intent required by 30 TAC 33.43.

Permittees having "one-stop" permits may elect to combine the air and waste management amendment, modification, or renewal of permitted waste management units. The combined amendment, modification, or renewal application will follow the application processing procedures for an industrial solid waste permit. "One-Stop" permit applications shall include the following air quality information, as applicable.

1. Area map (to scale) showing the location of the plant and land use in the vicinity

- of the facility including buildings, schools, residences, etc. within 3000 feet.
2. Plot plan (to scale) with latitude and longitude showing the plant layout, property boundary and location of all emission points of air contaminants. Emission points are to be numbered.
 3. Specific chemical name of each air contaminant and emission rate in maximum pounds per hour, maximum tons per year and calculations used to determine emission rates. Fugitive emissions are to be included. Complete Table 1(a) entitled "Emission Sources."
 4. Process description, operating schedule, and flow chart in sufficient detail that will explain the process and operation and a material balance for processes where applicable. The description should include a discussion of disposal methods for any generated residues and associated air emissions.
 5. Design specifications about each emission control device using the appropriate OAQ table.
 6. Volatile organic compound (VOC) concentrations in water or sludges or soil and volumes or weights of water, sludges or soils to be processed.
 7. Exhaust stack or emission point parameters for each emission point including height, diameter, temperature, velocity and flow rate, except ground level fugitive emissions.
 8. Best available control technology (BACT) documentation for all new and modified facilities.
 9. Documentation of compliance with any applicable Federal New Source Performance Standard (NSPS) and Federal National Emission Standard for Hazardous Air Pollutants (NESHAPS).
 10. Documentation as to whether a permit is required under new source review requirements of part C or D or Title I of the Federal Clean Air Act, 42 U.S.C. 7401 et seq., for a major source or major modification.
 11. Information that demonstrates reliability of emission control systems including process instrumentation, equipment redundancy and operating procedures.
 12. Results of atmospheric dispersion modeling certified to have been conducted in accordance with applicable TCEQ Office of Air Quality (OAQ) procedures. Model results must show maximum off-property 30-minute and annual ground level concentrations of each air contaminant. Dispersion modeling results must indicate compliance with all OAQ Rules and Regulations. Dimensions of buildings/structures that may influence dispersion modeling are to be furnished. Please consult with OAQ before beginning any modeling study.
 13. Storage tank data including capacity in gallons, diameter, height, paint color, composition, density, vapor pressure and molecular weight of liquid stored, maximum hourly and annual throughput and number of turnovers per year. Complete Table 7 entitled "Storage Tank Summary" for each tank.
 14. A statement addressing the applicability of each OAQ regulation.
 15. All methods of calculating emissions must be properly referenced with justification for selecting and assuming the values used in any equation.

Table X.A. – Process Vents

List all process vents covered by this application.

I.D. No. (if any)	Process Vent	Annual Throughput	Operating Hours	Total Vent Facility Emissions

Table X.B. - Equipment Leaks

List all equipment covered by this application

Equipment I.D. No.	Equipment Type	Waste Management Unit N.O.R. No.	Waste Management Unit Name	% by Weight Total Organics in Haz. Waste Stream	Waste State (gas, vapor, liquid)	Method of Compliance

Table X.C. – Tanks, Surface Impoundments, and Containers Subject to Air Emission Controls

List all units covered by this application

Permit Unit No.	Tanks	Design Capacity (Cubic Meters)	Hazardous Waste Maximum Organic Vapor Pressure ¹ (Kilopascals)	Tank Used in Waste Stabilization Process (Y, N)	Tank Level Control (1, 2) ²	Identify Tank Level 2 Control Tank Type and Control Device Type ³

Permit Unit No.	Surface Impoundments	Control Type (Floating Membrane /Cover Vented through Closed Vent System to Control Device) ³

Permit Unit No.	Container Storage Areas	Container Design Capacity (Cubic Meters)	In Light Material Service? (Y/N)	Container Level Standard ² (1, 2, 3)	Container Level Standard 3 Control Types (Closed-Vent System/ Enclosure, Control Device Type) ³

¹ Applicable to Tank Level 1 controls determined using procedures in 40 CFR 264.1083(c). If the tank is heated, see 40 CFR 264.1084(b)(ii).

² See 40 CFR 264.1084(c) and (d) for tanks and 40 CFR 264.1086(b) for containers.

³ See 40 CFR 264.1084(d)(1)-(5) for tanks, 40 CFR 264.1087(c)(1) for control devices, 40 CFR 264.1085(b) for surface impoundments, and 40 CFR 264.1086(c), (d), and (e) for containers.

Table X.D.1(a) – Emission Point Parameters

Table 1(a) _____ Page _____ of _____

Emission Sources _____ Date _____

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

Air Contaminant Data									Emission Point Discharge Parameters						
Emission Point[1]		Chemical Composition of Total Stream		Air Contaminant Emission Rate		UTM Coordinates of Emission Pt. [6]			Stack Sources (7)					Area Sources [8]	
Number	Name	Component or Air Contaminant Name [2]	Conc. (%v)	Lb/hr [4]	Tons/ Yr [5]	Zone	East [meters] (Lat.)	North [meters] (Long.)	Height Above Ground [ft.]	Height Above Structures [ft.]	Exit Data			Length [ft.]	Width [ft.]
											Dia. [ft.]	Vel. [fps]	Temp. [°F]		

Ground Elevation of Facility Above Mean Sea Level _____ feet.

TACB Standard Conditions Are 68°F and 14.7 psia [RULE 131.01.00.001(55)]

General Instructions for Table X.D.1(a):

1. Identify each emission point with a unique number for this plant site, consistent with emission point identification used on plot plan, previous permits and Emissions Inventory Questionnaire. Limit emission point number to 8 character spaces. For each emission point, use as many lines as necessary to list air contaminant data. Typical emission point names are : heater, vent, boiler, tank, reactor, separator, baghouse, fugitive, etc. Abbreviations are OK.
2. Typical component names are: air, H₂O, nitrogen, oxygen, CO₂, CO, No_x, SO₂, hexane, particulate matter (PM), etc. Abbreviations are OK.
3. Concentration data is required for all gaseous components. Show concentration in volume percent of total gas stream.
4. Pounds per hour (lb/hr) - maximum emission rate expected by applicant.
5. Tons per year (tons/year, t/yr.) is annual maximum emission rate expected by applicant which takes into account process operating schedule.
6. As a minimum, applicant must furnish a facility plot plan drawn to scale showing a plant benchmark, latitude and longitude correct to the nearest second for the benchmark, and all emission points dimensioned with respect to the benchmark as required by General Application, Form PI-1. This information is essential for calculation of emission point UTM coordinates. Please show emission point UTM coordinates if known.
7. Supply additional information as follows if appropriate:
 - a. Stack exit configuration other than a round vertical stack. Show length and width for a rectangular stack. Indicate if horizontal discharge with a note.
 - b. Stack's height above supporting or adjacent structures if structure is within three (3) "stack heights above ground" of stack.
 - c. If emission point is a flare, show flare data on Table 8.
8. Normally used for fugitive sources. Show dimensions of a minimum size rectangle which will "enclose" all fugitive sources included in this emission point number.

Table X.D.7 – For Fugitive Sources

Table 74-82 Storage Tank Summary

I. Applicant's Name: _____

II. Tank Parameters (one form for each tank).

1. Location (indicate on plot plan or provide coordinates):

2. Tank No. _____
3. Emission Point No. _____
4. Nominal Capacity : _____ barrels or
_____ gallons
5. Dimensions: Diameter _____ ft.
Height or Length _____ ft.
6. Color: Chalking white ☐ Aluminum ☐ Light grey or blue ☐
Dark color or not paint ☐ Other ☐ (Describe _____)
7. Status: New tank ☐ Altered tank ☐ Relocation ☐ Change of Service ☐
8. Previous permit or exemption number

9. Type: Fixed roof ☐ Pressure ☐ Insulated ☐ External floating roof ☐
10. Open top ☐ Underground ☐ Internal floating roof ☐ Horizontal ☐
11. Heated/Cooled ☐ (Temp. _____ °F)
12. For floating roof tanks, please supply the following information:
 - a. Type of roof: Double deck ☐ Pontoon ☐
Other ☐ (Describe _____)
 - b. Roof color: Chalking white ☐ Aluminum ☐
Other ☐ (Describe _____)
 - c. Shell construction: Riveted ☐ Welded ☐
Other ☐ (Describe _____)
 - d. Seals:
Primary:
Mechanical Shoe ☐ Liquid-Mounted ☐ Vapor-Mounted ☐
Other ☐ (Describe _____)
Secondary:
Shoe-Mounted ☐ Rim-Mounted ☐ Weather Shield ☐ None ☐
Other ☐ (Describe _____)

Vent Valve Data	Number	Pressure Setting	Vacuum Setting [<i>Specify "atmosphere" or Discharging To: (name of abatement device)</i>]
Combination vent valve			
Pressure vent valve			
Vacuum vent valve			
Open vent			

III. Properties of Stored Material (If tank is to hold several different materials or mixtures, attach appropriate information)

1. Material to be stored in this tank: _____
2. Liquid density at average annual bulk storage temperature: _____ lbs/gal or _____ °API
3. Average vapor molecular weight _____
4. Vapor pressure @ average annual bulk storage temperature: _____ psia @ _____ °F. (or _____ lbs. Reid).
5. Vapor pressure @ maximum bulk storage temperature: _____ psia @ _____ °F.
6. Initial boiling point: _____ °F.
7. If material stored is a solution, please supply the following information:
 - a. Name of solvent: _____
 - b. Partial pressure of solvent: _____ psia
 - c. Name of solute: _____
 - d. Partial pressure of solute: _____ psia
 - e. Concentration of solute: _____ wt% or _____ vol% or _____ lbs/gal.

IV. Operating Data:

1. Maximum filling rate: _____ bbls/hr or _____ gal/hr.
2. Average outage (average distance from top of tank shell to liquid surface): _____ ft.
3. Tank turnovers per year: _____ (Use zero (0) for constant-level tanks).

XI. Compliance Plan

Groundwater Monitoring and Corrective Action Requirements for Regulated Units

Owners or operators of facilities that process, store, or dispose of hazardous waste may be required to establish groundwater monitoring and response programs in accordance with the provisions of 30 TAC 335.157. There are three types of groundwater monitoring programs which may be addressed in a Compliance Plan Application for Regulated Units: i) detection monitoring, ii) compliance monitoring, and iii) corrective action monitoring. The applicability of these various monitoring programs and the associated application requirements are illustrated in Figure 2 of the Compliance Plan Application instructions and further outlined below. A Compliance Plan Application will be required to be submitted when establishing a new compliance plan or incorporating changes in an existing compliance plan.

Detection Monitoring: An owner/operator required to conduct detection monitoring per the requirements of 30 TAC 335.164 must monitor for indicator parameters, such as specific conductance, total organic carbon, and total organic halogen, as well as chemical parameters and hazardous constituents specified in the facility permit. If a statistically significant increase in any parameter or hazardous constituent specified in the facility permit is detected in any monitoring well down gradient of the compliance point, the owner/operator must sample the groundwater in all monitoring wells and analyze the samples for the presence of 40 CFR Part 264 Appendix IX hazardous constituents. As shown in the accompanying Flow Diagram (see Figure 2), if the analytical results confirm the presence of Appendix IX constituents down gradient of the compliance point, the owner/operator must submit a Compliance Plan Application to establish a compliance monitoring program or corrective action program.

Compliance Monitoring: The requirements for compliance monitoring programs are detailed in 30 TAC 335.165. Owners/operators required to establish a compliance monitoring program must monitor the groundwater to determine whether Regulated Units are in compliance with the Groundwater Protection Standard (GWPS) specified in the compliance plan (see 30 TAC 335.158 .160). If a statistically significant increase above the GWPS in any chemical parameter or hazardous constituent specified in the compliance plan is confirmed, the owner/operator must submit an application to modify the compliance plan to establish a corrective action program in accordance with 30 TAC 335.166 (see Figure 2). If no such exceedance of the GWPS is detected for three consecutive years and the applicable compliance period has expired, the owner/operator must apply for modification of the compliance plan to re-establish a detection monitoring program for the unit. No further monitoring may be needed if the applicable post-closure care period for the unit is complete.

Regulated Unit Corrective Action Program: Owners/operators required to implement a corrective action program in accordance with the provisions of 30 TAC 335.166 must remove the hazardous waste constituents found in the groundwater or treat the groundwater in-place to levels equal to or less than the GWPS down gradient of the compliance point. The owner/operator must also establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Corrective action measures may be terminated once the concentrations of hazardous constituents are reduced to levels equal to or below their respective concentration limits. After termination of the corrective action measures, the owner/operator must submit an application for modification of the compliance plan to re-establish a compliance monitoring program for the duration of the compliance period (see Figure 2).

Groundwater Corrective Action Requirements for Solid Waste Management Units (SWMUs)

HSWA Solid Waste Management Unit (SWMU) Corrective Action Program: An owner/operator

of a Permitted facility or an applicant applying for a hazardous waste permit is required to submit a Compliance Plan Application if hazardous constituents have been released from a SWMU and/or Area of Concern (AOC) to the groundwater and exceeds background or Practical Quantitation Limit (PQL) values, if under Risk Reduction Rules 30 TAC 335 and/or appropriate Protective Concentration Limits (PCLs), if under Texas Risk Reduction Program Rules 30 TAC 350. The Permitted facility must implement a corrective action program for SWMUs and/or AOCs in accordance with provisions 30 TAC 335.167 (see Figure 3, page 122 of the instructions for example of process-alternate, but equivalent process may be authorized by the Executive Director).

Compliance Plan Application Form Structure:

The Compliance Plan Application consists of Sections XI.A. through E.

Application Information Form:

This section contains detailed information necessary for the application and regulatory requirements needed to put in the final compliance plan.

The application form contains the following subsections:

- A. Site Specific Information
- B. Groundwater Protection Standard (GWPS)
- C. Compliance Monitoring Program
- D. Corrective Action Program
- E. Cost Estimates for Financial Assurance

CP Attachments:

- A. Alternate Concentration Limits
- B. Well Design and Construction Specifications
- C. Sampling and Analysis Plan

Compliance Plan Site Specific Tables:

This section includes the following tables which are to be completed by the applicant, as applicable, and shall be incorporated as part of the final draft Compliance Plan. [Note: include a CD disk with the application providing an electronic copy of the files supporting the compliance plan tables, as applicable, in MS Word format]:

CP Table I – Waste Management Units and/or Areas Subject to Groundwater Corrective Action and Compliance Monitoring

CP Table II – Solid Waste Management Units and/or Areas of Concern for which Corrective Action applies pursuant to 30 TAC 335.167.

CP Table III – CORRECTIVE ACTION PROGRAM Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard

CP Table IIIA – CORRECTIVE ACTION PROGRAM Table of Indicator Parameters and the Groundwater Protection Standard

CP Table IV – COMPLIANCE MONITORING PROGRAM Table of Hazardous and Solid Waste Constituents and Practical Quantitation Limits or Method Quantitation Limits for Compliance Monitoring

CP Table IVA – COMPLIANCE MONITORING PROGRAM Table of Detected Hazardous

Constituents and the Groundwater Protection Standard for Compliance Monitoring

CP Table V – Designation of Wells by Function

CP Table VI – Compliance Period for RCRA-Regulated Units

Note to the Permittee: All responses to each item in Section XI of the application form should be entered immediately below the original text associated with the form. Do not delete any areas of the application form that are not applicable, retain these areas with a response of either 'Reserved' or 'Not Applicable' below the original text of the form. In addition, if material supporting a response is located elsewhere in the application, the response should provide details as to the specific location within the referenced material.

One of the primary goals of the performance based Compliance Plan is the wells listed in, CP Table V – Designation of Wells by Function (to be included in the final Compliance Plan) are the wells in which the GWPS must be met to verify compliance with Compliance Monitoring program or corrective action objectives, and to change the table would require a modification. On the other hand, the following types of wells Corrective Action Observation Wells, Corrective Action System well, etc., that are included in "Attachment A" maps of the final draft Compliance Plan, should be flexible. The purpose is to provide the permittee with the authority to alter the groundwater monitoring system and Corrective Action System designs, as necessary, to proactively address changing environmental conditions without modifying or amending the Compliance Plan. An application to modify/amend the compliance plan is only required if wells listed in CP Table V are changed; consequently, Corrective Action Observation and Corrective Action System Wells are not listed in CP Table V of the compliance plan so they may be added or removed without modifying/amending the compliance plan. Notification of proposed changes to the groundwater monitoring system and Corrective Action System designs can be included in the semiannual or annual report required by CP Table VIII – Compliance Schedule (to be included in the final Compliance Plan).

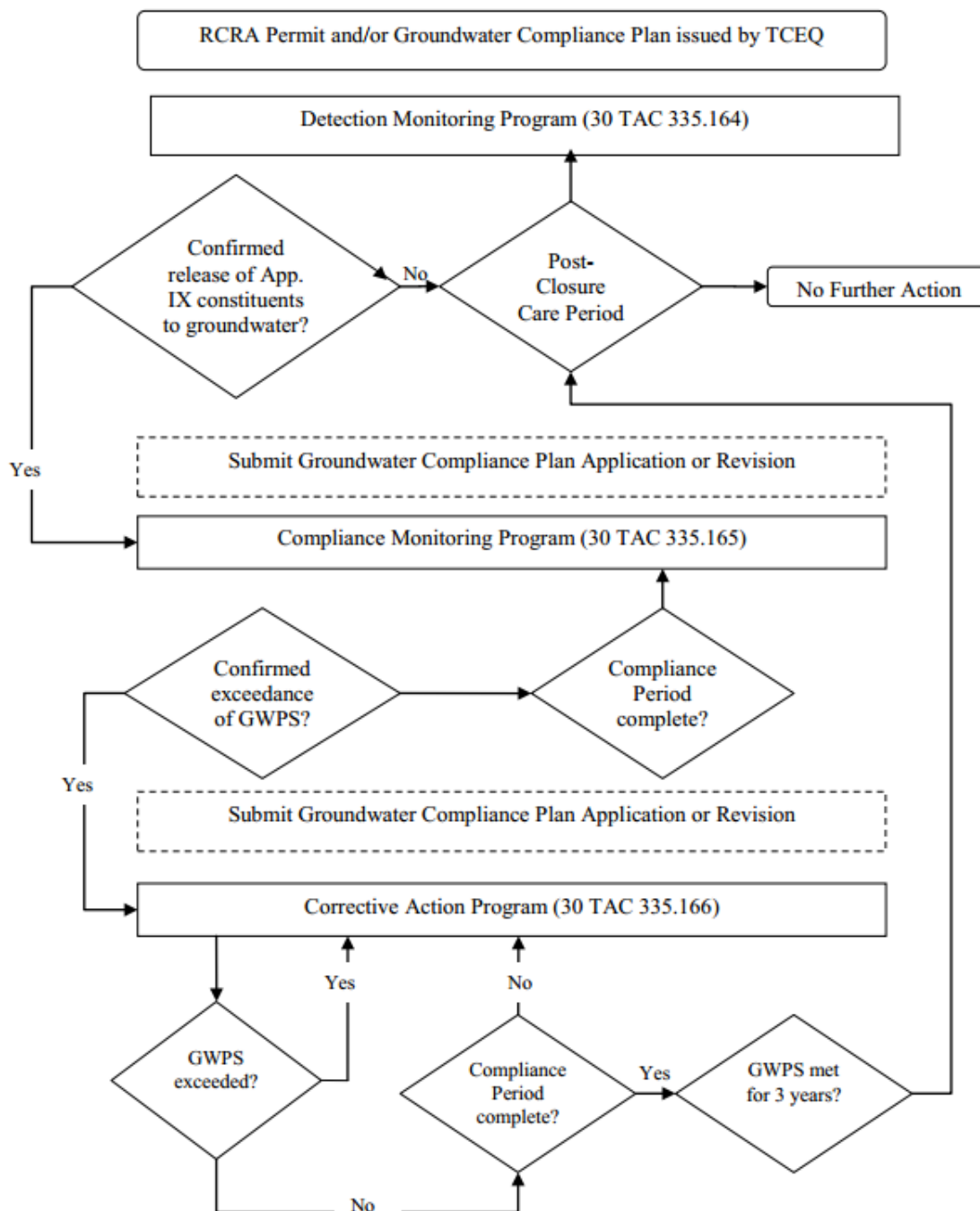
Figure 1 – Overview of Required Submittals And Revisions Associated with TCEQ Groundwater Compliance Plan Application

Type of Compliance Plan Application or Revision	Minimum Required Submittals				Additional Application Submittals Or Revisions					
	Description of Modification	Public Notification Evidence	Fee Payment Evidence	Part B, Section I	Section XI.A.	Section XI.B.	Section XI.C.	Section XI.D.	Section XI.E.	Attachment A
				General Information	Site-Specific Information	Groundwater Protection Standard	Compliance Monitoring Program	Corrective Action Program	Financial Assurance Cost Estimates	Alternate Concentration Limits
RCRA Permitted Units										
Compliance Monitoring Program, commencement or modification per 30 TAC 335.165.	●	●	●	●	●	●	●	○	●	●
Corrective Action Program, commencement or modification per 30 TAC 335.166.	●	●	●	●	●	●	○	●	●	●
Compliance Period, termination or extension per 30 TAC 335.162.	●	●	●	●	●	○	●	○	●	○
Solid Waste Management Units										
Corrective Measure Implementation (CMI), per 30 TAC 335.167.	●	●	●	●	●	●	●	●	●	○
Corrective Action Program termination.	●	●	●	●	●	○	●	○	○	○

Note:

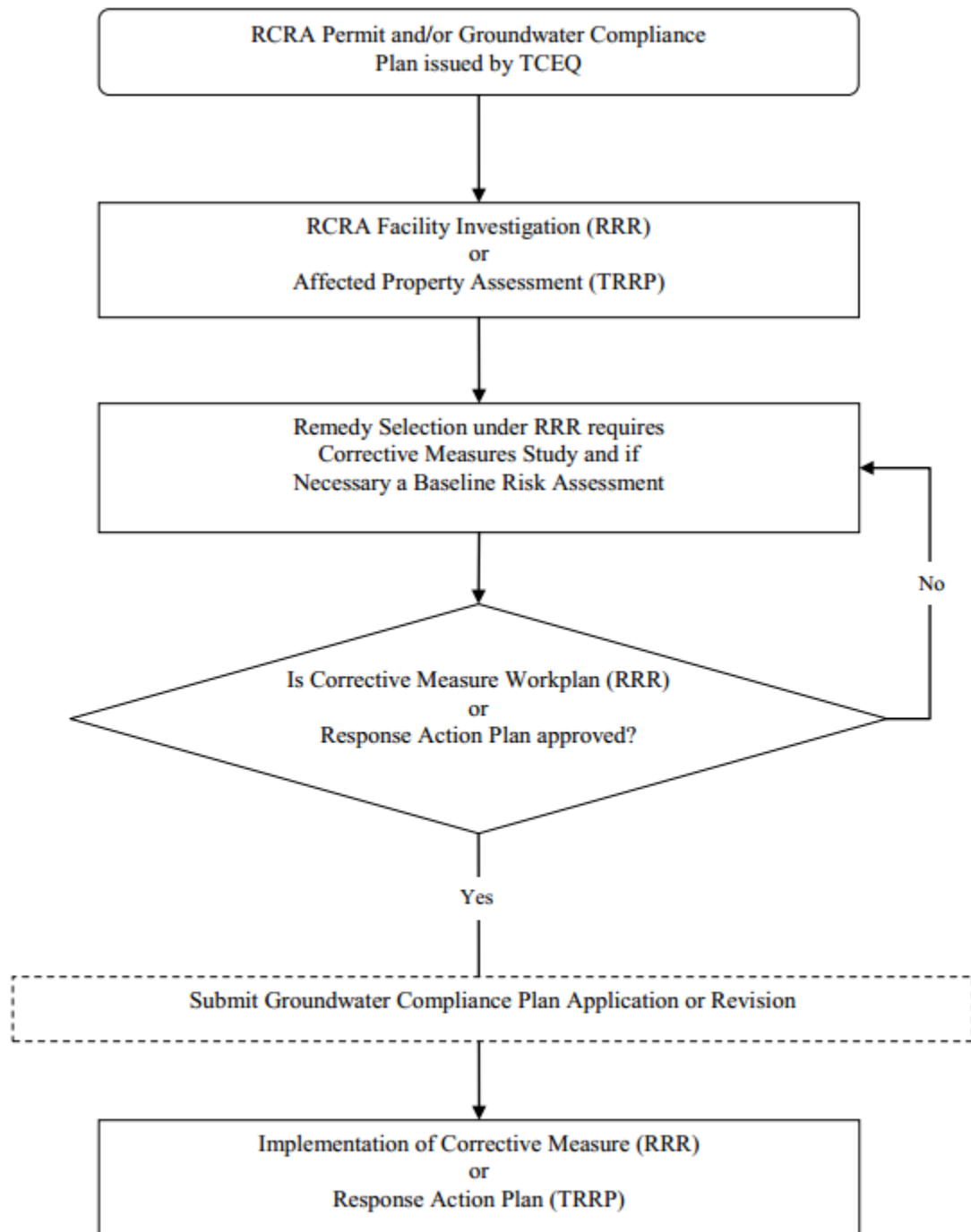
- Submittal of additional or revised information required.
- No submittal of additional or revised information required.
- Possible submittal of additional or revised information required.

