



Parkhill

MCKINNEY 380 C&D LANDFILL

PERMIT MODIFICATION APPLICATION – WITH NOTICE

TCEQ MSW Permit No. 2278A

Collin County, Texas

Prepared For
Frontier Waste Solutions
2540 E University Dr
McKinney, TX 75069

Prepared By
Parkhill
3000 Internet Boulevard, Suite 550
Frisco, Texas 75034
TBPE F-560

October | 2024

Parkhill Project # 016775.21



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Texas Commission on Environmental Quality

Waste Permits Division Correspondence

Cover Sheet

Date: 10/1/2024

Facility Name: McKinney 380 C&D Landfill

Permit or Registration No.: 2278A

Nature of Correspondence:

☐ Initial/New

☒ Response/Revision to TCEQ Tracking No.:
30033754 (from subject line of TCEQ letter
regarding initial submission)

Affix this cover sheet to the front of your submission to the Waste Permits Division. Check appropriate box for type of correspondence. Contact WPD at (512) 239-2335 if you have questions regarding this form.

Table 1 - Municipal Solid Waste Correspondence

Applications	Reports and Notifications
<input type="checkbox"/> New Notice of Intent	<input type="checkbox"/> Alternative Daily Cover Report
<input type="checkbox"/> Notice of Intent Revision	<input type="checkbox"/> Closure Report
<input type="checkbox"/> New Permit (including Subchapter T)	<input type="checkbox"/> Compost Report
<input type="checkbox"/> New Registration (including Subchapter T)	<input type="checkbox"/> Groundwater Alternate Source Demonstration
<input type="checkbox"/> Major Amendment	<input type="checkbox"/> Groundwater Corrective Action
<input type="checkbox"/> Minor Amendment	<input type="checkbox"/> Groundwater Monitoring Report
<input type="checkbox"/> Limited Scope Major Amendment	<input type="checkbox"/> Groundwater Background Evaluation
<input checked="" type="checkbox"/> Notice Modification	<input type="checkbox"/> Landfill Gas Corrective Action
<input type="checkbox"/> Non-Notice Modification	<input type="checkbox"/> Landfill Gas Monitoring
<input type="checkbox"/> Transfer/Name Change Modification	<input type="checkbox"/> Liner Evaluation Report
<input type="checkbox"/> Temporary Authorization	<input type="checkbox"/> Soil Boring Plan
<input type="checkbox"/> Voluntary Revocation	<input type="checkbox"/> Special Waste Request
<input type="checkbox"/> Subchapter T Disturbance Non-Enclosed Structure	<input type="checkbox"/> Other:
<input type="checkbox"/> Other:	

Table 2 - Industrial & Hazardous Waste Correspondence

Applications	Reports and Responses
<input type="checkbox"/> New	<input type="checkbox"/> Annual/Biennial Site Activity Report
<input type="checkbox"/> Renewal	<input type="checkbox"/> CPT Plan/Result
<input type="checkbox"/> Post-Closure Order	<input type="checkbox"/> Closure Certification/Report
<input type="checkbox"/> Major Amendment	<input type="checkbox"/> Construction Certification/Report
<input type="checkbox"/> Minor Amendment	<input type="checkbox"/> CPT Plan/Result
<input type="checkbox"/> CCR Registration	<input type="checkbox"/> Extension Request
<input type="checkbox"/> CCR Registration Major Amendment	<input type="checkbox"/> Groundwater Monitoring Report
<input type="checkbox"/> CCR Registration Minor Amendment	<input type="checkbox"/> Interim Status Change
<input type="checkbox"/> Class 3 Modification	<input type="checkbox"/> Interim Status Closure Plan
<input type="checkbox"/> Class 2 Modification	<input type="checkbox"/> Soil Core Monitoring Report
<input type="checkbox"/> Class 1 ED Modification	<input type="checkbox"/> Treatability Study
<input type="checkbox"/> Class 1 Modification	<input type="checkbox"/> Trial Burn Plan/Result
<input type="checkbox"/> Endorsement	<input type="checkbox"/> Unsaturated Zone Monitoring Report
<input type="checkbox"/> Temporary Authorization	<input type="checkbox"/> Waste Minimization Report
<input type="checkbox"/> Voluntary Revocation	<input type="checkbox"/> Other:
<input type="checkbox"/> 335.6 Notification	
<input type="checkbox"/> Other:	

October 01, 2024

Lyndon Poole, Project Manager
Municipal Solid Waste Permits – MC 124
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: McKinney 380 C&D Landfill, Collin County
TCEQ MSW Permit No. 2278A
Permit Modification Application Without Notice
Tracking No. 30033754; RN110878030 | CN601098007

Dear Mr. Poole:

On behalf of Frontier 380, LLC (Frontier), Parkhill is pleased to submit the enclosed request for a permit modification with notice for the McKinney 380 C&D Landfill (referred to as “Landfill” for the rest of the letter). As directed by the TCEQ in a letter dated August 23, 2024, and during a meeting on August 27, 2024, this modification is requested in accordance with 30 TAC §305.70(k)(3) for changes to the Part III, Attachment 11, Landfill Gas Management Plan (LGMP). This submission also serves as a re-submittal of our previous request for a permit modification application without notice dated August 14, 2024.

The Landfill currently has 4 perimeter gas monitoring probes installed and monitored quarterly in accordance with MSW Permit 2278A and §330.371(b)(2) and §330.371(k). During the June 2024 2nd quarter gas monitoring event, a methane concentration above the permissible limit of 5% by volume, in accordance with §330.371(a)(2), was measured in landfill gas monitoring probe GM-6. To address the methane exceedance at GM-6 and ensure the protection of human health and the environment, accumulated sediment in the landfill perimeter ditch in the vicinity of GM-6 was removed to facilitate passive venting of the subsurface gas occurrence. GM-6 was monitored weekly until 3 consecutive concentrations below the 5% permissible limit were measured. A Remediation Plan has been prepared in response to the detection of methane concentrations and was submitted previously with the August, 14 2024 permit modification. The proposed changes to the LGMP include additional corrective measures for any future landfill gas exceedance remediation at the Landfill.

Additionally, it was discovered that a currently inactive sanitary sewer line crosses the landfill boundary. Previously, it was our understanding that only an easement had been dedicated for future construction of this sanitary sewer line, but that no line had been constructed. With the understanding that the sanitary sewer line has been constructed, three passive utility vents will be installed where the line crosses the permit boundary to comply with 30 TAC §330.371(f). Revisions are included with this modification request to indicate the locations of these vents and include a typical utility vent detail.


The changes proposed with this modification request include:

- Revising Figures III-4.5 and III-11.1 to indicate the locations of the proposed utility vents.
- Revising the LGMP to clarify requirements for installation and monitoring of passive vents for utility trenches that cross the landfill boundary.
- Revising the LGMP to include additional corrective measures for any future landfill gas exceedance remediation and specify requirements for more frequent monitoring in the event of a landfill gas exceedance in a perimeter probe.
- Adding new Figures III-11.2 and III-11.3 to include typical details for landfill gas perimeter monitoring probes, passive vents, interceptor trenches, and bar probes.

Enclosed is one original, two unmarked copies, and one marked copy (redline/strikeout) of the revised application sheets. Should you or your staff have comments, questions, or need further information, please contact me directly at [REDACTED] or 469-200-7369.

Sincerely,

PARKHILL

By 
Sonia Samir, PE, PhD
Civil Project Manager

SS/amf

Enclosure: Permit Modification Application

Cc:

John Gustafson, Frontier Waste Solutions
Grant Gregg, Frontier Waste Solutions
Pedro Garcia, Frontier Waste Solutions
Monica Sowards, Frontier Waste Solutions
Troy Leitschuh, Frontier Waste Solutions
Frank E Pugsley, PE, Sector Director, Parkhill

5. Electronic Versions of Application

For modifications that require notice (other than those for arid exempt landfills), TCEQ will publish electronic versions of the application online. Applicants must provide a clean copy of the administratively complete application and technically complete application. TCEQ will also publish electronic versions of NOD responses online.

6. Party Responsible for Mailing Notice

For modifications that require notice, indicate who will be responsible for mailing notice:

☒ Applicant ☐ Agent in Service ☐ Consultant

Contact Name: Monica Sowards

Title: Operations Manager

Email Address: [REDACTED]

7. Confidential Documents

Does the application contain confidential documents?

☐ Yes ☒ No

If "Yes", reference the confidential documents in the application, but submit the confidential documents as an attachment in a separate binder marked "CONFIDENTIAL."

8. Facility General Information

Facility Name: McKinney 380 C&D Landfill

Contact Name: Pedro Garcia Title: NTX Post Collections Gen. Mgr.

MSW Authorization Number (if existing): 2278A

Regulated Entity Reference Number: **RN** 110878030

Physical or Street Address: 2540 E University Dr

City: McKinney County: Collin State: TX Zip Code: 75069

Phone Number: (469) 591-1380

Latitude (Degrees, Minutes, Seconds): N 33° 11' 49"

Longitude (Degrees, Minutes, Seconds): W 96° 34' 18"

9. Facility Types

☐ Type I ☒ Type IV ☐ Type V
☐ Type IAE ☐ Type IVAE ☐ Type VI

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☒ Applicant ☐ Agent in Service ☐ Consultant

Contact Name: Monica Sowards

Title: Operations Manager

Email Address: [REDACTED]

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Does the application contain confidential documents?

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If "Yes", reference the confidential documents in the application, but submit the confidential documents as an attachment in a separate binder marked "CONFIDENTIAL."

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9. Facility Types

☐ Type I ☒ Type IV ☐ Type V
☐ Type IAE ☐ Type IVAE ☐ Type VI

10. Description of the Revisions to the Facility

Provide a brief description of revisions to permit or registration conditions and supporting documents referred to by the permit or registration, and a reference to the specific provisions under which the modification or temporary authorization application is being made. Also, provide an explanation of why the modification or temporary authorization is needed:

This permit modification is requested in accordance with 30 TAC §305.70(k)(3) for changes to the Part III Attachment 11 Landfill Gas Management Plan (LGMP). The proposed changes to the LGMP are to include additional corrective measures for any future landfill gas exceedance remediation at the Landfill, and to include three passive utility vents for a sanitary sewer line that crosses the landfill permit boundary.

11. Facility Contact Information

Site Operator (Permittee or Registrant)

Name: Frontier 380, LLC

Customer Reference Number: **CN** 606244051

Contact Name: John Gustafson Title: President & CEO

Mailing Address: 2323 Bryan Street Suite 2620

City: Dallas County: Dallas State: TX Zip Code: 75201

Phone Number: 888-854-2905

Email Address: [REDACTED]

Texas Secretary of State (SOS) Filing Number: 805469349

Operator (if different from Site Operator)

Name: Same

Customer Reference Number: **CN**

Contact Name: Title:

Mailing Address:

City: County: State: Zip Code:

Phone Number:

Email Address:

Texas Secretary of State (SOS) Filing Number:

Consultant (if applicable)

Firm Name: Parkhill
Consultant Name: Sonia Samir, PE, PhD
Texas Board of Professional Engineers Firm Registration Number: 560
Contact Name: Sonia Samir, PE, PhD Title: Civil Project Manager
Mailing Address: 3000 Internet Blvd, Suite 550
City: Frisco County: Collin State: TX Zip Code: 75034
Phone Number: (469) 200-7369
Email Address: [REDACTED]

Agent in Service (required for out-of-state applicants)

Name: _____
Mailing Address: _____
City: _____ County: _____ State: TX Zip Code: _____
Phone Number: _____
Email Address: _____

12. Ownership Status of the Facility

Is this a modification that changes the legal description, the property owner, or the Site Operator (Permittee or Registrant)?

☐ Yes ☒ No

If the answer is "No", skip this section.

Does the Site Operator (Permittee or Registrant) own all the facility units and all the facility property?

☐ Yes ☐ No

If "No", provide the following information for other owners.

Owner Name: _____
Mailing Address: _____
City: _____ County: _____ State: TX Zip Code: _____
Phone Number: _____
Email Address: _____

Signature Page

Site Operator or Authorized Signatory

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

Name: John Gustafson Title: President & CEO

Email Address: [REDACTED]

Signature: [Signature] Date: 10/1/2024

Operator or Principal Executive Officer Designation of Authorized Signatory

To be completed by the operator if the application is signed by an authorized representative for the operator.

I hereby designate _____ 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.

Operator or Principal Executive Officer Name: _____

Email Address: _____

Signature: _____ Date: _____

Notary

SUBSCRIBED AND SWORN to before me by the said John Gustafson

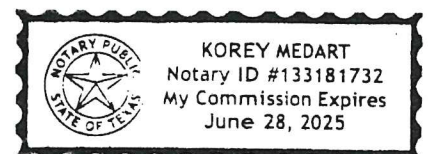
On this 1 day of October, 2024

My commission expires on the 28 day of June, 2025

Korey Medart

Notary Public in and for

Collin County, Texas



Note: Application Must Bear Signature and Seal of Notary Public

Attachments for Permit or Registration Modification with Public Notice

Refer to instruction document **200650-instr** for professional engineer seal requirements.

Attachments Table 1. Required attachments.

Required Attachments	Attachment Number
Land Ownership Map	2
Landowners List	2
Marked (Redline/Strikeout) Pages	3
Unmarked Revised Pages	4

Attachments Table 2. Additional attachments as applicable.

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
<input type="checkbox"/> TCEQ Core Data Form(s)	
<input type="checkbox"/> Signatory Authority Delegation	
<input checked="" type="checkbox"/> Fee Payment Receipt	1
<input type="checkbox"/> Confidential Documents	

Attachments for Permit or Registration Modification without Public Notice, or Temporary Authorization

Refer to instruction document **200650-instr** for professional engineer seal requirements.

Attachments Table 3. Required attachments for modifications.

Required Attachments for Modification	Attachment Number
Marked (Redline/Strikeout) Pages	
Unmarked Revised Pages	

Attachments Table 4. Additional attachments for modifications and temporary authorizations, as applicable.

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
<input type="checkbox"/> TCEQ Core Data Form(s)	
<input type="checkbox"/> Signatory Authority Delegation	
<input type="checkbox"/> Fee Payment Receipt	
<input type="checkbox"/> Confidential Documents	

Attachments for Permit or Registration Name Change or Transfer Modification

Refer to instruction document **200650-instr** for professional engineer seal requirements.

Attachments Table 5. Required attachments.

Required Attachments	Attachment Number
TCEQ Core Data Form(s)	
Property Legal Description	
Property Metes and Bounds Description	
Metes and Bounds Drawings	
On-Site Easements Drawing	
Land Ownership Map	
Land Ownership List	
Property Owner Affidavit	
Verification of Legal Status	
Evidence of Competency	

Attachments Table 6. Additional attachments as applicable.

Additional Attachments as Applicable (select all that apply and add others as needed)	Attachment Number
<input type="checkbox"/> Signatory Authority Delegation	
<input type="checkbox"/> Fee Payment Receipt	
<input type="checkbox"/> Confidential Documents	
<input type="checkbox"/> Final Plat Record of Property	
<input type="checkbox"/> Assumed Name Certificate	

ATTACHMENT 1: FEE PAYMENT RECEIPT

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

Transaction Information

Trace Number:

Date:

08/16/2024 10:46 AM

Payment Method:

CC - Authorization

ePay Actor:

MONICA SOWARDS

Actor Email:

IP:

12.216.174.99

TCEQ Amount:

\$150.00

Texas.gov Price:

\$153.63*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name:

MONICA SOWARDS

Company:

FRONTIER 380 LLC

Address:

2323 BRYAN ST SUITE 2620, DALLAS, TX 75201

Phone:

469-591-1380

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
717606	MSW PERMIT/REGISTRATION/AMEND/MOD/TEMP AUTHORIZATIONS APPLICATION FEE		\$100.00
717607	30 TAC 305.53B MWP NOTIFICATION FEE		\$50.00
TCEQ Amount:			\$150.00

ePay Again

Exit ePay

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt for your records.

Sonia Samir

From: Monica Sowards [REDACTED]
Sent: Friday, August 16, 2024 10:51 AM
To: Sonia Samir
Cc: David Dugger; Troy Leitschuh
Subject: FW: TCEQ ePay Receipt for [REDACTED]
Attachments: TCEQ ePay Receipt Permit Mod 8-16-2024.pdf

Importance: High

Sonia,

The TCEQ ePay Receipt for the Permit Mod is below and a copy is attached.

Monica Sowards | Operations Manager

FRONTIER WASTE SOLUTIONS

Proudly serving Texas [businesses](#), [homes](#) and [cities](#)

a 2540 E University Dr, McKinney, TX 75069

o (469) 591-1380

c (940) 224-1771



*Greater DFW Metroplex | Central Texas - San Antonio - Austin - Waco areas |
Greater Houston & Corpus*

Please follow our socials



-----Original Message-----

From: [REDACTED]
Sent: Friday, August 16, 2024 10:47 AM
To: Monica Sowards [REDACTED]
Subject: TCEQ ePay Receipt for [REDACTED]

EXTERNAL SENDER: Please note that this email originated from an external mailbox and take care when replying, opening attachments, or clicking on links in this message.

This is an automated message from the TCEQ ePay system. Please do not reply.

