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BRIDGETON LANDFILL, LLC.

CONSTRUCTION QUALITY ASSURANCE ACCEPTANCE REPORT

2021 SVE INSTALLATION

BRIDGETON, ST. LOUIS COUNTY, MISSOURI

Prepared For:

Bridgeton Landfill, LLC.
13570 St. Charles Rock Road
Bridgeton, MO 63044

April 2021

Project No:. BT-209-21

Prepared By:

Feezor Engineering, Inc.
3377 Hollenberg Drive
Bridgeton, MO 63044

CONSTRUCTION QUALITY ASSURANCE
ACCEPTANCE REPORT

2021 SVE INSTALLATION

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1 INTRODUCTION

1.1 Overview of Project

Bridgeton Landfill, LLC is a closed municipal solid waste facility located at 13570 St. Charles Rock Road, Bridgeton, St. Louis County, Missouri. The facility is owned and operated by Bridgeton Landfill, LLC (BL) who operate the facility pursuant to Permit No. 118912 (and subsequent modifications), issued by the Missouri Department of Natural Resources (MDNR).

During the 2021 construction season, BL installed (7) seven Soil Vapor Extraction (SVE) Wells. Bulldog Drilling based in Dupo, Illinois was selected as the driller for the project. Hunt Environmental Services of St. Louis, Missouri and Fusion Solutions Inc. of Carlinville, IL, were chosen to provide support and piping installation during the project. Feezor Engineering Inc. (FEI) of Bridgeton, Missouri, provided the initial and record surveying to document the location of the installed SVE Wells and associated GCCS piping.

FEI was also selected as the Construction Quality Assurance (CQA) consultant to observe and document the construction of the SVE System. Daniel R. Feezor, P.E. of FEI was the Construction Quality Assurance Officer (CQAO). Mr. Feezor selected Andrew Roberts, Dane Hale, and Brad Vits to be the CQA technicians.

2 CONSTRUCTION DOCUMENTS

2.1 Construction Drawings

Tetra Tech created a detailed set of construction drawings for this project. These drawings provided the detail to properly construct all the necessary project components. Construction drawings were also used for the proper selection of materials and to provide adequate detail for the installation of the SVE system.

3 SVE INSTALLATION

3.1 SVE Wells Installation

Seven (7) SVE Wells were installed in the area around existing temporary monitoring probes TMP-1S, TMP-3S and TMP-3M, per the approved Soil Gas Monitoring Corrective Action Plan prepared by Tetra Tech. Bulldog drilled the wells utilizing a CME-750X hollow stem auger drill rig. FEI observed and documented the drilling process. This process included drilling a 10" diameter borehole down to the soil/bedrock interface. Field Reports are presented in **Appendix A.1.**

During drilling, at a few of the locations, after final depth was obtained it was discovered that a sand heave had occurred. To remedy this issue, Bulldog utilized a Quick Dispersing Guar Gum product called Variflo QD manufactured by CETCO to suspend the sand material in the fluid and allow for easier cleanout by flushing with water. After cleanout was complete, final depth measurements were taken to reconfirm total depth.

Well piping consisted of 6-in. SCH 40 PVC solid and 20 slot screen casing. The pipe sections were hand threaded together by Bulldog. A low-pressure threaded flat PVC cap was installed at the bottom of each well casing.

The pipe was raised using a winch on the drill rig and lowered into the borehole to the appropriate depth. Granular backfill consisted of ¼-in. to ⅜-in. pea stone. The gravel was placed to a point approximately six (6) inches above the slotted pipe. A 2-ft bentonite seal was then placed above the aggregate. Water was added to the layers of bentonite to adequately hydrate the seal. A 10-in. dia. steel protective casing was then installed around the well a minimum of 2 ft below ground surface to approx. 1.5 ft above ground surface. The remainder of the borehole inside the installed steel casing was then backfilled with a minimum 3.5 ft concrete plug to the top of installed steel casing.

The as-built well depths and well construction details are shown on the as-built well logs in **Appendix B.1**.

A 2-in. diameter well head was installed and connected to the gas header system via lateral piping by Fusion Solutions Inc.

3.2 Condensate Sump Installation

An 18-in. diameter condensate sump was installed as part of the SVE system to handle potential condensate generated during operation.

Install location was hydro excavated by Hunt Environmental Services to a minimum utility clearance depth. After this depth was reached, Fusion used a CAT 320 excavator to excavate the area necessary for the installation of the sump. Once the desired excavation depth was achieved, the sump was installed in accordance with design. A total of approx. 2 cubic yards (CY) of concrete

was backfilled around the installed sump. The remainder of the excavation was then backfilled with clean soil.

Landfill gas headers from the existing system were plumbed to the appropriate inlets of the condensate sump as described in **Section 2.2**.

Pumping systems will be installed as needed by BL at a later date.

3.3 SVE Wells Surface Completions

After all locations were completed, Bulldog installed 8-in. dia. Sch. 40 steel bollards surrounding each location. Each bollard was buried to a minimum 3.5 ft below ground surface and backfilled with concrete. Bollards will be painted yellow by BLF at a later date.

3.4 Construction Quality Assurance

3.4.1 Construction Oversight

The construction technician inspected all materials for the SVE system. This included piping, valves, fittings, and backfill material to ensure that these materials were acceptable and consistent with the construction plans. The construction technician inspected the materials to be constructed of HDPE pipe to determine if the materials meet the following requirements:

- All PVC/HDPE pipe was new, or first quality, and was furnished at lengths as indicated on the approved design plans. All PVC/HDPE piping was straight and generally free from imperfections.

- The PVC/HDPE pipe and fittings had a minimum Standard Dimension Ratio (SDR) as noted on the design plans.

During installation of the SVE system, the construction technician documented that the construction adhered to the plans and specifications. This included:

- Pipe and appurtenances were installed true to line, grade, and location with the pipe supported and restrained against movement with all valve stems plumb.

- The pipe joints were butt fused as recommended by the pipe manufacturer, except where flanged joints or electro-fusion couplers were specified on the approved design plans. Shavings from the preparation of pipe ends for fusion were removed from the pipe prior to installation.

During storage, the technician documented that pipes and fittings were stacked so as to prevent damage by marring, crushing or puncture. Maximum stacking height was limited to 6 ft.

The technician recorded applicable test data, areas of construction, problems and remedies, construction equipment and methodologies, survey data, and equipment calibration on the Daily Summary Reports and the Daily Inspection Reports, which are presented in **Appendix A.1**.

3.5 System Evaluation

3.5.1 Testing Responsibilities

Field-testing of the gas management system consisted of pressure testing the new header, force-main, and airline piping. The pressure testing was performed by Fusion and documented by FEI.

3.5.2 Testing Procedures

Pressure testing was completed in accordance with the Republic LFG SOP.

3.5.3 Testing Results

All tests resulted in meeting or exceeding minimum pressure testing criteria. Pressure testing data is included in **Appendix B.2**.

4 SURVEY CONTROL

4.1 Construction Surveying

Feezor Engineering Inc. of Bridgeton, Missouri, provided surveying services.

4.2 Final As-built Surveying

Feezor Engineering Inc. of Bridgeton, Missouri provided the final certification survey for the as-built coordinates of the installed SVE Wells.

5 CERTIFICATION

I, Daniel R. Feezor, P.E., do hereby certify to my best knowledge and belief, that the 2021 SVE Installation at the Bridgeton Landfill was performed in accordance with the construction documents.

Appendix A

FIELD INFORMATION

Sub-Appendices

A.1 Daily Summary Reports

A.2 Equipment List

Sub-Appendix A.1

Daily Summary Reports

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	1/20/2021
Contractor(s):	Hunt Environmental Services	**Report No.:**	1

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	22	PM	43

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0745 – Hunt is beginning hydro excavation of planned SVE well locations. Locations will be cleared to a depth below possible utilities to be encountered (8-10').
This work is ongoing.
1200 – Lunch
1230 – Work Resumes with same process as morning.
1600 – Work stops for day. Left Site.