Figure 2 - Summary of Groundwater Monitoring and Compliance Plan Application Requirements for Regulated Waste Management Units (30 TAC 335 Subchapter F)



- Note:
- GWPS = Groundwater Protection Standard (See Section XI.B. of this document, and 30 TAC 335.158 – 160)
 - App. IX = Groundwater Monitoring List, 40 CFR 264 Appendix IX.
 - Compliance Period = See Section XI.E. of this application, and 30 TAC 335.162.

Figure 3 – Summary of Compliance Plan Applications Requirements for Solid Waste Management Units (SMMUS) (30 TAC 335.167)



Note:
(RRR) – Risk Reduction Rules, 30 TAC 335
(TRRP) – Texas Risk Reduction Program, 30 TAC 350

A. Site Specific Information

The detection monitoring plan for the North CAMU is included with this Part B permit renewal application as Attachment K.

The corrective action groundwater monitoring plan for the RCA is included with this Part B permit renewal application as Attachment L. The groundwater monitoring performed for the RCA is referred to as the FOP Groundwater Monitoring for the purposes of this application.

The proposed corrective action monitoring programs for the plume management zone (PMZ) at the North CAMU and the funnel and gate permeable reactive barrier (PRB) and PMZ at the RCA are described in this section. The PMZ covering the area of the RCA is referred to as the FOP PMZ for this application.

1. General Site Information (provide the following information):
 - a. An overall plan view map of the entire facility delineating the facility's property boundary, Facility Operations Area (FOA) boundaries, as applicable, and the plume management zone (PMZ) boundaries as applicable;
A plan view of the facility is included as CP Attachment A, Sheet 1 of 4. The boundaries of the North CAMU PMZ and the FOP PMZ are included on that figure.
 - b. A 7.5 minute U.S.G.S. quadrangle topographic map showing the entire facility;
A view of the facility on a topographic map is included as CP Attachment A, Sheet 2 of 4.
 - c. All oversized (larger than 8.5" by 11") drawings submitted in accordance with a and b, above, should be accompanied with legible photocopies of the reduced drawing on 8.5" by 11" sheet(s) of paper which shall be used as "CP Attachment A" maps in the final draft Permit/Compliance Plan. The applicant should title the map(s) accordingly as "CP Attachment A, Sheet 1 of xx – Facility Site Map"; "CP Attachment A, Sheet xx of xx, FOA Lateral Boundary Map"; "CP Attachment A, Sheet xx of xx, PMZ Boundary Location Map"; and
 - d. Aerial photographs through time depicting changes in the land use, if available.
Historical aerial photographs are included with this Part B permit renewal application as Attachment N.
2. Waste Management
Provide a complete list and a plan view drawing(s) locating and identifying the following waste management units at the scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). All oversized (larger than 8.5" by 11") drawings should be accompanied with legible photocopies of the reduced drawing on 8.5" by 11" sheet(s) of paper. Please provide information for each waste management unit listed below on Table XI.A.1. – Facility History for Waste Management Units.
 - a. All hazardous waste management units regulated under the Industrial Solid Waste and Municipal Hazardous Waste Rules (Chapter 335) required to be monitored in accordance with 30 TAC 335.164 (Detection Monitoring), 335.165 (Compliance Monitoring Program) and 335.166 (Corrective Action

Program);

- b. All solid waste management units (SWMUs) and Areas of Concern (AOCs) regulated under 335.167 which are recommended for further investigation and/or corrective action in the RCRA Facility Assessment (RFA) shall include those identified in accordance with the permit requirements subsequent to the initial RFA.
- c. All on site wastewater treatment units.

Table XI.A.1 is attached. The plan view of the facility showing the location of the North CAMU, the RCA, the NDA, the Slag Landfill and the on-site wastewater treatment plant is included as CP Attachment A, Sheet 1 of 4.

3. Facility History

Based on the information provided in Table XI.A.1., complete CP Table I – Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring accordingly in the format provided.

CP Table I is attached.

For the SWMUs or AOCs listed in Table XI.A.1. regulated under 30 TAC 335.167 which are recommended for further investigation and/or corrective action in the RCRA Facility Assessment (RFA), including those identified in accordance with permit requirements subsequent to the initial RFA, complete CP Table II – Solid Waste Management Units and Areas of Concern for which Corrective Action applies pursuant to 30 TAC 335.167. CP Table II will become part of the Compliance Plan.

The waste management units subject to a corrective action groundwater monitoring program are the North CAMU and the RCA. The Slag Landfill and the NDA are located within the footprint of the RCA. Corrective actions for affected soil at the FOP are described in the FOP RAP, which is included as Attachment M.

4. Site Geology, Hydrogeologic Conditions, and Relationship to Surface Water

For New, modified/amended Compliance Plan, please provide a Geology Report as required by Section VI.B of this application containing updated site geologic information including the following descriptions, maps and tables with appropriate supporting documentation [All maps should be at the scale of 1 inch equal to not more than 200 feet and legible when reduced to 8.5" by 11" letter size paper]:

- a. A description of the site geology for the facility. The geologic description should include a site geology map and sufficient cross sections (see Item h. below) to describe the uppermost aquifer and any confining stratigraphic unit(s) beneath the site.
- b. A description of the site soils and subsurface lithologies using the Unified Soil Classification System. For those soil units which do not extend beneath the entire site area, the soil description should include a plan view map designating the soil's areal extent;
- c. Where a soil remedy is required in a corrective action program of Section XI.D.1. of this application for a Regulated Unit, SWMU and/or AOC, the applicant shall submit a description of contamination in soils of the vadose zone (unsaturated zone above the uppermost aquifer). The soil description should include maps indicating lateral and vertical extent of contamination;

Extensive investigation regarding soil impacts from Site operations have been conducted at the Site. A detailed discussion of the investigations and extent of soil affected properties is provided in the 2014 APAR (Attachment H), the 2015 Supplement to the APAR (Attachment I), and the Parkwood Boulevard Parcel Investigation Report (Attachment M, Appendix 3). Soil affected properties are outlined in the Response Action (Attachment M).

- d. A description and designation of the uppermost saturated zone or uppermost aquifer including the name, the type of unit (e.g. perched, confined, etc.), and groundwater characteristics (flow rates, directions, hydraulic conductivity, etc.). As defined in 40 CFR 260.10, an aquifer is a geologic formation, group of formation, or part of a formation, capable of yielding significant amount of groundwater to wells or springs. Persons using Texas Risk Reduction Program (TRRP) should also consider the definition of a groundwater bearing unit as a saturated geologic formation, group of formations, or part of a formation with a hydraulic conductivity of equal to or greater than 1×10^{-5} centimeters/second (30 TAC 350.4(a)40).
- e. Present the geologic, stratigraphic and hydrogeological information; and
- f. Maps indicating the lateral and vertical extent of the contamination for each stratigraphic unit affected, with supporting documentation.
- g. Current Contaminant Plume Map(s) Locating and identifying the extent of contamination as determined from previous monitoring on a separate facility base map(s). Locate and identify all monitor wells and waste management units/areas.
- h. Cross section Cross section transect lines should be indicated on the Contaminant Plume Map. The applicant, at a minimum, must submit two (2) stratigraphic cross sections for each waste management unit/area. One cross section should be drawn through all the point of compliance wells and the second cross section should be drawn along the direction of the movement of the contaminant plume released from the unit/area. Cross sections should follow the requirements outlined in the Geologic and Hydrogeologic Report of Parts IV and V of this application. At a minimum, the cross sections should include the following information:
 - (1) the stratigraphic interpretation (e.g., surface grade, uppermost aquifer, aquiclude);
 - (2) lithology/geologic description of the uppermost aquifer and aquiclude;
 - (3) the potentiometric surface;
 - (4) detected non-aqueous phase liquids (NAPLs) and hazardous constituents; and
 - (5) screen length and screen depth for each well in the cross section.
- i. Well Construction diagram The report should include a well construction diagram for all wells used in the cross section. The well construction diagram should include the information in "Attachment B" of this (Compliance Plan) application. The well construction diagram information may be included on the geologic cross-section(s).
- j. Describe the potential for any surface water bodies to be hydraulically connected to groundwater containing hazardous constituents. Apply the guidance provided in Determining PCLs for Surface Water and Sediment, RG-366/TRRP-24 Revised, December 2002, in order to determine the water

body type and applicable surface water criteria for human health, aquatic life and wildlife, as applicable.

The Geology Report is included with this Part B permit renewal application submittal as Attachment G. It includes descriptions and cross sections of the Site's geology including the required information listed above. In addition, it contains contaminant plume maps as Figure VI.B-4 (North CAMU) and Figure VI.B-5 (for the remainder of the FOP). Additional information is included in the RAP in Attachment M.

B. Hazardous Constituents In Groundwater And Groundwater Protection Standards (GWPSs)

Hazardous Constituents in Groundwater

For each contaminated hydrogeologic unit beneath a waste management unit/area (40 CFR 264.95), provide a list of all 40 CFR Part 264 Appendix IX hazardous constituents that have been detected in groundwater samples above background values, Practical Quantitation Limits (PQLs), or Method Quantitation Limits (MQLs). Please submit for each unit/area the most recent Appendix IX laboratory analysis results showing the constituents, constituent concentrations, methods used for analysis and associated laboratory QA/QC.

North CAMU:

Quarterly groundwater monitoring has been conducted at the North CAMU since June 2014.

Selenium has been measured in groundwater at concentrations above critical protective concentration limits (PCLs) in a well immediately to the east of the North CAMU (LMW-9) most recently in December 2015. LMW-9 collapsed in early 2016 and was replaced by LMW-9R in March 2016; selenium has been measured below PCLs in LMW-9R since it was installed.

Arsenic has been measured intermittently in groundwater at concentrations above PCLs in a well to the south of the North CAMU (LMW-22), most recently in October 2019.

FOP:

During groundwater sampling events conducted in both 2018 and 2019 to evaluate the subsurface conditions for groundwater corrective action for the RCA, the following metals were detected above their respective PCLs:

- During the DGW PDI, concentrations of total lead exceeded the critical PCL (0.015 mg/L for both total and dissolved) in five of 26 wells (three deep wells in the vicinity of the RCA, one shallow well in the vicinity of the RCA, and MW-10 to the east [cross-gradient/up-gradient] of the RCA). Additional sampling events between August 2018 and January 2019 confirmed PCL exceedances at DGW-MW-11 and MW-30 (both deep wells in the vicinity of the RCA). The other exceedances were not confirmed upon resampling. None of the lead PCL exceedances were located in the wells immediately along Stewart Creek (outside of the flood wall).**
- During the DGW PDI and the August 2018 resample event, concentrations of cadmium exceeded the critical PCLs (0.005 mg/L for total and 0.0017 for dissolved) in three of 26 wells (one shallow and two deep) in the vicinity of the RCA. The**

December 2018 and January 2019 sampling events confirmed an exceedance of both the total and dissolved cadmium PCLs at DGW-MW-11. The remaining two locations (MW-46 and DGW-MW-11S) did not have cadmium exceedances during the November/December 2018 sampling events. None of the cadmium PCL exceedances were located in the wells immediately along Stewart Creek (outside of the flood wall).

- During the DGW PDI, concentrations of arsenic exceeded the critical PCL (0.010 mg/L for both total and dissolved) in eight of 26 wells (all deep) in the vicinity of the RCA. The August 2018 resampling event did not confirm arsenic exceedances in MW-31; however, arsenic was detected above the PCL at two shallow locations (DGW-MW-10S and DGW-MW-11S) where they were not previously in exceedance. Resampling events in November and December 2018 further confirmed PCL exceedances of both total and dissolved concentrations of arsenic in DGW-MW-3 and MW-30. Arsenic was detected above the critical PCL outside of the flood wall adjacent to Stewart Creek in only one location (MW-27) at levels close to but slightly above the applicable PCLs.
- During the DGW PDI, concentrations of antimony exceeded the critical PCL (0.006 mg/L for both total and dissolved) in two of 26 wells (one shallow and one deep) in the vicinity of the RCA. Neither of the exceedances from the DGW PDI were confirmed in the August 2018 resampling event. As part of the PRB column studies, the French Drain System was sampled in November 2018 and December 2018 and detected concentrations exceeded the PCL for both total and dissolved antimony. Total antimony was detected slightly above the PCL at MW-30 in December 2018. None of the antimony PCL exceedances were located in the wells immediately along Stewart Creek (outside of the flood wall).

There were no exceedances of the critical PCL for selenium.

Historically, results also show localized impacts to shallow water encountered beneath the concrete slab (at MW-32, MW-33 and MW-34 for lead and/or cadmium) within the RCA and intermittently at MW-46 which is screened in the deeper transmissive unit.

The groundwater samples (collected for the purpose of determining whether constituents listed in Appendix IX are present) shall be from each waste management unit/area monitoring well system as required by 30 Texas Administrative Code (TAC) 335.164 (detection monitoring program).

If the waste management unit/area is subject to Corrective Action Program required by 30 TAC 335.166 or 335.167 and/or Compliance Monitoring required by 30 TAC 335.165, then list the unit/area and include the list of hazardous constituents and their principal degradation constituents in:

CP Table III – Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard; and

CP Table IV – Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Practical Quantitation Limits or Method Quantitation Limits for Compliance Monitoring.

CP Table III and CP Table IIIA are attached. The derivation of the listed groundwater protection standards is described below.

1. Groundwater Protection Standards (GWPSs)

The GWPS (30 TAC 335.158) is designed to ensure that hazardous constituents (30 TAC 335.159) identified in groundwater and their principal degradational constituents do not exceed concentrations that pose a present or potential hazard to human health and the environment. Compliance monitoring and corrective action programs for a Regulated Unit (30 TAC 335.165 and 335.166) and a corrective action program for a solid waste management unit (SWMU) (30 TAC 335.167) require human health and the environment to be protected from all releases of hazardous wastes and constituents. These corrective action and monitoring programs are evaluated using the GWPS. The GWPS is based on the following criteria.

- a. **Background Levels** Background levels authorized under 30 TAC 335.160(a)(1) are defined as constituent concentration values that are naturally occurring or are not influenced by contamination coming from the waste management unit. These values are established by statistical analysis of upgradient well sampling data. Analytical results from a sufficient number of independent samples are required to be utilized with an approved and appropriate statistical method. For guidance on the statistical methods consult, Statistical Analysis of Groundwater Data at RCRA Facilities-Unified Guidance, U.S. EPA, March 2009, and any subsequent updates to this document.

Practical Quantitation Limits (PQLs) or Method Quantitation Limits (MQLs) are utilized in lieu of background values unless a background demonstration establishes concentrations for naturally occurring constituents. The PQL or MQL is defined in the footnote of CP Tables III and IV.

- b. **Primary and Secondary Maximum Contaminant Levels (MCLs)** Maximum permissible level of a contaminant in water which is delivered to any user of a public water system (40 CFR Part 141 and 143, Federal Safe Drinking Water Act).
 - c. **Alternate Concentration Limits (ACLs)** determined in accordance with 30 TAC 335.160(b) and are defined in footnote of CP Tables III and IV.
2. **Establishing the Groundwater Protection Standard (GWPS)**
 - a. If background, PQL or MQLs are proposed for the GWPS, the applicant must list all constituents (i.e., detected and degradational constituents) for which a GWPS is being applied for and the appropriate concentration limits. This information shall be submitted in the format of CP Tables III, and IV.
 - b. **Alternate Concentration Limits (ACLs)** ACLs are established at the point of compliance (POC) for a regulated or solid waste management unit (SWMU). All concentration values or limits listed in Section XI.B.1.c. are considered ACLs. ACLs are evaluated in accordance with the provisions of 30 TAC 335.160(b) and other regulations acceptable to the executive director. If an ACL is requested on the basis of Section XI.B.1.c. (MCLs), then no ACL demonstration is necessary. The ACL demonstration must establish constituent concentrations in groundwater in accordance with regulations acceptable to the executive director. This information shall be submitted in the format of CP Tables III and IV. Note that depending upon the rule employed [i.e., 30 TAC 335 Subchapter S – Risk Reduction Rules (RRR) or 30 TAC 350 – Texas Risk Reduction Program (TRRP)], the applicant should determine the GWPS for the point of compliance and point of exposure, as applicable, in accordance with the remedy standard being utilized.

- c. If the contaminant plume discharges or has a potential to discharge into surface water, then the facility must also comply with 30 TAC Chapter 307 (Texas Surface Water Quality Standards) unless other regulatory requirements acceptable to the executive director are requested.
- d. "Attachment A" of this Compliance Plan Application provides a summary of regulatory requirements for an ACL demonstration in accordance with 30 TAC 335.160(b).

North CAMU:

ACLs have been established for the wells surrounding the North CAMU. The ACLs are the TRRP Tier 1 residential ^{GW}GW_{ing} PCLs applicable for class 2 groundwater ingestion. As these ACLs are requested on the basis of Section XI.B.1.c. (MCLs), no ACL demonstration is necessary. Additionally, the ^{SW}GW exposure pathway is considered to be complete in the vicinity of the North Tributary. The North Tributary is classified as an intermittent stream. In accordance with that classification, TCEQ RG-194, and the approved detection monitoring plan for the North CAMU (see Attachment K), ^{SW}GW PCLs are equal to the ^{SW}SW risk-based exposure limits (RBELs) for acute ecological criteria (except where acute ecological criteria were not established). The ^{SW}GW PCLs were established in the Revised Class 2 Landfill Groundwater Monitoring Plan, written by Pastor, Behling & Wheeler and dated July 31, 2013, which serves as the detection monitoring plan for the North CAMU. TCEQ approved the monitoring plan in a letter dated April 4, 2014. The detection monitoring plan for the North CAMU is included as Attachment K.

As described in the FOP RAP and per TRRP-33, attenuation action levels (AALs) for selenium and arsenic have been established for LMW-17, LMW-22, and MW-47. See the FOP RAP for a detailed discussion on how the AALs were derived.

RCA/FOP:

ACLs have been proposed for the RCA/FOP as is described in Attachment A of this Compliance Plan. ACLs have been established for the wells surrounding the North CAMU. The ACLs are the TRRP Tier 1 residential ^{GW}GW_{ing} PCLs applicable for class 2 groundwater ingestion. As these ACLs are requested on the basis of Section XI.B.1.c. (MCLs), no ACL demonstration is necessary. Additionally, the ^{SW}GW exposure pathway is considered to be complete for potential discharge to Stewart Creek. In the area of the RCA, the point of compliance is either Stewart Creek or the North Tributary. Stewart Creek is classified as a perennial stream and the North Tributary is classified as an intermittent stream. In accordance with that classification, ^{SW}GW PCLs are equal to the lower of the ^{SW}SW risk-based exposure limits (RBELs) for chronic ecological or human health criteria for wells along Stewart Creek and ^{SW}GW PCLs are equal to the ^{SW}SW risk-based exposure limits (RBELs) for acute ecological criteria (except where acute ecological criteria were not established) for wells along the North Tributary.

C. Compliance Monitoring Program

As required by 30 TAC 335.165, an owner or operator must monitor the groundwater to determine whether Regulated Units are in compliance with the Groundwater Protection Standard (GWPS) under 30 TAC 335.158. The applicant must provide the following information when proposing a compliance monitoring program.

1. Groundwater Monitoring Program Description
 - a. Describe the proposed groundwater monitoring system to be used to monitor compliance with the GWPS which includes the following information.
 - (1) Changes, if applicable, from the current detection monitoring system or compliance monitoring system groundwater monitoring program at the waste management unit that will be required to comply with the compliance monitoring program described in 30 TAC 335.165. This description should address changes concerning:
 - (a) Geological and/or hydrogeological information differences since the submittal of the previous application [must submit an updated Geologic and Hydrogeologic Report required by Section XI.A.4];
 - (b) Waste management areas/units;
 - (c) Construction details for monitor wells to evaluate compliance with "Attachment B" well specification requirements;
 - (d) The number and locations of additional monitor wells [also see Section XI.C.1.b.(2)];
 - (e) Sample handling, chain of custody, and analytical procedures (also see "Attachment C");
 - (f) Frequency of monitoring;
 - (g) Monitoring parameters;
 - (h) Evaluation of compliance with GWPS (Statistical Methods);
 - (i) Other Sampling and Analysis Plan information to be compliant with "Attachment C";
 - (j) Compliance period as defined in Section XI.E.1.c. of the application;
 - (k) Financial assurance (see Section XI.E.); and
 - (l) An ACL variance under 30 TAC 335.160(b), if applicable (also see "Attachment A").
 - (2) The number, depth and location of all monitor wells (Background Wells, Point of Compliance Wells, Observation Wells, Piezometers, etc.). Complete CP Table V – Designation of Wells by Function and make changes as applicable to plans referenced in Section XI.C.1.b.
 - (3) The proposed hazardous constituent monitoring list which is based on constituents that were monitored during detection monitoring (if applicable), constituents detected in accordance with 30 TAC 335.164, and degradational constituents identified in Table CP IV accordingly to develop the constituent list for the Compliance Monitoring Program. Also, list the PQL, MQL, or background concentration for each constituent in CP Table IV. CP Table IV shall become part of the final Compliance Plan to be analyzed at least annually as required by 30 TAC 335.165(7).
 - (4) The proposed indicator parameter monitoring list. From the list of constituents and GWPS identified in CP Table IV., complete CP Table IVA – Compliance Monitoring Program, Table of Detected Hazardous Constituents and the Groundwater Protection

Standard for Compliance Monitoring, accordingly. CP Table IVA shall become part of the final Compliance Plan to be analyzed at least semiannually as required by 30 TAC 335.165(6).

- (5) Monitoring frequency.
- (6) Provisions for reporting of groundwater data at least on an annual basis.
- (7) Annual determination of contamination plume rate and direction of migration.
- (8) Compliance period. Calculate the compliance period as required by 30 TAC 335.162 and 335.165(1)(d). Include calculations and complete CP Table VI – Compliance Period for RCRA-Regulated Units which shall become part of the final Compliance Plan.

b. Submit the following plans and reports.

- (1) Current Sampling and Analysis Plan The Sampling and Analysis Plan must include information required by 30 TAC 335.163(4) and 335.163(5) and 40 CFR Subpart 270.30(j). For guidance, please see "Attachment C" to the application.
- (2) Monitoring System Plan If the applicant is proposing a monitoring well or a monitoring system in the application, the applicable well installation specifications outlined in "Attachment B" of this application should be followed. All new monitoring wells must be installed in accordance with the specifications outlined in "Attachment B", unless an alternative design is approved by the agency prior to installation. If the applicant proposes as part of the monitoring system, any well (existing or proposed) that does not meet or exceed the requirements outlined in "Attachment B", then the proposed alternative design must be described in detail in the Monitoring System Plan and must be submitted with this application. The Monitoring System Plan must include:
 - (a) Monitoring System Design and Specifications Certified by a qualified engineer and/or geologist which provides detailed plans and specifications on the monitoring system design; and
 - (b) Well Drilling and Well Casing Specifications Certified by a qualified engineer and/or geologist which provides details on well casing specification, drilling logs and reports.
- (3) Current Geologic and Hydrogeologic Report Provide a report per Section X.I.A.4 of this application discussing the geologic and hydrogeologic conditions of the facility and the specific area affected by the waste management areas. This report should include the most up-to-date information from which the design of the groundwater monitoring system was based.