Trace Number: [REDACTED]

Date: 08/16/2024 10:46 AM

Payment Method: CC - Authorization [REDACTED] TCEQ Amount: \$150.00 Texas.gov Price: \$153.63*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Actor: MONICA SOWARDS

Email: [REDACTED]

Payment Contact: MONICA SOWARDS
Phone: 469-591-1380
Company: FRONTIER 380 LLC
Address: 2323 BRYAN ST SUITE 2620, DALLAS, TX 75201

Fees Paid:

Fee Description	AR Number	Amount
MSW PERMIT/REGISTRATION/AMEND/MOD/TEMP AUTHORIZATIONS APPLICATION FEE		\$100.00
30 TAC 305.53B MWP NOTIFICATION FEE		\$50.00

TCEQ Amount: \$150.00

Voucher: 717606

Trace Number: [REDACTED]

Date: 08/16/2024 10:46 AM

Payment Method: CC - Authorization 0 [REDACTED] Voucher Amount: \$100.00 Fee Paid: MSW

PERMIT/REGISTRATION/AMEND/MOD/TEMP AUTHORIZATIONS APPLICATION FEE RN Number: RN110878030 Site Name: OSTTEND LANDFILL Site Address: 2540 E UNIVERSITY DR, MCKINNEY, TX 75069 CN Number: CN601098007 Customer Name: CONSTRUCTION RECYCLING AND WASTE CORPORATION Customer Address: 2650 E UNIVERSITY DR, MCKINNEY, TX 75069 Billing Name: MONICA SOWARDS Billing Address: 2540 E UNIVERSITY DR, MCKINNEY, TX 75069 Program Area ID: 2278A Comments: LGMP Permit Mod

Voucher: 717607

Trace Number: 582EA000621905

Date: 08/16/2024 10:46 AM

Payment Method: CC - Authorization 0000S61412 Voucher Amount: \$50.00 Fee Paid: 30 TAC 305.53B MWP NOTIFICATION FEE

To print out a copy of the receipt and vouchers for this transaction either click on or copy and paste the following url into your browser:

https://www3.tceq.texas.gov/epay/index.cfm?fuseaction=cor.search&trace_num_txt=582EA000621905.

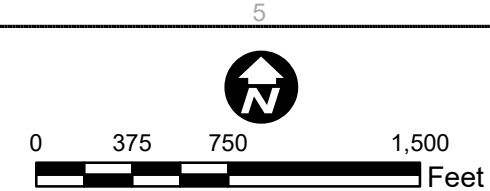
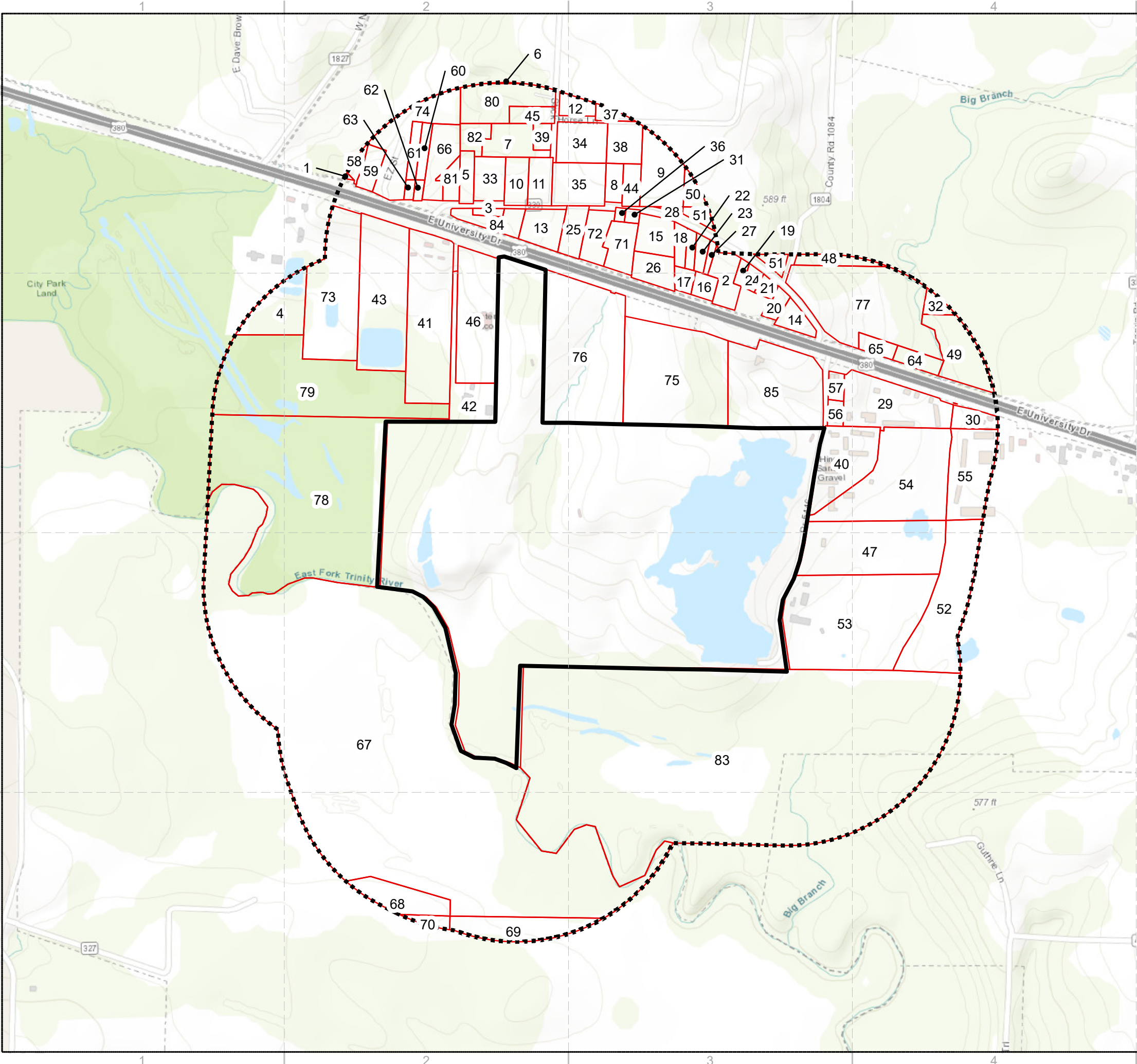
This e-mail transmission and any attachments are believed to have been sent free of any virus or other defect that might affect any computer system into which it is received and opened. It is, however, the recipient's responsibility to ensure that the e-mail transmission and any attachments are virus free, and the sender accepts no responsibility for any damage that may in any way arise from their use.

This email has been scanned for spam and viruses by Proofpoint Essentials. Visit the following link to report this email as spam:

https://us1.proofpointessentials.com/app/report_spam.php?mod_id=11&mod_option=logitem&report=1&type=easyspam&k=k1&payload=53616c7465645f5ff7e63c39739af936c7ab5f7a3a08e3cc634a47036c572b5dd183083739a2fae78a2bddbacfd4327b3a5fa6984333c117e7c3d7af6a9f607ed0242f4f7d3b6d440d619f180f3c65acbe8891ad69920dda23a9f37b75befe41101be875e6415358303f55d94f26d4dcde18b339266ac464ae6923117b624904bc2223eab2f47ddfc6f21e0909eb209fd82dab59caa0b4be940bcd129bef7bcd

ATTACHMENT 2: LAND OWNERSHIP MAP AND LANDOWNER'S LIST

FILE NAME: A:\2021\6775.21\03_DSGN01_DWG\050_CIVIL\17_GAS REMEDIATION\Fig.1_Land Ownership Map.mxd LAYOUT NAME: Layers PRINTED: Tuesday, September 24, 2024 - 12:48:43 PM USER: afranklin



LEGEND:
[Thick black line] PERMIT BOUNDARY
[Dashed black line] 0.25 MILE BOUNDARY
[Red outline] PARCELS

NOTE:
1. ADJACENT LAND OWNERSHIP INFORMATION OBTAINED FROM COLLIN COUNTY APPRAISAL DISTRICT ON SEPTEMBER 24, 2024.

Coordinate System: NAD 1983 StatePlane Texas North Central FIPS 4202 Feet
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



FOR PERMITTING PURPOSES ONLY

**MCKINNEY 380 C&D LANDFILL
TCEQ MSW PERMIT NO. 2278A**
COLLIN COUNTY, TEXAS



CLIENT
FRONTIER WASTE SOLUTIONS
MCKINNEY 380 C&D LANDFILL
2540 E. UNIVERSITY DRIVE
MCKINNEY, TEXAS 75069

PROJECT NO.
6775.21

#	DATE	DESCRIPTION
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**LAND OWNERSHIP MAP
FIGURE 1**

LAND OWNERSHIP LIST

Property ownership information obtained from the Collin County Appraisal District, August 28, 2024. Refer to Figure I-3.1 - Land Ownership Map, for parcel locations corresponding to the MAP ID number.

MAP ID	OWNER NAME	OWNER ADDRESS	CITY	STATE	ZIP
1	MALDONADO MARTIN	860 S STATE HIGHWAY 5	FAIRVIEW	TX	75069-9459
2	COLLIN COUNTY RECYCLERS INC	2933 E UNIVERSITY DR	MCKINNEY	TX	75069-0908
3	NETO S PLACE TRUST	2441 COUNTY RD 330	MCKINNEY	TX	75071-0701
4	PATEL MALTI	2236 E UNIVERSITY DR	MCKINNEY	TX	75069-0901
5	GONZALES TERRY GLENN	2461 COUNTY ROAD 330	MCKINNEY	TX	75071-0701
6	CALDWELL CHARLES D & DEBORAH A	2243 STICKHORSE LN	MCKINNEY	TX	75071-0769
7	TREJO RUDDY & GLORIA	2155 STICKHORSE LN	MCKINNEY	TX	75071-0767
8	TAMPLEN MICHEAL D &	2675 COUNTY ROAD 330	MCKINNEY	TX	75071-0705
9	TEMORI WAHAB	5702 S BRIAR RIDGE CIR	MCKINNEY	TX	75072-5460
10	BERHOW JEAN J	2539 COUNTY ROAD 330	MCKINNEY	TX	75071-0704
11	AREVALO-FRANCO ARTURO	2115 STICKHORSE LN	MCKINNEY	TX	75071-0767
12	SHAW JOHN J - LE	2278 STICKHORSE LN	MCKINNEY	TX	75071-0770
13	COLLINS PROPERTY CO THE	PO BOX 578	WYLIE	TX	75098-0578
14	LAWSON LIVING TRUST	PO BOX 2304	MCKINNEY	TX	75070-8169
15	RAFAELOV MOSHE	6423 LINDEN LN	DALLAS	TX	75230-1407
16	MCCLELLAN AMY HINES	PO BOX 3027	MCKINNEY	TX	75070-8181
17	HOLLAND GERALD C	580 RS COUNTY ROAD 3350	EMORY	TX	75440-4559
18	IZAGUIRRE CRESENCIO	2784 COUNTY ROAD 330	MCKINNEY	TX	75071-0706
19	COLLIN COUNTY RECYCLERS INC	2933 E UNIVERSITY DR	MCKINNEY	TX	75069-0908
20	KHORASAN PROPERTIES LLC	2675 E UNIVERSITY DR	MCKINNEY	TX	75069-0905
21	ANDEZ ALEJANDRO LOPEZ & MARIA DOLORES PAREDES CERVA	2944 COUNTY ROAD 330	MCKINNEY	TX	75071-0708
22	HERNANDEZ MARIA &	2804 COUNTY ROAD 330	MCKINNEY	TX	75071-0707
23	MCCLELLAN AMY HINES	PO BOX 3027	MCKINNEY	TX	75070-8181
24	SARVER MILDRED	2910 COUNTY ROAD 330	MCKINNEY	TX	75071-0708
25	AZAMI MOHAMMAD S	2675 E UNIVERSITY DR	MCKINNEY	TX	75069-0905
26	RAFAELOV MOSHE	11836 JUDD CT STE 322	DALLAS	TX	75243-4412
27	MCCLELLAN AMY HINES	PO BOX 3027	MCKINNEY	TX	75070-8181
28	TIMORY WAHAB & SALIHA	5702 S BRIAR RIDGE CIR	MCKINNEY	TX	75072-5460
29	MCCLELLAN BILLY JOEL & AMY GAIL	PO BOX 3027	MCKINNEY	TX	75070-8181
30	MCCLELLAN JOE & AMY	PO BOX 3027	MCKINNEY	TX	75070-8181
31	NORTH COLLIN SPECIAL UTILITY DISTRICT	2333 SAM RAYBURN HWY	MELISSA	TX	75454-0343
32	ETHAN MC PROPERTY LLC - SERIES L	4625 SEBAGO TRL	PLANO	TX	75093-3394
33	COSTELLO LAWRENCE J & DALE	2495 COUNTY ROAD 330	MCKINNEY	TX	75071-0701
34	OSTICK RANDY G & TERRY A	2148 STICKHORSE LN	MCKINNEY	TX	75071-0768
35	BEST WAY PROPERTIES LLC	3616 TREE SHADOW TRL	PLANO	TX	75074-1601
36	NORTH COLLIN SPECIAL UTILITY DISTRICT	2333 SAM RAYBURN HWY	MELISSA	TX	75454-0343
37	KUMAR VINOD & POOJA SHARMA	3444 STICKHORSE LN	MCKINNEY	TX	75071-0783
38	SRISAI BUILDERS LLC	1408 PILLAR BLUFF WAY	MCKINNEY	TX	75072-3154
39	SANDERS WAYNE E	2179 STICKHORSE LN	MCKINNEY	TX	75071-0767
40	MCCLELLAN JOE & AMY	PO BOX 3027	MCKINNEY	TX	75070-8181
41	P4 HOLDINGS LLC	3300 N A ST	MIDLAND	TX	79705-5421
42	WEBSTER RICKY JACK JR	2526 E UNIVERSITY DR	MCKINNEY	TX	75069-4734
43	PANNKUK BOBBY JR &	PO BOX 1309	LEONARD	TX	75452-1309
44	TORRES JULIO CESAR	2733 COUNTY ROAD 330	MCKINNEY	TX	75071-0846
45	LEWIS JASON PATRICK &	16340 REDBUD DR	MCKINNEY	TX	75071-6510
46	MASTER HALCO INC	3010 L B J FWY STE 800	DALLAS	TX	75234-2776
47	ALVARADO ARNULFO SR	805 ELM ST	MCKINNEY	TX	75069-6758
48	JONES KATHY W & KENNETH - LE	2150 COUNTY ROAD 1084	MCKINNEY	TX	75071-0747
49	VALLE ISRAEL D & ALMA	PO BOX 3753	MCKINNEY	TX	75070-8195
50	SAMS DONALD D	3343 STICKHORSE LN	MCKINNEY	TX	75071-0782
51	RELEMKE TRUST	2701 W 15TH ST STE 169	PLANO	TX	75075-7523
52	A&T INVESTMENTS & HOLDINGS INC & JAYASRI DEVALAPALLI &	1388 LOYOLA DR	SANTA CLARA	CA	95051-3932
53	HERNANDEZ GONZALO	2441 E UNIVERSITY DR	MCKINNEY	TX	75069-4795
54	MCCLELLAN JOE & AMY	PO BOX 3027	MCKINNEY	TX	75070-8181
55	MCCLELLAN AMY GAIL & BILLY JOEL	PO BOX 3027	MCKINNEY	TX	75070-8181
56	BORG FAMILY LTD	285 KATE LN	PRINCETON	TX	75407-2631
57	MCCLELLAN BILLY J & AMY &	PO BOX 3027	MCKINNEY	TX	75070-8181
58	MONARCH GROUP LLC	5100 ELDORADO PKWY STE 102	MCKINNEY	TX	75070-9127
59	RILEY DEBBIE TATE	3961 COUNTY ROAD 494	PRINCETON	TX	75407-2339
60	TEXAS RND LLC	5608 SETTLEMENT WAY	MCKINNEY	TX	75070-7005
61	TEXAS RND LLC	2431 E UNIVERSITY DR	MCKINNEY	TX	75069-4795
62	TEXAS RND LLC	5608 SETTLEMENT WAY	MCKINNEY	TX	75070-7005
63	TEXAS RND LLC	2431 E UNIVERSITY DR	MCKINNEY	TX	75069-4795

64	YOHANNAN PRINSON	5029 HARTWELL CT	SAINT CLOUD	FL	34771-7858
65	NESHYBA RYAN & MISTY	14263 COUNTY ROAD 830	ANNA	TX	75409-6039
66	HERNANDEZ GONZALO	2411 COUNTY ROAD 330	MCKINNEY	TX	75071-0701
67	MAP HOLDINGS LP	1410 N CROSSING DR	ALLEN	TX	75013-3457
68	MCKINNEY UPLANDS LP	1410 N CROSSING DR	ALLEN	TX	75013-3457
69	MAP HOLDINGS LP	1410 N CROSSING DR	ALLEN	TX	75013-3457
70	MCKINNEY UPLANDS LP	1410 N CROSSING DR	ALLEN	TX	75013-3457
71	WRIGHT FREDDIE	11416 ALPINE SPRINGS DR	AUBREY	TX	76227-2240
72	RODRIGUEZ MAURO G	2735 E UNIVERSITY DR	MCKINNEY	TX	75069-0906
73	HOPE 380 HOLDINGS LLC	4429 WHITE ROCK LN	PLANO	TX	75024-7298
74	DYNAMIX INVESTMENT LLC	20 BUCKINGHAM LN	ALLEN	TX	75002-8675
75	SILK ROAD INVEST LLC	4993 LIVINGSTON DR	FRISCO	TX	75033-2931
76	FRONTIER 380 LLC	2323 BRYAN ST STE 2620	DALLAS	TX	75201-2603
77	COLLIN COUNTY	210 S MCDONALD ST	MCKINNEY	TX	75069-7602
78	MCKINNEY CITY OF	PO BOX 517	MCKINNEY	TX	75070-8013
79	MCKINNEY CITY OF	PO BOX 517	MCKINNEY	TX	75070-8013
80	PEREZ NOE C HERR &	2195 STICKHORSE LN	MCKINNEY	TX	75071-0767
81	NETO S PLACE TRUST	2441 COUNTY RD 330	MCKINNEY	TX	75071-0701
82	HERNANDEZ GONZALO	2441 E UNIVERSITY DR	MCKINNEY	TX	75069-4795
83	CARNES KEVIN & SUZETTE	742 GUTHRIE LN	MCKINNEY	TX	75069-4760
84	2530 DFW UNIVERSITY LLC	1825 W KNUDSEN DR STE 130B	PHOENIX	AZ	85027-2188
85	DUFF REAL ESTATE LLC	800 HIGHWAY 98 BYP	COLUMBIA	MS	39429-8255