Copies To: Erin Fanning, Dan Feezor

FEI Representative: Aaron Welch

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	1/21/2021
Contractor(s):	Hunt Environmental Services	**Report No.:**	2

Weather:	AM	P. Cloudy	PM	-
Temperature:	AM	35	PM	-

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0745 – Hunt is preparing to continue hydro excavation for utility clearance at proposed SVE locations.
0815 – Hunt begins hydro excavation at SVE-5.
0830 – Evidence of previous hydro excavation discovered from SVE pre-investigation project. Location deemed cleared of utilities.
Hunt begins hydro excavation at estimated header crossing of existing landfill infrastructure.
0930 – Existing 12” header, 2”x4” FM and 2” airline located. I collected as-built location of utilizing Trimble R8S VRS GPS rover for future reference.
1000 – Hunt is now beginning to hydro excavate at SVE-2.
1030 – Large aggregate obstruction encountered at 6.5’. BLF was notified and decided location deemed cleared.
1100 - Utility clearance work is complete. Hunt and I left site.

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FEI Representative:

Feezor Engineering, Inc.
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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/1/2021
Contractor(s):	Hunt Environmental Services	**Report No.:**	3
Weather:	AM P. Cloudy	PM P. Cloudy	
Temperature:	AM 30	PM 35	

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0745 – Bulldog is setup and beginning drilling at SVE-02 with CME hollow stem auger.
1230 – Drill at SVE-02 has reached design depth at bedrock.
1330 – Bulldog is working to set casing pipe and annular backfill of the well.
1600 – Bulldog has completed approx. 90% of annular backfill for SVE-02. Work will resume tomorrow.
1630 – Left Site
Note: See Well logs for specific construction details.

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FEI Representative:

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/2/2021
Contractor(s):	Bulldog Drilling	**Report No.:**	4

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	27	PM	37

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0735 – Bulldog is continuing installation of annular backfill and upper steel casing pipe.
1130 – Annular backfill and steel casing pipe installed. Concrete will be installed later. Bulldog is now setting up at SVE-05.
1230 – Bulldog begins drilling SVE-05 with CME hollow stem auger rig.
1600 – Bulldog has reach design depth at bedrock in SVE-05. Will cleanup work area and begin annular backfill tomorrow.
1630 – Left Site
Note: See Well logs for specific construction details.

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/3/2021
Contractor(s):	Bulldog Drilling	**Report No.:**	5

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	23	PM	42

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Bulldog is beginning annular backfill at SVE-05.
1200 – Lunch
1230 – Work Resumes
1500 – Annular backfill and steel casing pipe installation complete at SVE-05. Upper concrete backfill will be completed at a later date.
1530 – Left Site
Note: See Well logs for specific construction details.

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FEI Representative:

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/4/2021
Contractor(s):	Bulldog Drilling	**Report No.:**	6

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	28	PM	43

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Bulldog is setting up rig at SVE-06.
0830 – Bulldog begins drilling SVE-06 with CEM hollow stem auger rig.
1140 - Bulldog has reached design depth at bedrock. Bulldog is preparing to set casing pipe in SVE-06.
1200 – While attempting to set casing pipe, it has been discovered that sand material has heaved in the bottom of the borehole. After discussions with BLF, Bulldog is collecting supplies and preparing to flush borehole of sandy material.
1530 – Work stops for day. Bulldog will begin flushing of sandy material tomorrow morning.
Note: See Well logs for specific construction details.

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/5/2021
Contractor(s):	Bulldog Drilling, Baker	**Report No.:**	7

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	24	PM	42

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Bulldog is working to flush sandy material from the bottom of the SVE-06 borehole.
0800 – Baker is on site to user ground penetrating radar (GPR) to identify and unknown utilities in project area prior to beginning trenching of system piping.
0900 – Baker has completed GPR utility locate. Left Site.
1200 – Lunch
1230 – Work Resumes.
1500 – Purge of sandy material from the SVE-06 borehole complete. Bulldog is setting the casing pipe and beginning annular backfill.
1630 – Work stops for day. Left Site
Note: See Well logs for specific construction details.

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/8/2021
Contractor(s):	Bulldog Drilling, Baker	**Report No.:**	8

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	16	PM	23

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Bulldog is continuing annular backfill at SVE-06. Upper steel casing pipe will also be installed during this process.
1130 – Bulldog has completed annular backfill at SVE-06. Upper concrete backfill will occur at a later date.
1200 - Lunch
1230 – Work Resumes.
1300 – Bulldog is working to relocate rig to SVE-04. Remainder of day will be spent cleaning up and preparing to begin SVE-04 drilling tomorrow.
1630 – Work stops for day. Left Site
Note: See Well logs for specific construction details.

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/9/2021
Contractor(s):	Bulldog Drilling, Baker	**Report No.:**	9

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	13	PM	21

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0900 – Bulldog is beginning to drill SVE-04 with CME hollow stem auger rig.
1130 – Bulldog has reached designed bedrock depth at SVE-04. Casing and backfill will begin after lunch.
1200 - Lunch
1330 – Work Resumes.
1500 – Sand material has been discovered in bottom of SVE-04 borehole. Bulldog will gather required supplies in preparation for flushing of borehole tomorrow.
1600 – Work stops for day. Left Site
Note: See Well logs for specific construction details.

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/10/2021
Contractor(s):	Bulldog Drilling, Baker	**Report No.:**	10

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	16	PM	21

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0800 – Bulldog is beginning to flush sand material from SVE-04.
1100 – Bulldog has successfully flushed sand material from SVE-04 borehole.
1130 – Due to current and forecasted cold temps over the next week, project will be paused until cold weather passes.
Note: See Well logs for specific construction details.

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/23/2021
Contractor(s):	Bulldog Drilling	**Report No.:**	11

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	40	PM	60

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0830 – Bulldog is reconfirming depth at SVE-04 prior to beginning setting casing and annular backfill.
0900 – Bulldog is setting casing pipe for SVE-04 and beginning annular backfill.
1200 – Lunch
1300 – Work resumes
1400 – Bulldog has completed annular backfill and installation of upper steel casing pipe. Concrete backfill will occur at a later date. Work is now being performed to relocate and setup on SVE-01.
1430 – Bulldog begins drilling SVE-01 with CME hollow stem auger rig.
1530 – Work stops for day. Left Site.
Note: See Well logs for specific construction details.

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/24/2021
Contractor(s):	Bulldog Drilling	**Report No.:**	12

Weather:	AM	M Sunny	PM	M Sunny
Temperature:	AM	42	PM	58

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0800 – Bull dog resumes drilling SVE-01. 1 driller and 1 helper are performing the drilling. They are using a CME hollow stem auger with an 8 ¼" OD to perform boring.
0945 – Bed rock was reached at 34.2'
1000 – Bulldog begins installing well casing and subsequent backfill of the well (see as-built well diagram for details).
1500 – I left the site.

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FEI Representative: Bradley Vits

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/25/2021
Contractor(s):	Bulldog Drilling	**Report No.:**	13

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	31	PM	48

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0830 – Bulldog is beginning to drill at SVE-03 with CME hollow stem auger rig.
1100 – Bulldog has reached designed depth at bedrock for SVE-03
1200 – Lunch
1300 – Work resumes
1400 – Bulldog is setting casing pipe and beginning annular backfill at SVE-03.
1600 – Bulldog has completed annular backfill up to 20'. Will continue backfill tomorrow morning.
1630 – Work stops for day. Left Site.
Note: See Well logs for specific construction details.

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FEI Representative:

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	2/26/2021
Contractor(s):	Bulldog Drilling, Hunt Environmental Services, Fusion Solutions	**Report No.:**	14
Weather:	AM P. Cloudy	PM P. Cloudy	
Temperature:	AM 32	PM 48	

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0800 – Hunt is on site hydro excavating encountered abandoned natural gas line. During previous investigation, it was discovered that line had been cut and terminated outside the property boundary. Line will be exposed to fence line, cut/capped and removed.
0830 – Bulldog is continuing annular backfill at SVE-03. Upper steel casing pipe is also being installed.
1100 – Bulldog has completed annular backfill at SVE-03. Bulldog is working to cleanup construction area and will continue drilling on Monday (3/11/2021).
1200 – Lunch
1230 – Hunt resumes hydro excavation work.
1700 – Remainder of line has been exposed and removed. Fusion Solutions is working to backfill trench with clean soils.
1800 – Work stops for day. Left Site.
Note: See Well logs for specific construction details.