2. Waste Management Units Monitored

- a. Delineate and identify the following for each waste management unit in the proposed groundwater monitoring program.
 - (1) Boundary of the waste management unit and, if applicable, the proposed waste management area which includes more than one waste management unit (identify all waste management units which are included in the waste management area). These waste

management units subject to compliance monitoring should be listed in CP Table I – Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring which shall become part of the final Compliance Plan.

- (2) The proposed point of compliance (30 TAC 335.161) and point of exposure wells.
 - (3) Any other proposed monitor wells such as supplemental wells, observation wells, background wells, etc. If appropriate the groundwater monitoring system should have a sufficient number of wells be designated to monitor the downgradient extent of the plume.
 - (4) Features which may serve as conduits for subsurface contamination.
- b. For each waste management unit/area in the proposed groundwater monitoring system, submit the locations of individual waste management unit/area monitor wells (existing or proposed) and any soil borings (plugged and unplugged) specifically drilled for assessment of contamination. These individual monitor wells shall be identified by respective well number on a plan view drawing and only the background, point of compliance and/or point of exposure wells should be indicated in CP Table V – Designation of Wells by Function. The plan view map depicting the location of individual monitoring wells for compliance monitoring should be labeled as "CP Attachment A, sheet xx of xx" in the text box. The title box should also include reference to the facility name, Permit/Compliance Plan Number, Solid Waste Registration Number, Unit Description or name with Notice of Registration (NoR) Unit No. 0000. The "CP Attachment A" map(s) and CP Table V shall also become part of the final Compliance Plan.

3. Implementation Schedule

Itemize and discuss, in detail, the estimated time schedule necessary for any testing and assessments, system design, construction and installation, and final implementation of the groundwater monitoring program for each Regulated Unit and solid waste management unit. If the schedule of implementation for items are not completed at the time of the application, or are not completed at the time of issuance of the final draft Permit/Compliance Plan, then the items should be added to the CP Table VIII - Compliance Schedule of the application.

D. Corrective Action Program

As required by 30 TAC 335.166, the owner or operator must take corrective action to ensure that Regulated Units are in compliance with the Groundwater Protection Standards (GWPS) under 30 TAC 335.158. As required under 30 TAC 335.167, all releases of hazardous constituents from any solid waste management unit at the facility must also be addressed. For existing corrective action programs which have been approved by the TCEQ, the applicant shall provide a copy of the TCEQ corrective action system approval letter, design system specifications and any updates as requested in Section XI.D.3.a.(1) of this section. The applicant must provide the information requested below when proposing a corrective action program which has not been previously approved by the TCEQ including a detailed description of a corrective action or a combination of corrective actions that will remedy the groundwater contamination at the waste management unit and a proposed plan for a monitoring program that will demonstrate the effectiveness of the corrective action.

The owner or operator may also apply for a the Facility Operations Area (FOA) pursuant to the requirements of 30 TAC 350.131 - 350.135 of the Texas Risk Reduction Program (TRRP) rules, provided the applicant meets the FOA pre-approval process steps 1 through 3 approved by the Commission.

Also, the owner or operator may apply for alternative groundwater Corrective Action Program pursuant 30 TAC 335.151, 335.156 and 30 TAC 350, where there are commingled releases from RCRA-regulated unit from one or more SWMUs, PCO, and/or AOC.

1. Type of Corrective Action Proposed

From the list below, indicate the type of groundwater corrective action proposed for each hazardous waste unit/area. Discuss in detail if more than one corrective action is to be used in a waste management area. Submit the discussion and descriptions as an attachment to the application.

- a. Groundwater well recovery with surface treatment
- b. Groundwater well recovery/surface treatment/re injection
- c. Groundwater well recovery and disposal
- d. Vapor extraction system
- e. Interceptor trench recovery and disposal
- f. Interceptor trench recovery and surface treatment
- g. In-situ treatment – bioreclamation
- h. In-situ treatment – chemical reaction
- i. Barrier walls/encapsulation

Barrier walls (slurry walls and sheet piles) are proposed as the funnel components of the funnel and gate PRB for corrective action at the FOP. A detailed discussion of the funnel and gate PRB is included in the FOP RAP (Attachment M).

j. Permeable treatment beds

A funnel and gate PRB is proposed for the groundwater corrective action at the FOP. Permeable treatment beds (the permeable reactive portion of the PRB is considered a permeable treatment bed) are proposed as the gate component of the of the funnel and gate PRB for corrective action at the FOP. A detailed discussion of the PRB is included in the FOP RAP (Attachment M).

k. Other, please describe

A PMZ is proposed to address historical selenium and arsenic exceedances at LMW-9 and LMW-22, respectively, at the North CAMU. Exide proposes conducting a corrective action groundwater monitoring program to monitor the PMZ at the North CAMU. A detailed discussion of the North CAMU PMZ is included in the FOP RAP (Attachment M).

A PMZ is also proposed to address groundwater exceedances beneath the footprint of the RCA. Exide proposes conducting a corrective action groundwater monitoring program to monitor the FOP PMZ. A detailed discussion of the FOP PMZ is included in the FOP RAP (Attachment M).

2. Program Description

Attach a technical report providing a detailed description of a complete corrective action system including above and below ground equipment/facilities. Include discussions on the following concerns for each type of corrective action as

applicable.

a. Recovery Wells

- (1) Indicate on a plan view of the waste management area the anticipated location of Recovery Well(s) which would optimize the extraction of the groundwater contaminants.
- (2) Indicate on a plan view the estimated radius of influence of each Recovery Well.
- (3) Indicate the optimum pumping rate of each Recovery Well determined from the aquifer pump test.
- (4) Describe the design of the Recovery Wells and pump system including diameter, construction material, gravel packing, screen slot sizes and patterns, type of pumps and maintenance requirements.
- (5) Describe the collection and storage of the contaminated groundwater which is classified hazardous waste (on site storage of hazardous waste shall require compliance with the applicable regulations):
 - (a) Less than 90 day tanks (see 40 CFR 262.34/40 CFR 265 Subpart J);
 - (b) Permitted Tanks (see 40 CFR 264 Subpart J);
 - (c) (Less than 90 day Container Storage Area (see 40 CFR 262.34/40 CFR 265 Subpart I);
 - (d) Permitted Container Storage Area (see 40 CFR 264 Subpart I); and
 - (e) Temporary Units (see CFR 264.553).
- (6) Describe the treatment and/or final disposition of the hazardous and nonhazardous contaminated groundwater.

No recovery wells are proposed as part of this corrective action monitoring program.

b. Vapor Extraction System

- (1) Indicate on a plan view of the waste management area the anticipated location of the vapor extraction system which would optimize the extraction of hazardous constituents from the vadose zone.
- (2) Describe the construction design of the vapor extraction system in detail, including all diagrams and drawings.
- (3) Describe the emission control equipment used to comply with air quality regulations.
- (4) Provide the anticipated volatile contaminants to be remediated along with information on the expected effectiveness of the vapor extraction system at the waste management unit.
- (5) Provide established treatability data for the proposed design.
- (6) Specify the hazardous constituents affected by this type of treatment.

No vapor extraction system is proposed as part of this corrective action monitoring program.

c. Interceptor Trenches

- (1) Indicate on a plan view of the waste management area the anticipated location of the interceptor trench.
- (2) Provide the construction design.
- (3) Describe the procedure for construction.
- (4) Describe the liquid removal and collection system.
- (5) Describe the surface storage and/or treatment of the contaminated groundwater.
- (6) Describe the final disposition of the contaminated groundwater.

No interceptor trenches are proposed as part of this corrective action monitoring program.

d. In-situ Treatment – Chemical Reaction

- (1) Characterize the chemical agents to treat the contaminated groundwater and/or soils in the vadose zone.
- (2) Provide laboratory treatability data.
- (3) Specify the hazardous constituents affected by this type of treatment.
- (4) Specify the reaction by products produced during the chemical reactions.
- (5) Indicate degradation time for each treated hazardous constituent and any resulting chemical reaction by products.
- (6) Describe the potential health risks caused by human exposure to the reaction by products.
- (7) Describe potential damage to wildlife, crops, vegetation and physical structures caused by exposure to reaction by products.
- (8) Describe the persistence and permanence of the potential effects of the reaction by products.
- (9) Describe the method of chemical reactant injection and other important aspects of the system design.

No in situ treatment is proposed as part of this corrective action monitoring program.

e. In-situ Treatment Bioreclamation

- (1) Describe the type of bacteria most appropriate for the degradation of the hazardous constituents present in the groundwater and/or soil in the vadose zone.
- (2) Describe the nutrients necessary and application frequency to encourage effective bioreclamation.
- (3) Provide laboratory data from treatability studies utilizing the contaminated groundwater and describe any potential hazardous by products.
- (4) Indicate the degradation time for each hazardous constituent affected by this treatment.
- (5) Describe the method of injecting the bacteria and nutrients and describe the delivery system design.

No in situ bioreclamation is proposed as part of this corrective action monitoring program.

f. Barrier Walls

- (1) Provide laboratory permeability data using the actual contaminated groundwater.
- (2) Describe the barrier wall materials.
- (3) Summarize construction design and installation procedures.

Barrier walls are proposed as the funnel component of the funnel and gate PRB. The Program Description is included in Attachment M (RAP).

g. Permeable Treatment Beds

- (1) Provide laboratory data of treatability simulations using actual contaminated groundwater in combination with the material proposed to be used in treatment beds.
- (2) Discuss the properties of the treatment material which would make it effective for use at this site.
- (3) Indicate which hazardous constituents will be affected by this treatment. Indicate the reactions which will take place and the resulting reactant by products. Discuss the anticipated lifetime of the permeable treatment beds.
- (4) Provide the construction design and installation procedures.

Permeable Treatment Beds (in the form of a PRB) are proposed as the gate component of the funnel and gate PRB. The Program Description is included in Attachment M (RAP).

h. Other

Discuss in detail, any other corrective action (soils and groundwater) not included above which is proposed for use at the affected waste management area(s).

A PMZ is proposed to address historical selenium and arsenic exceedances at LMW-9 and LMW-22, respectively, at the North CAMU. A PMZ is also proposed to address lead, arsenic, cadmium and antimony exceedances at the FOP. The PMZs are described in detail in Section XI.D.6 and in Attachment M (Response Action Plan).

3. Groundwater Monitoring and Corrective Action Program Description

- a. Describe the proposed groundwater monitoring system to be used to monitor corrective action and compliance with the GWPS which includes the following information.
 - (1) Changes, if applicable, from the current groundwater monitoring program at the waste management unit that will be required to comply with the corrective action monitoring program described in 30 TAC 335.166. This description should address changes concerning:
 - (a) Geological and/or hydrogeological information differences since the submittal of the previous application [must submit a Geologic and Hydrogeologic Report in accordance with Section XI.A.4;
 - (b) Waste management areas/units;
 - (c) Construction details for monitor wells to evaluate compliance with "Attachment B" well specification requirements;

- (d) The number and locations of additional monitor wells [must submit the Monitoring System Plan/Report required by Section XI.D.3.c.(2);

North CAMU:

The corrective action groundwater monitoring program proposes that monitoring wells LMW-8, LMW-9R, MW-41, and MW-42 serve as APOEs for the North CAMU PMZ and LMW-17, LMW-22, and MW-47 serve as the AMPs. LMW-17 would be an AMP for selenium only as it is up-gradient of the presumed source of selenium at LMW-22.

FOP:

The corrective action groundwater monitoring program for the FOP is described in Attachment L.

Corrective action monitoring for both the North CAMU and the FOP is further described in the RAP included in Attachment M.

- (e) Sample handling, chain of custody, and analytical procedures (also see "Attachment C");
- (f) Frequency of monitoring;
- (g) Monitoring parameters;
- (h) Evaluation of compliance with GWPS (statistical methods);
- (i) Other Sampling and Analysis Plan information to be noncompliant with "Attachment C";
- (j) Compliance period as defined in Section XI.E.1.c. of the application;
- (k) Financial assurance; and
- (l) An ACL variance under 30 TAC 335.160(b), if applicable (also see "Attachment A").

The ^{GW}GW_{ing} PCL is set to TRRP Tier 1 residential PCLs (as opposed to TRRP Tier 1 commercial/industrial PCLs for class 3 groundwater ingestion) in this compliance plan application.

Differences between the detection monitoring program for the North CAMU and the proposed corrective action program for the area near the North CAMU are outlined above. Sampling and analysis procedures are described in the North CAMU detection monitoring plan, which is included as Attachment K.

Because groundwater corrective actions and associated monitoring are being proposed for the RCA, no detection monitoring is proposed. Sampling and analysis procedures are described in the proposed FOP Corrective Action Groundwater monitoring plan, which is included as Attachment L.

Corrective action monitoring is further described in the RAP included in Attachment M.

- (2) The number, depth and location of all monitor wells (Background

Wells, Point of Compliance Wells, Corrective Action Observation Wells, Supplemental Wells, piezometers, etc.) and all Recovery Wells and complete CP Table V – Designation of Wells by Function. Also, make revisions as applicable to plans referenced in Section XI.D.3.c.

North CAMU wells: The locations and depths of all wells associated with the North CAMU are shown on CP Attachment A, Sheet 3 of 4 and the wells are listed on CP Table V.

FOP wells: The locations of all wells associated with the RCA are shown on CP Attachment A, Sheet 4 of 4 and the wells are listed on CP Table V.

- (3) The proposed hazardous constituent monitoring list which is based on constituents that were monitored during detection monitoring (if applicable), constituents detected in accordance with 30 TAC 335.164, and degradational constituents identified in CP Table III accordingly to develop the constituent list for the Corrective Action Monitoring Program. CP Table III shall become part of the final Compliance Plan.

The hazardous constituent monitoring list is included in CP Table III. The values in column B are the unadjusted MQLs for EPA Methods 6020A and 7470A. The GWPS values, which are the ACLs as referenced in Section XI.B.2.d, are also included in column C.

- (4) The proposed indicator parameter monitoring list. From the list of constituents and GWPS identified in CP Table III complete CP Table IIIA – Corrective Action Program Table of Indicator Parameters and the Groundwater Protection Standard, accordingly. CP Table IIIA shall become part of the Compliance Plan to be analyzed at least semiannually as required by 30 TAC 335.166(7).

CP Table IIIA is attached. Column A lists the hazardous constituents which have been detected above GWPS values. Column B lists the applicable GWPS values, which are ACLs equal to the TRRP Tier 1 residential ^{GW}GW_{Ing} PCLs or, ^{SW}GW PCLs for acute or chronic ecological criteria.

- (5) Monitoring frequency.

North CAMU:

As part of the corrective action monitoring program, groundwater samples will be collected from LMW-9R, LMW-17, LMW-22, MW-47, and MW-41 on a quarterly basis for the first two years, and semi-annually after. Samples will be analyzed quarterly for selenium, arsenic, and – per the detection monitoring plan for the North CAMU – cadmium and lead. The sampling of the wells in the corrective action plan will serve to satisfy the requirements for the detection monitoring plan (i.e., there will not be two sets of samples collected).

RCA:

As part of the corrective action program, groundwater samples will be collected from existing monitoring well B7N, B9N, DGW-MW-9, MW-10, MW-17, MW-18, MW-21, MW-22, MW-23, MW-26, MW-27, MW-19, and proposed monitoring wells MW-16SR, SR-MW-1, PRB-MW-1 through PRB-MW-7, MW-48, and MW-49 on a quarterly basis for two years and then subsequently on a semi-annual basis. Samples will be analyzed for FOP COCs (antimony, arsenic, cadmium, lead, and selenium).

- (6) Provisions for semiannual reporting of groundwater data.

Per the groundwater monitoring plans for the North CAMU and FOP, semiannual groundwater monitoring reports will be prepared and submitted to the TCEQ on or before January 21 and July 21 of each year. The reports will include discussions of sampling procedures and data results; laboratory analytical reports and data usability summaries; information on monitoring well conditions, well construction, well yield/purging, development and sampling issues, and any relevant site information (droughts, excessive rainfall, etc.); potentiometric surface maps; and a summary of data in tabular form that lists the constituents, dates sampled, monitoring well IDs, applicable GWPS's, analytical results (with GWPS exceedances highlighted), and detection limits for constituents that were not detected. The report submitted for the North CAMU detection monitoring plan will also address the requirements of this compliance plan.

- (7) Annual determination of contamination plume rate and direction of migration.

Quarterly monitoring has been ongoing at the North CAMU since June 2014. In that time, the only GWPS exceedances for arsenic have occurred in observation well LMW-22 and the only GWPS exceedances for selenium have occurred in observation well LMW-9 (which has been abandoned due to well collapse and replaced with LMW-9R). The exceedances in these wells have not been consistent and they are not believed to be related to a release from the North CAMU. Based on these historical results, it does not appear that either the selenium or arsenic plumes are migrating. If future groundwater monitoring shows arsenic and/or selenium exceedances in other wells, the rate and direction of the plume migration will be determined and discussed in the next applicable semiannual groundwater monitoring report.

There is no current groundwater monitoring program being performed for the FOP.

- (8) Compliance period. Calculate the compliance period as required by 30 TAC 335.162 and 335.165(1)(d). Include calculations and complete CP Table VI – Compliance Period for RCRA-Regulated Units which shall become part of the final Compliance Plan.

As established in the Closure Plan, the North CAMU will be closed

once all class 2 waste from on-Site remediation activities that will be placed in the North CAMU has been placed and final closure activities for the North CAMU (e.g., capping, grading, and seeding) are completed. Post-closure monitoring will begin upon the completion of closure activities and will continue for a period of 30 years. CP Table VI is attached.

The RCA will be closed once all on-Site and off-Site soil and Stewart Creek sediment remediation wastes have been consolidated and placed and final closure activities are completed. Post-closure monitoring will begin upon the completion of closure activities and will continue for a period of 30 years. CP Table VI is attached.

- b. Proposed methods of evaluating the effectiveness of the corrective action in the saturated and vadose zone.

The proposed corrective action groundwater monitoring program for the North CAMU will be used to evaluate the effectiveness of the PMZ. Response actions in the event of a PCL exceedance in groundwater at the North CAMU are described in the North CAMU Detection Monitoring Plan (Attachment K).

The proposed corrective action groundwater monitoring program for the FOP will be used to evaluate the effectiveness of the funnel and gate PRB. Response actions in the event of a PCL exceedance in groundwater at the RCA are described in the FOP Groundwater Monitoring Plan (Attachment L) and RAP (Attachment M).

- c. Submit the following plans and reports.

- (1) Current Sampling and Analysis Plan The Sampling and Analysis Plan must include information required by 30 TAC 335.163(4) and 335.163(5) and 40 CFR Subpart 270.30(j). For guidance, please see "Attachment C" to the application.

The sampling and analysis procedures applicable to both detection monitoring and corrective action monitoring at the North CAMU are described in the North CAMU detection monitoring plan (Attachment K), approved with modifications by TCEQ on April 4, 2014.

The sampling and analysis procedures applicable to corrective action monitoring at the RCA are described in the FOP Groundwater Monitoring Plan (Attachment L).

- (2) Groundwater Recovery and Monitoring System Plan At a minimum, the plan must include:
- (a) Recovery System Plan The applicant should propose a recovery system design that will achieve the performance requirement to protect human health and the environment. The plan should provide detailed plans, information and specifications on the recovery system's design and well installation specifications. All new recovery wells must be installed in accordance with applicable specifications outlined in "Attachment B", unless an alternative well design is approved by the agency prior to installation of the well. The Recovery System Plan

must include Recovery System Design and Specifications Certified by a Texas Registered Professional Engineer. The certification must be sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act.;

No recovery system is proposed as part of the corrective action programs.

- (b) **Monitoring System Plan** If the applicant is proposing a monitoring well or a monitoring system in the application, the applicable well installation specifications outlined in "Attachment B" of this application should be followed. All new monitoring wells must be installed in accordance with the specifications outlined in "Attachment B", unless an alternative design is approved by the agency prior to installation. If the applicant proposes as part of the monitoring system, any well (existing or proposed) that does not meet or exceed the requirements outlined in "Attachment B", then the proposed alternative design must be described in detail in the Monitoring System Plan and must be submitted with this application. The Monitoring System Plan must include:
 - (i.) **Monitoring System Design and Specifications** Certified by a qualified engineer and/or geologist which provides detailed plans and specifications on the monitoring system design; and

North CAMU:

The monitoring system has been designed to provide additional information in the areas surrounding and downgradient from LMW-22 and LMW-9/LMW-9R. The exceedances in these wells have not been consistent and are not believed to indicate a release from the North CAMU. The monitoring system includes the same set of wells as the existing detection monitoring plan for the North CAMU and also includes MW-41 and MW-47, which are located between the North CAMU and the North Tributary. The specifications for the wells included in the monitoring system are described in Item 13 of CP Attachment B. The monitoring system design will be evaluated after additional data on water levels and metals concentrations in the area is evaluated. The locations and depths of all background, observation, and POC/APOE wells are shown on CP Attachment A, Sheet 3 of 4.

FOP:

The monitoring system has been designed to

provide data to evaluate the performance of the funnel and gate PRB. The specifications for the wells included in the monitoring system (including wells along the outsides of the funnel and gate system as well as upgradient from the funnel and gate) are described in Item 13 of CP Attachment B below. The locations and depths of all wells are shown on CP Attachment A, Sheet 4 of 4. Wells along the outside of the funnel and gate PRB system are considered POC/APOE wells.

- (ii.) Well Drilling and Well Casing Specifications
Certified by a qualified engineer and/or geologist which provides details on well casing specification, drilling logs and reports.

One new monitoring well (SR-MW-1) is proposed to be installed outside of the sheet pile/slurry wall along the downgradient edge of the former production area (downgradient of the sump reactor). Two new monitoring wells (PRB-MW-1 and PRB-MW-2) are proposed to be installed on the upgradient side of the PRB and downgradient of the Slag Landfill. Five new monitoring wells (PRB-MW-3 through PRB-MW-7) are proposed downgradient of the PRB, including the two to be installed within the secant wall drainage system (see Attachment M, Appendix 3.7). Two monitoring wells (MW-48 and MW-49) are proposed to be installed outside of the slurry wall and located between the Slag Landfill and the North Tributary. Monitoring well M-16S will be replaced after construction of the funnel and gate PRB system is complete.

Based on existing Site data, the screened intervals for all proposed wells would target the lower transmissive zone in the GWBU; however, should a separate shallow transmissive zone be identified, a shallow monitoring well may also be installed and discussed with the TCEQ.

In addition, six piezometers (PZ-1 through PZ-6) are proposed on the upgradient side of the slurry walls (and within capped areas) to better evaluate the potentiometric surface in these area.

If any wells or piezometers need to be replaced or added in the future (see discussion of potential replacement wells in Attachment L), the new wells will adhere to the guidelines described in Attachment B of this compliance plan application. The well drilling and well casing specifications for monitoring wells within the monitoring system are included in Attachment B. Locations of proposed monitoring wells are presented as CP Attachment A,

Sheet 4 of 4.

- (3) Current Geologic and Hydrogeologic Report - Provide a report per Section XI.A.4 of this application discussing the geologic and hydrogeologic conditions of the facility and the specific area affected by the waste management areas. This report should include the most up-to-date information from which the design of the groundwater monitoring system was based.

The Geology Report, including a discussion of geologic and hydrogeologic conditions, is included with this Part B permit renewal application as Attachment G.