ATTACHMENT 3: MARKED COPY

CRWC TYPE IV LANDFILL

TCEQ MSW Permit No. 2278A

Collin County, Texas

Attachment III-4 – Site Layout Plan

Prepared for:

Construction Recycling and Waste Corporation

September 2021

Rev. 01 – November 2021

Rev. 02 – June 2022

Rev. 03 – October 2022

Rev. October 2024

Revised by:

Parkhill

3000 Internet Blvd, Suite 550

Frisco, Texas 75034

TBPE F-560

Attachment III-4 – Site Layout Plan

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FIGURE III-4.1B – ALTERNATE EXCAVATION GRADES

FIGURE III-4.2 – OPERATION SEQUENCE I

FIGURE III-4.3 – OPERATIONAL SEQUENCE II

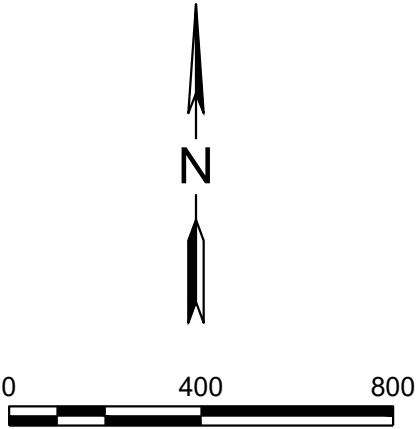
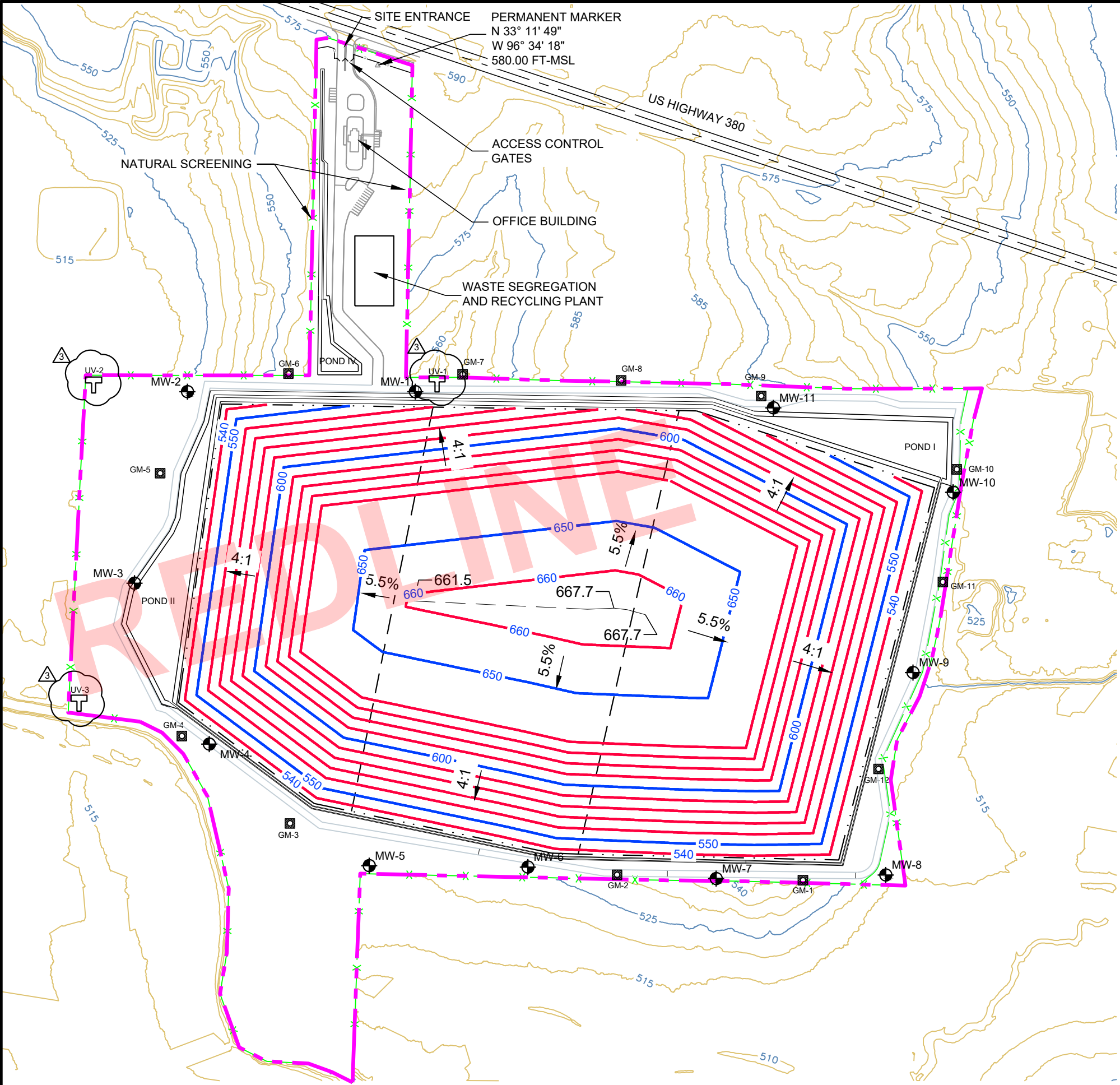
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FIGURE III-4.5 – SITE LAYOUT PLAN

FIGURE III-4.6 – LANDFILL AND QUARRY ACCESS ROADS DURING PHASE I

FIGURE III-4.7 – RECYCLING FACILITY

A:\2021\6775.21\03_DSGN\01_DWG\050_CIVIL\17_GAS REMEDIATION\FIG.III-4.5_SITE LAYOUT PLAN.DWG, 9/24/2024 9:53 AM, afranklin



NOTES / REFERENCE

1. MAXIMUM EXCAVATION DEPTH IS 485 FT-MSL.
2. THE INTERNAL ROADS WILL BE CONSTRUCTED AT THE OPERATOR'S DISCRETION TO BEST FIT THE OPERATIONS.
3. THE LANDFILL WILL BE DEVELOPED SEQUENTIALLY BASED ON THE PHASE NUMBERS SHOWN. APPENDIX II-4.A DISCUSSES LANDFILL CONSTRUCTION SEQUENCE AND DEVELOPMENT IN DETAIL.
4. MAXIMUM FINAL COVER ELEVATION 666.7 FT-MSL.
5. ALL UTILITY EASEMENTS, INCLUDING THE SEWER EASEMENT, ARE SHOWN ON FIGURE II.3.7 - SITE EASEMENT MAP.

LEGEND

- PERMIT BOUNDARY
- FENCE
- PHASE LIMITS
- PERIMETER ROAD
- EXISTING TOPOGRAPHIC CONTOURS
- 510 540 550 600 650 660 667.7
- FINAL COVER GRADES
- MONITORING WELLS
- GAS MONITORING WELLS
- UTILITY VENT



CLIENT
Frontier Waste Solutions
McKinney 380 C&D Landfill
2540 E University Dr
McKinney, TX 75069

PROJECT NO.
6775.21

4	SEP 2025	ADDED UTILITY VENTS
3	OCT 2022	TECHNICAL NOD #2
2	JUNE 2022	TECHNICAL NOD #1
#	DATE	DESCRIPTION

CRWC TYPE IV LANDFILL

TCEQ MSW Permit No. 2278A

Collin County, Texas

Attachment III-11 – Landfill Gas Management Plan

Prepared for:

Construction Recycling and Waste Corporation

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TBPE F-560

Parkhill Project No.: 016048.21


CRWC TYPE IV LANDFILL
MCKINNEY, COLLIN COUNTY, TEXAS
TCEQ PERMIT NO. MSW-2278A

PART III

ATTACHMENT III-11
LANDFILL GAS MANAGEMENT PLAN

Prepared by:

TECHNICO Environmental, Inc.


Sohrab Kourosh, Ph.D., J.D., P.E.



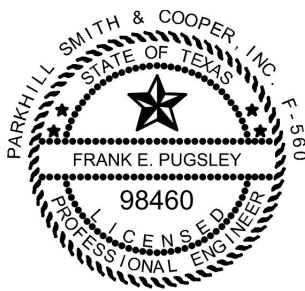
6-3-99
Date

Revised by:

Parkhill

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TBPE F-560

Revised September 2021,
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October 2024



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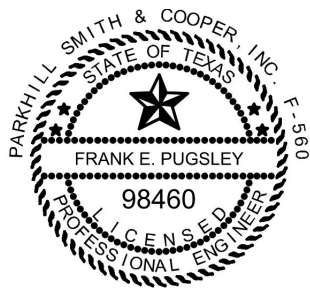


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for June 2013 Revisions Only

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PURPOSES ONLY



ATTACHMENT III-11

10/20/2022

LANDFILL GAS MANAGEMENT PLAN

Frank E. Pugsley, P.E.

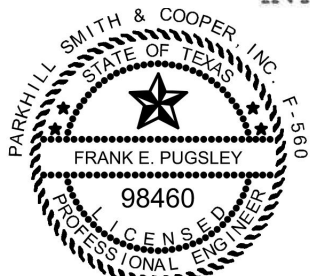
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Rev. October 2024
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Frank E. Pugsley, P.E.

For May 2021, September 2021,
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PURPOSES ONLY**

GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578



*for June 2013
Revisions Only*

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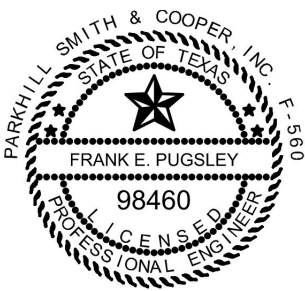


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ATTACHMENTS:

ATTACHMENT III-11A - GAS PROBE INSTALLATION REPORT



10/20/2022

Frank E. Pugsley, P.E.

For May 2021, September 2021,
June 2022, & October 2022
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Rev. October 2024

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2.2 GAS CONCENTRATION LIMITS AT THE FACILITY BOUNDARY

The landfill owner or operator will install a passive venting system within the body of landfill and a methane gas monitoring network around the perimeter of the disposal area to ensure that the concentration of methane gas does not exceed 5% by volume for methane at the facility property boundary.

If methane gas is detected above 5% by volume in the monitoring system, the landfill owner or operator will implement a corrective action plan to bring down the methane gas concentration levels below 5% by volume. Such control measures will include, but not be limited to, inspection and repair of the passive venting and control system (PVCS) as provided in Part III, Attachment III-12, Figure III-12.1 Final Contour Plan. The proposed locations of the PVCS are provided in Figure III-11.1 at the end of this attachment.

For underground utilities that cross the permit boundary within 1,000 ft of in-place waste, utility vents will be installed to monitor for the potential presence of LFG, and to reduce the potential of LFG migration by venting any methane accumulation. Utility vents will be installed into or directly adjacent to the pipe bedding of underground utilities, as shown on the detail in Figure III-11.2. Utility vents will be installed near where the underground utility crosses the permit boundary in accordance with §330.371(b)(1)(E).

Currently, a sanitary sewer line crosses the permit boundary in three locations: i. northwest corner of the permit boundary, ii. southwest corner of the permit boundary, iii. north of the Phase I limits, directly east of the facility access road. As such, utility vents will be installed at these locations, as shown on Figure III-11.1. The vents will be equipped with monitoring ports to facility routine methane monitoring.

Additional utility vents will be installed for any future underground utility trenches that cross the permit boundary within 1,000 ft of in-place waste. For any underground utility trenches located fully within the permit boundary (that is trenches that do not cross the permit boundary), no gas migration is anticipated beyond the permit boundary, and as such no vents are proposed.

3.0 REGULATORY STANDARDS TO BE MET BY OWNER/OPERATOR

The regulatory standards require implementation of a routine methane monitoring program. A monitoring program is devised for this site. The type and frequency of this routine monitoring program is based on the following factors:

3.1 BASIS FOR METHANE GAS MONITORING FREQUENCY §330.371(b)

The methane gas monitoring frequency was determined after consideration of the following factors:

(I) GEOLOGY AND SOIL CONDITIONS (§330.371(b)(1)(A))

The maximum depth of this landfill is 80 feet below the ground surface. According to the geotechnical investigation presented in Attachment III-9, the unweathered Austin Chalk Formation varies in depth from approximately 6 feet below the ground surface near the east edge of the landfill excavation to approximately 24 feet below the ground surface near the west edge of the landfill excavation. This indicates that most of the landfill excavation will be in material with a very low potential for transmission of landfill gas.

(II) HYDROGEOLOGIC CONDITIONS BELOW THE FACILITY (§330.371(b)(1)(B))

Groundwater occurs at about 16 feet below the surface in the northern side of the landfill. The total thickness of the water bearing unit is 31 feet. Of this, the saturated thickness of the water bearing unit consists of the bottom 15 feet.

(III) HYDRAULIC CONDITIONS OF SUBSURFACE GEOLOGY (§330.371(b)(1)(C))

The hydraulic conductivity of the water bearing unit is 1×10^{-6} cm/s. The hydraulic conductivity of the Austin Chalk is 1×10^{-8} cm/s.

(IV) LOCATION OF FACILITY BOUNDARY AND STRUCTURES (§330.371(b)(1)(D))

The landfill scale house and administrative office, and the proposed WSRP are the only ~~current~~ facility structures on-site, located approximately 950 feet from the waste footprint. The location of all habitable structures within 500 feet of the site are shown in Figure II-3.3, in Attachment II-3. ~~Within the landfill facility, the only structures will be the scale house and the recycling facility.~~

(V) LOCATION OF UTILITY LINES & PIPELINES AT SITE (§330.371(b)(1)(E))

All known utility lines are located within the easements shown in Figure II-3.7 – Site Easements Map.

3.2 MINIMUM MONITORING FREQUENCY-QUARTERLY MONITORING §330.371(b)(2) &

§330.371(k)

Due to the exclusion of putrescible materials, the intensity and magnitude of landfill gas generation in Type IV landfills are generally lower than the Type I landfills. Considering the site conditions as reflected in the above factors, the proper gas monitoring frequency for the proposed landfill will be quarterly. This will be the minimum monitoring frequency.

4.0 CORRECTIVE MEASURES -EXCEEDENCE OF LANDFILL GAS (§330.371(c))

Methane gas concentration will not be allowed to exceed 5% by volume at the facility boundary and 1.25% by volume in the facility structures in accordance with §330.371(a). If these limits are exceeded, then immediate actions will be taken by The Landfill owner or operator to assure that the landfill facility is in compliance with the regulations. ~~These measures include inspection and repair of PVCs or installation of an active gas extraction system. However, the following immediate actions will be taken:~~

Should a methane concentration in excess of 5% by volume be detected at any of the gas monitoring probes shown in Figure III-11.1, the landfill will implement appropriate remediation actions, place a copy of the remediation plan in the operating record, notify the TCEQ that the remediation plan has been implemented, and provide a copy of the remediation plan to the TCEQ. These actions may include, but are not limited to:

- Removing accumulated sediment from the landfill perimeter ditch to provide passive venting from subsurface soil and rock material.
- Inspecting and repairing any installed LFG control features.
- Installing and monitoring temporary bar probes to determine the extent of the migration,
- Installing LFG control features such as passive vents and/or interceptor trenches.

The location, installation, and nature of the remediation will depend on the location and occurrence of the gas exceedance at the perimeter gas monitoring probe. Typical details for passive vents, interceptor trenches, and bar probes are shown on Figures III-11.2 and III-11.3. Installation of any new LFG control feature for the corrective measures discussed above will be accompanied by a non-notice permit modification in accordance with 30 TAC §305.70(j) to indicate the location of the feature. If corrective actions for landfill gas remediation are implemented and are not already part of the facility permit, a permit modification should be submitted to the TCEQ pursuant to 30 TAC §330.70 to include the implemented actions.

4.1 PROTECTIVE MEASURES AND NOTIFICATIONS §330.371(c)(1)

If methane is detected at concentrations higher than the abovementioned levels, protective measures such as evacuation or ventilation of buildings will be taken. Landfill owner or operator will notify the following and implement the most appropriate corrective measures mentioned above to reduce the methane gas concentration to levels below the specified levels:

- the TCEQ Executive Director,
- TCEQ Region 4,
- City of McKinney Mayor and/or City Manager,
- Collin County officials Judge,
- Collin County Commissioner,
- emergency officials City's Fire Chief and/or Fire Marshall, and
- the adjacent land owner(s) next to the landfill gas monitoring probe(s) where the exceedance above permissible limit is detected, and take the corrective measures mentioned above to reduce the methane gas concentration to levels below the specified levels.