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/01/2021
Contractor(s):	Bulldog Drilling; Hunt Environmental	**Report No.:**	15

Weather:	AM	M Sunny	PM	M Sunny
Temperature:	AM	38	PM	50

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0800 – Bulldog is preparing to drilling SVE-07 using CME hollow stem auger drill rig. Hunt begins hydroexcavation to a depth of 6' deep around the perimeter of the proposed condensate sump location to determine if there are any previously unidentified utilities that will need to be evaluated prior to excavation of the sump.
0830 – Bulldog begins drilling SVE-07.
1300 – Bedrock encountered at 36.75' at SVE-07. Drilling activity for this well is complete. Bulldog begins to flush the boring with clean water.
1600 – Hunt has uncovered a ½" line that was previously unidentified within the proposed condensate sump area. A plan is determined to continue hydroexcavation of this line when work resumes tomorrow to determine the best plan of action.
1645 - Work stopped for the day. I left the site.

Copies To: Erin Fanning, Dan Feezor

FEI Representative: Bradley Vits

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/02/2021
Contractor(s):	Bulldog Drilling; Hunt Environmental	**Report No.:**	16

Weather:	AM	M Sunny	PM	M Sunny
Temperature:	AM	30	PM	58

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0730 – Arrive on site.
0800 – Hunt resumes hydroexcavation around an unknown utility that was located yesterday. Baker is using locate equipment to assist with the hydroexcavation.
0830 – Bulldog begins setting the casing for SVE-07 that was bored yesterday and subsequently performs the backfill of the well (see as-built well diagram for details).
1000 – Hunt resumes hydroexcavation to a depth of 6' around the perimeter of the proposed condensate sump location to ensure that no other utility conflicts exist during the excavation.
1600 – Work stopped for the day. I left the site.

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FEI Representative: Bradley Vits

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/03/2021
Contractor(s):	Hunt Environmental	**Report No.:**	17

Weather:	AM	Sunny	PM	Sunny
Temperature:	AM	30	PM	70

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site. Hunt resumes hydroexcavation around the perimeter of the proposed condensate sump location to discern if any additional utilities are present.
1200 – Hydroexcavation around the perimeter of the sump has been completed. Hunt is now hydroexcavated at the proposed location of vacuum laterals to SVE-01, SVE-03 and SVE-04 to determine if any utilities are present that were previously unaccounted for.
1530 – Work stopped for the day. Everyone left the site.

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FEI Representative: Bradley Vits

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Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/4/2021
Contractor(s):	Fusion Solutions	**Report No.:**	18

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	39	PM	59

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0800 – Fusion solutions is working to excavate reminder of area for installation of project condensate sump (CS-1).
1100 – CS-1 is being installed by Fusion utilizing a CAT excavator.
1200 – Condensate sump is set, concrete is being poured around base of sump per design plans. Concrete will be allowed to setup for a few hours prior to further backfill.
1500 – Fusion is now working to backfill around remainder of CS-1 up to the bottom of the flanged connections. Backfill is being performed using CAT excavator utilizing previously excavated clean soil materials.
1630 – Backfill complete. Fusion has placed protective barriers and tape around CS-1 excavation to protect area overnight.

Copies To: Erin Fanning, Dan Feezor

FEI Representative: Dane C. Hale

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/5/2021
Contractor(s):	Fusion Solutions, Hunt Environmental Services	**Report No.:**	19

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	30	PM	49

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Fusion Solutions is working to pre-fabricate project HDPE LFG, FM and Airline piping utilizing a Mcelroy fusion machine.
0900 – Hunt is working to hydroexcavate trench for 8” header from CS-1 under existing haul road towards the east.
1200 – Lunch
1230 – Work Resumes.
1330 – Pressure testing is being performed on prefabricated 8” HDPE LFG header piping.
1400 – Hunt is now working to hydroexcavate trench from CS-1 to SVE-06.
1630 – Fusion is installing a casing pipe for 8” header and header piping from CS-1 thru existing haul road.
1730 – Header piping has been installed and trench has been backfilled by Fusion utilizing clean soils.
1745 – Work Stops. Left site for day.

Copies To: Erin Fanning, Dan Feezor

FEI Representative: Dane C. Hale

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/8/2021
Contractor(s):	Fusion Solutions, Hunt Environmental Services	**Report No.:**	20
Weather:	AM P. Cloudy	PM P. Cloudy	
Temperature:	AM 45	PM 69	

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Fusion Solutions is continuing pre-fabrication of project HDPE piping.
Hunt is working to hydro excavate trench to SVE-07.
1200 – Lunch
1300 – Work Resumes
1330 – Pressure testing is being performed on 8” LFG header/lateral to SVE-07.
1745 – Piping to SVE-07 has been installed. Entirety of FM and Airline system will be tested after installation.
Note: See Pressure Testing forms for testing data.

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/9/2021
Contractor(s):	Fusion Solutions, Hunt Environmental Services	**Report No.:**	21

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	55	PM	72

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Fusion Solutions is continuing pre-fabrication of project HDPE piping.
Hunt is continuing to hydro excavate trench to SVE-06.
1200 – Lunch
1300 – Work Resumes
1330 – Hydroex complete to SVE-06. Fusion is working to install piping from CS-1 to SVE-06.
1430 – Piping installation complete. Fusion is now working to backfill remainder of excavation around CS-1 to ground level.
1630 – Backfill complete. Work Stops for Day. Left Site.

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/10/2021
Contractor(s):	Fusion Solutions, Hunt Environmental Services	**Report No.:**	22

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	57	PM	67

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Fusion Solutions is continuing pre-fabrication of project HDPE piping.
Hunt is working to hydro excavate bollard locations around installed SVE wells and CS-1
1200 – Lunch
1300 – Work Resumes
1630 – Work Stops for Day. Left Site

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/11/2021
Contractor(s):	Fusion Solutions, Hunt Environmental Services	**Report No.:**	23

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	49	PM	60

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Fusion Solutions is continuing pre-fabrication of project HDPE piping.
Hunt is working to hydro excavate bollard locations around installed SVE wells and CS-1
1200 – Lunch
1300 – Work Resumes
1630 – Work Stops for Day. Left Site

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/15/2021
Contractor(s):	Fusion Solutions, Hunt Environmental Services	**Report No.:**	24

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	42	PM	51

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Fusion Solutions is continuing pre-fabrication of project HDPE piping.
Hunt is working to hydro excavate bollard locations around installed SVE wells and CS-1.
0800 – Fusion is preparing to pressure test prefabricated 8” Header segment.
0900 – Fusion is beginning to install HDPE piping in pre-hydro excavated trench locations.
1200 – Lunch
1300 – Work Resumes. Fusion is preparing to pressure test entirety of 2” HDPE SDR-9 Airline for the SVE system.
1630 – Work Stops for Day. Left Site
Note: See pressure testing forms for test data.

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/16/2021
Contractor(s):	Fusion Solutions, Hunt Environmental Services	**Report No.:**	25

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	42	PM	50

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Fusion Solutions is continuing pre-fabrication and installation of project HDPE piping.
Hunt is working to hydro excavate bollard locations around installed SVE wells.
0800 – Fusion is preparing to pressure test entirety of 2” inner carrier piping of 2”SDR-11x4”SDR-17 HDPE forcemain piping for project.
1200 – Lunch
1300 – Work Resumes
1400 - Fusion is preparing to pressure test entirety of 4” outer containment piping of 2” SDR-11x4” SDR-17 HDPE forcemain piping for project.
1630 – Work Stops for Day. All pressure testing for project is complete.
1645 - Left Site
Note: See pressure testing forms for test data.