4. Waste Management Units/Areas Monitored Under Corrective Action Programs
 - a. Delineate and identify the following for each waste management unit/area in the proposed groundwater monitoring and corrective action programs.
 - (1) Boundary of the waste management unit and, if applicable, the proposed waste management area which includes more than one waste management unit (identify all waste management units which are included in the waste management area). These waste management units/areas subject to corrective action pursuant to 30 TAC 335.166 and 335.167 should be listed in CP Table I – Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring. CP Table I shall become part of the final Compliance Plan.
 - (2) The proposed point of compliance (30 TAC 335.161), point of exposure wells, or alternate point of exposure wells.
 - (3) Any proposed monitor wells such as supplemental wells, observation wells, background wells, etc. If appropriate the groundwater monitoring system should have a sufficient number of wells to monitor the downgradient extent of the plume.
 - (4) Features which may serve as conduits for subsurface contamination.
 - (5) Corrective action system.

The boundaries of the North CAMU and PMZ, as well as the associated monitoring well network are shown on CP Attachment A, Sheet 3 of 4.

The boundary of the RCA and PMZ, the layout of the PRB, as well as the associated monitoring well network are shown on CP Attachment A, Sheet 4 of 4.

- b. For each waste management unit/area in the proposed groundwater monitoring system, submit the locations of individual waste management unit/area monitor wells (existing or proposed) and any soil borings (plugged and unplugged) specifically drilled for assessment of contamination. These individual monitor wells shall be identified by respective well number on a plan view drawing and only the background, point of compliance, point of exposure wells and/or alternate point of exposure wells should be indicated in CP Table V – Designation of Wells by Function. The plan view map depicting the location of individual monitoring wells for corrective action monitoring should be labeled as "CP Attachment A, sheet xx of xx" in the text

box. The title box should also include reference to the facility name, Permit/Compliance Plan Number, Solid Waste Registration Number, Unit Description or name with Notice of Registration (NoR) Unit No. 0000. The "CP Attachment A" map(s) and CP Table V shall also become part of the final Permit/Compliance Plan.

The corrective action monitoring well network for the North CAMU is shown on CP Attachment A, Sheet 3 of 4 and the corrective action monitoring well network for the FOP is shown on CP Attachment A, Sheet 4 of 4. Additional information regarding the assessment of contamination in the vicinity of the North CAMU and the FOP is described in the 2014 APAR, which is included as Attachment H to this Part B permit renewal application and the RAP which is included as Attachment M to this Part B permit renewal application.

5. Waste Management Units/Areas Addressed Under Other Corrective Action Programs -Facility Operations Area (FOA), specific to the requirements of 30 TAC 350.131 - 350.135. The Permittee should also complete Sections XI.D.4. for other units not addressed by the FOA that may require corrective action outside the FOA boundary. For other units not addressed by the FOA, either within the FOA or outside the FOA which may require compliance monitoring, the Permittee should complete Section XI.C. of this application accordingly.

There are no other waste management units at the FOP addressed under other corrective action programs.

- a. Provide an approved version of the FOA Qualifying Criteria Checklist and evidence that Steps 1 through 3 of the FOA pre-approval process has been approved by the Commission.
- b. Provide a discussion on exceptions to the TRRP rule requested.
- c. Provide a summary of the SWMUs/AOCs that will be addressed within the FOA boundary and a discussion of the multiple sources of COCs present and how FOA will better address these sources.
- d. Provide maps of appropriate scale depicting the following (maps may be combined where appropriate):
 - (1) The number, location and type of monitoring points in each stratigraphic unit to be monitored individual monitoring wells should be identified by respective well number on a plan view drawing, to include the background, Point of Compliance (POC), Point of Exposure (POE), FOA Boundary of Compliance wells, FOA piezometers or supplemental wells, Corrective Action Observation ((CAO), Corrective Action System (CAS) wells that are applicable for FOA monitoring program should be labeled as "CP Attachment A, sheet no xx of xx" in the title box. The title box should also include reference to the facility name, Permit/Compliance Plan Number (00000), TCEQ Solid Waste Registration Number and Unit Description or Name. The "CP Attachment A" map(s) shall become part of the final Permit/Compliance Plan.
 - (2) HWMUs/SWMUs/AOCs addressed
 - (3) Surrounding land use

- (4) FOA lateral boundaries
 - (5) Potential source areas
 - (6) Potentiometric surface of all relevant transmissive units
 - (7) Surrounding water wells
 - (8) Extent of known contamination in each transmissive unit
 - (9) Areas of potential ecological impact
 - (10) Known occurrences of NAPL or DNAPL in each transmissive units
 - (11) FOA access control components
- e. Provide cross-sections in accordance with Section XI.A.4. depicting the following (maps may be combined where appropriate);
 - (1) The vertical boundaries of the FOA;
 - (2) The vertical extent of contamination;
 - (3) Groundwater level elevations for each transmissive unit.
- f. Provide tabulated information for;
 - (1) Results of Appendix IX GW sampling.
 - (2) Proposed PCLs for each hazardous constituent and principal degradational constituent for each monitoring point with supporting documentation (including a discussion of exposure pathways) should be listed in CP Table III – CORRECTIVE ACTION PROGRAM Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard. CP Table III shall become part of the final Compliance Plan.
 - (3) The proposed indicator parameter monitoring list. From the list of constituents and GWPS identified in CP Table IIIA. CP Table IIIA shall become part of the Compliance Plan to be analyzed at least semiannually as required by 30 TAC 335.166(7).
 - (4) Only the background, POC, POE, FOA Boundary of Compliance wells should be listed in CP Table V which shall become part of the final Permit/Compliance Plan.
- g. Provide a discussion of the types of corrective action that will be employed to address contaminated media.
- h. Provide detailed descriptions of GW recovery and other remedial technologies such as vapor extraction, interceptor trenches, hydraulic containment, barrier walls, etc., including radius of influence, estimated optimum recovery rates, location of collection, storage or disposal facilities.
- i. Provide a detailed description of the ground water monitoring system including placement of monitoring wells, hydrogeologic characteristics of monitored units and well completion details.
- j. Provide a Sampling and Analysis plan for the proposed FOA that includes development of COCs to be monitored, sampling methodology, sample handling procedures, sampling frequency and statistical procedures for evaluating analytical results (Appendix C).
- k. Propose a methodology for evaluating the effectiveness of remedial measures and potential remedial system enhancements.
- l. Propose a reporting schedule to provide updated information on the installation and operation of remedial and monitoring systems.
- m. Provide Financial Assurance in accordance with Section XI.E.
- n. Provide draft language intended to comply with the deed notification

- requirements of 30 TAC 350.111 and 350.135(a)(11).
 - o. Provide a summary of the approved workers protection plan.
 - p. Provide a discussion of areas of ecological impact, if any, and development of associated Protective Concentration Limits (PCLs).
 - q. Provide a discussion of how NAPL occurrences, if any, will be addressed inside and outside the FOA.
 - r. Provide a schedule of implementation for items not completed at the time of application See also Section XI.D.8.
6. Waste Management Units/Areas Monitored Under Corrective Action Programs - Plume Management Zone (PMZ)
- a. Please provide a summary of the HWMUs and SWMUs/AOCs that will be addressed within the PMZ boundary.

The PMZs will address both the North CAMU and the FOP.

- b. Please provide a discussion of the multiple sources of COCs present and how PMZ will better address these sources.

Quarterly monitoring has been ongoing at the North CAMU since June 2014. In that time, the only GWPS exceedances for arsenic have occurred in observation well LMW-22 and the only GWPS exceedances for selenium have occurred in observation well LMW-9 (which has been abandoned due to well collapse and replaced with LMW-9R). The exceedances in these wells have not been consistent and they are not believed to be related to a release from the North CAMU. Based on these historical results, it does not appear that either the selenium or arsenic plumes are migrating.

Based on the relatively small extent of the potential arsenic and selenium exceedances and the fact that the North CAMU PCL exceedance (PCLE) zones do not appear to be migrating or expanding, natural attenuation will be used under Remedy Standard B as a decontamination and control remedy. This will be done to ensure that arsenic and selenium concentrations at the downgradient APOE at the limits of the North CAMU PMZ are contained in accordance with §350.37(l) for class 2 groundwater.

Intermittent groundwater sampling events have occurred in the vicinity of the FOP since as early as 1983. In that time, intermittent GWPS exceedances of antimony, arsenic, cadmium, and lead have been detected. The exceedances in the wells have not been consistent in concentration or location. Based on the proposed funnel and gate system, the FOP PCLE zones will be contained and funneled to the reactor sump and the PRB gate for treatment under Remedy Standard B as a decontamination and control remedy. This will be done to ensure all Site COCs (antimony, arsenic, cadmium, lead, and selenium) at the downgradient APOEs at the limits of the FOP PMZ are contained in accordance with §350.37(l) for class 2 groundwater.

- c. Please provide maps of appropriate scale depicting the following (maps may be combined where appropriate);
 - (1) HWMUs/SWMUs/AOCs addressed

The locations of the North CAMU and the RCA are shown on CP

Attachment A, Sheet 2 of 4.

- (2) surrounding land use

Surrounding land use is shown on Figure I.G-1.

- (3) PMZ lateral boundaries

The PMZ for the North CAMU is shown on CP Attachment A, Sheet 3 of 4. The PMZ for the FOP is shown on CP Attachment A, Sheet 4 of 4.

- (4) potential source areas

As described above, the exceedances at the North CAMU have not been consistent and they are not believed to be related to a release from the North CAMU. It is possible that the sources of the arsenic and selenium are naturally occurring (for selenium) or from historic anthropogenic uses of arsenic (cotton farming).

As described above, the exceedances at the FOP have not been consistent but are believed to be related to historic industrial activity at the FOP.

- (5) Potentiometric surface of all relevant transmissive units

Potentiometric surface maps of the North CAMU and the RCA Landfill are included with the Geology Report, which is included as Attachment G.

- (6) Surrounding water wells

The locations of surrounding water wells are included in Attachment G to the Part A permit renewal application.

- (7) extent of known contamination in each transmissive unit

As discussed above, the only historical arsenic GWPS exceedances at the North CAMU have occurred at LMW-22, and the only historical selenium GWPS exceedances have occurred at LMW-9.

The extent of contamination at the rest of the FOP is discussed in the 2014 APAR and the 2015 Supplement to the APAR (Attachments H and I, respectively) as well as in the RAP (Attachment M).

- (8) number, location and type of monitoring points in each stratigraphic unit to be monitored

The locations of the monitoring wells at the North CAMU are shown on CP Attachment A, Sheet 3 of 4. The locations of the monitoring wells at the RCA are shown on CP Attachment A, Sheet 4 of 4.

- (9) Areas of potential ecological impact

A risk evaluation for the North CAMU is included with the Closure Plan (Attachment C). Potential ecological receptors are discussed in the SLERA for on-site soils included with the 2014 APAR (Attachment H).

- (10) known occurrences of LNAPL or DNAPL in each transmissive unit

There are no known occurrences of LNAPL and/or DNAPL contamination in the transmissive units at the FOP.

- d. Please provide sufficient cross-sections depicting the following (maps may be combined where appropriate);
- (1) The vertical boundaries of the PMZ;
 - (2) The vertical extent of contamination;
 - (3) potentiometric surfaces for each transmissive unit.

Cross-sections and potentiometric surface maps for the North CAMU and the FOP are included in the Geology Report (Attachment G). The vertical boundary of the North CAMU PMZ is 30 ft bgs (the depth of LMW-9). The vertical boundary of the FOP PMZ is bedrock which ranges from 12-30 feet below ground surface in the vicinity of the FOP.

- e. Please provide tabulated information for;
- (1) history of all relevant units or AOCs;

Unit	History
North CAMU	The North CAMU is a class 2 landfill currently listed on the Notice of Registration as unit number 012 with the title "Landfill, North Property, 1996." Operations at the North CAMU began in 1996. In 2015, TCEQ approved this unit as a CAMU pursuant to TCEQ Agreed Order No. 2013-2207-IHW-E.
FOP/RCA	The RCA is a proposed corrective action management unit which will contain consolidated remediation wastes. The RCA footprint will include the Slag Landfill and the NDA. The Battery Receiving/Storage Building (also referred to as the Container Storage Area) and the Raw Material Storage Building (also referred to as the Containment Building) are also located within the footprint of the RCA. A history of the FOP, NDA and Slag Landfill is included in Attachment H.

- (2) summary of hydrogeologic data for each affected transmissive unit;

Tabulated hydrogeologic data is included in Attachment G (Geology Report)

- (3) results of Appendix IX GW sampling;

Unit	Results of Appendix IX GW Sampling
North CAMU	The groundwater monitoring program for the North CAMU is described in the Revised Class 2 Landfill Groundwater Monitoring Plan, written by Pastor, Behling & Wheeler and dated July 31, 2013, which serves as the detection monitoring plan for the North CAMU. TCEQ approved the monitoring plan in a letter dated April 4, 2014. Per that plan, groundwater monitoring reports have been submitted to TCEQ semiannually since July 2014.

FOP/RCA	<p>Since 1983, numerous investigations have been conducted to characterize the FOP's soil, groundwater, surface water, and sediments and to evaluate the presence of chemicals of concern (COCs) in these media. Where historical data indicated PCL exceedances, additional investigation was conducted in those areas. A detailed explanation of the historical investigations of the FOP and North CAMU can be found in the Affected Property Assessment Report for the Exide Frisco Recycling Facility, which was submitted in May 2014, and in the supplement to the 2014 APAR which was submitted to TCEQ on September 1, 2015. TCEQ conditionally approved the 2014 APAR and 2015 Supplement to the APAR in a letter dated February 11, 2016. The Screening Level Ecological Risk Assessment (SLERA) for Stewart Creek was submitted January 16, 2017. The final approval of the APAR was issued in a letter dated February 3, 2017. The 2014 APAR, the 2015 Supplement to the APAR, and the 2017 SLERA are included as Attachments H, I, and J respectively. Additional investigation data is presented in Attachment M (RAP).</p>
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- (4) proposed PCLs for each constituent for each monitoring point (Point of Exposure wells, alternate point of exposure wells, etc) with supporting documentation (including a discussion of exposure pathways). This should also include the designation/establishment of sufficient number of Attenuation Monitoring Points (AMPs) beginning at an appropriate hydraulically upgradient location within the groundwater protective concentration level exceedance (PLCE) zone and continuing down the approximate central flow path of the constituent of concern (COC) in the downgradient extent of the Plume Management Zone(s) in accordance with 30 TAC 350.33(f)(4)(D).

PCLs for the APOE wells/POC wells in the North CAMU area are described in Attachment G (Table VI.B.3.c-1). PCLs for the APOE wells/POC wells in the FOP Area (RCA) are the critical PCLs described in Attachment G (Table VI.B.3.c-2).

- (5) Establish/Calculate Attenuation Action Levels (AALs) (critical PCLs) for each attenuation monitoring point in accordance with 30 TAC 350.33(f)(4)(D)(ii). The established AALs (critical PCLs) for each AMP well should be graphically presented in table format on the plan view map depicting the location of individual monitoring wells (including AMP wells) for corrective action monitoring labeled "CP Attachment A, Sheet xx of xx", referenced in XI.D.4.b.

(6)

Unit	Attenuation Action Levels
North CAMU	The AALs for the applicable AMPs (LMW-17, LMW-22, and MW-47) at the North CAMU PMZ are shown on CP Attachment A, Sheet 3 of 4. The derivation of the AALs is included in the FOP RAP (Attachment M).
FOP Area	AALs are not applicable to the corrective actions for the RCA. Wells downgradient from and outside of the funnel and gate PRB are considered POC/APOE wells.

- f. Please provide a discussion of the types of corrective action that will be

employed to address contaminated media.

No groundwater corrective actions beyond the PMZ are proposed at the North CAMU. Corrective actions for impacted soil, sediment and groundwater at the FOP are discussed in detail in the FOP RAP (Attachment M).

- g. Please provide detailed descriptions of GW recovery and other remedial technologies such as vapor extraction, interceptor trenches, hydraulic containment, barrier walls, etc., including radius of influence, estimated optimum recovery rates, location of collection, storage or disposal facilities.

No groundwater corrective actions beyond the PMZ are proposed at the North CAMU. Corrective actions for impacted soil, sediment and groundwater at the FOP are discussed in detail in the FOP RAP (Attachment M).

- h. Please provide a detailed description of the groundwater monitoring system including placement of monitoring wells, hydrogeologic characteristics of monitored units and well completion details.

The locations of the monitoring wells at the North CAMU are shown on CP Attachment A, Sheet 3 of 4. Well completion details for these wells are included below in the permit application's CP Attachment B, Item 13. A discussion of the hydrogeology at the North CAMU is included in the Geology Report (Attachment G).

The locations of the existing and proposed monitoring wells at the FOP are shown on CP Attachment A, Sheet 4 of 4. Well completion details for these wells are included below in the permit application's Attachment B, Item 13. A discussion of the hydrogeology at the FOP is included in the Geology Report (Attachment G).

- i. Please provide a Sampling and Analysis plan for the proposed PMZ that includes development of COCs to be monitored, sampling methodology, sample handling procedures, sampling frequency and statistical procedures for evaluating analytical results.

The sampling and analysis procedures applicable to both detection monitoring and corrective action monitoring at the North CAMU are described in the North CAMU detection monitoring plan (Attachment K).

The sampling and analysis procedures applicable to corrective action monitoring at the FOP are described in the FOP detection monitoring plan (Attachment L).

- j. Please propose a methodology for evaluating the effectiveness of remedial measures and potential remedial system enhancements.

In future sampling events, if selenium or arsenic is detected in exceedance of the applicable AALs at MW-47 or LMW-17 or in exceedance of the applicable PCLs at MW-41 or LMW-22, additional evaluation and/or response actions will be proposed and discussed with the TCEQ.

In future sampling events, if Site COCs are detected in exceedance of the critical PCLs at any of the FOP groundwater monitoring locations, additional evaluation and/or response actions will be proposed and discussed with the TCEQ.

- k. Please propose a reporting schedule to provide updated information on the

installation and operation of remedial and monitoring systems.

Similar to the reporting schedule outlined in the North CAMU detection monitoring plan (Attachment K), corrective action sampling will be conducted on a quarterly basis for two years and then semi-annually for 28 years with semi-annual reporting. Semi-annual reports will be submitted on or before January 21 and July 21 of the year. No installation or operation of remedial systems is needed for the North CAMU and no additional well installation is proposed for the corrective action program at the North CAMU.

The schedule for installation and monitoring associated with corrective actions in the area of the RCA are described in Attachment M.

- l. Please provide a thorough detailed description of an estimate of all costs that will be incurred by implementing, operating, and maintaining the corrective action and monitoring systems addressed by the compliance plan.

Costs for monitoring the PMZ at the North CAMU and for corrective action and monitoring the PMZ at the RCA are described below Table XI.E.1 and included in Attachment O. Costs for all other monitoring at the North CAMU are included as part of the post-closure costs discussed in Section VII.

- m. Please provide draft language intended to comply with the deed notification requirements of 350.111, and schedule to verify compliance with institutional control requirements in accordance with 30 TAC 350.31(g) which provides notice of the existence and location of the PMZ and which prevents exposure to groundwater from this zone until such a time as constituents of concern may be reduced to below the GWPS.

A proposed restrictive covenant is included as Appendix 4 to the FOP RAP (Attachment M).

- n. Schedule for notification requirements if an unexpected event occurs, or a condition is detected, during post-response action care period which indicates that additional response actions will be required at an affected property pursuant to 30 TAC 350.33(k).

AAL or PCL exceedances in the North CAMU or the RCA monitoring wells, subject to confirmation by resampling, will be considered an indication of affected groundwater and appropriate notification will be provided in writing to the TCEQ within 15 days of the receipt of final sampling results documenting the exceedance. Resampling to confirm the existence or non-existence of the exceedance will be conducted within two weeks of the documentation of the initial exceedance, and the results of the confirmation sampling will be reported in writing to the TCEQ within 15 days of the receipt of the final confirmation sampling results. If a release from the North CAMU or the RCA is indicated by a confirmed PCL exceedance in an APOE well, then an investigation to determine the extent of the release will be conducted and a report documenting the results of the investigation will be submitted to the TCEQ within 120 days of receipt of the final confirmation sampling results, along with a proposed remedial action plan. The TCEQ will be notified of a PCL exceedance in any well in the North CAMU or the RCA monitoring well network within 15 days of the receipt of the final sample results. Additional monitoring and/or investigation will be performed at the written direction of the TCEQ to evaluate whether an exceedance in a cross-gradient or up-gradient well is related to an on-site release.

- o. Please provide a summary of the approved soil response action plan.

Proposed soil corrective actions are discussed in the FOP RAP (Attachment M).

- p. Please provide a discussion of areas of ecological impact, if any, and development of associated PCLs.

The PCLs for the North CAMU were established in the Revised Class 2 Landfill Groundwater Monitoring Plan, written by Pastor, Behling & Wheeler and dated July 31, 2013, which serves as the detection monitoring plan for the North CAMU. TCEQ approved the monitoring plan in a letter dated April 4, 2014.

The SLERA for Stewart Creek was submitted January 16, 2017. The final approval of the APAR was issued in a letter dated February 3, 2017. The 2014 APAR, the 2015 Supplement to the APAR, and the 2017 SLERA are included as Attachments H, I, and J respectively.

- q. Please provide a discussion of how NAPL occurrences, if any, will be addressed inside the PMZ.

There are no known occurrences of LNAPL and/or DNAPL contamination at the North CAMU or the RCA or within the boundaries of the PMZs. Future operations at the North CAMU or the RCA– which include construction and stormwater management – do not present a risk of NAPL contamination.

- r. Please provide a schedule of implementation for items not completed at the time of application {See also Section XI.D.8.}

The schedule for installation and monitoring associated with corrective actions in the area of the RCA are described in Attachment M.

7. Waste Management Units/Areas Monitored Under Alternative Corrective Action Program for Co-mingled plumes Alternative groundwater Corrective Action Program apply, pursuant 30 TAC 335.151, 335.156 and 350, for commingled release from RCRA-regulated unit and from one or more SWMUs and/or AOC.

There are no waste management units/areas at the FOP monitored under alternative corrective action programs for co-mingled plumes.

- a. Complete Sections XI.D.1. through 4.;
- b. In addition to the CP Attachment A maps in Section XI.D.4.b., CP Attachment A maps should clearly depict those waste management unit or areas of the facility which have commingled plumes and the alternative corrective action applies.
- c. Please provide a schedule of implementation for items not completed at the time of application {See also Section XI.D.8.}

8. Implementation Schedule

Itemize and discuss, in detail, the estimated time schedule necessary for any testing and assessments, system design, construction and installation, and final implementation of the groundwater monitoring program for each Regulated Unit and solid waste management unit. If the schedule of implementation for items are not completed at the time of the application, or are not completed at the time of issuance of the final draft Compliance Plan, then the items should be added to the CP Table VIII - (Compliance Schedule) of the application.

No additional wells are proposed in the vicinity of the North CAMU. The compliance plan for the North CAMU will be implemented within six months of

approval of this permit renewal application.

Much of the monitoring network for the RCA as described in this compliance plan application has already been constructed. The new or replacement wells proposed for the groundwater monitoring for the RCA will be installed following the completion of the construction activities for the flood wall and funnel and gate PRB. The schedule for installation and monitoring associated with corrective actions in the area of the RCA are described in Attachment M.

E. Cost Estimates For Financial Assurance

As required by 30 TAC 335.156 and 335.167, the applicant must provide cost estimates for groundwater monitoring and corrective action to determine the amount of financial assurance. Please complete the applicable parts of this form. Cost estimates should be filled out for each proposed corrective action/monitoring system at the site; or any additional corrective action system not covered in this Part. Please note, the Executive Director may request from the applicant documentary evidence for cost estimates.

If an item is not applicable, please mark it NA.

General Information:

1. For each Waste Management Area (WMA) list the following:
 - a. A description of the waste management unit(s) in the WMA (e.g., landfill, surface impoundment, land treatment);

The North CAMU is a CAMU being added to this permit renewal application. The unit is regulated under 40 CFR Part 264, Subpart S and is referenced as a miscellaneous unit for purposes of the permit application template.

The RCA is a CAMU being added to this permit renewal application. The unit is regulated under 40 CFR Part 264, Subpart S and is referenced as a miscellaneous unit for purposes of this permit application template.
 - b. The NoR unit number(s) in the WMA; and the compliance period for the WMA listed above.