4.2 ACTION WITHIN SEVEN DAYS OF DETECTION §330.371(c)(2)

Within seven days of detection of methane gas concentration exceeding the above specified levels, Landfill owner or operator will record the methane gas levels and place them in the MSW site operating record ~~book~~ and describe the steps to be taken to protect the human health; and

4.3 ACTION WITHIN 60 DAYS OF DETECTION §330.371(c)(3)

Within 60 days of detection of methane gas above the regulatory level, and after an assessment, Landfill owner or operator will implement a methane gas remediation plan for the methane gas releases, place a copy of the remediation plan in the operating record, provide a copy to the Executive Director and notify the Executive Director that the Remediation Plan has been implemented. The Remediation Plan (RP) will describe the nature and the extent of the ~~problem~~ issue and the proposed remedy, and will be submitted to the Executive Director for review, comments, and suggestions for additional remedial measures as necessary, or approval.

5.0 ALTERNATE SCHEDULE FOR COMPLIANCE §330.371(d)

The Executive Director may establish alternative schedules to for demonstrating compliance with subsections (b) or (c) of 30 TAC §330.371. ~~If gas is detected in the Landfill perimeter probes above the limits in §330.371(a), more frequent monitoring will be implemented (weekly or monthly) during the remediation plan implementation until 3 consecutive monitoring events show the methane concentration at the affected gas monitoring probe(s) to be less than 5% by volume.~~

6.0 LANDFILL GAS MONITORING AND CONTROL PROGRAM DURATION §330.371(e)

The landfill gas monitoring and control program will continue for a period of five years after the final closure of the landfill facility. Monitoring will consist of measuring the methane gas concentration in the gas probes network system along the landfill perimeter to determine if the passive gas venting control system is still working to control methane gas levels within the regulated limits. A demonstration can be submitted to the Executive Director to reduce the gas monitoring and control program. The demonstration must prove that there is no potential for gas migration beyond the property boundary or into on-site structures.

7.0 MODIFICATION OF GAS MONITORING AND CONTROL SYSTEMS §330.371(f)

The landfill gas monitoring and control systems will be modified through permit modification requirements, as needed to reflect the changes on site of the MSW site ~~and adjacent land uses~~. The post-closure land use will not interfere with the functions of gas monitoring and control systems. ~~There are no underground utility trenches that cross the MSW site boundary that need to be vented and monitored regularly.~~

8.0 LANDFILL GAS - MANAGEMENT AND CONTROL PLAN §330.371(g)

A landfill gas management plan has been prepared as presented below which addresses the following:

- A. Management and Control of Landfill Gases
- B. Description of the proposed Landfill Gas Management and Control System(s) including installation procedures, time-lines for installation, monitoring procedures and procedures to be used during maintenance.
- C. A backup plan to be implemented if the main system breaks down or becomes in-effective.

8.1 MANAGEMENT AND CONTROL OF LANDFILL GASSES §330.371(g)(1)

Landfill gases migrate in the subsurface by advection and diffusion. Landfill gas generated in the landfill will be controlled, ~~collected~~ and managed by ~~venting, using the passive (wind driven turbine) gas venting systems~~ LFG control features (described in Section 4.0). The passive venting wells /tubes will be installed ~~in a phased plan as the landfill sectors are completed and finally capped~~ as necessary during active operations, and/or in phases as the final cover is constructed. ~~The landfill gas monitoring will also be conducted by lining the landfill side wall slopes with compacted clay liner or geosynthetic clay liner (GCL) and clay cap on the final cover.~~ The landfill methane gas concentration will be controlled to levels below the levels required in §330.371(a), by installing passive ventilation gas wells.

8.2 LANDFILL GAS MANAGEMENT SYSTEM INSTALLATION (§330.371(g)(2))

The landfill gas control system consists of 30 passive vents that extend from 2 feet above the final cover downward to 10 feet above the bottom liner. They consist of 4" perforated schedule 40 PVC pipes. These pipes are installed in the body of waste by drilling 8" diameter holes through the compacted waste, and installing these pipes in an annulus of compacted silicon sand. These pipes are perforated along their length from 6" above the bottom cap to 3 feet below the final cover, where the annulus will be filled with a slurry of cement and bentonite. At the top they are connected to a T attached to two downward 90° elbow. The locations of these gas vents are presented in Figure III-11.1. These vents will be monitored on a quarterly basis using a Methane Gas Detector that can register methane by percentage of volume. If significant gas concentration is measured in any of the vents, a wind driven turbine will be installed on top of that vent. These vents will be connected to an Active Gas Extraction System (AGS) and will be used for active gas extraction if gas migration takes place, and methane concentration exceeding the specified level is measured at the landfill boundaries or close-by structures.

8.3 BACKUP SYSTEM IF MAIN SYSTEM BREAKS DOWN (§330.371(g)(3))

If the passive pas venting system is found to be ineffective, and methane gas has been determined to have accumulated in the landfill at a concentration exceeding §330.371(a)(2) which causes migration beyond the landfill property at levels exceeding the limits in §330.371(a), an Active Gas Extraction System (AGES) will be installed to actively extract the accumulated gas, and to vent or

burn the gas in a gas flare. These systems can consist of wind-driven turbines or electric driven tube- axial fans, or any other acceptable system, to pump out the gas from the landfill.

Since Collin County is a non-attainment area, if the owner or operator proposes to install an active ventilation system with a landfill gas combustion flare, an Air Permit Standard Exemption will be submitted as a part of permit modification to TCEQ.

9.0 LANDFILL PERIMETER GAS MONITORING NETWORK (§330.371(h))

A permanent monitoring system will be installed in this landfill. The landfill perimeter gas monitoring system consists of 12 permanent gas monitoring probes installed around the waste disposal area within the site, portable methane detection equipment, and under slab probes or bar holes. The proposed gas perimeter monitoring network is shown on Figure III-11.1 of this Attachment. Probes 3, 4, 5 and 6 (as shown on Figure III-11.1) have been installed, and the remaining probes will be installed according to the schedule in Part II, Attachment II-4, Appendix II-4A – Construction and Development of CRWC Type IV Landfill.

The gas monitoring probes consist of a 3/4" perforated (slotted) PVC pipe installed inside the gas monitoring wells. The gas monitoring wells are drilled to the elevation of 495 feet AMSL. The gas probes are installed in the center of a 4" diameter bar-hole, and a silicon sand filter is packed in annulus around the probe. The probes are screened from 4" above the bottom of the well to 5 feet below ground level. A bentonite seal will be placed from this level to 2 feet below ground level, and 2 feet of concrete will be placed on top of the bentonite and will hold the well flash mount cover in place. A quick connect nipple will be installed on top of the probe. The strata being monitored are the alluvial and weathered Austin Chalk layers, and unweathered Austin Chalk to the depth of 495 feet AMSL.

10.0 LANDFILL GAS MONITORING IN SITE STRUCTURES (§330.371(i))

All on-site buildings and structures, including the scalehouse/office and the proposed WSRP, will be monitored quarterly (at a minimum) with a portable combustible gas indicator or a continuous LFG monitor/alarm (capable of providing an audible alarm if methane concentration exceeds 1.25% by volume). The WSRP will be added to the routine methane monitoring program once constructed. Monitoring will be conducted according to the procedures in Section 12.3. If allowable methane concentration limits are exceeded, on-site buildings will be immediately evacuated and ventilated by opening doors and windows, and the steps described in Sections 4.0 through 4.3 will be taken.

If a structure, or other area where potential gas buildup would be of concern, is constructed at this site in the future, then that area will be included in the gas monitoring program and the Gas Monitoring Network design will be revised to include the area.

11.0 SAMPLING REQUIREMENTS FOR LANDFILL GAS (§330.371(j))

All methane gas monitoring probes, utility vents, and on-site structures will be monitored and sampled for methane gas during the monitoring periods and events. Monitoring of temporary and permanent LFG control features (if installed) may also be conducted as applicable. Sampling for additional gases may be required by the Executive Director according to §330.371(j).

12.0 LANDFILL GAS MONITORING FREQUENCY (§330.371(k))

As stated in Section 3.2 above, the minimum landfill gas monitoring frequency in this landfill will be quarterly.

12.1 MORE FREQUENT MONITORING REQUIRED BY TCEQ

A higher monitoring frequency will may be implemented if it is determined that the landfill facility has caused gas migration, and methane gas levels continue to exceed the limits established in §330.371(a) at the landfill facility boundary, or within structures located within the landfill facility. In that case, the monitoring will be performed according to the plan suggested by the Executive Director (TCEQ). As noted in Section 5, if gas is detected in the Landfill perimeter probes above the limits in §330.371(a), more frequent monitoring will be implemented (weekly or monthly) during the remediation plan implementation until 3 consecutive monitoring events show the methane concentration at the affected gas monitoring probe(s) to be less than 5% by volume.

12.2 MORE FREQUENT MONITORING REQUIREMENTS

Whenever landfill gas monitoring has determined that landfill gas is migrating beyond the facility boundary or that the landfill gas is accumulating within the structures, a more frequent monitoring of landfill gas will be conducted at those locations.

12.3 GAS MONITORING PROCEDURES AND EQUIPMENTS

Landfill gas will be monitored to determine if methane concentrations exceed 5% by volume at the facility boundary or 1.25% by volume in facility structures in accordance with §330.371(a). Landfill

gas monitoring will be performed according to the above plan. The equipment used for this purpose will be a LandTec GEM-2000 landfill gas detector or if available, a similar or more advanced system will be used.

Prior to measurement, the landfill gas monitoring probes will be purged by extracting equivalent of three probe volumes of gas. This can be accomplished by connecting the landfill gas detector (GEM-2000 or equivalent) intake pipe to the probe's monitoring nipple and running the unit's pump for 60 seconds. The unit should be turned off, and the intake pipe be disconnected. The unit should be turned on in the outside air to purge the gas detector. The intake pipe should be connected to the probe nipple again, and the Detector should be turned on. The Detector's reading should be recorded, and if the above conditions are exceeded, the procedure described above be implemented.

REDLINE

MCKINNEY 380 C&D LANDFILL
TCEQ MSW PERMIT NO. 2278A
COLLIN COUNTY, TEXAS



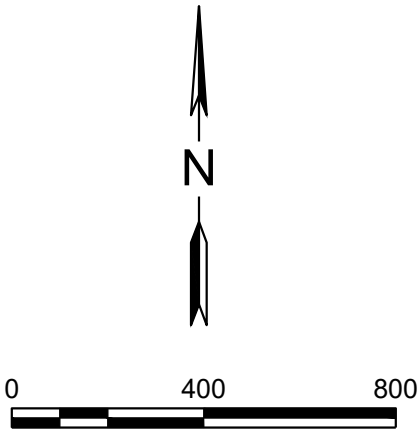
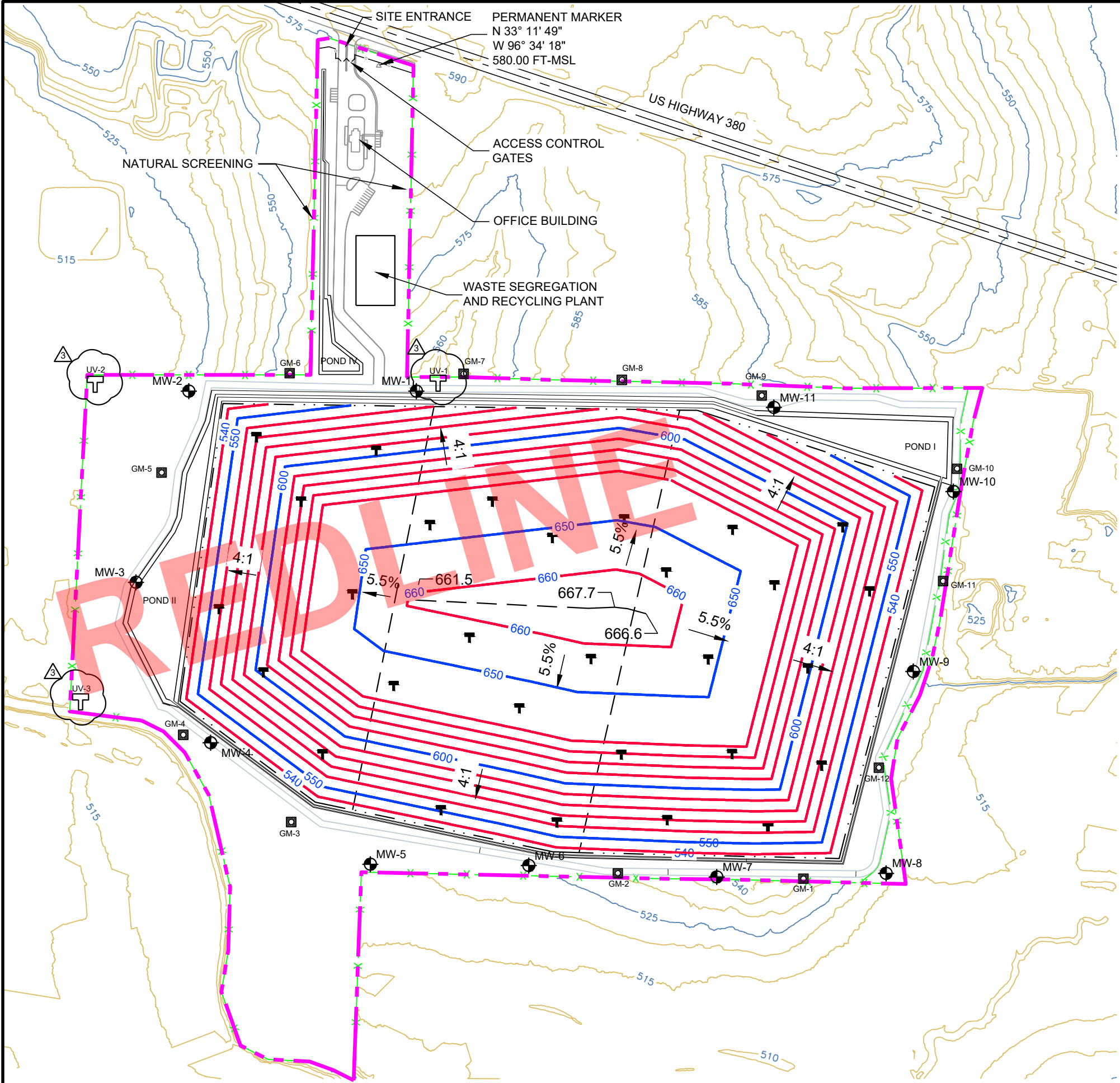
CLIENT
Frontier Waste Solutions
McKinney 380 C&D Landfill
2540 E University Dr
McKinney, TX 75069