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/17/2021
Contractor(s):	Fusion Solutions, Hunt Environmental Services	**Report No.:**	26

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	45	PM	58

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site.
0730 – Fusion Solutions is working to backfill trenches and cleanup construction area.
Hunt is working to hydro excavate bollard locations around installed SVE wells.
1200 – Lunch
1300 – Work Resumes
1630 – Work Stops for Day. All pressure testing for project is complete.
1645 - Left Site

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/22/2021
Contractor(s):	Bulldog Drilling	**Report No.:**	27

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	54	PM	67

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0700 – Arrive on site. Hunt has completed hydro excavation for bollards and bollards have been installed by Bulldog.
0730 – Bulldog is on site preparing to pour concrete for remainder of SVE wells and installed bollards.
1200 – Lunch
1300 – Work Resumes
1630 – Work Stops for Day. Bulldog has completed concrete installation for installed bollards and all SVE wells.
1645 - Left Site

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Daily Field Summary Report

Client:	Bridgeton Landfill	**Job No.:**	BT-209
Project:	SVE Installation	**Task No.:**	-
Location:	Bridgeton, MO	**Date:**	3/26/2021
Contractor(s):	Bulldog Drilling	**Report No.:**	28

Weather:	AM	P. Cloudy	PM	P. Cloudy
Temperature:	AM	45	PM	69

Description of field activities (include labor, equipment, site conditions, sampling, etc.)

0900 – Arrive on site. Bulldog and Fusion are finalizing site cleanout and preparing to demob. Fusion is also working to cut down SVE well casings to a uniform height and finalize installed QED wellheads.
1200 – Lunch
1300 – Work Resumes
1500 – FEI performs final survey of SVE wells.
1630 – All project items area complete. Left Site.

Copies To: Erin Fanning, Dan Feezor

FEI Representative:

Sub-Appendix A.2

Equipment List

Bridgeton Landfill LLC.

2021 SVE Installation

Construction Equipment List

Bulldog Drilling

1 – CME-750X Hollow Stem Auger Drill Rig
1 – Bobcat Skidsteer

Hunt Environmental Services

1 – Vac Truck
1 – Vac container

Fusion Solutions Inc.

1 – McElroy 1218 Butt-Fusion Machine
1 – McElroy 618 Bulldog Fusion Machine
1 – Polaris Ranger UTV
1 – Takeuchi T12 Skid Steer
1 – Takeuchi TL50 Mini-Excavator
1-CAT Excavator

Appendix B

INSTALLATION INFORMATION

Sub-Appendices

B.1 As-built Well Logs

B.2 Pipeline Pressure Testing Results

Sub-Appendix B.1

As-Built Well Logs

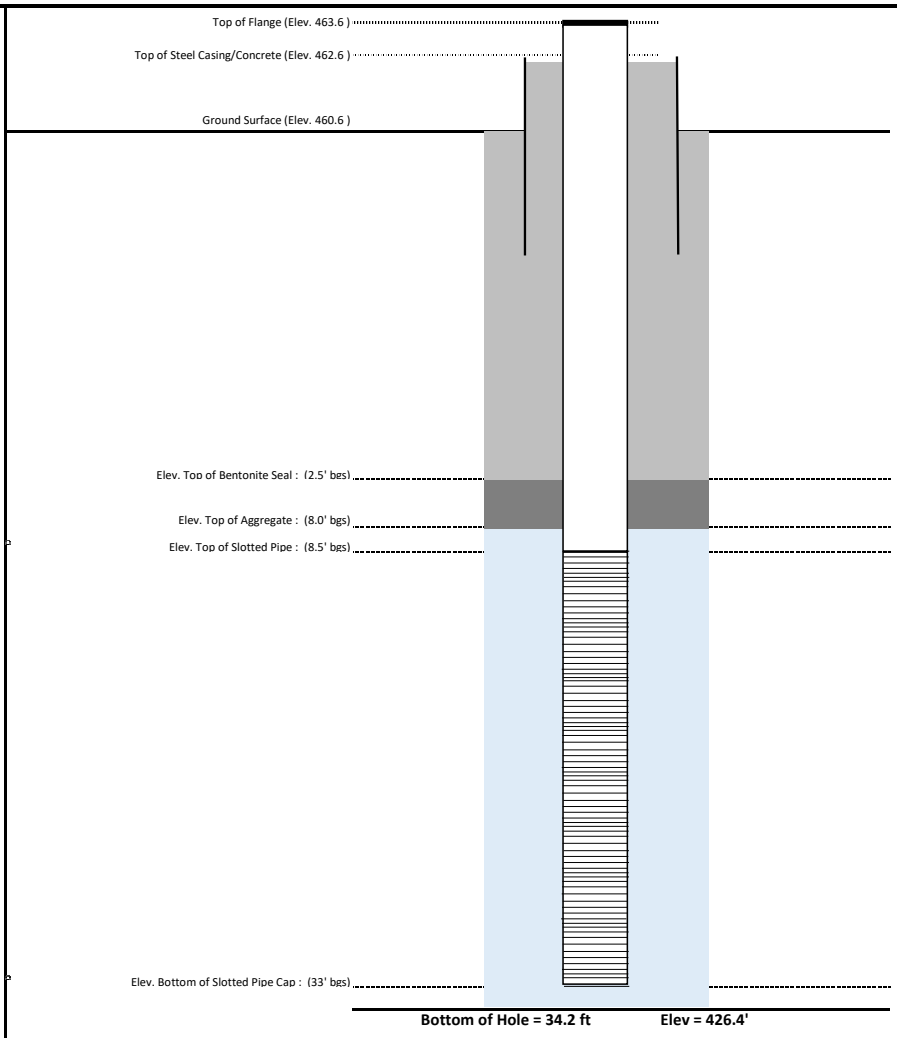
Engineering for a Better World
FEEZOR ENGINEERING, INC.

Well ID: **SVE-01**

Client: **Bridgeton Landfill LLC**
Project Location: **Bridgeton, MO**
Project Name: **2021 SVE Installation**
FEI Project Number: **BT-209-21**
FEI Inspector: **Brad Vits**
Drilling Contractor: **Bulldog Drilling**
Driller: **John Gates**

Drilling Method: **10" Hollow Stem Auger**
Well Casing Material: **6" SCH 40 PVC**
Easting: **515,303.0**
Northing: **1,066,957.0**
GS Elevation: **460.6**
Drill Date(s): **2/24/2021**
Drilled Depth: **34 feet**

Well Completion Details



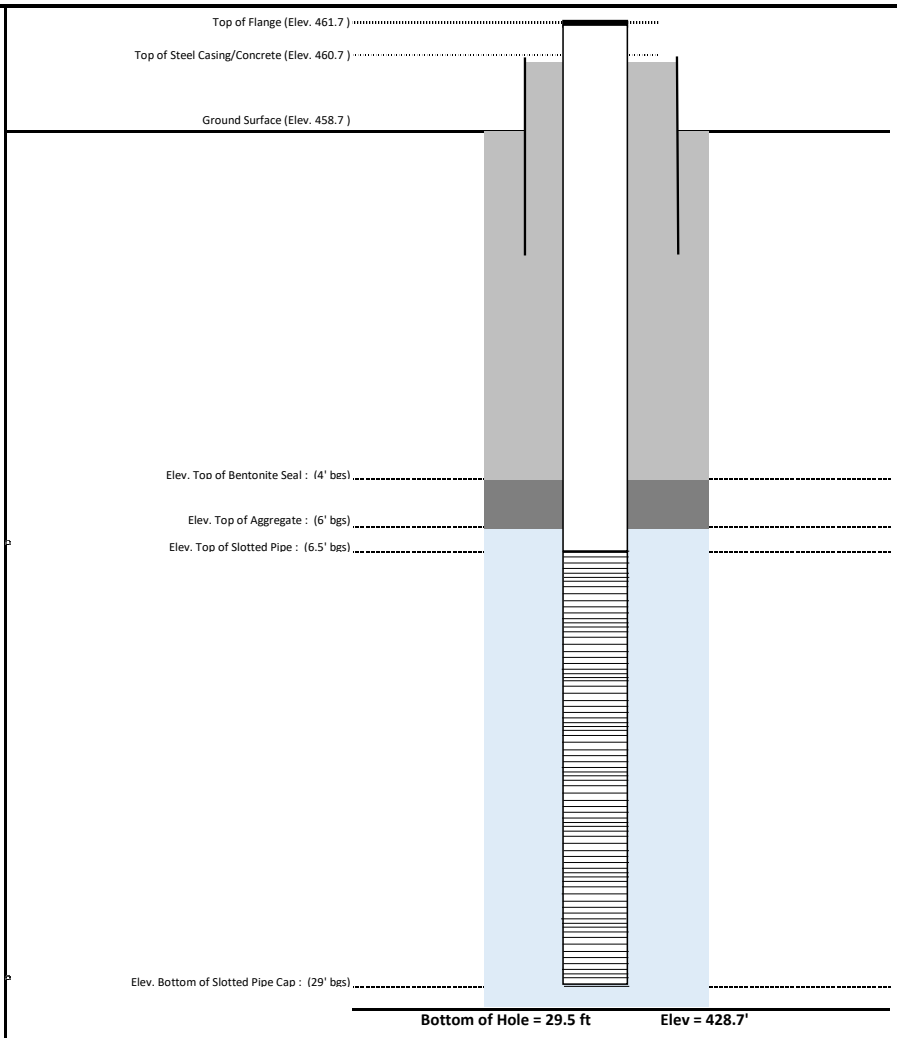
Engineering for a Better World
FEEZOR ENGINEERING, INC.