The North CAMU is listed in the NOR under unit number 012 as "Landfill, North Property, 1996."

Year(s) = 30-year compliance period

The RCA will be added to the NOR as unit number 004 as "CAMU, Remediation Consolidation Area (RCA)"

Year(s) = 30-year compliance period
 - c. (The compliance period is the number of years equal to the active life of the waste management area as defined in 30 TAC 335.162).
 - d. In instances where the compliance period is equal to or exceeds 30 years, the maximum amount of financial assurance required will be based on 30 years because the required post-closure care period to perform corrective action and groundwater monitoring is 30 years. In instances where the compliance period is less than 30 years, the financial assurance for corrective action or compliance monitoring will be based on the longest time frame established by one of the following criteria:

- (1) the duration of your compliance plan;
 - (2) the time frame for clean-up based on model projections and historical data as approved by the Executive Director; or
 - (3) the compliance period for the unit/area.
- Total Years Used To Calculate the Financial Assurance for the Corrective Action and/or Compliance Monitoring Program
Year(s) = **30-year compliance period**

2. Please complete Table XI.E.1. – Corrective Action Program Cost Estimate.

The costs for corrective action groundwater monitoring at the North CAMU (PMZ) and the RCA (PMZ and other monitoring) are included in Attachment O. A detailed cost table associated with installation of a funnel and gate permeable reactive barrier is also included in Attachment O. Costs associated with consolidation of soil and sediment in the RCA are included in the Closure Cost for the RCA discussed in Section VII.

3. Please complete Table XI.E.2. – Groundwater Monitoring Cost Estimate.

The costs for detection monitoring at the North CAMU are included in the post-closure cost estimate discussed in Section VII. The costs for corrective action groundwater monitoring at the North CAMU (PMZ) and the RCA are included in Attachment O.

4. Please complete Table XI.E.3. – Financial Assurance Summary.

The costs for corrective action groundwater monitoring at the North CAMU (PMZ) and the RCA are included in Attachment O. A detailed cost table associated with installation of a funnel and gate permeable reactive barrier is also included in Attachment O. Costs associated with consolidation of soil and sediment in the RCA are included in the Closure Cost for the RCA discussed in Section VII.

Table XI.A.1. - Facility History for Waste Management Units

(Page 1 of 1)

Name of Waste Management Unit ⁽¹⁾	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was <i>First</i> Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit ⁽²⁾	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed ⁽³⁾	Is There Evidence of a Release of Hazardous Constituent(s) ⁽⁴⁾ to Groundwater? (Yes, No, or Unknown)
North CAMU (Landfill, North Property, 1996)*	Miscellaneous unit/CAMU	012	1996	Class 2 non-hazardous waste ⁽⁵⁾, D006, D008	190,000 cubic yards	182,000 cubic yards	Ongoing	To be determined	N/A	Unknown
RCA (Units 001 and 002 are included within the boundary of the RCA)	Miscellaneous unit/CAMU	Proposed	N/A	D004, D006, D008, D010, Class 1 or Class 2 non-hazardous waste	82,000 cy	N/A	N/A	N/A	N/A	Yes

1 Indicate by asterisk (*) those waste management units that have received any hazardous waste constituent listed in Appendix VIII of 40 CFR Part 261.

2 For the purposes of this Compliance Plan Application, a waste management unit receiving hazardous waste on or before that date shall be considered a Solid Waste Management Unit (SWMU). A waste management unit that ceased receiving hazardous waste on or before that date shall be considered a Solid Waste Management Unit (SWMU).

3 Date the applicant submitted certification of closure to the Commission.

4 Hazardous constituents are those hazardous constituents listed in Appendix IX of 40 CFR Part 264.

5 Confirmation samples of the treated slag from cells 1 through 9 of the North CAMU were analyzed by Exide and/or a third-party analytical laboratory (ERMI or OXIDOR) for pH and toxicity characteristic leaching potential (TCLP) lead and periodically for TCLP cadmium and other metals to compare against the universal treatment standard (UTS). Of the laboratory analytical results for sampling conducted by Exide, EMRI, and Oxidor of the capped cells (1 through 9), which were in use from 1997 to 2009, approximately 2.4% were above the UTS for lead and/or cadmium and of those same results 0.7% were above the concentrations for characterization as hazardous waste. Cells 10 to 12 came into service in 2009. On May 19, 2011, TCEQ collected two treated slag samples from cells 10 to 12 and analyzed them for TCLP lead and cadmium. Both samples exceeded UTS criteria for lead and cadmium. Exide then completed an investigation of cells 10 to 12, which is documented in the Results of Class 2 Non-Hazardous Waste Landfill Investigation Exide Technologies, Inc., North Landfill, Frisco, Texas. The results of the investigation indicated that some of the treated slag in cells 10 through 12 is above the lead and/or cadmium UTS, with the majority of the exceedances located near the surface of the material currently in the landfill (i.e., in the 0 to 0.5 foot depth interval) and discrete areas of exceedances located at greater depths. Analysis for other metals was performed on a subset of the samples for cells 10 through 12 and there were no exceedances of their respective UTS.

Table XI.E.1. Corrective Action Program Cost Estimate

1. Pumping Capacity Per Year:

A. Daily average system pumping rate _____ gal/day

B. Annual groundwater volume recovered _____ gal/yr

2. Off-Site Liquid Treatment / Disposal Cost:

A. Volume of treated contaminated water to be disposed of off-site yearly _____ gal/yr

B. Transportation of liquid waste disposed of off-site yearly

(1) Transportation cost per gallon _____ \$/gal

(2) Gallons of contaminated water shipped per year _____ gal/yr

(3) Annual cost of transportation (1 x 2) _____ \$/yr

C. On-site yearly storage cost prior to off-site disposal _____ \$/yr

D. Off-site yearly treatment cost of liquid waste

(1) Treatment charge per gallon _____ \$/gal

(2) Total volume to be treated per year _____ gal/yr

(3) Annual treatment cost (1 x 2) _____ \$/yr

E. Off-site disposal cost of liquid waste per year

(1) Disposal charge per gallon _____ \$/gal

(2) Total volume to be disposed per year _____ gal/yr

(3) Annual disposal cost (1 x 2) _____ \$/yr

***Annual Off-Site Liquid Treatment / Disposal Cost**

(2B3 + 2C + 2D3 + 2E3) _____ \$

3. On-site Waste Water Treatment System Cost and On-site Treatment / Disposal Cost:

Submit a cost estimate for a treatment system specifically designed and used exclusively for the groundwater corrective action program and operational after some start up maintenance. Estimates to clean out the system should also be included in the following cost.

A. Initial capital expenditure for treatment system including start up maintenance _____ \$

***On-Site Waste Water Treatment System Capital Cost (3A)** _____ \$

B. Gallons of contaminated water to be treated on-site per year _____ gal/yr

C. Cost of on-site treatment per gallon _____ \$/gal

D. Cost of sludge, or solids disposal per year _____ \$/yr

E. Cost per year of maintenance on treatment system and recovery system, along with any additional equipment and repairs needed for the systems _____ \$/yr

F. Cost of on-site disposal per year _____ \$/yr

***Annual On-Site Treatment / Disposal Cost**

[(3B x 3C) + 3D + 3E + 3F] _____ \$

4. Inspections, Maintenance and Operation Cost for the Corrective Action Program:

A. Operator's time on-site for inspections and maintenance per year _____ hour/yr

B. Charge of salary per hour _____ \$/hr

C. Annual cost of labor (4A x 4B) _____ \$/yr

D. Replacement of parts and equipment per year _____ \$/yr

E. Electricity cost per year _____ \$/yr

***Annual Inspections / Maintenance / Operation Cost for
the Corrective Action Program (4C + 4D + 4E)**

_____ \$

Table XI.E.2.e Groundwater Monitoring Cost Estimate

1. Annual Sampling and Analysis Cost:

A. Background Wells

- (1) Number of wells _____
- (2) Sample analysis cost per well _____ \$/well
- (3) Number of sampling events per year _____ /yr
- (4) Sampling cost (1 x 2 x 3) _____ \$

B. Point of Compliance Wells

- (1) Number of wells _____
- (2) Sample analysis cost per well _____ \$/well
- (3) Number of sampling events per year _____ /yr
- (4) Sampling cost (1 x 2 x 3) _____ \$

C. Recovery Wells

- (1) Number of wells _____
- (2) Sample analysis cost per well _____ \$/well
- (3) Number of sampling events per year _____ /yr
- (4) Sampling cost (1 x 2 x 3) _____ \$

D. Corrective Action Observation Wells

- (1) Number of wells _____
- (2) Sample analysis cost per well _____ \$/well
- (3) Number of sampling events per year _____ /yr
- (4) Sampling cost (1 x 2 x 3) _____ \$

E. Point of Exposure Wells

- (1) Number of wells _____
- (2) Sample analysis cost per well _____ \$/well
- (3) Number of sampling events per year _____ /yr
- (4) Sampling cost (1 x 2 x 3) _____ \$

F. Supplemental Wells

- (1) Number of wells _____
- (2) Sample analysis cost per well _____ \$/well
- (3) Number of sampling events per year _____ /yr
- (4) Sampling cost (1 x 2 x 3) _____ \$

G. Field Quality Control Sampling

- (1) Number of wells _____

- (2) Sample analysis cost per well _____ \$/well
- (3) Number of sampling events per year _____ /yr
- (4) Sampling cost (1 x 2 x 3) _____ \$
2. Sampling Labor Cost:
- A. Hours of sampling per well _____ hrs/well
- B. Number of sampling technicians per well _____
- C. Charge per hour _____ \$/hr
- D. Total number of wells to be sampled annually _____ Wells
- E. Total number of wells sampled semi-annually _____ Wells
- F. Total number of wells sampled quarterly _____ Wells
- G. Total number of wells sampled monthly _____ Wells
- H. Total number of wells sampled per year
(2D) + (2E x 2) + (2F x 4) + (2G x 12) _____ total wells sampled/yr
- I. Sampling Labor Cost (2A x 2B x 2C x 2H) _____ \$
- *Annual Groundwater Monitoring Cost** _____ \$
3. Well Installation (typical cost):
- A. Monitor well installation cost per well _____ \$/well
- B. Number of monitor wells to be installed _____ Wells
- C. Cost of monitor well system (A x B) _____ \$
- D. Recovery well installation cost per well _____ \$/well
- E. Number of Recovery Wells to be installed _____ Wells
- F. Cost of Recovery well system (D x E) _____ \$
- *Total Well Installation Cost (3C + 3F)** _____ \$
4. Administrative Cost:
- A. Annual cost for record-keeping and report preparation _____ \$
- *Annual Administrative Cost (4A)** _____ \$
5. Inspection and Maintenance Cost for the Monitoring Program:
- A. Operator's time (hours) on-site for inspections and maintenance per year _____ hour/yr
- B. Charge or salary per hour _____ \$/hr
- C. Annual cost of labor (4A x 4B) _____ \$/yr
- D. Replacement of parts and equipment per year _____ \$/yr
- *Annual Inspections / Maintenance Cost for the Groundwater Monitoring Program (5C + 5D)** _____ \$

The costs for detection monitoring at the North CAMU are included in the post-closure

cost estimate discussed in Section VII. The costs for corrective action groundwater monitoring at the North CAMU (PMZ) and the RCA are included in Attachment O.

Table XI.E.3. – Financial Assurance Summary

Annual Off-Site Liquid Treatment / Disposal Cost	\$_____
Annual On-Site Treatment / Disposal Cost	\$_____
Annual Inspection / Maintenance / Operation Cost For The Corrective Action Program	\$_____
Annual Groundwater Monitoring Cost	\$_____
Annual Administrative Cost	\$_____
Annual Inspection And Maintenance Cost For The Groundwater Monitoring Program	\$_____
Annual Sub Total	\$_____
 Total Years Used For Calculating Financial Assurance	 30 Yrs.
 Remediation Cost	 \$_____
(Annual Sub Total x Total Years Used)	\$_____
 On-Site Waste Water Treatment System Capital Cost	 \$_____
Total Well Cost	\$_____
 North CAMU Compliance Plan Cost (30 years)	 \$ 224,436
RCA Compliance Plan Cost (30 years)	\$ 1,922,950
RCA Funnel and Gate Installation Cost	\$ 3,469,540
Program Management for RCA Funnel and Gate Installation	\$ 392,355
Subtotal	\$ 6,009,280
10% Contingency	\$ 600,928
Grand Total Cost (nearest \$1000)	\$ 6,610,000

The costs for corrective action groundwater monitoring at the North CAMU (PMZ) and the RCA are included in Attachment O. A detailed cost table associated with installation of a funnel and gate permeable reactive barrier is also included in Attachment O.

The costs for detection monitoring at the North CAMU are included in the post-closure cost

estimate discussed in Section VII. Costs associated with consolidation of soil and sediment in the RCA are included in the Closure Cost for the RCA discussed in Section VII.

**CP Table I: Waste Management Units and Areas Subject to Groundwater
Corrective Action and Compliance Monitoring**

A. Corrective Action¹ (30 TAC §335.166)

Unit Type ⁵	Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed ⁵
Miscellaneous unit/CAMU	North CAMU (listed in NOR as “Landfill, North Property, 1996”)	012	N/A
Miscellaneous unit/CAMU	Remediation Consolidation Area (RCA)	Proposed	N/A

**B. Compliance Monitoring¹ (30 TAC §335.165)
(Reserved)**

Unit Type ⁵	Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed ⁵
	1.[*unit name*]		
	2.		
	3.		

**C. Corrective Action² (30 TAC §335.167)
(Reserved)**

Unit Type ⁵	Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed ⁵
	1.[*unit name*]		
	2.		
	3.		

**D. Alternative Corrective Actions³ (30 TAC §335.151)
(Reserved)**

Unit Type ⁵	Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed ⁵
	1.[*unit name*]		
	2.		
	3.		

**E. Facility Operations Area (FOA)⁴ (30 TAC §335.156 and Chapter 350)
(Reserved)**

Unit Type ⁵	Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed ⁵
	1.[*unit name*]		
	2.		
	3.		

[Note: Enter "Reserved" if a specific program (referenced in CP Table I.A., I.B., I.C., I.D., and/or I.E.) is not applicable. More than one program may apply to a facility. Also, include a CD disk with the application that provides an electronic copy of the applicable files supporting CP TABLES I-VI in MS Word format.]

Foot Notes:

1 Program applies to RCRA-regulated units only.

2 Program applies to releases from solid waste management units (SWMUs) and/or areas of concern (AOCs).

3 Program applies to commingled releases from RCRA-regulated unit and from one or more SWMUs and/or AOCs.

4 List SWMUs, additional units/areas of Investigation, AOCs, RCRA-regulated units within the FOA that are subject to corrective action. For RCRA units, SWMUs and/ or AOC outside the FOA boundary for which compliance monitoring and/ or corrective action applies should be listed separately in Items A, B or C as appropriate.

5 Specify the date of Commissions No Further Action approval letter for program requirement and remedy standard completed for all media of concern. [Note: for the purpose of maintaining a historical record, the permittee shall update CP Table I to reflect the new status of the unit / area to include the remedy standard achieved for all media of concern and the date of the Commissions No Further Action approval letter. The units/area shall not be deleted from this table even though the program objectives have been completed and no further action has been approved. Put "N/A" in this column if not applicable.]

CP Table II: Solid Waste Management Units and/or Areas of Concern for which Corrective Action applies pursuant to 30 TAC 335.167

Unit Number ¹	Unit Name	Notice of Registration (NOR) Number, if applicable	SWMU or AOC (Area of Concern)	Media Affected ²	Date Program Requirement and Remedy Standard Completed ³
1. RCRA SWMU No. 1/RFI Unit #01	Battery Receiving / Storage Building (also referred to the Container Storage Area) (Above Former Battery Storage Area)	NOR Unit #011	SWMU	Soil and Groundwater	Not Applicable/Inactive – located within the footprint of the proposed RCA and to be closed in conjunction with RCA. (Former Battery Storage Area closed in March 1984)
2. RFI Unit #02	Raw Material Storage Area (also referred to as the Containment Building)	Not Applicable	SWMU	Soil and Groundwater	Not Applicable/Inactive – located within the footprint of the proposed RCA and to be closed in conjunction.
3. RCRA SWMU No. 2/RFI Unit #001	Raw Material Storage Building (also referred to as the Containment Building)	NOR Unit #005	SWMU	Soil and Groundwater	Not Applicable/Inactive – located within the footprint of the proposed RCA and to be closed in conjunction with RCA.
4. RCRA SWMU No. 3/RFI Unit #03	Slag Landfill	NOR Unit #007	SWMU	Soil	Closed-1996, To be included within the footprint of the RCA (and capped with an engineered cap) and will be included within

					the area of the funnel and gate PRB as outlined in Attachment M (RAP).
5. RCRA SWMU No. 4/RFI Unit #04	North Disposal Area	NOR Unit #003	SWMU	Soil and Groundwater	Closed-1978, To be included within the footprint of the RCA (and capped with an engineered cap) and will be included within the area of the funnel and gate PRB as outlined in Attachment M (RAP).
5. RCRA SWMU No.5/RFI Unit #05	South Disposal Area	NOR Unit #004	SWMU	Soil and Groundwater	Closed-1974, Recapping planned as outlined in Attachment M (RAP)
6. RCRA SWMU No.6/RFI Unit #066	Stewart Creek	Not Applicable	SWMU	Sediment and Sidewall Soils	No current wastewater discharges to Stewart Creek, Removal actions outlined in Attachment M (RAP)
7. RCRA SWMU No.7/RFI Unit #07	Old Drum Storage Area	Not Applicable	SWMU	Soil and Groundwater	Closed-1987
8. RCRA SWMU No. 8/RFI Unit #08	Stewart Creek Sediment Dredging Waste Pile	Not Applicable	SWMU	Soil and Groundwater	Closed (capped)-1989
9. RCRA SWMU No.9/RFI Unit #99	Product Waste Pile	NOR Unit #006	SWMU	Soil and Groundwater	Removed and closed-2000

10. NOR Unit #8	Slag Treatment Building	NOR Unit#8	SWMU	Soil and Groundwater	Inactive/Demolished – located within the footprint of the proposed RCA and to be closed in conjunction with RCA.
11. NOR Unit #009	Wastewater Treatment Plant	NOR Unit #009	SWMU	Soil and Groundwater	Inactive, has not been demolished – located within the footprint of the proposed RCA and to be demolished and closed in conjunction with RCA.
12. Not Applicable	Aerial Deposition from Former Operating Plant Emissions	Not Applicable	AOC	Soil	Operations ceased in November 2012; removal and or engineering controls as outlined in Attachment M (RAP)
13. NOR Unit #6	3-yard dump hoppers (west side of Battery Breaker Building)	NOR Unit #6	SWMU	Soil and Groundwater	Inactive, within RCA footprint
14. Not Applicable	Boneyard	Not Applicable	AOC	Soil and Groundwater	Inactive, within RCA footprint
15. NOR Unit #14	Roll-off boxes (several locations in Affected Property)	NOR Unit #14	SWMU	Soil and	Removed

	No. 2)			Groundwater	
16. Not Applicable	Stewart Creek Flood Wall	Not Applicable	AOC	Water seepage	Inactive (flood wall inspected for seepage quarterly)
17. NOR Unit #17	Boneyard Debris Piles	NOR Unit #17	AOC	Soil	Removed-2013
18. Not Applicable	Former Shooting Range Berm	Not Applicable	AOC	Soil	Soils removed in 2011 as part of Agreed Order actions, soils removed in 2017 as part of former Undeveloped Buffer Property Remediation, additional soils within FOP over critical PCLs to be removed as outlined in Attachment M (RAP)
19. Not Applicable	Crystallization Unit drainage ditch	Not Applicable	AOC	Soil	Portions of ditch removed during Undeveloped Buffer Property Remediation in 2017, additional soils within FOP to be removed as outlined in Attachment M (RAP)
20. Not Applicable	Exposed Battery Chips/Slag	Not Applicable	AOC	Soil, Sediment, Sidewall Soils, and Groundwater	Active throughout Site, to be removed as part of response actions as outlined in Attachment M (RAP)
21. NOR Unit Number #012	North CAMU	NOR Unit #012	SWMU	Soil and Groundwater	Active (to be closed as outlined in The Closure Plan (Attachment C) and RAP (Attachment

					M
22. Not Applicable (proposed)	Remediation Consolidation Area	Not Applicable (proposed)	SWMU	Soil and Groundwater	Not Applicable, remediation wastes to be placed as outlined in Attachment M (RAP)

Foot Notes:

SWMU ' Solid Waste Management Unit

AOC ' Area of Concern

1 For sites with FOA Authorization, list SWMUs and/or AOCs that were not included in the FOA, and are subject to corrective action.

2 Specify affected media groundwater, soils, etc.

3 Specify the date of Commissions No Further Action approval letter for program requirement and remedy standard completed for all media of concern.

CP Table III: Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard

Unit Name	COLUMN A: Hazardous Constituents	COLUMN B: Groundwater Protection Standards (mg/l)	
		^{GW} GW _{Ing}	^{SW} GW
North CAMU	Antimony (total recoverable)	0.006	Not applicable (N/A)
	Arsenic (total recoverable)	0.01	N/A
	Barium (total recoverable)	2.0	N/A
	Cadmium (total recoverable)	0.005	N/A
	Chromium (total recoverable)	0.1	N/A
	Copper (total recoverable)	1.3	N/A
	Lead (total recoverable)	0.015	N/A
	Mercury (total recoverable)	0.002	N/A
	Selenium (total recoverable)	0.05	0.02
	Silver (total recoverable)	0.12	N/A
	Zinc (total recoverable)	7.3	N/A
	Antimony (dissolved)	0.006	0.16
	Arsenic (dissolved)	0.01	0.34
	Barium (dissolved)	2.0	16
	Cadmium (dissolved)	0.005	0.00908
	Chromium (dissolved)	0.1	0.598
	Copper (dissolved)	1.3	0.015
	Lead (dissolved)	0.015	0.0688
	Mercury (dissolved)	0.002	0.0024
	Selenium (dissolved)	0.05	N/A
	Silver (dissolved)	0.12	0.0008
	Zinc (dissolved)	7.3	0.123
RCA	Antimony (total recoverable)	0.006	1.33
	Arsenic (total recoverable)	0.01	0.19
	Cadmium (total recoverable)	0.005	0.99
	Lead (total recoverable)	0.015	0.10
	Selenium (total recoverable)	0.05	0.02 – acute aquatic life, 0.0333 – chronic aquatic life (see Attachment G)
	Antimony (dissolved)	0.006	1.33
	Arsenic (dissolved)	0.01	0.19
	Cadmium (dissolved)	0.005	0.0017 – chronic aquatic life,

Unit Name	COLUMN A: Hazardous Constituents	COLUMN B: Groundwater Protection Standards (mg/l)	
			0.00908 – acute aquatic life (see Attachment G)
	Lead (dissolved)	0.015	0.0179 – chronic aquatic life, 0.0688 – acute aquatic life (see Attachment G)
	Selenium (dissolved)	0.05	27.5

[Note: This Table should present the long list of hazardous constituents that are reasonably expected to be in or derived from waste placed in the units, and may not necessarily be detected and that are to be monitored semi-annually. Also, instead of listing individual constituents of concern (COCs), Appendix IX can be referenced in this table. If Appendix IX list and associated Practical Quantitation Limit (PQL) or Method Quantitation Limit (MQLs) are being required instead of listing individual COCs, add this sentence: The Permittee may petition the Executive Director for deletion of specific parameters from Appendix IX analysis if the Permittee can demonstrate that the constituents were never used in the facility's operation or were never disposed in the waste management area.]

[*Add COLUMN C if there is a GWPS assigned at a Point of Exposure (POE) (e.g. monitored natural attenuation and Plume Management Zone established in accordance with 30 TAC 350, if applicable). Modify Table and footnotes as necessary.]