PROJECT NO.
6775.21

4	SEP 2024	ADDED UTILITY VENTS
3	OCT 2022	TECHNICAL NOD #2
2	JUNE 2022	TECHNICAL NOD #1
#	DATE	DESCRIPTION

Landfill Gas
Monitoring System

FIG.III-11.1

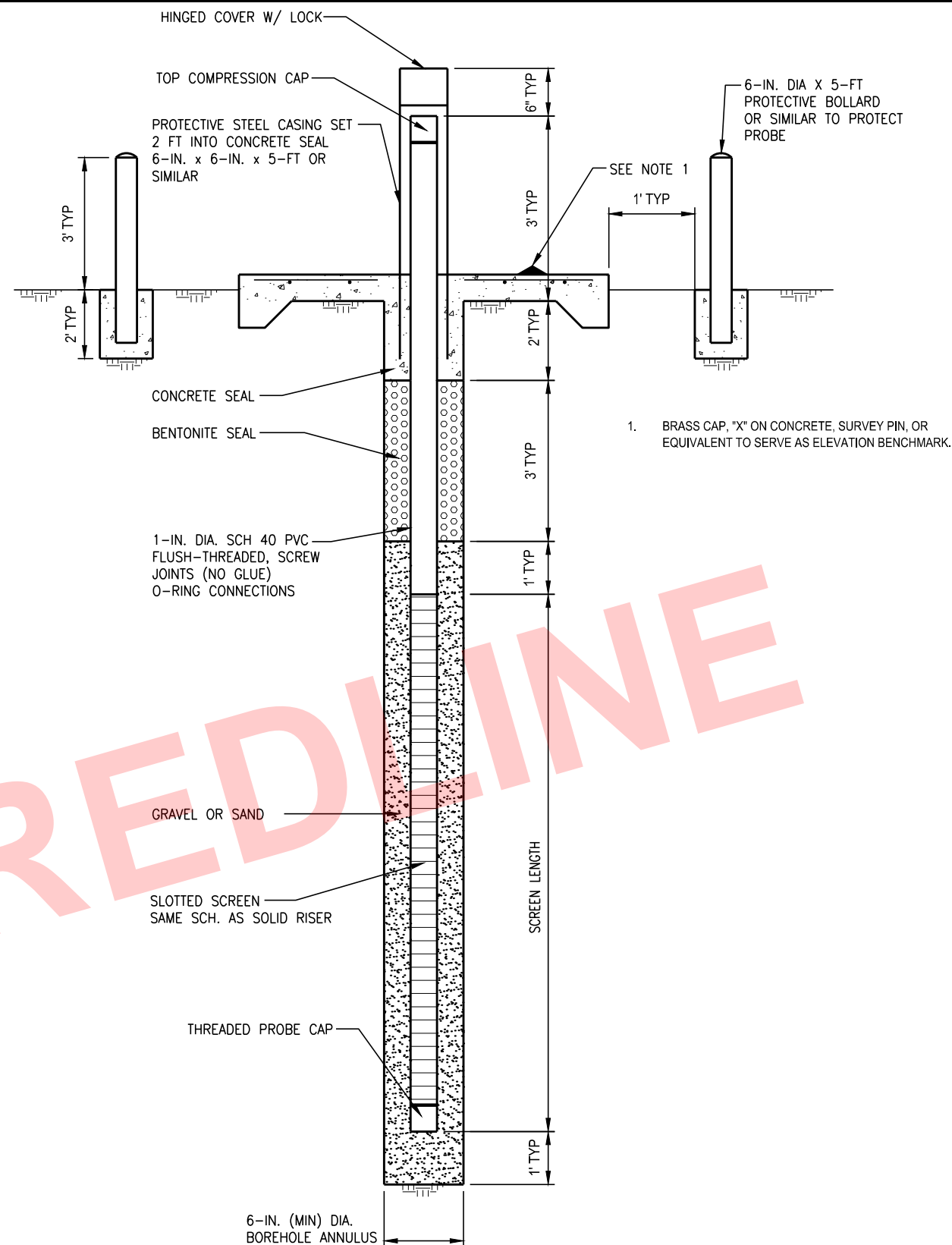


NOTES / REFERENCE

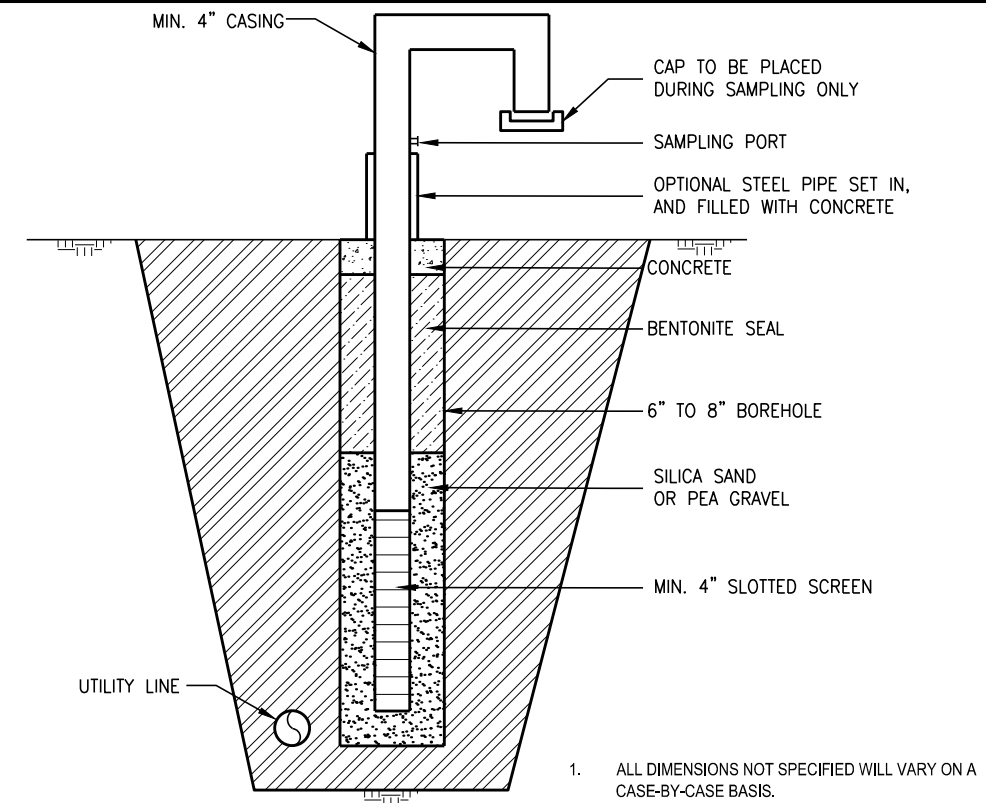
1. SITE LAYOUT AND EXCAVATION GRADES ARE RECREATED BY PARKHILL BASED ON MAY 13, 2003 DRAWINGS.
2. ALL BOTTOM CONTOURS REPRESENT EXCAVATION LIMITS.
3. MAXIMUM EXCAVATION DEPTH IS 485 FT-MSL.
4. THE INTERNAL ROADS WILL BE CONSTRUCTED AT THE OPERATOR'S DISCRETION TO BEST FIT THE OPERATIONS.
5. THE LANDFILL WILL BE DEVELOPED SEQUENTIALLY BASED ON THE PHASE NUMBERS SHOWN. APPENDIX II-4.A DISCUSSES LANDFILL CONSTRUCTION SEQUENCE AND DEVELOPMENT IN DETAIL.
6. MAXIMUM FINAL COVER ELEVATION 667.7 FT-MSL.

LEGEND

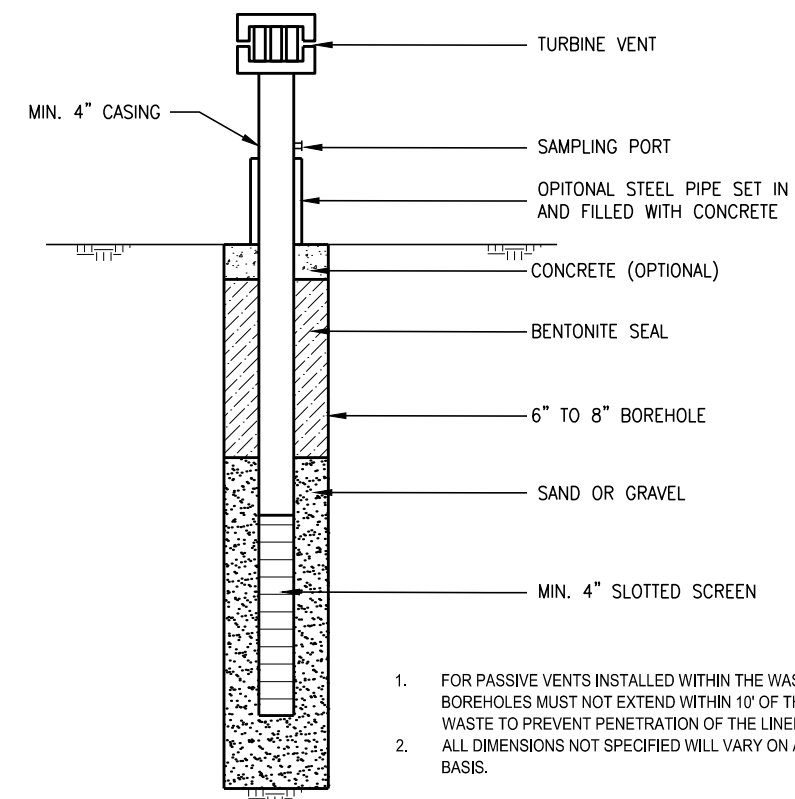
- PERMIT BOUNDARY
- FENCE
- PHASE LIMITS
- PERIMETER ROAD
- EXISTING TOPOGRAPHIC CONTOURS
- FINAL COVER CONTOURS
- MONITORING WELLS
- GAS MONITORING WELLS
- PASSIVE GAS VENT
- UTILITY VENTS



A1 TYPICAL GAS MONITORING PROBE SECTION
NO SCALE



A2 TYPICAL UTILITY VENT
NO SCALE



A3 TYPICAL PASSIVE GAS VENT
NO SCALE

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**MCKINNEY 380 C&D LANDFILL
TCEQ MSW PERMIT NO. 2278A
COLLIN COUNTY, TEXAS**



CLIENT
Frontier Waste Solutions
McKinney 380 C&D Landfill
2540 E University Dr
McKinney, TX 75069

PROJECT NO.
6775.21

1	SEP 2024	INITIAL
#	DATE	DESCRIPTION

LANDFILL GAS VENT AND MONITORING PROBE DETAILS

FIGURE III-11.2

MCKINNEY 380 C&D LANDFILL
TCEQ MSW PERMIT NO. 2278A
COLLIN COUNTY, TEXAS

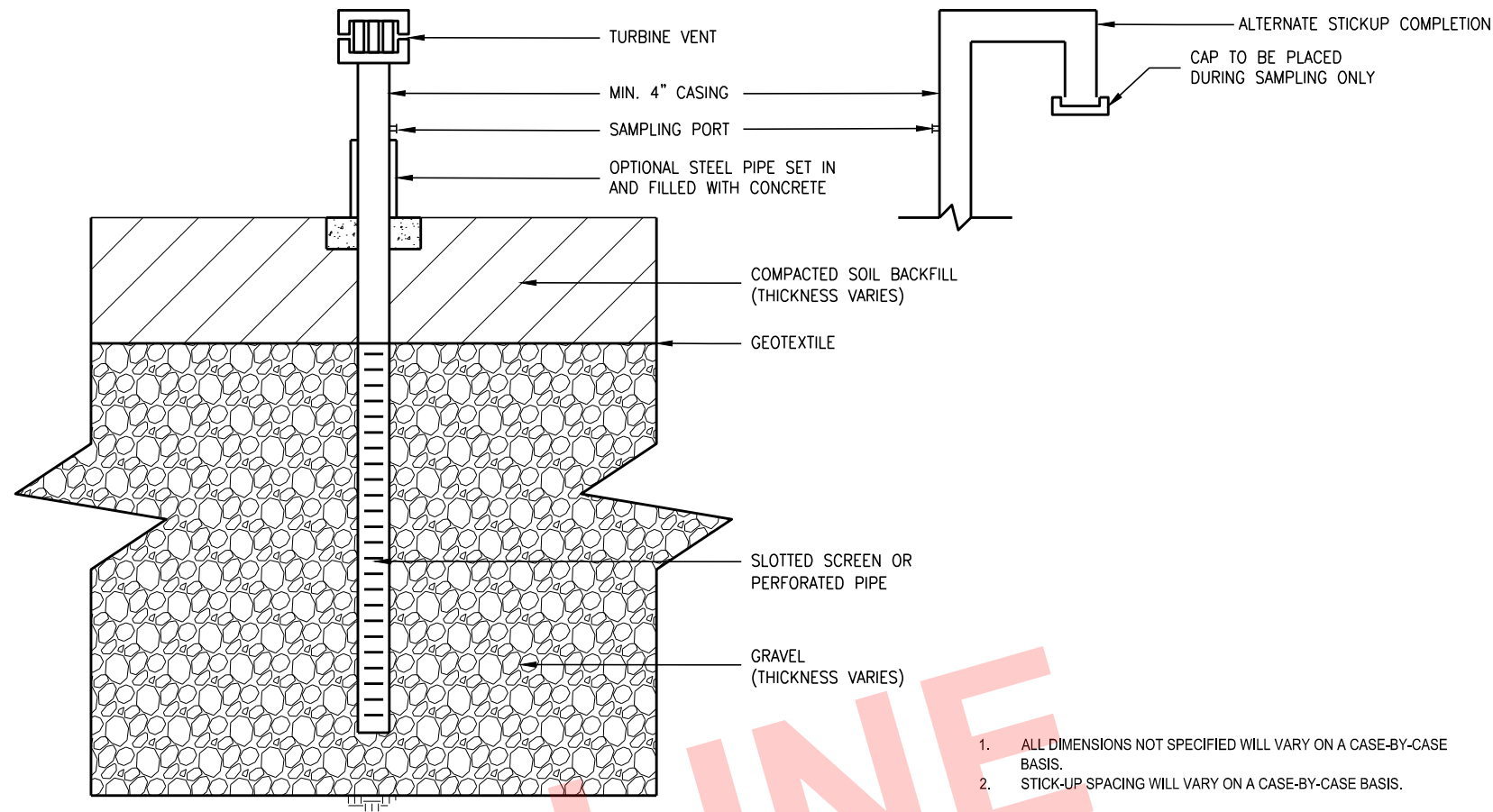


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Frontier Waste Solutions
McKinney 380 C&D Landfill
2540 E University Dr
McKinney, TX 75069

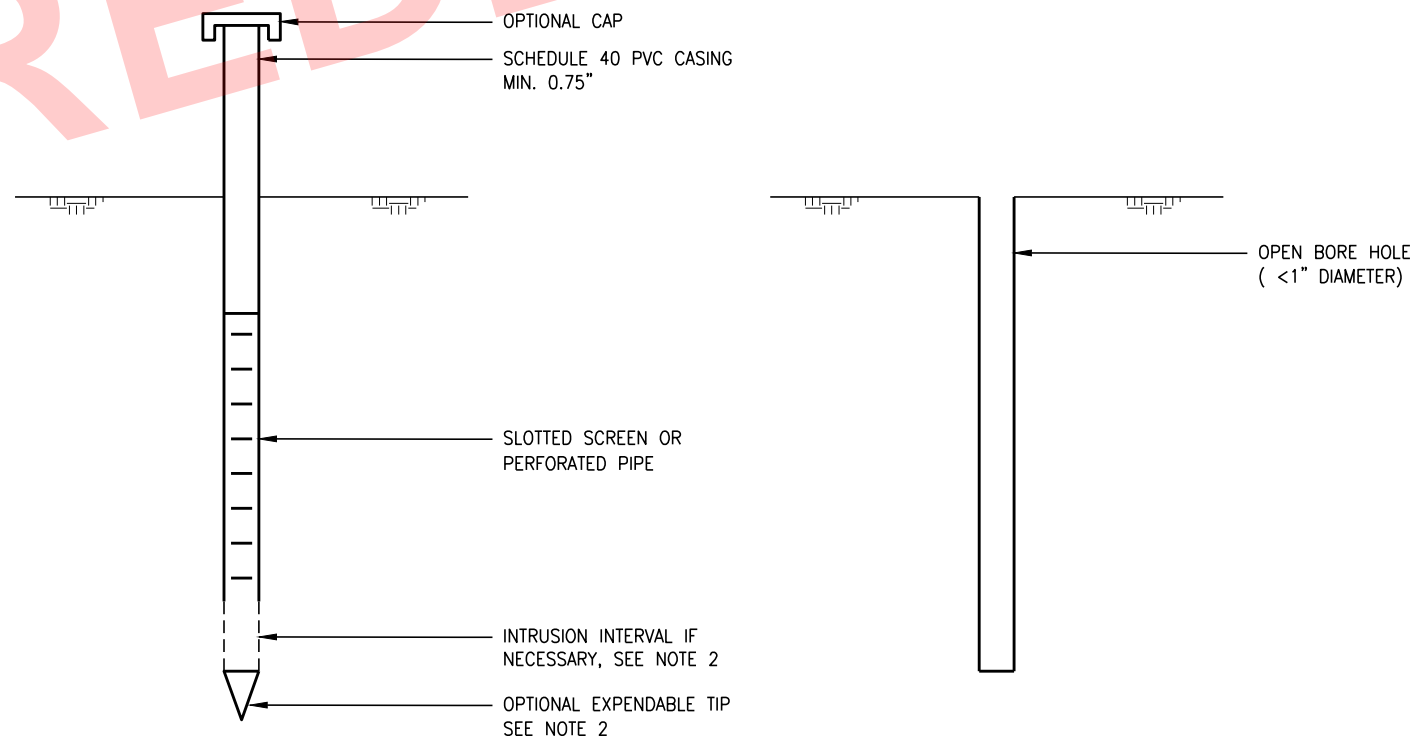
PROJECT NO.	
6775.21	
1	SEP 2024 INITIAL
#	DATE DESCRIPTION

INTERCEPTOR
TRENCH AND
BAR PROBE
DETAILS

FIGURE III-11.3



B1 TYPICAL INTERCEPTOR TRENCH WITH PASSIVE VENT
NO SCALE



A1 TYPICAL BAR HOLE PROBE
NO SCALE

1. ALL DIMENSIONS NOT SPECIFIED WILL VARY ON A CASE-BY-CASE BASIS.
2. CREATE BORE HOLE BY HAND AUGER, DRILL, HAMMER, OR EQUIVALENT. DEPTH WILL VARY BY SPECIFIC APPLICATION, BUT IS TYPICALLY 3 TO 10 FT.
3. BOREHOLE DIAMETER SHOULD BE SLIGHTLY LARGER THAN CASING DIAMETER (WHEN CASING IS USED).
4. IF ROD WITH EXPENDABLE TIP IS USED TO ADVANCE BAR HOLE, PROVIDE GAS INTRUSION INTERVAL BETWEEN TIP AND BOTTOM OF PIPE TO ALLOW GAS TO ENTER FROM SURROUNDING SOIL.
5. A FILTER PACK (FINE GRAVEL OR SAND) MAY BE PLACED AROUND THE CASING, AS NECESSARY. A BENTONITE SEAL SHOULD BE PLACED ABOVE THE FILTER PACK WHEN USED.
6. FOR TEMPORARY BAR PROBES INSTALLED OVER WASTE, FILL THE BORE HOLE WITH BENTONITE PELLETS ONCE PROBE IS REMOVED.

ATTACHMENT 3: UNMARKED COPY

CRWC TYPE IV LANDFILL

TCEQ MSW Permit No. 2278A

Collin County, Texas

Attachment III-4 – Site Layout Plan

Prepared for:

Construction Recycling and Waste Corporation

September 2021

Rev. 01 – November 2021

Rev. 02 – June 2022

Rev. 03 – October 2022

Rev. October 2024

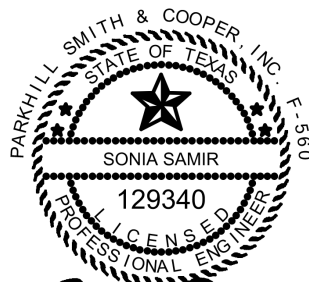
Revised by:

Parkhill

3000 Internet Blvd, Suite 550

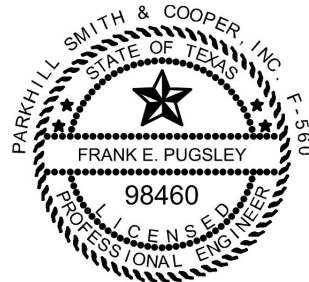
Frisco, Texas 75034

TBPE F-560



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10/01/2024
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10/20/2022

Frank E Pugsley, P.E.