Well ID: **SVE-02**

Client: **Bridgeton Landfill LLC**
Project Location: **Bridgeton, MO**
Project Name: **2021 SVE Installation**
FEI Project Number: **BT-209-21**
FEI Inspector: **Andrew Roberts**
Drilling Contractor: **Bulldog Drilling**
Driller: **John Gates**

Drilling Method: **10" Hollow Stem Auger**
Well Casing Material: **6" SCH 40 PVC**
Easting: **515,289.9**
Northing: **1,066,912.0**
GS Elevation: **458.7**
Drill Date(s): **2/1/2021**
Drilled Depth: **29.5 feet**

Well Completion Details



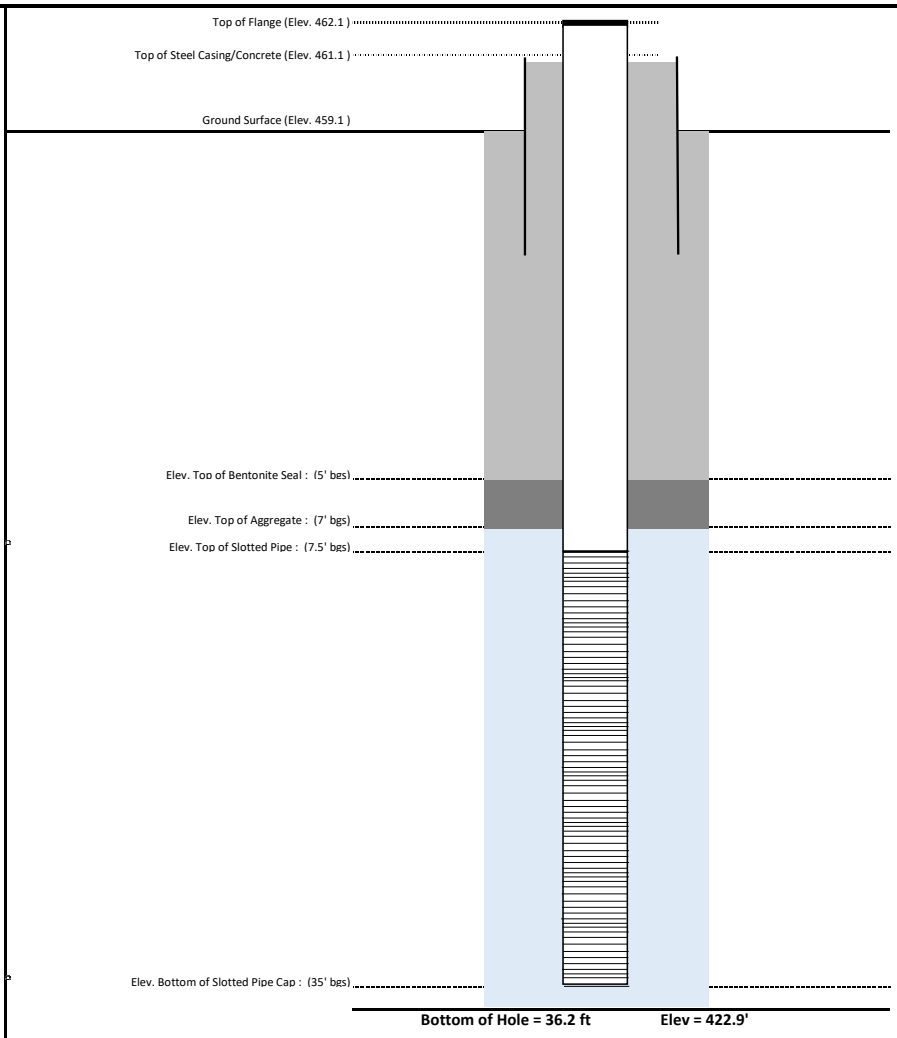
Engineering for a Better World
FEEZOR ENGINEERING, INC.

Well ID: **SVE-03**

Client: **Bridgeton Landfill LLC**
Project Location: **Bridgeton, MO**
Project Name: **2021 SVE Installation**
FEI Project Number: **BT-209-21**
FEI Inspector: **Andrew Roberts**
Drilling Contractor: **Bulldog Drilling**
Driller: **John Gates**

Drilling Method: **10" Hollow Stem Auger**
Well Casing Material: **6" SCH 40 PVC**
Easting: **515,282.0**
Northing: **1,066,992.0**
GS Elevation: **459.1**
Drill Date(s): **2/25/2021**
Drilled Depth: **36.2 feet**

Well Completion Details



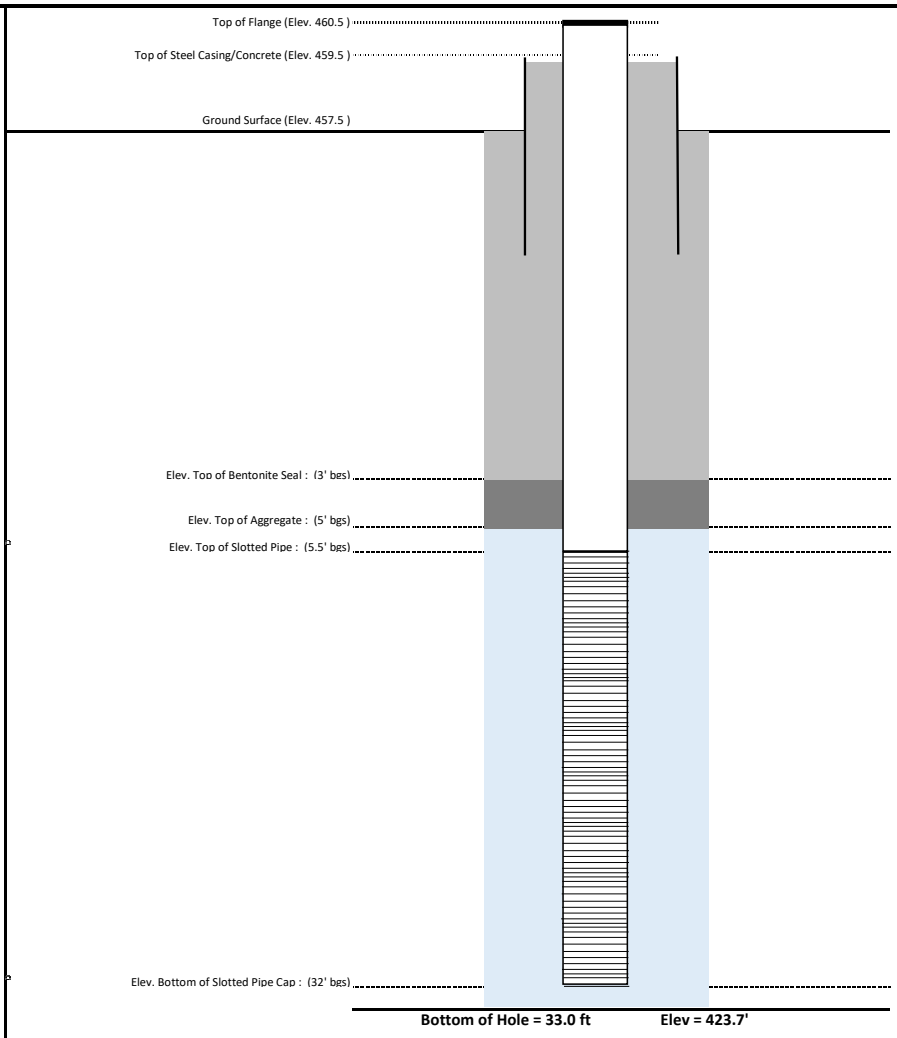
Engineering for a Better World
FEEZOR ENGINEERING, INC.