Foot Note:

Use the following GWPS footnote designations if Risk Reduction Rules (RRR) or Texas Risk Reduction Program (TRRP) apply:

* For RRR use the following GWPS designation:*

MSC ACL pursuant to 30 TAC §335.160(b) based upon the Groundwater Medium-Specific Concentration, Residential {...or Industrial...} Risk Reduction Standard No. 2 {...or No. 3} specified in 30 TAC §335 Subchapter S.

MCL ACL pursuant to 30 TAC §335.160(b) based upon the Groundwater Maximum Contaminant Level specified in 40 CFR Part 141, National Primary Drinking Water Regulations Subparts B and G.

SMCL ALC pursuant to 30 TAC §335.160(b) based upon the Groundwater Secondary Maximum Contaminant Level (MCL) specified in 40 CFR Part 143, National Secondary Drinking Water Regulations.

AL ACL pursuant to 30 TAC §335.160(b) based upon the Action Level specified in 40 CFR Part 141, National Primary Drinking Water Regulations Subpart I.

BKG Background as determined in accordance with 30 TAC 350.4(a)(6).

ND Non-detectable at PQL as determined by the analytical methods of the EPA SW-846 most recent edition, and as listed in the July 8, 1987 edition of the Federal Register and later editions. PQL is indicated in parentheses. PQL is the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating condition.

* or Use the following GWPS designation if TRRP applies:*

GWGWIng ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.. In accordance with §350.72(b), GWGWIng, PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1×10^{-4}) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 non-carcinogenic chemicals of concern within a source medium.

GWGWClass3 ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial), Tier I for Class 3 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

AirGWInh-V ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater inhalation PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

SWGWL ACL pursuant to 30 TAC §335.160(b) based upon the Protective PCL determined under RSA or RSB for Groundwater- to-surface water PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

SEDGWL ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB for Groundwater- to-sediment PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

ECOGWL ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB for Groundwater- based on ecological receptor(s) PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

AAL ACL derived pursuant to 30 TAC §335.160(b) based upon the Protective Concentration level (PCL) established as an Attenuation Action Level as defined in 30 TAC §350(a)(4).

BKG Background as determined in accordance with 30 TAC 350.4(a)(6).

ND Non-detectable at MQL as determined by the analytical methods of the EPA SW-846 most recent edition, and as listed in the July 8, 1987 edition of the Federal Register and later editions. MQL is indicated in parentheses. MQL is defined in 30 TAC §350.4 (54) as the lowest non-zero concentration standard in the laboratory's initial calibration curve and is based on the final volume of extract (or sample) used by the laboratory.

CP Table IIIA: Corrective Action Program Table of Indicator Parameters and Groundwater Protection Standard

Unit Name	COLUMN A: Hazardous Constituents	COLUMN B: Groundwater Protection Standards (mg/l)	
		^{GW} GW _{Ing}	^{SW} GW
North CAMU	Arsenic (total recoverable)	0.010	N/A
	Selenium (total recoverable)	0.05	0.02
	Arsenic (dissolved)	0.010	0.34
	Selenium (dissolved)	0.05	N/A
RCA	Antimony (total recoverable)	0.006	1.33
	Arsenic (total recoverable)	0.01	0.19
	Cadmium (total recoverable)	0.005	0.99
	Lead (total recoverable)	0.015	0.10
	Selenium (total recoverable)	0.05	0.02 – acute aquatic life, 0.0333 – chronic aquatic life (see Attachment G)
	Antimony (dissolved)	0.006	1.33
	Arsenic (dissolved)	0.01	0.19
	Cadmium (dissolved)	0.005	0.0017 – chronic aquatic life, 0.00908 – acute aquatic life (see Attachment G)
	Lead (dissolved)	0.015	0.0179 – chronic aquatic life, 0.0688 – acute aquatic life (see Attachment G)
	Selenium (dissolved)	0.05	27.5

[**Note:** This Table should list the short list of constituents (i.e., indicator parameters) developed from CP Table III – Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard to be monitored semiannually during the Corrective Action Program to verify GWPSs are met.]

[*Add COLUMN C if there is a GWPS assigned at a Point of Exposure (POE) (e.g. monitored natural attenuation and Plume Management Zone established in accordance with 30 TAC 350, if applicable). Modify Table and footnotes as necessary.]

Foot Note:

Use the following GWPS footnote designations if Risk Reduction Rules (RRR) or Texas Risk Reduction Program (TRRP) apply:

*** For RRR use the following GWPS designation:***

MSC ACL pursuant to 30 TAC §335.160(b) based upon the Groundwater Medium-Specific Concentration, Residential {...or Industrial...} Risk Reduction Standard No. 2 {...or No. 3} specified in 30 TAC §335 Subchapter S.

MCL ACL pursuant to 30 TAC §335.160(b) based upon the Groundwater Maximum Contaminant Level specified in 40 CFR Part 141, National Primary Drinking Water Regulations Subparts B and G.

SMCL ACL pursuant to 30 TAC §335.160(b) based upon the Groundwater Secondary Maximum Contaminant Level (MCL) specified in 40 CFR Part 143, National Secondary Drinking Water Regulations.

AL ACL pursuant to 30 TAC §335.160(b) based upon the Action Level specified in 40 CFR Part 141, National Primary Drinking Water Regulations Subpart I.

BKG Background as determined in accordance with 30 TAC 350.4(a)(6).

ND Non-detectable at PQL as determined by the analytical methods of the EPA SW-846 most recent edition, and as listed in the July 8, 1987 edition of the Federal Register and later editions. PQL is indicated in parentheses. PQL is the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating condition.

*** or Use the following GWPS designation if TRRP applies:***

GWGWIng ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.. In accordance with §350.72(b), GWGWIng, PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1×10^{-4}) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 non-carcinogenic chemicals of concern within a source medium.

GWGWClass3 ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial), Tier I for Class 3 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

AirGWInh-V ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater inhalation PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

SWGWL ACL pursuant to 30 TAC §335.160(b) based upon the Protective PCL determined under RSA or RSB for Groundwater- to-surface water PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

SEDGW ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB for Groundwater- to-sediment PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

ECOGW ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB for Groundwater- based on ecological receptor(s) PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

AAL ACL derived pursuant to 30 TAC §335.160(b) based upon the Protective Concentration level (PCL) established as an Attenuation Action Level as defined in 30 TAC §350(a)(4).

BKG Background as determined in accordance with 30 TAC 350.4(a)(6).

ND Non-detectable at MQL as determined by the analytical methods of the EPA SW-846 most recent edition, and as listed in the July 8, 1987 edition of the Federal Register and later editions. MQL is indicated in parentheses. MQL is defined in 30 TAC §350.4 (54) as the lowest non-zero concentration standard in the laboratory's initial calibration curve and is based on the final volume of extract (or sample) used by the laboratory.

**CP Table IV: Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Quantitation Limits
(Reserved)**

Unit Name	COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (mg/l)
1. [*unit name*]	*parameter*	ND(0.00*)
	parameter	ND (0.00*)
	parameter	0.00 BKG
2. [*unit name*]	*parameter*	ND (0.00*)
	parameter	ND (0.00*)
	parameter	0.00 BKG
	parameter	

[**Note:** This Table should provide the long list of hazardous constituents that are reasonably expected to be in or derived from waste placed in the units, and may not necessarily be detected and that are to be monitored annually to determine if any new constituents need to be added to CP Table IVA. Also, instead of listing individual constituents of concern (COCs), Appendix IX can be referenced in this table. If Appendix IX list and associated Practical Quantitation Limit (PQL) or Method Quantitation Limit (MQLs) are being required instead of listing individual COCs, add this sentence: The Permittee may petition the Executive Director for deletion of specific parameters from Appendix IX analysis if the Permittee can demonstrate that the constituents were never used in the facility's operation or were never disposed in the waste management area.]

Foot Note:

In the Footnote use one of the following Quantitation Limit designations as the concentration limit if RRR or TRRP apply

*** For RRR use the following designation, or***

ND Non-detectable at PQL as determined by the analytical methods of the EPA SW-846 most recent edition, and as listed in the July 8, 1987 edition of the Federal Register and later editions. PQL is indicated in parentheses. PQL is the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating condition.

BKG Background as determined in accordance with 30 TAC 350.4(a)(6).

*** Use the following designation if TRRP applies:***

ND Non-detectable at MQL as determined by the analytical methods of the EPA SW-846 most recent edition, and as listed in the July 8, 1987 edition of the Federal Register and later editions. MQL is indicated in parentheses. MQL is defined in 30 TAC §350.4 (54) as the lowest non-zero concentration standard in the laboratory's initial calibration curve and is based on the final volume of extract (or sample) used by the laboratory.

BKG Background as determined in accordance with 30 TAC 350.4(a)(6).

**CP Table IVA: Compliance Monitoring Program Table of Detected Hazardous Constituents and the Groundwater Protection Standard
(Reserved)**

Unit Name	COLUMN A Hazardous Constituents	COLUMN B Groundwater Protection Standard (mg/l)
1. [*unit name*]	*parameter*	ND (0.00*)
	parameter	0.00MSC
	parameter	0.00MCL
	parameter	0.00SMCL
	parameter	0.00AL
	parameter	0.00 GWGWIng
2. [*unit name*]	*parameter*	0.00 BKG
	parameter	0.00MSC
	parameter	0.00MCL
	parameter	0.00SMCL
	parameter	0.00AL
	parameter	0.00 GWGWIng

* [Note: This Table should provide a list of all hazardous constituents detected above the Quantitation Limits specified in CP Table IV – Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Practical Quantitation Limits or Method Quantitation Limits for Compliance Monitoring. CP Table IVA constituents are to be monitored semiannually to verify achievement of the GWPS.]

Foot Note:

Use the following GWPS footnote designations if Risk Reduction Rules (RRR) or Texas Risk Reduction Program (TRRP) apply:

*** For RRR use the following designation, or***

MSC ACL pursuant to 30 TAC §335.160(b) based upon the Groundwater Medium-Specific Concentration, Residential {...or Industrial...} Risk Reduction Standard No. 2 {...or No. 3} specified in 30 TAC §335 Subchapter S.

MCL ACL pursuant to 30 TAC §335.160(b) based upon the Groundwater Maximum Contaminant Level specified in 40 CFR Part 141, National Primary Drinking Water Regulations Subparts B and G.

SMCL ACL pursuant to 30 TAC §335.160(b) based upon the Groundwater Secondary Maximum Contaminant Level specified in 40 CFR Part 143, National Secondary Drinking Water Regulations.

AL ACL pursuant to 30 TAC §335.160(b) based upon the Action Level specified in 40 CFR Part 141, National Primary Drinking Water Regulations Subpart I.

BKG Background as determined in accordance with Provision XI.F.1.

ND Non-detectable at PQL as determined by the analytical methods of the EPA SW-846 most recent edition, and as listed in the July 8, 1987 edition of the Federal Register and later editions. PQL is indicated in parentheses. PQL is the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating condition.

*** Use the following designation if TRRP applies:***

GWGWIng ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table. In accordance with §350.72(b), GWGWIng, PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1×10^{-4}) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 non-carcinogenic chemicals of concern within a source medium.

GWGWClass3 ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) Tier I for Class 3 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

AirGWInh-V ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB (Residential or Commercial /Industrial) for Class 1 or Class 2 Groundwater inhalation PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

SWGWL ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB for Groundwater-to-surface water PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

SEDGW ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB for Groundwater-to-sediment PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

ECOGW ACL pursuant to 30 TAC §335.160(b) based upon the PCL determined under RSA or RSB for Groundwater- based on ecological receptor(s) PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

BKG Background as determined in accordance with Provision XI.F.1.

ND Non-detectable at MQL as determined by the analytical methods of the EPA SW-846 most recent edition, and as listed in the July 8, 1987 edition of the Federal Register and later editions. MQL is indicated in parentheses. MQL is defined in 30 TAC §350.4 (54) as the lowest non-zero concentration standard in the laboratory's initial calibration curve and is based on the final volume of extract (or sample) used by the laboratory.

CP Table V: Designation of Wells

Point of Compliance Wells:

1. **North CAMU:**

MW-41, MW-42

2. **RCA:**

B7N, B9N, DGW-MW-9, MW-16SR*, MW-17, MW-18, MW-21, MW-22, MW-26, MW-27, MW-29, MW-44, MW-48*, MW-49*, and SR-MW-1*, PRB-MW-3*, PRB-MW-4*, PRB-MW-5*, PRB-MW-6*, PRB-MW-7* (* = proposed)

Point of Exposure Wells: *[***Add "None" if there are no POE wells]*

1. **North CAMU:**

None

2. **RCA:**

None

Alternate Point of Exposure Wells: *[***Add "None" if there are no APOE wells]*

1. **North CAMU:**

LMW-5, LMW-8, LMW-9R, MW-41, MW-42

2. **RCA:**

B7N, B9N, DGW-MW-9, MW-10, MW-16SR*, MW-17, MW-18, MW-21, MW-22, MW-23, MW-26, MW-27, MW-29, MW-44, MW-48*, MW-49*, and SR-MW-1*, PRB-MW-3*, PRB-MW-4*, PRB-MW-5*, PRB-MW-6*, PRB-MW-7* (* = proposed)

Background Wells:

1. **North CAMU:**

PMW-19R

MW-45

2. **RCA:**

MW-23 (MW-23 is located directly upgradient from the opening to the funnel and gate system and represents an upgradient monitoring well for the Corrective Action monitoring program at the RCA.)

FOA Boundary of Compliance Wells Background Wells: *[**Add "None" if there are no FOA BOC wells]*

1. **North CAMU and RCA:**

None and/or not applicable – no FOA has been established on or proposed for the Site.

Exposure Pathway: (e.g. SWGW - Groundwater to surface water PCL for Brazos River or Barge Canal, etc)

1. North CAMU:

SWGW – Per TRRP-24, the SWGW PCLs apply to monitoring wells where there is a potential point of discharge of groundwater to surface water (i.e., in the near vicinity of the North Tributary). Acute ecological criteria apply to wells to LMW-5, LMW-8, LMW-17, LMW-22, and MW-41 along the North Tributary (an intermittent stream).

GW_{ing} - Groundwater ingestion PCL for Commercial/industrial Class 2 Groundwater ingestion PCL.

2. RCA:

SWGW – Per TRRP-24, the SWGW PCLs apply to monitoring wells where there is a potential point of discharge of groundwater to surface water (i.e., in the near vicinity of Stewart Creek or the North Tributary). Chronic ecological criteria apply to monitoring wells along Stewart Creek (a perennial stream) assuming a 0.15 dilution factor (MW-16SR, MW-17, MW-26, MW-27, MW-29, MW-44, PRB-MW-3*, PRB-MW-4*, PRB-MW-5*, PRB-MW-6*, PRB-MW-7*, and SR-MW-1*). Acute ecological criteria apply to wells B9N, MW-18, *MW-48 and *MW-49 along the North Tributary (an intermittent stream).

GW_{ing} - Groundwater ingestion PCL for Commercial/industrial Class 2 Groundwater ingestion PCL.

Note: Wells that are not listed in this table are subject to change, upon approval by the Executive Director, without modification to the Compliance Plan.

CP Table VI: Compliance Period for RCRA-Regulated Units

North CAMU	Year or Number of Years
Year Waste Management Activities Initiated	1996
Year Closed	To be determined
Compliance Period	30 Years
Compliance Period Began	To be determined

RCA	Year or Number of Years
Year Waste Management Activities Initiated	To be determined
Year Closed	To be determined
Compliance Period	30 Years
Compliance Period Began	To be determined

CP Table VIII: Compliance Schedule

Item	Compliance Schedule <i>(from the date of issuance of the Compliance Plan unless otherwise specified)</i>	Regulatory Citation	Requirement
A.	60	Compliance Plan	Submit to the Executive Director a schedule summarizing all activities required by the Compliance Plan. The schedule shall list the starting dates of all routine activities. The Permittee shall include an updated schedule in the report required by Compliance Plan CP Table VII – Reporting Requirements. The schedule shall list the activity or report, the Compliance Plan Section which requires the activity or report and the calendar date the activity or report it to be completed or submitted (if this date can be determined).
B.	60	30 TAC §335.163(4) and Provision XI.F.2.	{*Note: Include the following, in no Sampling & Analysis Plan was submitted or submit an updated plan*} Submit to the Executive Director for review and approval a Sampling & Analysis Plan
C.	120	30 TAC §350.31(g)	{*Note: Include the following requirements (C and D), if the Permittee applied for a Plume Management Zone (PMZ)*} Submit to the Executive Director proof of compliance with institutional control requirements in accordance with which provides notice of the existence and location of the Plume Management Zone (PMZ) and which prevents exposure to groundwater from this zone until such a time as constituents of concern may be reduced to below the Groundwater Protection Standards of CP Table III – Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard.
D.	Notify within 30 days	30 TAC §350.33(k)	After an unexpected event occurs, or a condition is detected, during post-response action care period which indicates that additional response actions will be required at an affected property.
E.	A compliance schedule is included in Attachment M, Worksheet 6.0.		{*Note: Add other any site specific activities listed in the implementation schedule of Sections C Compliance Monitoring Program or D Corrective Action Program of the application that are not completed at the time of application submittal or issuance of the final draft compliance plan.*}

Attachment A

Alternate Concentration Limits

Alternate Concentration Limits (ACLs) must be submitted by hazardous waste facility owners or operators who seek ACLs for any hazardous constituent as provided by 30 TAC 335.160(b) as a part of a compliance monitoring or corrective action program. An ACL demonstration should follow the guidance provided in this attachment. Compliance Plan Application, Section XI.B.2.b. outlines when an ACL demonstration must be conducted. Where possible in "Attachment A", the applicant may copy information previously submitted to the Commission and reference the information submitted in other Sections (Sections I and XI.B. through E.) of this Compliance Plan Application.

Alternate Concentration Limit Demonstration

An ACL petition is based on a demonstration that hazardous constituents detected in the groundwater will not pose a substantial present or future threat to human health or the environment at the ACL levels. Potential adverse effects on both groundwater quality and hydraulically connected surface water quality must be addressed. Using Environmental Protection Agency published lists of 40 CFR Part 264 Appendix IX hazardous constituents, the applicant must submit a list of all contaminants in the groundwater. For all the petitioned ACL constituents, the applicant must address all known synergistic and additive effects on human health and the environment to develop appropriate ACL levels.

Required Information for Alternate Concentration Limits

In addition to rule specific requirements (i.e., 30 TAC Chapter 335 Subchapter S RRR, or 30 TAC Chapter 350 TRRP), the following items must be addressed for each hazardous constituent for which an alternate concentration is sought (CP Tables III and IV, XII.B.). If the information required in this part has been furnished in other parts of Compliance Plan Application, please provide an adequate reference.

1. Potential adverse effects on groundwater quality, considering:
 - a. The physical and chemical characteristics of the waste in the Regulated Unit, Solid Waste Management Unit(SWMU) or Area of Concern (AOC), including its potential for migration;
Waste in the Regulated Units currently (or are proposed) to consist of the following:
 - **Blast furnace slag (treated) - These wastes have already been characterized and placed in the North CAMU.**
 - **Class 2 remediation waste associated with clean-up activities for the Undeveloped Buffer Property (J-Parcel) Voluntary Cleanup Program (VCP) No. 2541 owned by Exide Technologies located immediately adjacent to the Exide Technologies Former Operating Plant - These wastes have already been characterized and placed in the North CAMU.**
 - **Proposed - Excavated soil, battery case fragments, concrete or other remediation waste from affected properties on-Site that meets Class 2 industrial waste criteria (defined below as On-Site Class 2 Remediation Waste).**

- **Proposed - Excavated soil, battery case fragments, concrete or other remediation waste from affected properties on-Site (defined below as On-Site Soil Remediation Waste). This includes soils or debris generated from the installation of monitoring wells at the Site.**
- **Proposed - Excavated soils, sediment, battery case fragments, concrete or other remediation waste from off-site Stewart Creek affected property that are non-hazardous (defined below as Off-site Stewart Creek Remediation Waste).**
- **Proposed - Excavated soils, sediment, battery case fragments, concrete or other remediation waste from on-Site Stewart Creek affected property (defined below as on-Site Stewart Creek Remediation Waste).**
- **Proposed - Slag segregated from excavated soil and sediment from affected properties on-Site (defined below as on-Site slag).**
- **Proposed – Off-Site Soil stockpiled at the Railroad Museum**

Engineering and institutional controls will be implemented at the site to minimize potential exposure to these wastes and to limit potential migration of metals. The engineering design features are described in detail in the Engineering Reports for the units (included as Attachments E and F).

- The hydrogeological characteristics of the facility and surrounding land are described in the Geology Report included in Attachment G.**
- The quantity of groundwater and the direction of groundwater flow is described in the Geology Report included in Attachment G.**
- According to the water well survey discussed in Part A of the RCRA Permit Renewal Application, there are 12 wells within one mile of the FOP. The locations of the wells are shown on Attachment C, Figure 1, of Part A of the RCRA permit renewal and amendment application supplemental filing submitted to the TCEQ in May 2019. Well G0430005, which likely draws water from the Paluxy and Twin Mountains formations, is used for public supply. The other 11 wells are used for either domestic purposes, stock watering or irrigation. The wells are not hydraulically downgradient of the site and would not receive recharge from site groundwater. No information was available on rates of withdrawal.**
- There is no current or anticipated future use of the uppermost aquifer underlying the site. Areas subject to this compliance plan discharge to Stewart Creek or the North Tributary within the boundaries of the Site.**
- Currently, concentrations of hazardous constituents in several monitoring wells at the site exceed the ^{GW}GW_{Ing} (lead, arsenic, antimony, and selenium) or ^{SW}GW PCLs (cadmium and lead). The quality of groundwater at the Site and**

potential sources of contamination are described in the Affected Property Assessment Report included in Attachment H and the RAP included in Attachment M.

- g. The potential for health risks caused by human exposure to waste constituents;

There are no exposure pathways by which human receptors potentially can come into contact with waste constituents except for recreational contact with or consumption of surface water.

The potential for human health risk from this scenario is unlikely because surface water concentrations, as determined from site groundwater constituent concentrations for wells along Stewart Creek and surface water sample data, have been and are expected to be below the ^{SW}GW PCLs.

ACLs developed for the site POC wells will ensure that constituent concentrations remain below the ^{SW}GW PCLs and ^{GW}GW_{Ing} through compliance monitoring.

- h. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and,

Waste constituents are not expected to come into contact with wildlife, crops, vegetation, or physical structures.

- i. The persistence and permanence of the potentially adverse effects.

The hazardous constituents found at the site are persistent in groundwater. However, proper inspection and maintenance (if necessary) of the caps, funnel and gate permeable reactive barrier, flood wall and ancillary structures will ensure the isolation of the constituents from human or ecological receptors.

- 2. Potentially adverse effects on hydraulically connected surface water quality, considering:

- a. The volume and physical and chemical characteristics of the waste in the Regulated Unit, Solid Waste Management Unit (SWMU) or Area of Concern (AOC);

See response for 1.a. above.

- b. The hydrogeological characteristics of the facility and surrounding land;

See response for 1.b. above.

- c. The quantity and quality of groundwater, and the direction of groundwater flow;

The quality of groundwater at the Site is described in the Affected Property Assessment Report included in Attachment H and the Response Action Plan included in Attachment M. The quantity of groundwater and direction of groundwater flow are described in the Geology Report included in Attachment G.

- d. The patterns of rainfall in the region;

According to US Climate Data (<https://www.usclimatedata.com/climate/dallas-dfw-intl-arpt/texas/united-states/ustx0328>), the average annual rainfall for the Dallas/Fort Worth area is 37.54 inches.