Parkhill Project No.: 016048.21

Attachment III-4 – Site Layout Plan

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3. Fence Lines, Natural Windbreaks, Green Belts, and Screening	2

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FIGURE III-4.1A – EXCAVATION GRADES

FIGURE III-4.1B – ALTERNATE EXCAVATION GRADES

FIGURE III-4.2 – OPERATION SEQUENCE I

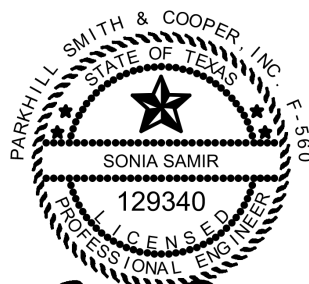
FIGURE III-4.3 – OPERATIONAL SEQUENCE II

FIGURE III-4.4 – OPERATIONAL SEQUENCE III

FIGURE III-4.5 – SITE LAYOUT PLAN

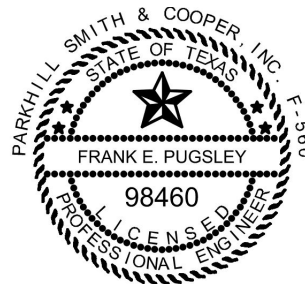
FIGURE III-4.6 – LANDFILL AND QUARRY ACCESS ROADS DURING PHASE I

FIGURE III-4.7 – RECYCLING FACILITY



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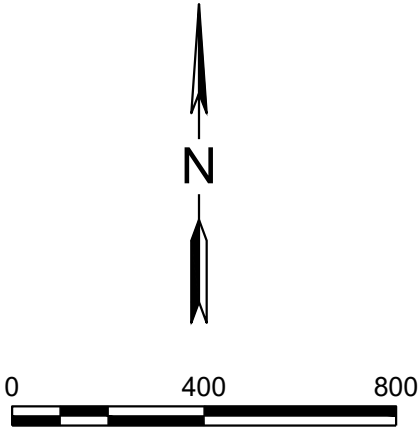
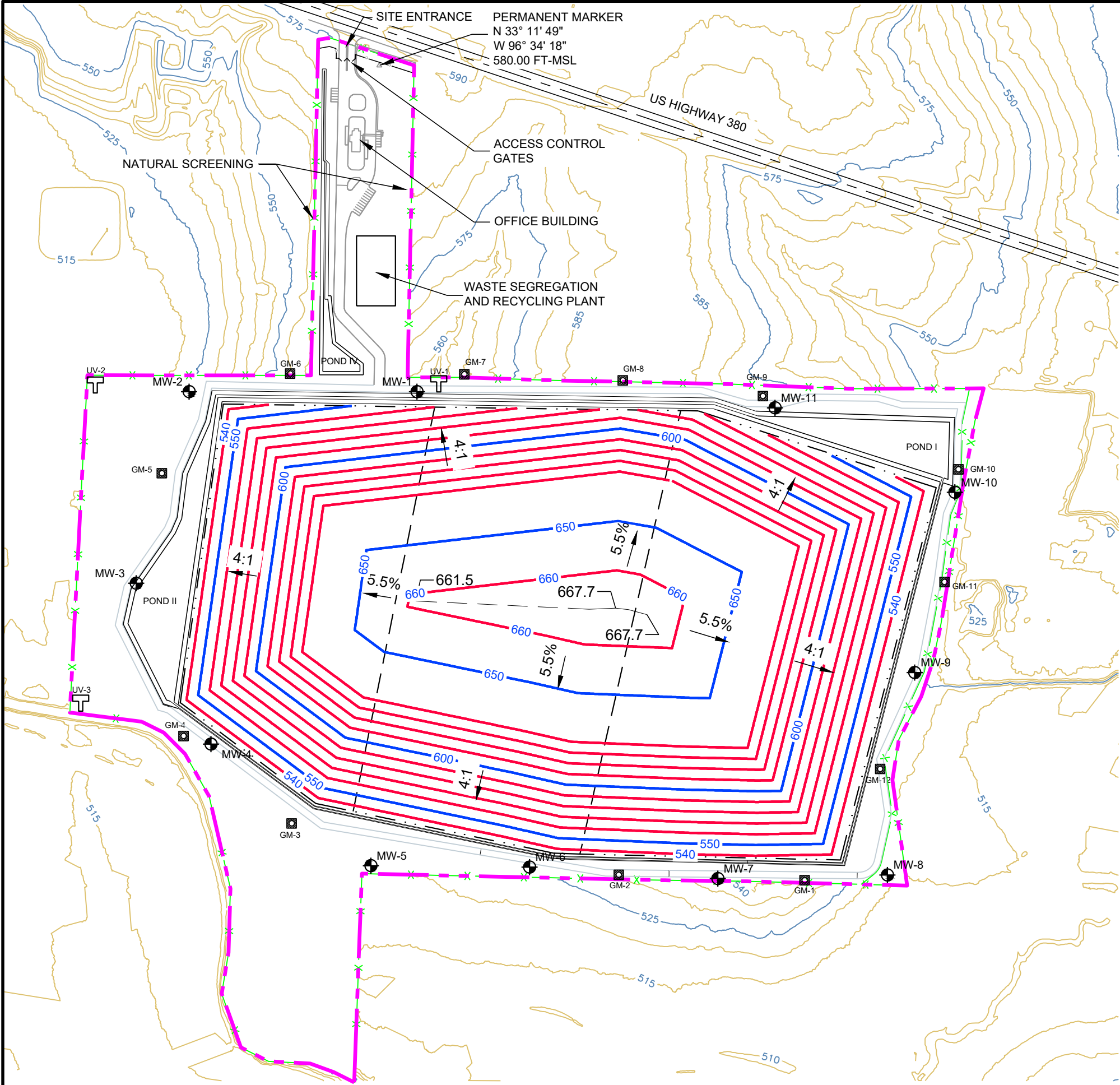
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Frank E. Pugsley, P.E.

A:\2021\6775.21\03_DSGN\01_DWG\050_CIVIL\17_GAS REMEDIATION\FIG.III-4.5_SITE LAYOUT PLAN.DWG, 9/24/2024 10:14 AM, afranklin



NOTES / REFERENCE

1. MAXIMUM EXCAVATION DEPTH IS 485 FT-MSL.
2. THE INTERNAL ROADS WILL BE CONSTRUCTED AT THE OPERATOR'S DISCRETION TO BEST FIT THE OPERATIONS.
3. THE LANDFILL WILL BE DEVELOPED SEQUENTIALLY BASED ON THE PHASE NUMBERS SHOWN. APPENDIX II-4.A DISCUSSES LANDFILL CONSTRUCTION SEQUENCE AND DEVELOPMENT IN DETAIL.
4. MAXIMUM FINAL COVER ELEVATION 666.7 FT-MSL.
5. ALL UTILITY EASEMENTS, INCLUDING THE SEWER EASEMENT, ARE SHOWN ON FIGURE II.3.7 - SITE EASEMENT MAP.

LEGEND

- PERMIT BOUNDARY
- FENCE
- PHASE LIMITS
- PERIMETER ROAD
- EXISTING TOPOGRAPHIC CONTOURS
- 510 FINAL COVER GRADES
- MONITORING WELLS
- GAS MONITORING WELLS
- UTILITY VENT

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TCEQ MSW PERMIT NO. 2278A
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McKinney, TX 75069

PROJECT NO.
6775.21

4	SEP 2025	ADDED UTILITY VENTS
3	OCT 2022	TECHNICAL NOD #2
2	JUNE 2022	TECHNICAL NOD #1
#	DATE	DESCRIPTION

Site
Layout Plan

FIG.III-4.5

CRWC TYPE IV LANDFILL

TCEQ MSW Permit No. 2278A

Collin County, Texas

Attachment III-11 – Landfill Gas Management Plan

Prepared for:

Construction Recycling and Waste Corporation

September 2021

Rev. 01: November 2022

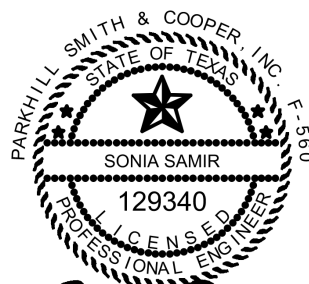
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Rev. October 2024

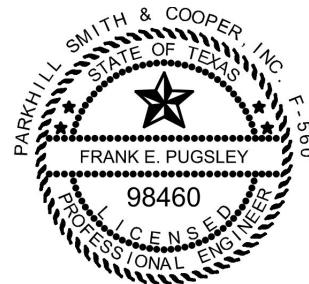
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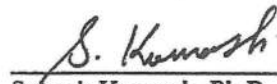
CRWC TYPE IV LANDFILL
MCKINNEY, COLLIN COUNTY, TEXAS
TCEQ PERMIT NO. MSW-2278A

PART III

ATTACHMENT III-11
LANDFILL GAS MANAGEMENT PLAN

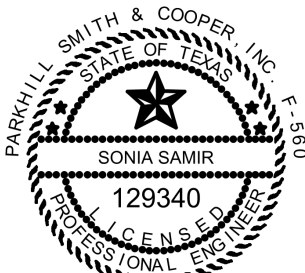
Prepared by:

TECHNICO Environmental, Inc.


Sohrab Kourosh, Ph.D., J.D., P.E.

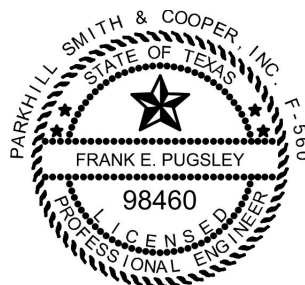


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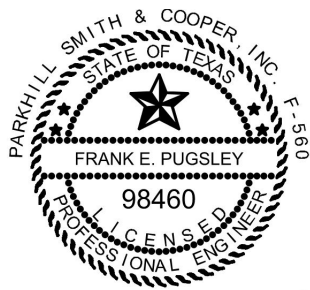
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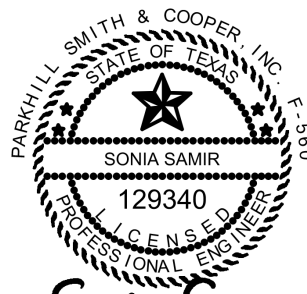
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LANDFILL GAS MANAGEMENT PLAN

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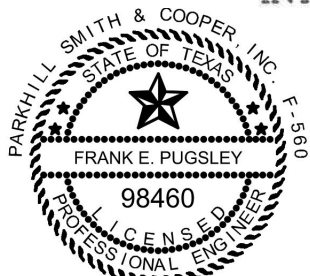
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GOLDER ASSOCIATES INC.
Professional Engineering Firm
Registration Number F-2578



(V) LOCATION OF UTILITY LINES & PIPELINES
AT SITE (§330.371(b)(1)(E))

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III-11-8

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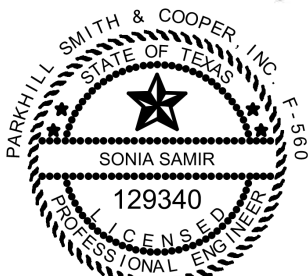
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11.0 SAMPLING REQUIREMENTS FOR LANDFILL GAS
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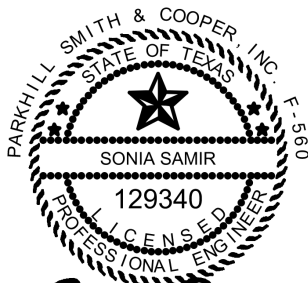
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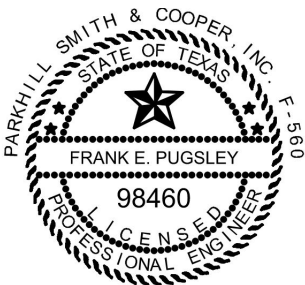
ATTACHMENTS:

ATTACHMENT III-11A - GAS PROBE INSTALLATION REPORT



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10/20/2022

Frank E Pugsley, P.E.

For May 2021, September 2021,
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Rev. October 2024

2.2 GAS CONCENTRATION LIMITS AT THE FACILITY BOUNDARY

The landfill owner or operator will install a passive venting system within the body of landfill and a methane gas monitoring network around the perimeter of the disposal area to ensure that the concentration of methane gas does not exceed 5% by volume for methane at the facility property boundary.

If methane gas is detected above 5% by volume in the monitoring system, the landfill owner or operator will implement a corrective action plan to bring down the methane gas concentration levels below 5% by volume. Such control measures will include, but not be limited to, inspection and repair of the passive venting and control system (PVCS) as provided in Part III, Attachment III-12, Figure III-12.1 Final Contour Plan. The proposed locations of the PVCS are provided in Figure III-11.1 at the end of this attachment.

For underground utilities that cross the permit boundary within 1,000 ft of in-place waste, utility vents will be installed to monitor for the potential presence of LFG, and to reduce the potential of LFG migration by venting any methane accumulation. Utility vents will be installed into or directly adjacent to the pipe bedding of underground utilities, as shown on the detail in Figure III-11.2. Utility vents will be installed near where the underground utility crosses the permit boundary in accordance with §330.371(b)(1)(E).

Currently, a sanitary sewer line crosses the permit boundary in three locations: i. northwest corner of the permit boundary, ii. southwest corner of the permit boundary, iii. north of the Phase I limits, directly east of the facility access road. As such, utility vents will be installed at these locations, as shown on Figure III-11.1. The vents will be equipped with monitoring ports to facility routine methane monitoring.

Additional utility vents will be installed for any future underground utility trenches that cross the permit boundary within 1,000 ft of in-place waste. For any underground utility trenches located fully within the permit boundary (that is trenches that do not cross the permit boundary), no gas migration is anticipated beyond the permit boundary, and as such no vents are proposed.

3.0 REGULATORY STANDARDS TO BE MET BY OWNER/OPERATOR

The regulatory standards require implementation of a routine methane monitoring program. A monitoring program is devised for this site. The type and frequency of this routine monitoring program is based on the following factors:

3.1 BASIS FOR METHANE GAS MONITORING FREQUENCY §330.371(b)

The methane gas monitoring frequency was determined after consideration of the following factors:

(I) GEOLOGY AND SOIL CONDITIONS (§330.371(b)(1)(A))

The maximum depth of this landfill is 80 feet below the ground surface. According to the geotechnical investigation presented in Attachment III-9, the unweathered Austin Chalk Formation varies in depth from approximately 6 feet below the ground surface near the east edge of the landfill excavation to approximately 24 feet below the ground surface near the west edge of the landfill excavation. This indicates that most of the landfill excavation will be in material with a very low potential for transmission of landfill gas.

(II) HYDROGEOLOGIC CONDITIONS BELOW THE FACILITY (§330.371(b)(1)(B))

Groundwater occurs at about 16 feet below the surface in the northern side of the landfill. The total thickness of the water bearing unit is 31 feet. Of this, the saturated thickness of the water bearing unit consists of the bottom 15 feet.

(III) HYDRAULIC CONDITIONS OF SUBSURFACE GEOLOGY (§330.371(b)(1)(C))

The hydraulic conductivity of the water bearing unit is 1×10^{-6} cm/s. The hydraulic conductivity of the Austin Chalk is 1×10^{-8} cm/s.

(IV) LOCATION OF FACILITY BOUNDARY AND STRUCTURES (§330.371(b)(1)(D))

The landfill scale house and administrative office, and the proposed WSRP are the only facility structures on-site, located approximately 950 feet from the waste footprint. The location of all habitable structures within 500 feet of the site are shown in Figure II-3.3, in Attachment II-3.

(V) LOCATION OF UTILITY LINES & PIPELINES AT SITE (§330.371(b)(1)(E))

All known utility lines are located within the easements shown in Figure II-3.7 – Site Easements Map.

3.2 MINIMUM MONITORING FREQUENCY-QUARTERLY MONITORING §330.371(b)(2) &

§330.371(k)

Due to the exclusion of putrescible materials, the intensity and magnitude of landfill gas generation in Type IV landfills are generally lower than the Type I landfills. Considering the site conditions as reflected in the above factors, the proper gas monitoring frequency for the proposed landfill will be quarterly. This will be the minimum monitoring frequency.

4.0 CORRECTIVE MEASURES -EXCEEDENCE OF LANDFILL GAS (§330.371(c))

Methane gas concentration will not be allowed to exceed 5% by volume at the facility boundary and 1.25% by volume in the facility structures in accordance with §330.371(a). If these limits are exceeded, then immediate actions will be taken by The Landfill owner or operator to assure that the landfill facility is in compliance with the regulations.

Should a methane concentration in excess of 5% by volume be detected at any of the gas monitoring probes shown in Figure III-11.1, the landfill will implement appropriate remediation actions, place a copy of the remediation plan in the operating record, notify the TCEQ that the remediation plan has been implemented, and provide a copy of the remediation plan to the TCEQ. These actions may include, but are not limited to:

- Removing accumulated sediment from the landfill perimeter ditch to provide passive venting from subsurface soil and rock material.
- Inspecting and repairing any installed LFG control features.
- Installing and monitoring temporary bar probes to determine the extent of the migration,
- Installing LFG control features such as passive vents and/or interceptor trenches.