Well ID: **SVE-04**

Client: **Bridgeton Landfill LLC**
Project Location: **Bridgeton, MO**
Project Name: **2021 SVE Installation**
FEI Project Number: **BT-209-21**
FEI Inspector: **Andrew Roberts**
Drilling Contractor: **Bulldog Drilling**
Driller: **John Gates**

Drilling Method: **10" Hollow Stem Auger**
Well Casing Material: **6" SCH 40 PVC**
Easting: **515,249.3**
Northing: **1,066,964.0**
GS Elevation: **457.5**
Drill Date(s): **2/23/2021**
Drilled Depth: **33 feet**

Well Completion Details



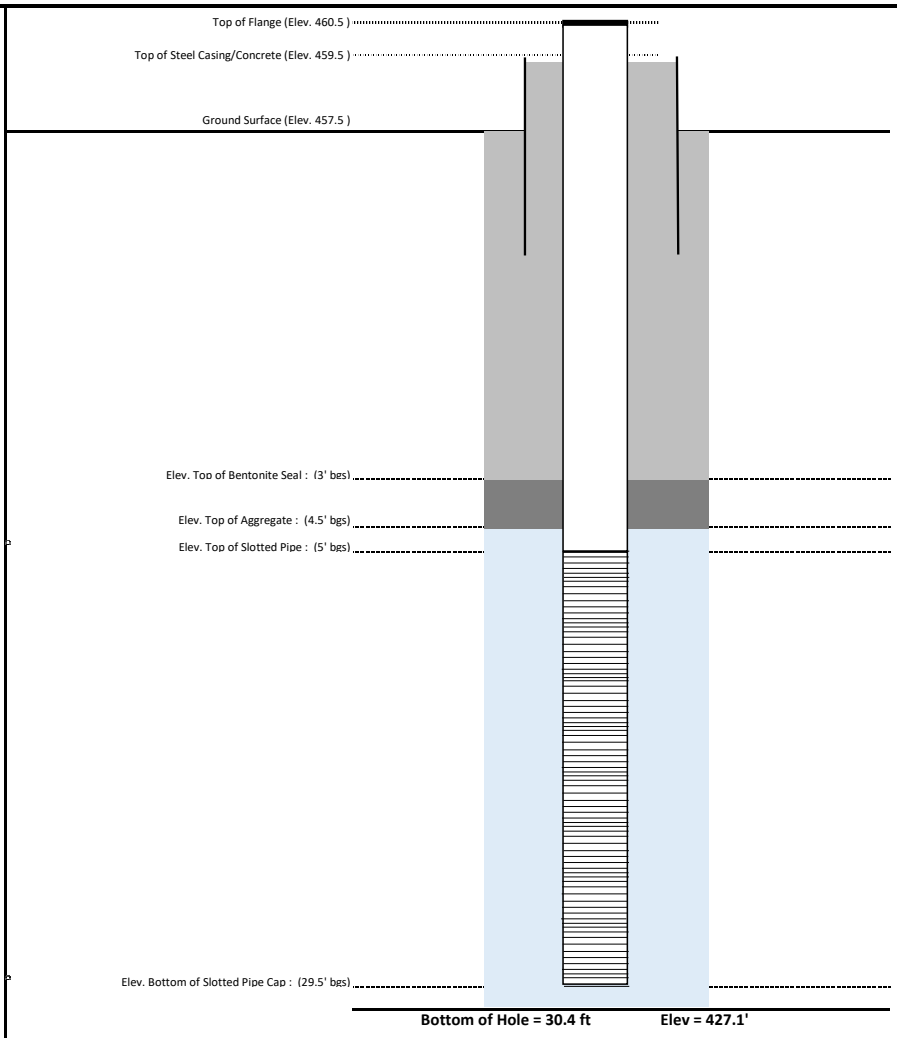
Engineering for a Better World
FEEZOR ENGINEERING, INC.

Well ID: **SVE-05**

Client: **Bridgeton Landfill LLC**
Project Location: **Bridgeton, MO**
Project Name: **2021 SVE Installation**
FEI Project Number: **BT-209-21**
FEI Inspector: **Andrew Roberts**
Drilling Contractor: **Bulldog Drilling**
Driller: **John Gates**

Drilling Method: **10" Hollow Stem Auger**
Well Casing Material: **6" SCH 40 PVC**
Easting: **515,254.5**
Northing: **1,066,918**
GS Elevation: **457.5**
Drill Date(s): **2/3/2021**
Drilled Depth: **30.4 feet**

Well Completion Details



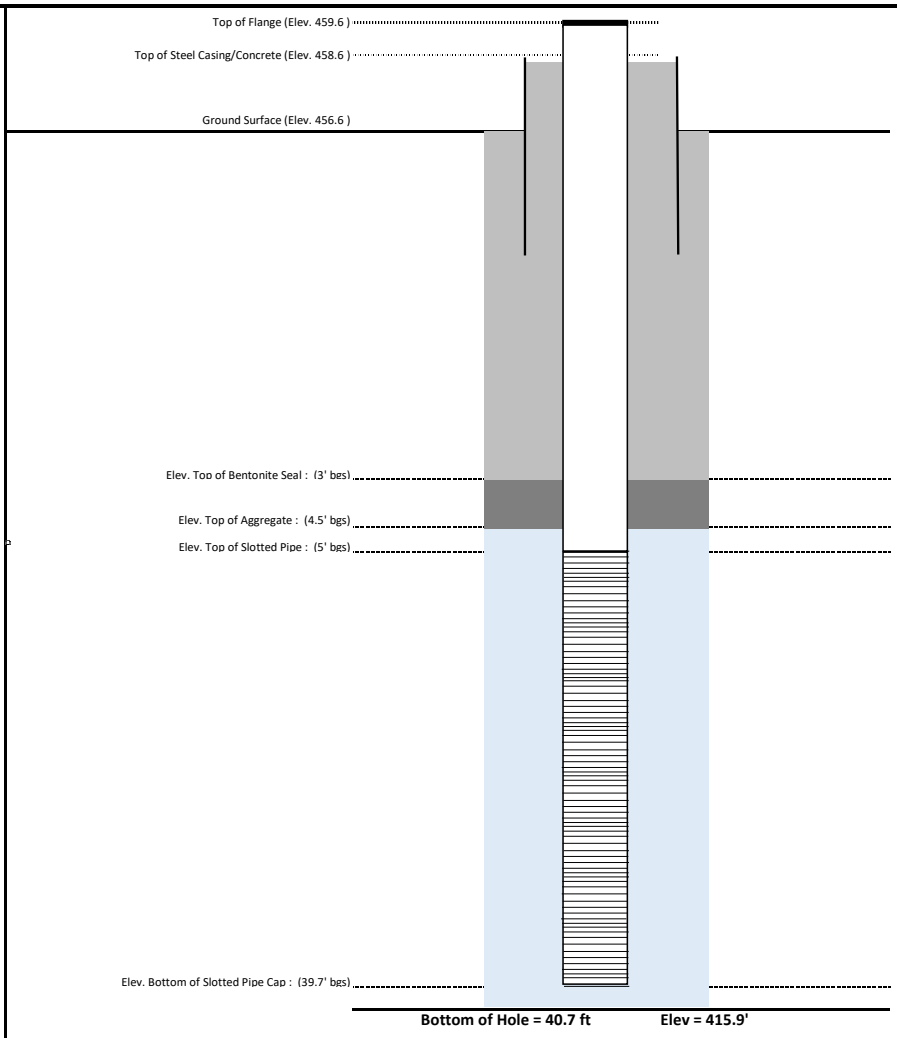
Engineering for a Better World
FEEZOR ENGINEERING, INC.