- e. The proximity of the Regulated Unit to surface waters;
The North CAMU is located hydraulically upgradient from the North Tributary to Stewart Creek at a distance of approximately 250 feet.
- f. The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
There is no current use of the North Tributary to Stewart Creek or Stewart Creek at the Site. The North Tributary discharges to Stewart Creek on the FOP downstream of the RCA. Downstream from the FOP, Stewart Creek currently could be used for recreational purposes and is likely to be used for recreational purposes in the future with the development of Grand Park on property owned by the City of Frisco downstream from the FOP. Water quality standards developed for the North Tributary and Stewart Creek are described in the 2014 APAR included as Attachment H.
- g. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
Surface water quality in the North Tributary and Stewart Creek are described in the 2014 APAR included as Attachment H. ACLs developed for the Site POC wells will ensure that constituent concentrations remain below the ^{SW}GW and ^{GW}GW_{ing} PCLs through compliance monitoring.
- h. The potential for health risks caused by human exposure to waste constituents;
There are no exposure pathways for which human receptors potentially can come into contact with waste constituents except for recreational contact with or consumption of surface water. The potential for human health risk from consumption is unlikely because surface water concentrations, as determined from site constituent concentrations, have been and are expected to be below the ^{SW}GW PCLs, and the surface water is not currently used as a public water supply. ACLs developed for the site POC wells will ensure that constituent concentrations remain below the ^{SW}GW and ^{GW}GW_{ing} PCLs through compliance monitoring.
- i. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and,
See response for 1.h. above. Additionally, ACLs developed for the site POC wells will ensure that constituent concentrations remain below the ^{SW}GW and ^{GW}GW_{ing} PCLs for protection of human health and aquatic life through compliance monitoring.
- j. The persistence and permanence of the potentially adverse effects.
See response for 1.i. above.

Attachment B

Well Design And Construction Specifications

The following well design and construction specifications should be used as guidance when designing a groundwater Compliance Monitoring Program (Section XI.C.) or a Corrective Action Program (Section XI.D.). This guidance is provided to establish minimum well design and construction specifications for the Compliance Plan.

1. Well drilling methods that minimize potential adverse effects on the quality of water samples withdrawn from the well and that minimize or eliminate the introduction of foreign fluids into the borehole must be utilized.
2. All wells shall be constructed such that the wells can be routinely sampled with a pump, bailer, or alternate sampling device. Piping associated with recovery wells should be fitted with sample ports or an acceptable alternative sampling method to facilitate sampling of the recovered groundwater on a well by well basis.
3. Above the saturated zone the well casing may be two (2) inch diameter or larger schedule 40 or 80 polyvinyl chloride (PVC) rigid pipe or stainless steel or polytetrafluoroethylene (PTFE or "teflon") or an approved alternate material. The PVC casing must bear the National Sanitation Foundation logo for potable water applications (NSF pw). Solvent cementing compounds shall not be used to bond joints and all connections shall be flush threaded. In and below the saturated zone, the well casing shall be stainless steel or PTFE.

PVC or fiberglass reinforced resin may be used as an alternate well casing material in and below the saturated zone provided that it yields samples for groundwater quality analysis that are unaffected by the well casing material.
4. Any well that has deteriorated due to incompatibility of the casing material with the groundwater contaminants or due to any other factors must be replaced.
5. Well casings and screens shall be steam cleaned prior to installation to remove all oils, greases, and waxes. Well casings and screens made of fluorocarbon resins shall be cleaned by detergent washing.
6. Screen length shall not exceed ten (10) feet within a given transmissive zone unless otherwise approved by the executive director. Screen lengths exceeding ten (10) feet may be installed in groundwater recovery or injection wells to optimize the groundwater remediation process in accordance with standard engineering practice.
7. The intake portion of a well shall be designed and constructed so as to allow sufficient water flow into the well for sampling purposes and minimize the passage of formation materials into the well during pumping. The intake portion of a well shall consist of commercially manufactured stainless steel or PTFE screen or approved alternate material. The annular space between the screen and the borehole shall be filled with clean siliceous granular material (i.e., filter pack) that has a proper size gradation to provide mechanical retention of the formation sand and silt. The well screen slot size shall be compatible with the filter pack size as determined by sieve analysis data. The filter pack should extend no more than three (3) feet above the well screen. A silt trap, no greater than one (1) foot in length, may be added to the bottom of the well screen to collect any silt that may enter the well. The bottom of the well casing shall be capped with PTFE or stainless steel or approved alternate material.

Groundwater recovery and injection wells shall be designed in accordance with standard engineering practice to ensure adequate well production and accommodate ancillary equipment. Silt traps exceeding one (1) foot may be utilized to accommodate ancillary equipment. Well heads shall be fitted with mechanical wellseals, or equivalent, to prevent entry of surface water or debris.

8. A minimum of two (2) feet of pellet or granular bentonite shall immediately overlie the filter pack in the annular space between the well casing and borehole. Where the saturated zone extends above the filter pack, pellet or granular bentonite shall be used to seal the annulus. The bentonite shall be allowed to settle and hydrate for a sufficient amount of time prior to placement of grout in the annular space. Above the minimum two (2) foot thick bentonite seal, the annular space shall be sealed with a cement/bentonite grout mixture. The grout shall be placed in the annular space by means of a tremie pipe or pressure grouting methods equivalent to tremie grouting standards.

The cement/bentonite grout mixture or TCEQ approved alternative grout mixture shall fill the annular space to within two (2) feet of the surface. A suitable amount of time shall be allowed for settling to occur. The annular space shall be sealed with concrete, blending into a cement apron at the surface that extends at least two (2) feet from the outer edge of the monitor well for above ground completions. Alternative annular space seal material may be proposed with justification and must be approved by the executive director prior to installation.

In cases where flush to ground completions are unavoidable, a protective structure such as a utility vault or meter box should be installed around the well casing and the concrete pad design should prevent infiltration of water into the vault. In addition, the following requirements must also be met 1) the well/cap juncture is watertight; 2) the bond between the cement surface seal and the protective structure is watertight; and 3) the protective structure with a steel lid or manhole cover has a rubber seal or gasket.

9. Water added as a drilling fluid to a well shall contain no bacteriological or chemical constituents that could interfere with the formation or with the chemical constituents being monitored. For groundwater recovery and injection wells, drilling fluids containing freshwater and treatment agents may be utilized in accordance with standard engineering practice to facilitate proper well installation. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.
10. Upon completion of installation of a well, the well must be developed to remove any fluids used during well drilling and to remove fines from the formation to provide a particulate free discharge to the extent achievable by accepted completion methods and by commercially available well screens. Development shall be accomplished by reversing flow direction, surging the well or by air lift procedures. No fluids other than formation water shall be added during development of a well unless the aquifer to be screened is a low yielding water bearing aquifer. In these cases, the water to be added should be chemically analyzed to evaluate its potential impact on in-situ water quality, and to assess the potential for formation damage.

For recovery and injection wells, well development methods may be utilized in accordance with standard engineering practice to remove fines and maximize well efficiency and specific capacity. Addition of freshwater and treatment agents may be utilized during well development or re development to remove drilling fluids, inorganic scale or bacterial slime. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.

11. Each well shall be secured and/or designed to maintain the integrity of the well borehole and groundwater.
12. The above ground portion of the well must be protected by bumper guards and/or metal outer casing protection when wells are located in traffic areas or outside the secured plant area.
13. The attached Table of Well Construction Details is to be completed or updated for each well installed and kept on site. Items in the table that require a yes or no answer indicate diagrams plans, or procedures that shall be kept on site and made available to inspection. The completed table and other records shall include all of the following information:
 - name/number of well (well designation);
 - intended use of the well(sampling, recovery, etc.);
 - date/time of construction;
 - drilling method and drilling fluid used;
 - well location (+ 0.5 ft.);
 - bore hole diameter and well casing diameter;
 - well depth (+ 0.1 ft.);
 - drilling and lithologic logs;
 - depth to first saturated zone;
 - casing materials;
 - screen materials and design;
 - casing and screen joint type;
 - screen slot size/length;
 - filter pack material/size;
 - filter pack volume (how many bags, buckets, etc.);
 - filter pack placement method;
 - sealant materials;
 - sealant volume (how many bags, buckets, etc.);
 - sealant placement method;
 - surface seal design/construction;
 - well development procedure;
 - type of protective well cap;
 - ground surface elevation (+ 0.01 ft. MSL);
 - top of casing elevation (+ 0.01 ft. MSL); and,
 - detailed drawing of well (include dimensions).
14. Construction or plugging and abandonment of each well shall be completed in accordance with the requirements of 16 TAC Chapter 76 and must be reported/certified to the TCEQ that such proper construction or plugging and abandonment has occurred following installation or plugging and abandonment.

Well completion logs for each newly installed or replaced well shall be included with the report. The certification shall be prepared by a qualified geologist or geotechnical engineer. Each well certification shall be accompanied by a certification report, including an accurate log of the soil boring, which thoroughly describes and depicts the location, elevations, material specifications, construction details, and soil conditions encountered in the boring for the well. A copy of the certification and certification report shall be kept on site, and a second copy shall be submitted to the executive director.

15. The well number must be clearly marked and maintained on each well at the site.
16. The elevation of the top of each well casing must be measured in feet above mean sea level to the nearest 0.01 foot.
17. Wells must be replaced at any time the well integrity or materials of construction or well placement no longer enable the well to yield samples representative of groundwater quality.
18. Soil test borings shall be plugged and wells removed from service with a cement/bentonite grout mixture so as to prevent the preferential migration of fluids in the area of the borehole. Certification of each plugging shall be reported in accordance with Provision 14. The plugging of wells shall be in accordance with 16 TAC Chapter 76 dealing with Well Drilling, Completion, Capping and Plugging.
19. A well's screened interval shall be appropriately designed and installed to meet the well's specific objective (i.e., either DNAPL, LNAPL, both, or other objective of the well). All wells designed to detect, monitor, or recover DNAPL must be drilled to intercept the bottom confining layer of the aquifer. The screened interval to detect DNAPL should extend from the top of the lower confining layer to above the portion of the aquifer saturated with DNAPL. The screened interval for all wells designed to detect, monitor, or recover LNAPL must extend high enough into the vadose zone to provide for fluctuations in the seasonal water table. In addition, the sandpacks for the recovery or monitoring well's screened interval shall be coarser than surrounding media to ensure the movement of NAPL to the well.

Table of Well Construction Details (Item 13) (Page 1 of 9)

Well number	PMW-19R	MW-45	LMW-8
Hole diameter (in)	7.75	8.25	6
Well diameter (in)	2	2	2
Total borehole depth (ft)	20.0	20.0	22.0
Constructed well depth (ft)	19.0	20.0	22.0
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	North CAMU Detection Monitoring/Background	North CAMU Detection Monitoring/Background	North CAMU Detection Monitoring/Observation North CAMU Corrective Action Monitoring/APOE
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Hollow stem auger	Hollow stem auger	Hollow stem auger
Date drilled	02/26/2013	01/07/2014	02/04/1995
Casing I.D.(in)	2	2	2
Casing type/materials	Sch 40 FJT PVC	Sch 40 PVC	Sch 40 PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	3.34	2.96	3.11
Top of casing (+0.01 MSL)	681.79	660.86	648.72
Ground surface elevation (+0.01 MSL)	678.45	657.90	645.57
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	2.9 ft. x 3 ft.	3.9 ft. x 3.9 ft.	4 ft. x 4 ft.
Detailed drawing of well (include dimensions) Y/N	No	Yes	Yes
Depth to surface seal(ft)	0.5	1.5 (Driller indicated 2.0, to be reconciled)	0.0
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	No	Yes	No
Annulus fill	Bentonite grout	Not applicable	Cement/bentonite grout
Depth to annulus seal(ft)	1.0	Not applicable	3.0
Depth to gravel pack(ft)	Not applicable	Not applicable	Not applicable
Depth to 1st saturated zone	Not available	Not available	10.0
Length of gravel pack(ft)	Not applicable	Not applicable	Not applicable
Size-gravel pack	Not applicable	Not applicable	Not applicable
Filter pack volume (how many bags, buckets, etc.)	Not available	350 lbs	Not available
Filter pack placement method	Not available	Not available	Not available
Depth to screen(ft)	4.0	10.0	7.0
Sealant materials	Bentonite hole plug	Bentonite chips	Bentonite
Sealant volume (how many bags, buckets, etc.)	Not available	100 lbs	Not available
Sealant placement method	Not available	Not available	Not available
Screen slot size/length(in)	0.010	0.010	0.01
Screen type	Sch 40 FJT PVC	Sch 40 PVC slotted	Sch 40 PVC machine slot
Screen length(ft)	15	10.0	14.5
Blank length(ft)	Not available	Not available	0.5
Dev. method	Not available	Pump and surge	Not available
Well coordinates (lat & long)	Latitude: 33.145220 Longitude: -96.825695	Latitude: 33.145934 Longitude: -96.827698	Latitude: 33.143110 Longitude: -96.826061

Table of Well Construction Details (Item 13) (Page 2 of 9)

Well number	LMW-9R	LMW-5	LMW-17
Hole diameter (in)	7	6	8
Well diameter (in)	2	2	4
Total borehole depth (ft)	30	22.0	23.0
Constructed well depth (ft)	30	22.0	23.0
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	North CAMU Detection Monitoring/Observation North CAMU Corrective Action Monitoring/APOE	North CAMU Detection Monitoring/Observation North CAMU Corrective Action Monitoring/APOE	North CAMU Detection Monitoring/Observation North CAMU Corrective Action Monitoring/AMP
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Hollow stem auger	Hollow stem auger	Hollow stem auger
Date drilled	03/01/2016	02/03/1995	07/21/1995
Casing I.D.(in)	2	2	4
Casing type/materials	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	2.92	3.34	2.50
Top of casing (+0.01 MSL)	664.31	646.07	648.70
Ground surface elevation (+0.01 MSL)	661.39	643.27	646.34
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	2.8 ft. x 2.84 ft.	3.8 ft. x 3.8 ft.	3.1 ft. x 3.3 ft.
Detailed drawing of well (include dimensions) Y/N	Yes	Yes	Yes
Depth to surface seal(ft)	3.0	0.0	0.0
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	Yes	No	No
Annulus fill	Not applicable	Cement/bentonite grout	Cement/bentonite grout
Depth to annulus seal(ft)	Not applicable	3.0	6.0
Depth to gravel pack(ft)	Not applicable	Not applicable	Not applicable
Depth to 1st saturated zone	Not available	10.0	10.0
Length of gravel pack(ft)	Not applicable	Not applicable	Not applicable
Size-gravel pack	Not applicable	Not applicable	Not applicable
Filter pack volume (how many bags, buckets, etc.)	Eight 50-lb bags	Not available	Not available
Filter pack placement method	Gravity fed	Not available	Not available
Depth to screen(ft)	15	7.0	10.0
Sealant materials	Bentonite	Bentonite	Bentonite
Sealant volume (how many bags, buckets, etc.)	Three 50-lb bags	Not available	Not available
Sealant placement method	Not Available	Not available	Not available
Screen slot size/length(in)	0.010	0.01	0.01
Screen type	Sch 40 PVC	Sch 40 machine slot PVC	Sch 40 machine slot PVC
Screen length(ft)	15	14.5	10.0
Blank length(ft)	Not available	0.5	Not available
Dev. method	Pump and surge	Not available	Not available
Well coordinates (lat & long)	Latitude: 33.144094 Longitude: -96.825896	Latitude: 33.143514 Longitude: -96.828159	Latitude: 33.143323 Longitude: -96.827067

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Well number	PMW-20R	LMW-21	LMW-22
Hole diameter (in)	7.75	7.75	7.75
Well diameter (in)	2	2	2
Total borehole depth (ft)	25.0	25.0	20.0
Constructed well depth (ft)	25.0	25.0	20.0
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	North CAMU Detection Monitoring/Observation	North CAMU Detection Monitoring/Observation	North CAMU Detection Monitoring/Observation North CAMU Corrective Action Monitoring/AMP
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Hollow stem auger	Hollow stem auger	Hollow stem auger
Date drilled	02/26/2013	02/27/2013	02/27/2013
Casing I.D.(in)	2	2	2
Casing type/materials	Sch 40 FJT PVC	Sch 40 FJT PVC	Sch 40 FJT PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	2.89	3.16	3.67
Top of casing (+0.01 MSL)	648.09	648.28	646.99
Ground surface elevation (+0.01 MSL)	645.2	645.11	643.32
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	2.8 ft. x 2.8 ft.	2.8 ft. x 2.8 ft.	2.8 ft. x 2.8 ft.
Detailed drawing of well (include dimensions) Y/N	No	No	No
Depth to surface seal(ft)	2.0	2.0	0.5
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	Yes	Yes	Yes
Annulus fill	Bentonite grout	Bentonite grout	Bentonite grout
Depth to annulus seal(ft)	2.0	2.0	0.5
Depth to gravel pack(ft)	Not applicable	Not applicable	Not applicable
Depth to 1st saturated zone	19.5	15.8	Not Available
Length of gravel pack(ft)	Not applicable	Not applicable	Not applicable
Size-gravel pack	Not applicable	Not applicable	Not applicable
Filter pack volume (how many bags, buckets, etc.)	Not available	Not available	Not available
Filter pack placement method	Not available	Not available	Not available
Depth to screen(ft)	10.0	10.0	5.0
Sealant materials	Bentonite hole plug	Bentonite hole plug	Bentonite hole plug
Sealant volume (how many bags, buckets, etc.)	Not available	Not available	Not available
Sealant placement method	Not available	Not available	Not available
Screen slot size/length(in)	0.010	0.010	0.010
Screen type	Sch 40 FJT PVC	Sch 40 FJT PVC	Sch 40 FJT PVC
Screen length(ft)	15.0	15.0	15.0
Blank length(ft)	Not available	Not available	Not available
Dev. method	Pump (typhoon) and surge	Pump (typhoon) and surge	Pump (typhoon) and surge
Well coordinates (lat & long)	Latitude: 33.144417 Longitude: -96.828619	Latitude: 33.143996 Longitude: -96.828400	Latitude: 33.143120 Longitude: -96.827581

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Well number	MW-41	MW-42	MW-47
Hole diameter (in)	8.25	8.25	4
Well diameter (in)	2	2	2
Total borehole depth (ft)	17.0	15.0	15.0
Constructed well depth (ft)	16.0	15.0	15.0
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	North CAMU Corrective Action Monitoring/ POC/APOE	North CAMU Corrective Action Monitoring/ POC/APOE	North CAMU Corrective Action Monitoring/AMP
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Hollow stem auger	Hollow stem auger	Hollow stem auger/CME 75
Date drilled	01/08/2014	01/14/2014	05/02/2017
Casing I.D.(in)	2	2	2
Casing type/materials	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	3.03	3.53	3
Top of casing (+0.01 MSL)	642.17	642.24	638.28
Ground surface elevation (+0.01 MSL)	639.14	638.71	635.65
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	3 ft. x 3 ft.	2.9 ft. x 2.9 ft.	3 ft. x 3 ft.
Detailed drawing of well (include dimensions) Y/N	Yes	Yes	Yes
Depth to surface seal(ft)	1.5 (Driller indicated 2.0, to be reconciled)	1.5 (Driller indicated 2.0, to be reconciled)	1
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	Yes	Yes	Yes
Annulus fill	Not applicable	Not applicable	Not applicable
Depth to annulus seal(ft)	Not applicable	Not applicable	Not applicable
Depth to gravel pack(ft)	Not applicable	Not applicable	Not applicable
Depth to 1st saturated zone	10.0	10.0	6
Length of gravel pack(ft)	Not applicable	Not applicable	Not applicable
Size-gravel pack	Not applicable	Not applicable	Not applicable
Filter pack volume (how many bags, buckets, etc.)	325 lbs	300 lbs	3.5 bags
Filter pack placement method	Not available	Not applicable	Not available
Depth to screen(ft)	6.0	5.0	7.5
Sealant materials	Bentonite chips	Bentonite Chips	Bentonite chips
Sealant volume (how many bags, buckets, etc.)	50 lbs	50 lbs	3.5 bags
Sealant placement method	Not available	3.0	Not available
Screen slot size/length(in)	0.010	0.010	0.010
Screen type	2" Sch 40 PVC	2" Sch 40 PVC	2" Sch 40 PVC
Screen length(ft)	10.0	10.0	7.5
Blank length(ft)	Not available	Not available	Not available
Dev. method	Pump and surge	Pump and surge	Pump and surge
Well coordinates (lat & long)	Latitude: 33.142588 Longitude: -96.828512	Latitude: 33.142567 Longitude: -96.826428	Latitude: 33.1428084 Longitude: -96.8277614

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Well number	B3R	B4R	B7N
Hole diameter (in)	8.25	8.25	8.25
Well diameter (in)	4.0	4.0	4.0
Total borehole depth (ft)	14.0	9.0	25.0
Constructed well depth (ft)	14.0	9.0	24.0
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	FOP Detection Monitoring (SDA)/POC/APOE	FOP Detection Monitoring (SDA)/POC/APOE	FOP Corrective Action Monitoring/POC/APOE
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Hollow stem auger	Hollow stem auger	Hollow stem auger
Date drilled	07/21/1990	07/11/1990	05/10/1990
Casing I.D.(in)	4.0	4.0	4.0
Casing type/materials	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	1.16	1.36	1.24
Top of casing (+0.01 MSL)	650.23	664.58	648.60
Ground surface elevation (+0.01 MSL)	649.23	661.40	644.08
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	3 ft. x 3 ft.	3 ft. x 3 ft.	3.9 ft. x 3.9 ft.
Detailed drawing of well (include dimensions) Y/N	Yes	Yes	Yes
Depth to surface seal(ft)	1.0	1.0	1.0
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	Yes	Yes	Yes
Annulus fill	Bentonite/Cement Grout	Bentonite/Cement Grout	Bentonite/Cement Grout
Depth to annulus seal(ft)	1.0	1.0	11.0
Depth to gravel pack(ft)	3.0	3.0	13.0
Depth to 1st saturated zone	Not available	Not available	Not available
Length of gravel pack(ft)	11.0	6.0	12.0
Size-gravel pack	Not available	Not available	Not available
Filter pack volume (how many bags, buckets, etc.)	Not available	Not available	Not available
Filter pack placement method	Not available	Not available	Not available
Depth to screen(ft)	4.0	4.0	14.0
Sealant materials	Pelletized Bentonite	Pelletized Bentonite	Pelletized Bentonite
Sealant volume (how many bags, buckets, etc.)	Not available	Not available	Not available
Sealant placement method	Not available	Not available	Not available
Screen slot size/length(in)	0.010	0.010	0.010
Screen type	Sch 40 PVC slotted	Sch 40 PVC slotted	Sch 40 PVC
Screen length(ft)	10.0	5.0	10.0
Blank length(ft)	Not available	Not available	Not available
Dev. method	Not available	Waterra (hand pump)	Not available
Well coordinates (lat & long)	Latitude: 33.139319 Longitude: -96.828565	Latitude: 33.139111 Longitude: -96.829010	Latitude: 33.141929 Longitude: -96.826521

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Well number	B9N	DGW-MW-9	MW-10
Hole diameter (in)	8.25	7.25	8.25
Well diameter (in)	4.0	2.0	4.00
Total borehole depth (ft)	18.0	25.0	19.0
Constructed well depth (ft)	17.0	25.0	17.0
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	FOP Corrective Action Monitoring/POC/APOE	FOP Corrective Action Monitoring/POC/APOE	FOP Corrective Action Monitoring (Upgradient)
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Hollow stem auger	Hollow stem auger	Hollow stem auger
Date drilled	06/12/1990	05/16/2018	06/13/1990
Casing I.D.(in)	4.0	2.0	4.0
Casing type/materials	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	1.23	2.59	Not Applicable
Top of casing (+0.01 MSL)	640.61	644.81	644.80
Ground surface elevation (+0.01 MSL)	637.02	642.22	645.12
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	4 ft. x 4 ft.	2.9 ft. x 3 ft.	3.8 ft. x 3.8 ft.
Detailed drawing of well (include dimensions) Y/N	Yes	Yes	Yes
Depth to surface seal(ft)	1.0	2	1.0
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	Yes	Yes	Yes
Annulus fill	Bentonite/Cement Grout	Bentonite Plug	Bentonite/Cement Grout
Depth to annulus seal(ft)	4.0	2	4.0
Depth to gravel pack(ft)	6.0	8.0	6.0
Depth to 1st saturated zone	Not available	16.0	Not available
Length of gravel pack(ft)	12.0	17.0	13.0
Size-gravel pack	Not available	16/30	Not available
Filter pack volume (how many bags, buckets, etc.)	Not available	350 lbs	Not available
Filter pack placement method	Not available	Not available	Not available
Depth to screen(ft)	7.0	10.2	7.0
Sealant materials	Pelletized Bentonite	Bentonite Plug	Pelletized Bentonite
Sealant volume (how many bags, buckets, etc.)	Not available	125 lbs	Not available
Sealant placement method	Not available	Not available	Not available
Screen slot size/length(in)	0.010	0.010	0.010
Screen type	Sch 40 PVC	Sch 40 PVC	Sch 40 PVC
Screen length(ft)	10.0	14.5	10.0
Blank length(ft)	Not available	0.5	Not available
Dev. method	Not available	Stainless Steel Bailer and Monsoon Pump	Not available
Well coordinates (lat & long)	Latitude: 33.142363 Longitude: -96.828571	Latitude: 33.1400275 Longitude: -96.8266602	Latitude: 33.1406346 Longitude: -96.8256360