The location, installation, and nature of the remediation will depend on the location and occurrence of the gas exceedance at the perimeter gas monitoring probe. Typical details for passive vents, interceptor trenches, and bar probes are shown on Figures III-11.2 and III-11.3. Installation of any new LFG control feature for the corrective measures discussed above will be accompanied by a non-notice permit modification in accordance with 30 TAC §305.70(j) to indicate the location of the feature. If corrective actions for landfill gas remediation are implemented and are not already part of the facility permit, a permit modification should be submitted to the TCEQ pursuant to 30 TAC §330.70 to include the implemented actions.

4.1 PROTECTIVE MEASURES AND NOTIFICATIONS §330.371(c)(1)

If methane is detected at concentrations higher than the abovementioned levels, protective measures such as evacuation or ventilation of buildings will be taken. Landfill owner or operator will notify the following and implement the most appropriate corrective measures mentioned above to reduce the methane gas concentration to levels below the specified levels:

- the TCEQ Executive Director,
- TCEQ Region 4,
- City of McKinney Mayor and/or City Manager,
- Collin County Judge,
- Collin County Commissioner,
- City's Fire Chief and/or Fire Marshall, and
- the adjacent land owner(s) next to the landfill gas monitoring probe(s) where the exceedance above permissible limit is detected.

4.2 ACTION WITHIN SEVEN DAYS OF DETECTION §330.371(c)(2)

Within seven days of detection of methane gas concentration exceeding the above specified levels, Landfill owner or operator will record the methane gas levels and place them in the MSW site operating record and describe the steps to be taken to protect the human health; and

4.3 ACTION WITHIN 60 DAYS OF DETECTION §330.371(c)(3)

Within 60 days of detection of methane gas above the regulatory level, and after an assessment, Landfill owner or operator will implement a methane gas remediation plan for the methane gas releases, place a copy of the remediation plan in the operating record, provide a copy to the Executive Director and notify the Executive Director that the Remediation Plan has been implemented. The Remediation Plan (RP) will describe the nature and the extent of the issue and the proposed remedy, and will be submitted to the Executive Director for review, comments, and suggestions for additional remedial measures as necessary, or approval.

5.0 ALTERNATE SCHEDULE FOR COMPLIANCE §330.371(d)

The Executive Director may establish alternative schedules to for demonstrating compliance with subsections (b) or (c) of 30 TAC §330.371. If gas is detected in the Landfill perimeter probes above the limits in §330.371(a), more frequent monitoring will be implemented (weekly or monthly) during

the remediation plan implementation until 3 consecutive monitoring events show the methane concentration at the affected gas monitoring probe(s) to be less than 5% by volume.

6.0 LANDFILL GAS MONITORING AND CONTROL PROGRAM DURATION §330.371(e)

The landfill gas monitoring and control program will continue for a period of five years after the final closure of the landfill facility. Monitoring will consist of measuring the methane gas concentration in the gas probes network system along the landfill perimeter to determine if the passive gas venting control system is still working to control methane gas levels within the regulated limits. A demonstration can be submitted to the Executive Director to reduce the gas monitoring and control program. The demonstration must prove that there is no potential for gas migration beyond the property boundary or into on-site structures.

7.0 MODIFICATION OF GAS MONITORING AND CONTROL SYSTEMS §330.371(f)

The landfill gas monitoring and control systems will be modified through permit modification requirements, as needed to reflect the changes on site of the MSW site. The post-closure land use will not interfere with the functions of gas monitoring and control systems.

8.0 LANDFILL GAS - MANAGEMENT AND CONTROL PLAN §330.371(g)

A landfill gas management plan has been prepared as presented below which addresses the following:

- A. Management and Control of Landfill Gases
- B. Description of the proposed Landfill Gas Management and Control System(s) including installation procedures, time-lines for installation, monitoring procedures and procedures to be used during maintenance.
- C. A backup plan to be implemented if the main system breaks down or becomes in-effective.

8.1 MANAGEMENT AND CONTROL OF LANDFILL GASSES §330.371(g)(1)

Landfill gases migrate in the subsurface by advection and diffusion. Landfill gas generated in the landfill will be controlled and managed by LFG control features (described in Section 4.0). The passive venting wells /tubes will be installed as necessary during active operations, and/or in phases as the final cover is constructed. The landfill methane gas concentration will be controlled to levels below the levels required in §330.371(a), by installing passive ventilation gas wells.

8.2 LANDFILL GAS MANAGEMENT SYSTEM INSTALLATION (§330.371(g)(2))

The landfill gas control system consists of 30 passive vents that extend from 2 feet above the final cover downward to 10 feet above the bottom liner. They consist of 4" perforated schedule 40 PVC pipes. These pipes are installed in the body of waste by drilling 8" diameter holes through the compacted waste, and installing these pipes in an annulus of compacted silicon sand. These pipes are perforated along their length from 6" above the bottom cap to 3 feet below the final cover, where the annulus will be filled with a slurry of cement and bentonite. At the top they are connected to a T attached to two downward 90° elbow. The locations of these gas vents are presented in Figure III-11.1. These vents will be monitored on a quarterly basis using a Methane Gas Detector that can register methane by percentage of volume. If significant gas concentration is measured in any of the vents, a wind driven turbine will be installed on top of that vent. These vents will be connected to an Active Gas Extraction System (AGS) and will be used for active gas extraction if gas migration takes place, and methane concentration exceeding the specified level is measured at the landfill boundaries or close-by structures.

8.3 BACKUP SYSTEM IF MAIN SYSTEM BREAKS DOWN (§330.371(g)(3))

If the passive gas venting system is found to be ineffective, and methane gas has been determined to have accumulated in the landfill at a concentration exceeding §330.371(a)(2) which causes migration beyond the landfill property at levels exceeding the limits in §330.371(a), an Active Gas Extraction System (AGES) will be installed to actively extract the accumulated gas, and to vent or burn the gas in a gas flare. These systems can consist of wind-driven turbines or electric driven tube- axial fans, or any other acceptable system, to pump out the gas from the landfill.

Since Collin County is a non-attainment area, if the owner or operator proposes to install an active ventilation system with a landfill gas combustion flare, an Air Permit Standard Exemption will be submitted as a part of permit modification to TCEQ.

9.0 LANDFILL PERIMETER GAS MONITORING NETWORK (§330.371(h))

A permanent monitoring system will be installed in this landfill. The landfill perimeter gas monitoring system consists of 12 permanent gas monitoring probes installed around the waste disposal area within the site, portable methane detection equipment, and under slab probes or bar holes. The proposed gas perimeter monitoring network is shown on Figure III-11.1 of this

Attachment. Probes 3, 4, 5 and 6 (as shown on Figure III-11.1) have been installed, and the remaining probes will be installed according to the schedule in Part II, Attachment II-4, Appendix II-4A – Construction and Development of CRWC Type IV Landfill.

The gas monitoring probes consist of a 3/4" perforated (slotted) PVC pipe installed inside the gas monitoring wells. The gas monitoring wells are drilled to the elevation of 495 feet AMSL. The gas probes are installed in the center of a 4" diameter bar-hole, and a silicon sand filter is packed in annulus around the probe. The probes are screened from 4" above the bottom of the well to 5 feet below ground level. A bentonite seal will be placed from this level to 2 feet below ground level, and 2 feet of concrete will be placed on top of the bentonite and will hold the well flash mount cover in place. A quick connect nipple will be installed on top of the probe. The strata being monitored are the alluvial and weathered Austin Chalk layers, and unweathered Austin Chalk to the depth of 495 feet AMSL.

10.0 LANDFILL GAS MONITORING IN SITE STRUCTURES (§330.371(i))

All on-site buildings and structures, including the scalehouse/office and the proposed WSRP, will be monitored quarterly (at a minimum) with a portable combustible gas indicator or a continuous LFG monitor/alarm (capable of providing an audible alarm if methane concentration exceeds 1.25% by volume). The WSRP will be added to the routine methane monitoring program once constructed. Monitoring will be conducted according to the procedures in Section 12.3. If allowable methane concentration limits are exceeded, on-site buildings will be immediately evacuated and ventilated by opening doors and windows, and the steps described in Sections 4.0 through 4.3 will be taken.

If a structure, or other area where potential gas buildup would be of concern, is constructed at this site in the future, then that area will be included in the gas monitoring program and the Gas Monitoring Network design will be revised to include the area.

11.0 SAMPLING REQUIREMENTS FOR LANDFILL GAS (§330.371(j))

All methane gas monitoring probes, utility vents, and on-site structures will be monitored and sampled for methane gas during the monitoring periods and events. Monitoring of temporary and permanent LFG control features (if installed) may also be conducted as applicable. Sampling for additional gases may be required by the Executive Director according to §330.371(j).

12.0 LANDFILL GAS MONITORING FREQUENCY (§330.371(k))

As stated in Section 3.2 above, the minimum landfill gas monitoring frequency in this landfill will be quarterly.

12.1 MORE FREQUENT MONITORING REQUIRED BY TCEQ

A higher monitoring frequency may be implemented if it is determined that the landfill facility has caused gas migration, and methane gas levels continue to exceed the limits established in §330.371(a) at the landfill facility boundary, or within structures located within the landfill facility. In that case, the monitoring will be performed according to the plan suggested by the Executive Director (TCEQ). As noted in Section 5, if gas is detected in the Landfill perimeter probes above the limits in §330.371(a), more frequent monitoring will be implemented (weekly or monthly) during the remediation plan implementation until 3 consecutive monitoring events show the methane concentration at the affected gas monitoring probe(s) to be less than 5% by volume.

12.2 MORE FREQUENT MONITORING REQUIREMENTS

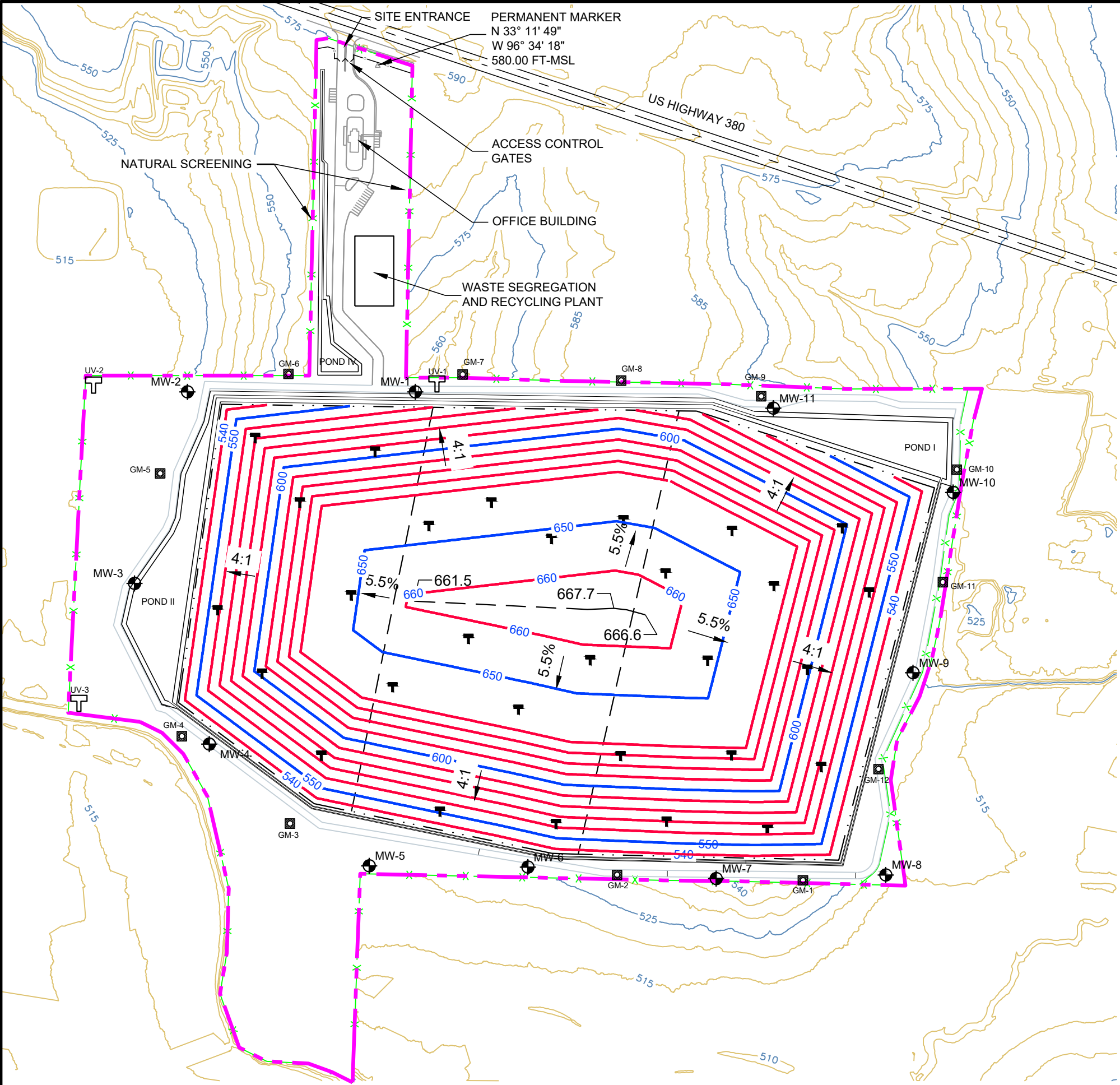
Whenever landfill gas monitoring has determined that landfill gas is migrating beyond the facility boundary or that the landfill gas is accumulating within the structures, a more frequent monitoring of landfill gas will be conducted at those locations.

12.3 GAS MONITORING PROCEDURES AND EQUIPMENTS

Landfill gas will be monitored to determine if methane concentrations exceed 5% by volume at the facility boundary or 1.25% by volume in facility structures in accordance with §330.371(a). Landfill gas monitoring will be performed according to the above plan. The equipment used for this purpose will be a LandTec GEM-2000 landfill gas detector or if available, a similar or more advanced system will be used.

Prior to measurement, the landfill gas monitoring probes will be purged by extracting equivalent of three probe volumes of gas. This can be accomplished by connecting the landfill gas detector (GEM-2000 or equivalent) intake pipe to the probe's monitoring nipple and running the unit's pump for 60 seconds. The unit should be turned off, and the intake pipe be disconnected. The unit should be turned on in the outside air to purge the gas detector. The intake pipe should be connected to the probe nipple again, and the Detector should be turned on. The Detector's reading should be recorded, and if the above conditions are exceeded, the procedure described above be implemented.

A:\20216775.21\03_DSGN\01_DWG\050_CIVIL\17_GAS REMEDIATION\FIG.III-11.1_LFG MON SYS.DWG, 9/24/2024 10:16 AM, afranklin



NOTES / REFERENCE

1. SITE LAYOUT AND EXCAVATION GRADES ARE RECREATED BY PARKHILL BASED ON MAY 13, 2003 DRAWINGS.
2. ALL BOTTOM CONTOURS REPRESENT EXCAVATION LIMITS.
3. MAXIMUM EXCAVATION DEPTH IS 485 FT-MSL.
4. THE INTERNAL ROADS WILL BE CONSTRUCTED AT THE OPERATOR'S DISCRETION TO BEST FIT THE OPERATIONS.
5. THE LANDFILL WILL BE DEVELOPED SEQUENTIALLY BASED ON THE PHASE NUMBERS SHOWN. APPENDIX II-4.A DISCUSSES LANDFILL CONSTRUCTION SEQUENCE AND DEVELOPMENT IN DETAIL.
6. MAXIMUM FINAL COVER ELEVATION 667.7 FT-MSL.