Well ID: **SVE-06**

Client: **Bridgeton Landfill LLC**
Project Location: **Bridgeton, MO**
Project Name: **2021 SVE Installation**
FEI Project Number: **BT-209-21**
FEI Inspector: **Andrew Roberts**
Drilling Contractor: **Bulldog Drilling**
Driller: **John Gates**

Drilling Method: **10" Hollow Stem Auger**
Well Casing Material: **6" SCH 40 PVC**
Easting: **515,181.8**
Northing: **1,066,966.0**
GS Elevation: **456.6**
Drill Date(s): **2/5/2021**
Drilled Depth: **40.7 feet**

Well Completion Details



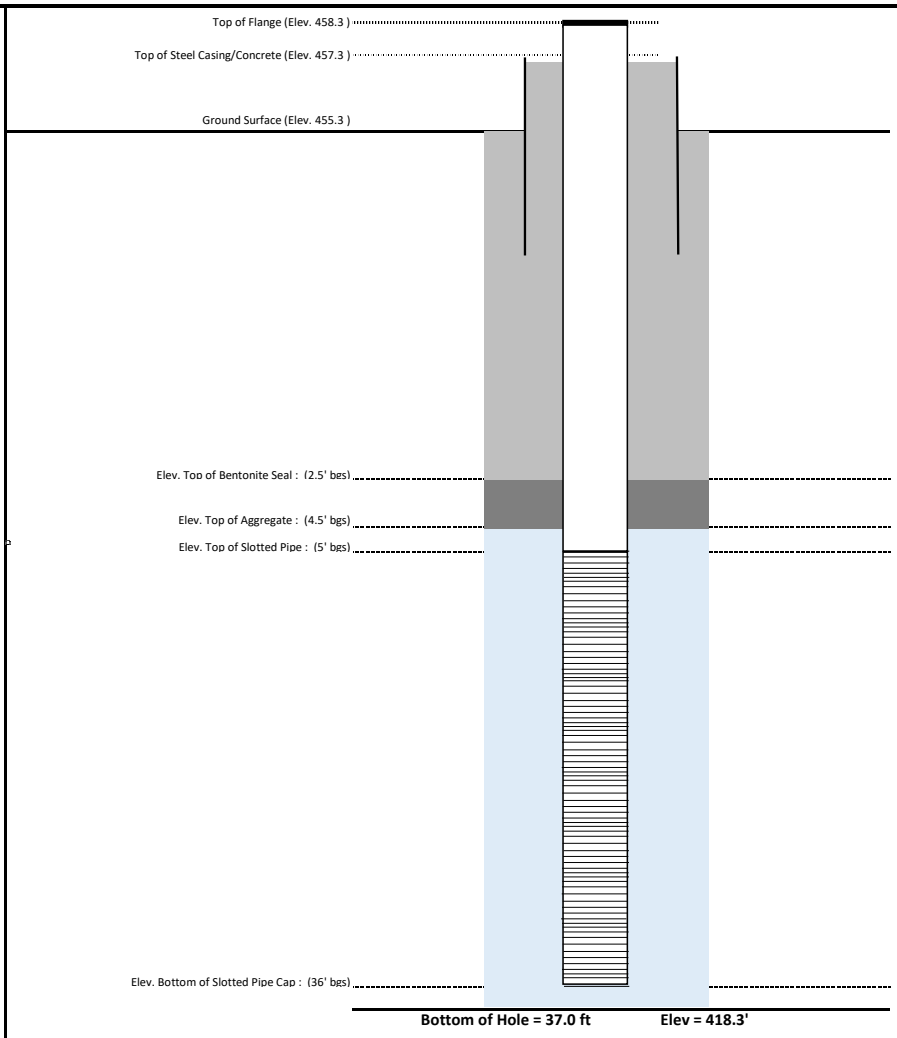
Engineering for a Better World
FEEZOR ENGINEERING, INC.

Well ID: **SVE-07**

Client: **Bridgeton Landfill LLC**
Project Location: **Bridgeton, MO**
Project Name: **2021 SVE Installation**
FEI Project Number: **BT-209-21**
FEI Inspector: **Bradley Vits**
Drilling Contractor: **Bulldog Drilling**
Driller: **John Gates**

Drilling Method: **10" Hollow Stem Auger**
Well Casing Material: **6" SCH 40 PVC**
Easting: **515,180.3**
Northing: **1,066,912.0**
GS Elevation: **455.3**
Drill Date(s): **3/2/2021**
Drilled Depth: **37.0 feet**

Well Completion Details



MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION REPORT

NOTE: This form is not to be used for nested wells

OFFICE USE ONLY		DATE RECEIVED	
REFERENCE NO.		CHECK NO.	
STATE WELL NO.		REVENUE NO.	
ENTERED	APPROVED	DATE	ROUTE

OWNER AND SITE INFORMATION

PROPERTY OWNER NAME WHERE WELL IS LOCATED	PRIMARY PHONE NUMBER WITH AREA CODE	WELL NUMBER	WELL COMPLETION DATE
Bridgeton Landfill, LLC	(209) 227-9531	SVE-01	02/24/2021

PROPERTY OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
13570 St. Charles Rock Rd	Bridgeton	MO	63044

PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED	CITY	COUNTY
13570 St. Charles Rock Rd	Bridgeton	St. Louis CO

NAME OF SITE, BUSINESS, OR CLEANUP PROJECT	DNR/EPA PROJECT NUMBER OR REGULATORY SITE ID NUMBER (IF APPLICABLE)	VARIANCE NUMBER (IF ISSUED)
Bridgeton Landfill, LLC	118912	6723

PRIMARY CONTRACTOR NAME (PLEASE PRINT)	PERMIT NUMBER	
John Gates	003501-M	Section 256.607(3), RSMo, requires all primary contractors to comply with all rules and regulations promulgated pursuant to Sections 256.600 to 256.640 RSMo.

SURFACE COMPLETION

TYPE
☐ Above Ground
☐ Flush Mount

LENGTH AND DIAMETER OF SURFACE COMPLETION
Length n/a FT.
Diameter n/a IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED
Diameter 24 IN.
Length 2.5 FT.

SURFACE COMPLETION GROUT
☑ Concrete
☐ Other _____

☐ Locking Cap
☐ Weep Hole

Elevation _____ FT.

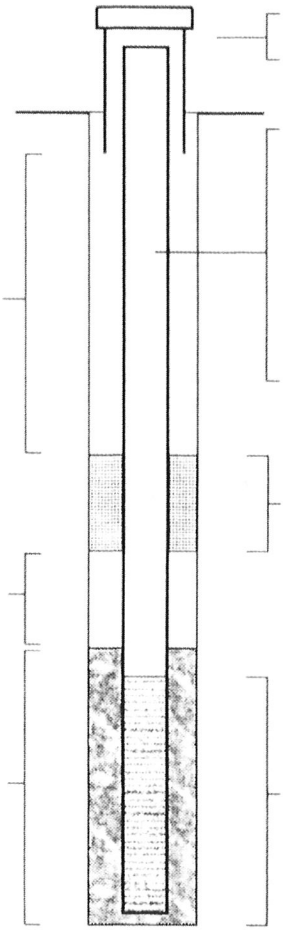
ANNULAR SEAL
Length n/a FT.
☐ Slurry ☐ Chips
☐ Pellets ☐ Granular
☐ Cement/Slurry

IF CEMENT/BENTONITE MIX:
Bags of Cement Used _____
% of Bentonite Used _____
Water Used Per Bag _____ GAL.