Table of Well Construction Details (Item 13) (Page 7 of 9)

Well number	MW-17	MW-18	MW-21
Hole diameter (in)	8.25	8.25	7.75
Well diameter (in)	4.0	4.0	2
Total borehole depth (ft)	19.0	18.0	15
Constructed well depth (ft)	17.0	15.5	13
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	FOP Corrective Action Monitoring/POC/APOE	FOP Corrective Action Monitoring/POC/APOE	FOP Corrective Action Monitoring/POC/APOE
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Hollow stem auger	Hollow stem auger	Direct Push/Hollow Stem Auger
Date drilled	6/7/1990	6/12/1990	3/5/2013
Casing I.D.(in)	4	4	2
Casing type/materials	Sch 40 PVC	Sch 40 PVC	Sch 40 FJT PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	0.56	1.29	2.33
Top of casing (+0.01 MSL)	629.00	633.00	635.99
Ground surface elevation (+0.01 MSL)	628.58	631.84	633.66
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	3.1 ft. x 3.3 ft.	3 ft. x 3 ft.	2.9 ft. x 2.9 ft.
Detailed drawing of well (include dimensions) Y/N	Yes	Yes	Yes
Depth to surface seal(ft)	1.0	1.0	1.0
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	Yes	Yes	Yes
Annulus fill	Not applicable	Not applicable	Not applicable
Depth to annulus seal(ft)	3.0	2.5	1.0
Depth to gravel pack(ft)	5.0	4.5	2.5
Depth to 1st saturated zone	Not available	Not available	Not available
Length of gravel pack(ft)	13.0	13.5	12.5
Size-gravel pack	Not available	Not available	20/40 Silica Sand
Filter pack volume (how many bags, buckets, etc.)	Not available	Not available	Not available
Filter pack placement method	Not available	Not available	Not available
Depth to screen(ft)	7.0	5.5	3.0
Sealant materials	Pelletized Bentonite	Pelletized Bentonite	Bentonite Hole Plug
Sealant volume (how many bags, buckets, etc.)	Not available	Not available	Not available
Sealant placement method	Not available	Not available	Not available
Screen slot size/length(in)	0.01	0.01	0.01
Screen type	Sch 40 PVC	Sch 40 PVC	Sch 40 FJT PVC
Screen length(ft)	10	10	10
Blank length(ft)	Not available	Not available	Not available
Dev. method	Not available	Not available	Pump and surge
Well coordinates (lat & long)	Latitude: 33.140951 Longitude: -96.830061	Latitude: 33.141976 Longitude: -96.830915	Latitude: 33.142091 Longitude: -96.827158

Table of Well Construction Details (Item 13) (Page 8 of 9)

Well number	MW-22	MW-23	MW-26
Hole diameter (in)	7.75	7.75	7.75
Well diameter (in)	2	2	2
Total borehole depth (ft)	15	20	15
Constructed well depth (ft)	13	19.5	15
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	FOP Corrective Action Monitoring/POC/APOE	FOP Corrective Action Monitoring (Upgradient)	FOP Corrective Action Monitoring/POC/APOE
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Direct Push/Hollow Stem Auger	Direct Push/Hollow Stem Auger	Hollow Stem Auger
Date drilled	3/5/2013	3/5/2013	3/6/2013
Casing I.D.(in)	2	2	2
Casing type/materials	Sch 40 FJT PVC	Sch 40 FJT PVC	Sch 40 FJT PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	3.60	Not applicable	3.59
Top of casing (+0.01 MSL)	636.89	644.15	631.93
Ground surface elevation (+0.01 MSL)	633.29	644.32	628.34
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	2 ft diameter circle	2.8 ft. x 3 ft.	2 ft. diameter circle
Detailed drawing of well (include dimensions) Y/N	Yes	Yes	Yes
Depth to surface seal(ft)	1.0	2.0	2.0
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	Yes	Yes	Yes
Annulus fill	Not applicable	Not applicable	Not applicable
Depth to annulus seal(ft)	1.0	2.0	2.0
Depth to gravel pack(ft)	2.5	3.5	4.0
Depth to 1st saturated zone	Not available	Not available	Not available
Length of gravel pack(ft)	12.5	16.0	11.0
Size-gravel pack	20/40 Silica Sand	20/40 Silica Sand	20/40 Silica Sand
Filter pack volume (how many bags, buckets, etc.)	Not available	Not available	Not available
Filter pack placement method	Not available	Not available	Not available
Depth to screen(ft)	3.0	4.5	5.0
Sealant materials	Bentonite Hole Plug	Bentonite Hole Plug	Bentonite Hole Plug
Sealant volume (how many bags, buckets, etc.)	Not available	Not available	Not available
Sealant placement method	Not available	Not available	Not available
Screen slot size/length(in)	0.01	0.01	0.01
Screen type	Sch 40 FJT PVC	Sch 40 FJT PVC	Sch 40 FJT PVC
Screen length(ft)	10	15	10
Blank length(ft)	Not available	Not available	Not available
Dev. method	Pump and surge	Pump and surge	Disposable bailer
Well coordinates (lat & long)	Latitude: 33.141896 Longitude: -96.828613	Latitude: 33.140996 Longitude: -96.826268	Latitude: 33.140321 Longitude: -96.829199

Table of Well Construction Details (Item 13) (Page 9 of 9)

Well number	MW-27	MW-29	MW-44
Hole diameter (in)	7.75	7.75	8.25
Well diameter (in)	2	2	2
Total borehole depth (ft)	15	15	15
Constructed well depth (ft)	15	14.5	15
Well location available (Y/N)	Yes	Yes	Yes
Intended Use of Well (sampling, recovery, etc.)	FOP Corrective Action Monitoring/POC/APOE	FOP Corrective Action Monitoring/POC/APOE	FOP Corrective Action Monitoring/POC/APOE
Drilling & lithologic logs available (Y/N)	Yes	Yes	Yes
Drill method	Direct Push/Hollow Stem Auger	Direct Push/Hollow Stem Auger	Hollow stem auger
Date drilled	3/6/2013	3/6/2013	1/14/2014
Casing I.D.(in)	2	2	2
Casing type/materials	Sch 40 FJT PVC	Sch 40 FJT PVC	Sch 40 PVC
How joined	Threaded	Threaded	Threaded
Stick-up length	3.53	4.12	3.17
Top of casing (+0.01 MSL)	633.42	633.51	637.50
Ground surface elevation (+0.01 MSL)	629.89	629.39	634.33
Capped/lockable	Yes	Yes	Yes
Surface pad size(ft)	2 ft. diameter circle	2' diameter circle	3 ft. x 3 ft.
Detailed drawing of well (include dimensions) Y/N	Yes	Yes	Yes
Depth to surface seal(ft)	2.0	2.0	1.5 (Driller indicated 2.0, to be reconciled)
Surface seal design & construction available (Y/N)	Yes	Yes	Yes
Well development procedure available (Y/N)	Yes	Yes	Yes
Annulus fill	Not applicable	Not applicable	Not applicable
Depth to annulus seal(ft)	2.0	2.0	1.5
Depth to gravel pack(ft)	4.0	4.0	3.0
Depth to 1st saturated zone	Not available	Not available	Not available
Length of gravel pack(ft)	11.0	10.5	12.0
Size-gravel pack	20/40 Silica Sand	20/40 Silica Sand	20/40 Silica Sand
Filter pack volume (how many bags, buckets, etc.)	Not available	Not available	325 lbs
Filter pack placement method	Not available	Not available	Not available
Depth to screen(ft)	5.0	4.5	5.0
Sealant materials	Bentonite Hole Plug	Bentonite Hole Plug	Bentonite chips
Sealant volume (how many bags, buckets, etc.)	Not available	Not available	50 lbs
Sealant placement method	Not available	Not available	Not available
Screen slot size/length(in)	0.01	0.01	0.01
Screen type	Sch 40 FJT PVC	Sch 40 FJT PVC	Sch 40 PVC
Screen length(ft)	10	10	10
Blank length(ft)	Not available	Not available	Not available
Dev. method	Pump and surge	Disposable bailer	Pump and surge
Well coordinates (lat & long)	Latitude: 33.139782 Longitude: -96.827955	Latitude: 33.139974 Longitude: -96.828665	Latitude: 33.139727 Longitude: -96.827010

Attachment C - Sampling And Analysis Plan

Introduction and Purpose

This Attachment was prepared for the purpose of providing guidance for the preparation of a Groundwater Sampling and Analysis Plan (SAP) to meet the requirements of 30 Texas Administrative Code (TAC) 335.163(4) and (5) and also 40 CFR 270.30(j). This guidance is based on the publication, RCRA Groundwater Monitoring: Draft Technical Guidance (TEGD Update) (November 1992, USEPA), and its updates, and is not intended to be rule or policy, or include all acceptable practices.

When preparing the SAP, the applicant may insert copies of areas of the Compliance Plan Application already completed which provides any necessary information for completion of the SAP. The SAP should include the information described in the following sections. When certain sections are not applicable, please provide justification for omission from the SAP.

1. Pre Field Activity

- a. A. The log book format should be outlined in the SAP and should contain at a minimum:
 - the names of those conducting the sampling event;
 - the purpose and provision(s) of the compliance plan requiring the sampling event;
 - weather conditions at time of sampling;
 - date and time of collection;
 - well identification;
 - integrity of well;
 - monitoring well measurements, including: total well depth; static water level depth; measurement techniques; height of water column; well volume; and, notation of the presence or absence of accumulated silt (including thickness and measurement procedures);
 - notation of the presence or absence of NAPLs (including thickness and detection method);
 - well purging procedures, including equipment, purge volume, pumping rate, and well purge time;
 - sampling methods, including well sampling sequence, sampling equipment and withdrawal procedures;
 - visual and measured water quality parameters required for analysis, such as appearance, pH, conductivity, temperature and turbidity; and,
 - sample preservation and handling procedures, including types of sample bottles, sample identification numbers, preservatives used, and internal temperature of field and shipping containers.
- b. B. The SAP should reference the Provisions or Tables within the Compliance Plan regarding monitor well designations, parameters to be monitored, and sampling frequency, rather than utilizing detailed lists.
- c. C. The SAP should include examples of the log book format, chain of custody, and information to be included on the container labels and seals.
- d. D. The SAP should reference both the Health and Safety Plan, and Field Emergency Contingency Plan. These Plans should be checked to determine if they adequately address health and safety issues that may occur during a sampling event.

2. Prior to Purging Well
 - a. A. Procedures for evaluating the physical condition and integrity of the well should include:
 - inspecting the casing and cap for cracks, signs of deterioration or tampering;
 - determination if the cap and monitoring well are secure;
 - inspecting the well pad for cracks, or signs of deterioration, erosion, settling, and/or animal and insect burrowing; and,
 - where appropriate, inspect any dedicated equipment for signs of cleanliness, structural integrity and deterioration.
 - b. B. Procedures and equipment used for measuring groundwater elevations, well depths, silt accumulation, and Non Aqueous Phase Liquids (NAPLs) should be included in the SAP. Water levels should be measured from the surveyed datum on the top of the well casing, with a precision of ± 0.01 foot. If present, accumulated silt and light/dense NAPLs should be measured for thickness.
 - c. C. Procedures for monitoring site specific weather conditions at the time of sampling should be incorporated into the SAP, including precipitation (when applicable), temperature, and approximate wind speed and direction.
3. Sampling Preparation Activity
 - a. A. Well purging methods:
 - (1) 1) A sampling contingency plan should be developed for wells which are purged to dryness or purged such that full recovery exceeds two hours. In such instances, samples should be taken as soon as a sufficient volume of groundwater has entered the well to enable the collection of the necessary groundwater samples.
 - (2) 2) In all instances of purging, the SAP should describe in detail the equipment used (dedicated or non dedicated), purging rate, and the method for determining volume purged.
 - (3) 3) Although purging and sampling by bailers is acceptable, the EPA recommends the use of dedicated pumping equipment designed for low flow rates.
 - (4) 4) When utilizing micropurging methods, the purge rate may range between 0.1 to 0.5 liter/minute. During micropurging, drawdown should not exceed 0.1 meter. The applicant should provide justification for any alternate sampling procedure. The SAP should also specify the well screen interval at which the pump intake is placed and a copy of the boring log for each well utilizing micropurging. In line measurements of redox, dissolved O₂ and turbidity during purging of groundwater should stabilize within 10% over at least two measurements prior to sampling.
 - b. B. Field filtering of groundwater samples should not be conducted unless the applicant has provided a justification and field filtration is approved by the TCEQ. If samples are field filtered, a 10 micron filter should be used while still fulfilling the data quality objectives for the groundwater monitoring program.
 - c. C. The container type, size, and labeling method for each procedure performed should be referenced and/or tabulated in the SAP.

- d. D. Sample blanks, field blanks, trip blanks and split sampling procedures, including frequency and preservation should be specified in the SAP as quality control checks for each sampling event. The preparation, analysis, and evaluation of replicates, duplicates and spikes should also be included.
4. Well Sampling
 - a. A. Well sampling equipment, collection procedures, and sampling sequence of wells, should be specified in the SAP. The SAP should include sampling equipment that is constructed of inert material, which should not alter analyte concentration due to loss of analyte via absorption, or gain via desorption, degradation or corrosion.
 - b. B. Field QA/QC and sample preservation methods used to control pH, chemical addition and refrigeration of samples should be described in the SAP and follow the methods described in the current editions of EPA Report SW 846, "Test Methods for Evaluating Solid Waste" and American Society for Testing and Materials (ASTM) Standard Test Methods or other methods accepted by the TCEQ. The SAP should indicate that chemical preservatives are to be added to samples in the field and not in the laboratory. The SAP should indicate that coolants used for refrigerating samples need to be contained (e.g. blue ice).
 - c. C. Procedures for sampling inorganics and volatile/semi volatile organics should be described in the SAP and follow the methods of SW 846 and ASTM or other methods accepted by the TCEQ.
5. Post Sampling Activity
 - a. A. Decontamination procedures should be included in the SAP when dedicated equipment is not used for purging and sampling, or when dedicated equipment is stored outside the well. The procedures should include disassembly, cleaning of equipment, packaging and storage of equipment when not in use.
 - b. B. Analytical methods and holding times should be tabulated in the SAP in accordance with SW 846 and ASTM or other methods accepted by the TCEQ.
 - c. C. Chain of custody and shipping procedures should be described and intended to prevent misidentification of samples, to identify and prevent tampering of the samples during shipping and storage, and allow easy tracking of the shipment from the field to final analyses. A Chain of Custody Form should accompany each sample shipment and include the following information:
 - sample identification number;
 - signature of collector;
 - date and time of collection;
 - sample type (e.g. groundwater);
 - identification of sampling point (well);
 - number of containers;
 - parameters requested for analysis;
 - preservatives used;
 - signature(s) of person(s) involved in the chain of possession;
 - inclusive dates and time of possession;
 - internal temperature of shipping container when samples were sealed into the container for shipping; and,

- internal temperature of container upon opening in the laboratory.

Samples should be shipped in coolers or similar containers designed to keep samples at a constant 4°C and prevent breakage. Containers used for sample shipment should be sealed with the seal signed and dated by the sampler.

- d. D. Disposal methods of contaminated equipment, wash water and purged groundwater should be described.
- e. E. Laboratory QA/QC procedures should include control samples as defined in Chapter I of SW 846. An appropriate statistical method/procedure should be used to monitor and document performance and to implement an effective program to resolve testing problems (instrument maintenance). Data from the control samples (i.e. spiked samples, duplicates and blanks) should be used as a measure of performance or as an indicator of potential source of cross contamination (i.e. from instrumentation). QA/QC documentation for reporting values should be tabulated on laboratory data sheet and include: target analyte; unit of measure (e.g. ppm); method analyses; and, time/dates of sample collection and analyses.

XII. Hazardous Waste Permit Application Fee

In accordance with 30 TAC 305.53, complete Tables XII.A. - Hazardous Waste Units (For Application Fee Calculations) and XII.B. - Hazardous Waste Permit Application Fee Worksheet. Use the following information in calculating your fee. The application fee will be non-refundable once an initial review of the application has been completed. The applicant's fees are subject to evaluation by the technical staff of the Texas Commission on Environmental Quality (TCEQ). However, the TCEQ reserves the right to assess further fees as may be necessary.

- A. The minimum permit application fee for a permit or a permit renewal for each hazardous waste facility to be used for Storage, Processing, Disposal, or Closure/Post-Closure Care (disposal has already occurred) of hazardous waste shall be \$2,000, plus notice fee, and the maximum shall be \$50,000, calculated according to these instructions:
1. Process Analysis - \$1,000.00.
 2. Management/Facility Analysis - \$500.00.
 3. A facility unit(s) analysis of \$500 per unit is charged for the following:
 - a. each cell of a landfill (note that multiple cells that are identical in type and use are subject to a single \$500 fee);
 - b. tanks and container storage areas (note that multiple tanks and container storage areas that are identical in type and use are subject to a single \$500 fee)
 - c. identical in type and use means the following:
 - (1) made of the same material and same design;
 - (2) the same size/capacity within + 10%;
 - (3) store the same waste (as identified by USEPA hazardous waste number - 40 CFR 261 Subparts C & D); and
 - (4) have the same management characteristics (e.g., storage only).
 - d. Each incinerator, boiler/industrial furnace unit, surface impoundment, waste pile, land treatment unit, drip pad, miscellaneous unit, or containment building.
 4. Site Evaluation - \$100 per acre of surface used for hazardous waste management up to 300 acres. No additional fee thereafter. This shall be calculated as any acreage which will be permitted to manage hazardous waste. This shall include, for example, the entire area within the secondary containment of a tank farm, the area within a fence that surrounds individual units (other than the facility fence), or the area defined by the toe of the dike surrounding a landfill or impoundment, etc.
 5. An applicant shall also include with each initial application a fee of \$50 to be applied toward the cost of providing the required notice. An additional notice fee of \$15 is required with each application for renewal.
- B. The application fee for a major amendment or a Class 2 or 3 modification to a hazardous waste permit for operation, closure, or post-closure care is subject to the fees listed below:
1. A management/facility analysis fee of \$500.

2. The notice fee is \$50.
 3. If a unit is added or a unit area is expanded for any purpose, \$100 per additional acre is assessed, until the total additional acreage reaches 300 acres.
 4. If one or more of the following reports are added or are significantly revised, the process analysis fee of \$1000 is assessed:
 - a. waste analysis plan;
 - b. site-specific or regional geology report;
 - c. site-specific or regional geohydrology report;
 - d. groundwater and/or unsaturated zone monitoring;
 - e. closure and/or post-closure care plan; or
 - f. RCRA Facility Assessments (RFAs), or corrective action reports;
 - g. Alternate Concentration Limit (ACL) demonstration or Development of Protective Concentration Limits (PCLs);
 - h. Regulated Unit Facility Assessment, Corrective Action (CA) work plans or reports for Regulated Units; and/or
 - i. RCRA Facility Investigation (RFI)/Affected Property Assessment (APA), Remedy Selection, Corrective Measure Implementation (CMI)/Remedial Action Plan for solid waste management units, and/or areas of concern;
 - j. Facility Operations Area (FOA).
 5. A unit analysis fee of \$500 per unit is assessed if any of the following occur:
 - a. if a unit is added (even if identical to units already in place, using the criteria discussed in A.3 above);
 - b. if there are design changes in an existing unit; or
 - c. if a unit status changes from closure to post-closure care;
 - d. Changes in the number, location, depth, or design of wells approved in compliance plan or a permit (unless it is a replacement well);
 - e. Changes in point of compliance and compliance monitoring program;
 - f. Changes in Groundwater Protection Standards, indicator parameters, Alternate Concentration Limits or Protective Concentration Limits; and/or
 - g. Changes in corrective action program.
- C. The application fee for a minor amendment, a Class 1, or a Class 1¹ modification of a hazardous waste permit is \$100 plus the notice fee of \$50.

Table XII.A. – Hazardous Waste Units (For Application Fee Calculations)

Verbal Description of Unit	Rated Capacity	Surface Acreage ¹	# of Unit Types ²	Identical Unit Justification ³
North CAMU	190,000 cy	8.25 acres	3 (cells 1-9, 10-12, and 13-15)	<p>The North CAMU is a monofill with 15 cells. Cells 1-12 of the North CAMU were constructed using the specifications described in the 1995 Notification of an Onsite Class II Industrial Waste Landfill. Cells 1-9 are filled with treated slag and have been closed and capped. Cells 10-12 contain or will contain treated slag, class 2 wastes generated during ongoing demolition and remediation activities at the FOP, and class 2 metals-impacted soils from the UBP.</p> <p>Cells 13-15 were constructed more recently as part of an expansion of the North CAMU. These cells were built according to specifications as referenced in the North CAMU Engineering Report. Cells 13-15 contain or will contain class 2 wastes generated during ongoing demolition and remediation activities at the FOP and class 2 metals-impacted soils from the UBP.</p>
RCA	82,000 cy	17.67 acres	1	The RCA is a monofill consisting of consolidated soils, sediments, and miscellaneous remediation waste covered with a cap. The footprint of the RCA will also incorporate the Slag Landfill and the NDA.
		Total⁴ = 25.92	Total⁴ = 4	

1 Number of calculated acres.

2 Enter number of units except for units identical in type and use which only count toward a single \$500.00 fee.

3 Explain justification for any units claimed as identical in type and use.

4 Enter these totals on the worksheet.

Table XII.B. - Hazardous Waste Permit Application Fee Worksheet

Name of Facility: **Exide Technologies Frisco Recycling Center (referred to as the Exide Technologies Frisco Former Operating Plant)**

Solid Waste Registration Number: **30516**

1. Process Analysis - \$1,000.....	\$	<u>1,000</u>
2. Facility Management Analysis - \$500.....	\$	<u>500</u>
3. Unit Analysis - <u>4</u> units @ \$500 per unit.....	\$	<u>2,000</u>
4. Site Evaluation - <u>25.92</u> acres @ \$100 per acre.....	\$	<u>2,592</u>
(Maximum of 300 acres)		
5. Minor amendment, Class 1, or Class 1 ¹ modification - \$100.....	\$	<u>0</u>
6. Cost of Providing Notice - \$50 (+ \$15 for a renewal).....	\$	<u>65</u>
Pay This Amount <input type="checkbox"/>	Total \$	<u>6,157</u>

Based on discussions with the TCEQ, no additional fees are required for this November 2019 update to the application originally submitted in 2010 and updated August 2018, at which time fees were paid. There were no fees required in the May 2019 update.

Make Checks Payable To:

Texas Commission on Environmental Quality - Fund 549
(your canceled check will be your receipt)

Complete And Return With Payment To:

Texas Commission on Environmental Quality
Financial Administration Division - MC 214
P.O. BOX 13088
Austin, Texas 78711-3088

The applicant's fees are subject to evaluation by the technical staff of the Texas Commission on Environmental Quality (TCEQ). However, the TCEQ reserves the right to assess further fees as may be necessitated.

Please do not submit a photocopy of the check (or equivalent transaction submittal) with your application packet but provide only the following account information:

Check No.	Date of Check	Check Amount

XIII. Confidential Material

Any information requested in the previous Sections I. through XI. of this application which is deemed confidential shall be provided in this Section as a separate collective document and clearly labeled **CONFIDENTIAL**.