LEGEND

- PERMIT BOUNDARY
- FENCE
- PHASE LIMITS
- PERIMETER ROAD
- EXISTING TOPOGRAPHIC CONTOURS
- FINAL COVER CONTOURS
- MONITORING WELLS
- GAS MONITORING WELLS
- PASSIVE GAS VENT
- UTILITY VENTS

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MCKINNEY 380 C&D LANDFILL
TCEQ MSW PERMIT NO. 2278A
COLLIN COUNTY, TEXAS



CLIENT
Frontier Waste Solutions
McKinney 380 C&D Landfill
2540 E University Dr
McKinney, TX 75069

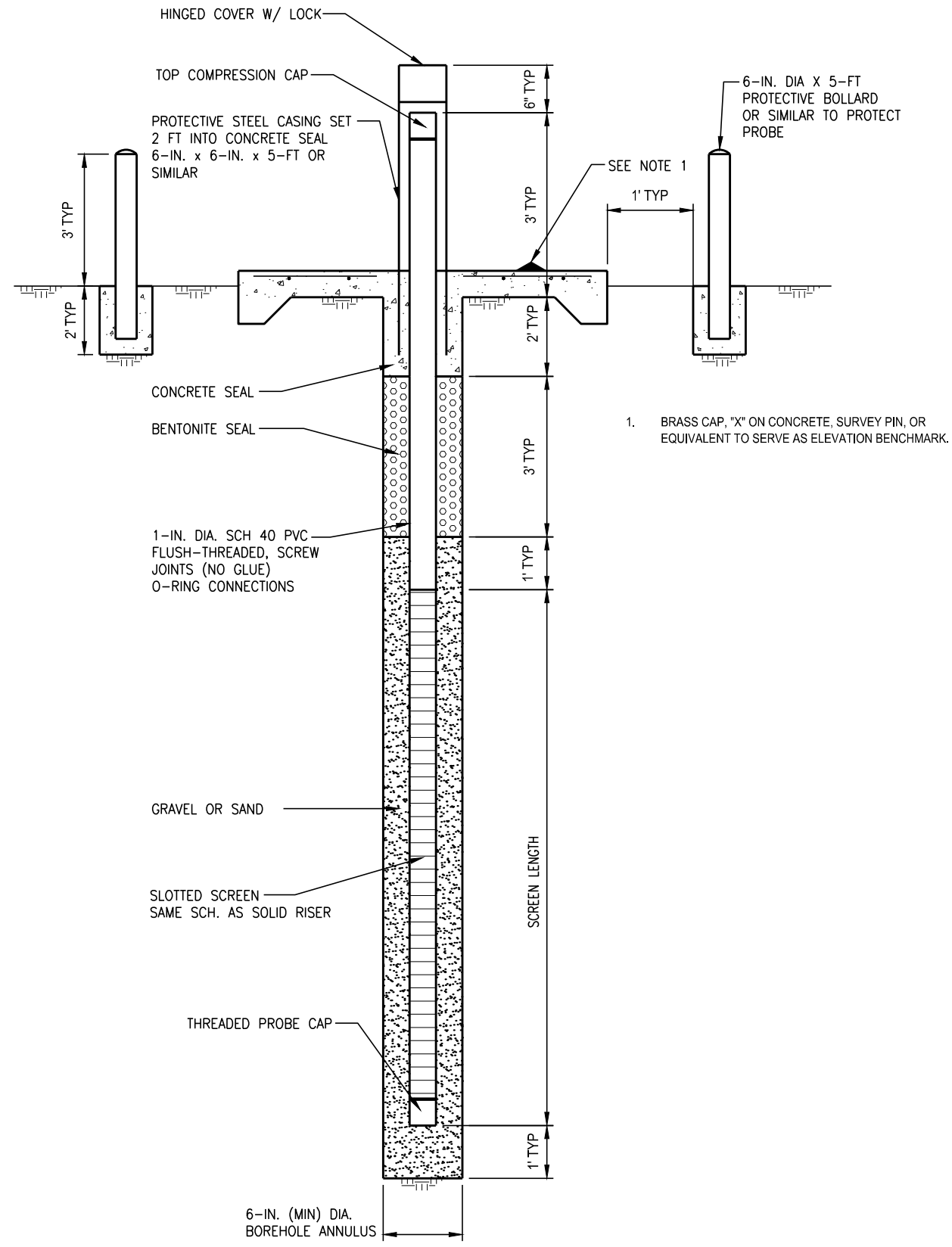
PROJECT NO.
6775.21

4	SEP 2024	ADDED UTILITY VENTS
3	OCT 2022	TECHNICAL NOD #2
2	JUNE 2022	TECHNICAL NOD #1

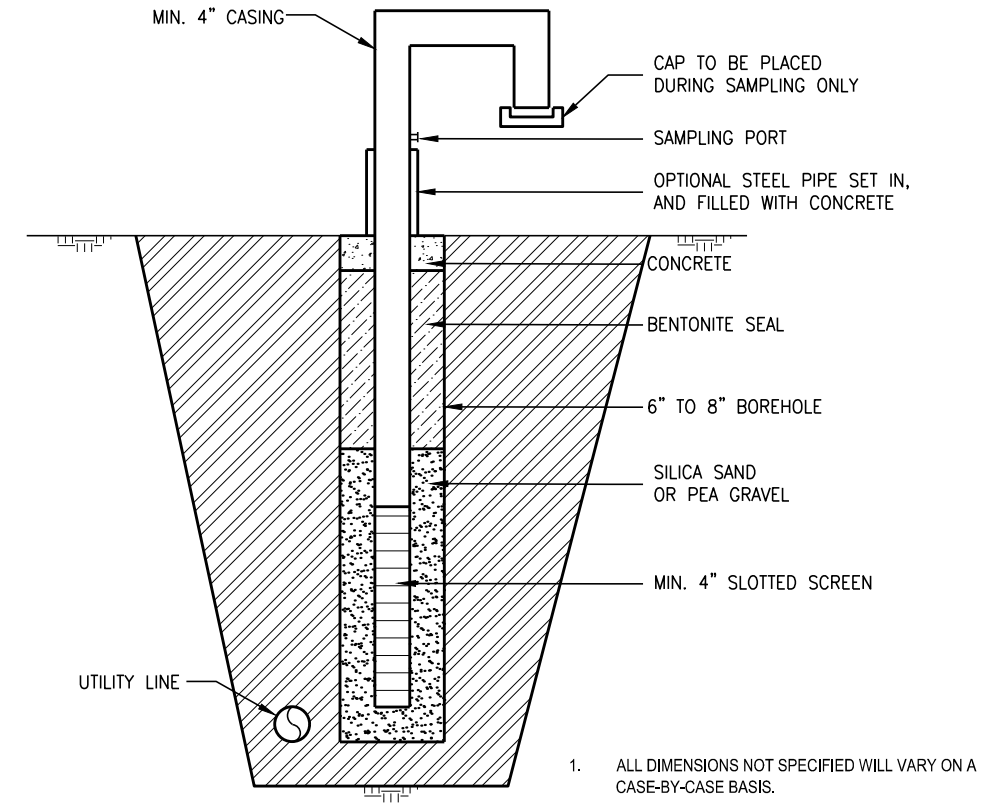
#	DATE	DESCRIPTION
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Landfill Gas
Monitoring System

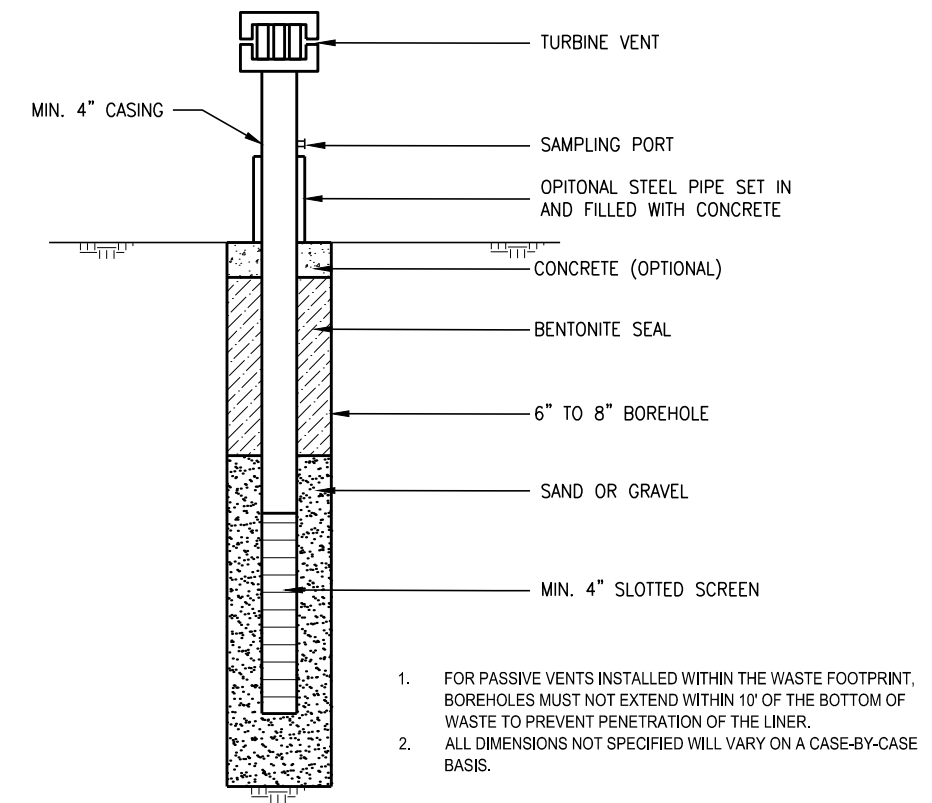
FIG.III-11.1



A1 TYPICAL GAS MONITORING PROBE SECTION
NO SCALE



A2 TYPICAL UTILITY VENT
NO SCALE



A3 TYPICAL PASSIVE GAS VENT
NO SCALE

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TCEQ MSW PERMIT NO. 2278A
COLLIN COUNTY, TEXAS**

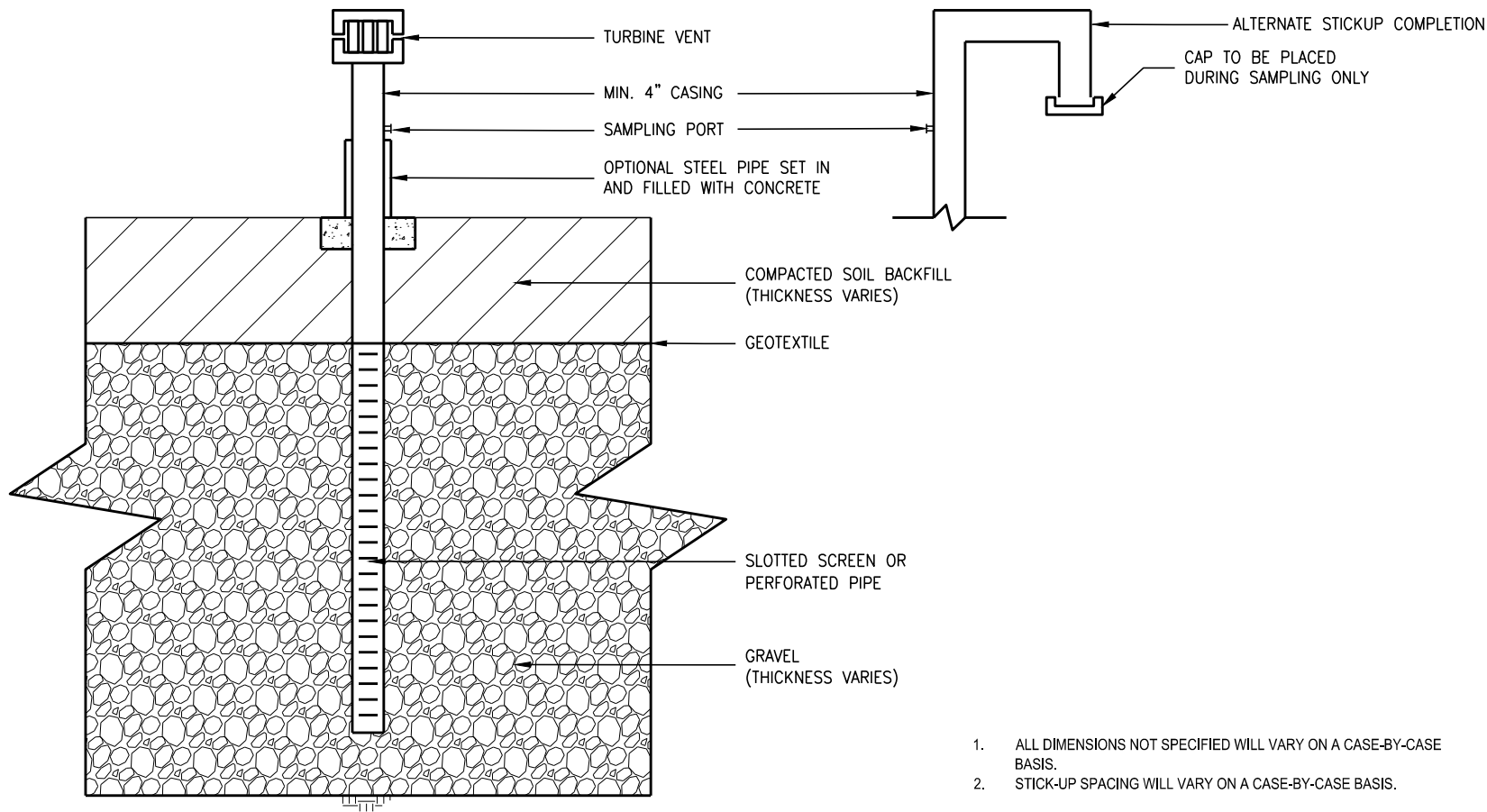


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Frontier Waste Solutions
McKinney 380 C&D Landfill
2540 E University Dr
McKinney, TX 75069

PROJECT NO.	
6775.21	
1	SEP 2024 INITIAL
#	DATE DESCRIPTION

**LANDFILL GAS
VENT AND
MONITORING
PROBE DETAILS**

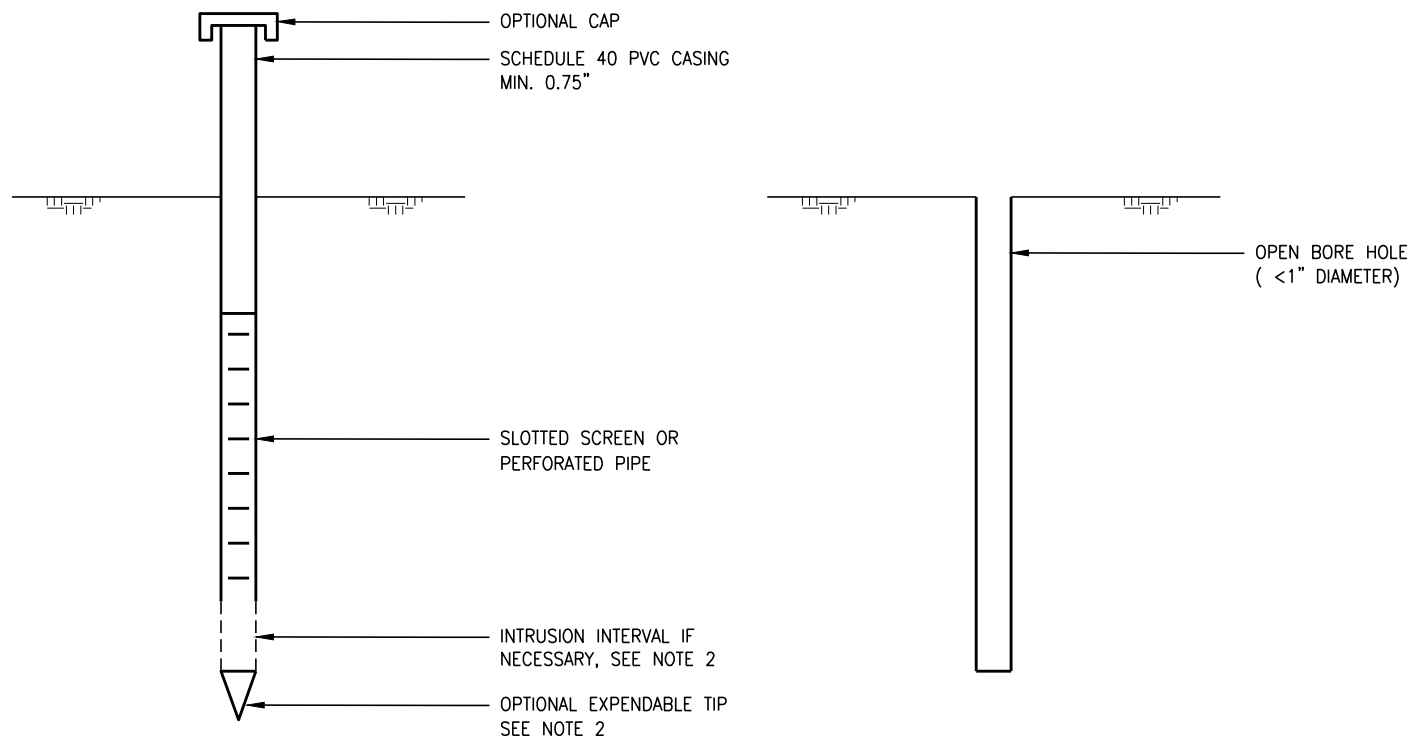
FIGURE III-11.2



1. ALL DIMENSIONS NOT SPECIFIED WILL VARY ON A CASE-BY-CASE BASIS.
2. STICK-UP SPACING WILL VARY ON A CASE-BY-CASE BASIS.

B1 TYPICAL INTERCEPTOR TRENCH WITH PASSIVE VENT

NO SCALE



1. ALL DIMENSIONS NOT SPECIFIED WILL VARY ON A CASE-BY-CASE BASIS.
2. CREATE BORE HOLE BY HAND AUGER, DRILL, HAMMER, OR EQUIVALENT. DEPTH WILL VARY BY SPECIFIC APPLICATION, BUT IS TYPICALLY 3 TO 10 FT.
3. BOREHOLE DIAMETER SHOULD BE SLIGHTLY LARGER THAN CASING DIAMETER (WHEN CASING IS USED).
4. IF ROD WITH EXPENDABLE TIP IS USED TO ADVANCE BAR HOLE, PROVIDE GAS INTRUSION INTERVAL BETWEEN TIP AND BOTTOM OF PIPE TO ALLOW GAS TO ENTER FROM SURROUNDING SOIL.
5. A FILTER PACK (FINE GRAVEL OR SAND) MAY BE PLACED AROUND THE CASING, AS NECESSARY. A BENTONITE SEAL SHOULD BE PLACED ABOVE THE FILTER PACK WHEN USED.
6. FOR TEMPORARY BAR PROBES INSTALLED OVER WASTE, FILL THE BORE HOLE WITH BENTONITE PELLETS ONCE PROBE IS REMOVED.

A1 TYPICAL BAR HOLE PROBE

NO SCALE

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TCEQ MSW PERMIT NO. 2278A
COLLIN COUNTY, TEXAS



CLIENT

Frontier Waste Solutions
McKinney 380 C&D Landfill
2540 E University Dr
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PROJECT NO.

6775.21

1 SEP 2024 INITIAL

DATE DESCRIPTION

INTERCEPTOR
TRENCH AND
BAR PROBE
DETAILS

FIGURE III-11.3