SECONDARY FILTER PACK LENGTH
n/a FT.

DEPTH TO TOP OF PRIMARY FILTER PACK
8.0 FT.

LENGTH OF PRIMARY FILTER PACK
26.2 FT.



SURFACE COMPLETION
☑ Steel ☐ Aluminum ☑ Plastic

RISER OR CASING (IF OPEN HOLE COMPLETION)
Riser/Casing Diameter 6 IN.
Riser/Casing Length 12.2 FT.
Diameter Of Drill Hole 12 IN.
Weight Or SDR# 40

MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

BENTONITE SEAL
Length 5.5
☑ Chips ☐ Pellets ☐ Granular
☐ Saturated Zone ☑ Hydrated

SCREEN
Screen Diameter 6 IN.
Screen Length 24.7 FT.
Diameter Of Drill Hole 12 IN.
Depth To Top 8.5 FT.

SCREEN MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

For cased wells, submit additional as-built diagrams showing well construction details including type and size of all casing, hole diameter and grout used.

LOCATION OF WELL (D/M/S FORMAT ONLY)
Latitude 38 ° 45 ' 50.13 "
Longitude 90 ° 26 ' 47.33 "

SMALLEST ¼ LARGEST ¼
Section _____ Township _____ North
Range _____ ☐ E ☐ W

TYPE OF WELL (CHECK ONE)
☐ Direct Push ☑ Extraction ☐ Inclinometer
☐ Gas Migration ☐ Injection ☐ Lysimeter
☐ Observation ☐ Open Hole ☐ Other (specify)
☐ Piezometer ☐ Standard

MONITORING FOR (CHECK ALL THAT APPLY)
☐ Explosives ☐ Metals
☐ Pesticides/Herbicides ☐ Petroleum
☐ Radionuclides ☐ SVOCS
☐ VOCS (non-petroleum) ☐ Geotechnical Data

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION (OR ATTACH BORING LOG*)
o	2.5	Crushed Gravel
2.5	8	CLAY
8	34.2	Silty SAND
34.2		LIMESTONE
	33.2	Bottom of SVE Well

TOTAL DEPTH: 34.2 FT.
☐ *Boring Log Attached

STATIC WATER LEVEL ~20 FT.
PUMP INSTALLED ☐ Yes ☑ No

I hereby certify that the monitoring well herein described was constructed in accordance with Missouri Department of Natural Resources requirements.

MONITORING WELL INSTALLATION CONTRACTOR	PERMIT NUMBER	DATE	MONITORING WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	PERMIT NUMBER
	006329-M	03/29/2021		

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION REPORT

NOTE: This form is not to be used for nested wells

OFFICE USE ONLY		DATE RECEIVED	
REFERENCE NO.		CHECK NO.	
STATE WELL NO.		REVENUE NO.	
ENTERED	APPROVED	DATE	ROUTE / /

OWNER AND SITE INFORMATION

PROPERTY OWNER NAME WHERE WELL IS LOCATED	PRIMARY PHONE NUMBER WITH AREA CODE	WELL NUMBER	WELL COMPLETION DATE
Bridgeton Landfill, LLC	(209) 227-9531	SVE-02	02/01/2021

PROPERTY OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
13570 St. Charles Rock Rd	Bridgeton	MO	63044

PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED	CITY	COUNTY
13570 St. Charles Rock Rd	Bridgeton	St. Louis CO

NAME OF SITE, BUSINESS, OR CLEANUP PROJECT	DNR/EPA PROJECT NUMBER OR REGULATORY SITE ID NUMBER (IF APPLICABLE)	VARIANCE NUMBER (IF ISSUED)
Bridgeton Landfill, LLC	118912	6723

PRIMARY CONTRACTOR NAME (PLEASE PRINT)	PERMIT NUMBER	
John Gates	003501-M	Section 256.607(3), RSMo, requires all primary contractors to comply with all rules and regulations promulgated pursuant to Sections 256.600 to 256.640 RSMo.

SURFACE COMPLETION

TYPE: ☐ Above Ground ☐ Flush Mount

LENGTH AND DIAMETER OF SURFACE COMPLETION: Length n/a FT. Diameter n/a IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: Diameter 24 IN. Length 4.0 FT.

SURFACE COMPLETION GROUT: ☑ Concrete ☐ Other

☐ Locking Cap ☐ Weep Hole

Elevation _____ FT.

ANNULAR SEAL

Length n/a FT.

☐ Slurry ☐ Chips ☐ Pellets ☐ Granular ☐ Cement/Slurry

IF CEMENT/BENTONITE MIX:

Bags of Cement Used _____

% of Bentonite Used _____

Water Used Per Bag _____ GAL.

SECONDARY FILTER PACK LENGTH

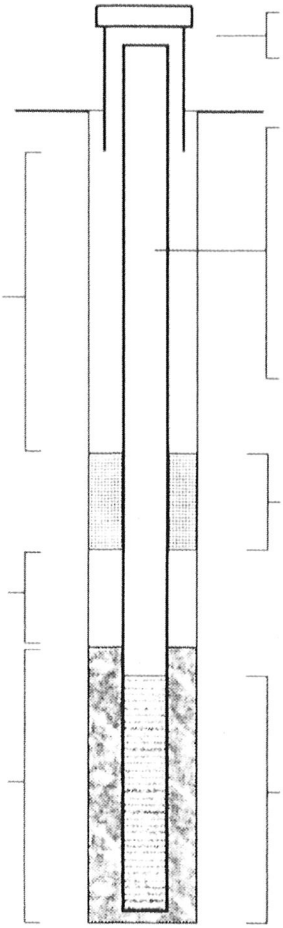
n/a FT.

DEPTH TO TOP OF PRIMARY FILTER PACK

6.0 FT.

LENGTH OF PRIMARY FILTER PACK

23.5 FT.



SURFACE COMPLETION

☑ Steel ☐ Aluminum ☑ Plastic

RISER OR CASING (IF OPEN HOLE COMPLETION)

Riser/Casing Diameter 6 IN.
Riser/Casing Length 10.2 FT.
Diameter Of Drill Hole 12 IN.
Weight Or SDR# 40

MATERIAL

☐ Steel ☑ Thermoplastic (PVC)
☐ Other

BENTONITE SEAL

Length 2.0

☑ Chips ☐ Pellets ☐ Granular
☐ Saturated Zone ☑ Hydrated

SCREEN

Screen Diameter 6 IN.
Screen Length 22.0 FT.
Diameter Of Drill Hole 12 IN.
Depth To Top 6.5 FT.

SCREEN MATERIAL

☐ Steel ☑ Thermoplastic (PVC)
☐ Other

For cased wells, submit additional as-built diagrams showing well construction details including type and size of all casing, hole diameter and grout used.

LOCATION OF WELL (D/M/S FORMAT ONLY)

Latitude 38 ° 45 ' 49.58 "

Longitude 90 ° 26 ' 47.34 "

SMALLEST ¼ LARGEST ¼

Section _____ Township _____ North

Range _____ ☐ E ☐ W

TYPE OF WELL (CHECK ONE)

☐ Direct Push ☑ Extraction ☐ Inclinometer
☐ Gas Migration ☐ Injection ☐ Lysimeter
☐ Observation ☐ Open Hole ☐ Other (specify)
☐ Piezometer ☐ Standard

MONITORING FOR (CHECK ALL THAT APPLY)

☐ Explosives ☐ Metals
☐ Pesticides/Herbicides ☐ Petroleum
☐ Radionuclides ☐ SVOCS
☐ VOCS (non-petroleum) ☐ Geotechnical Data

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION (OR ATTACH BORING LOG*)
o	4	Crushed Gravel
4	6	CLAY
8	29.5	Silty SAND
29.5		LIMESTONE
	28.5	Bottom of SVE Well

TOTAL DEPTH: 29.5 FT. ☐ *Boring Log Attached

STATIC WATER LEVEL ~20 FT.

PUMP INSTALLED ☐ Yes ☑ No

I hereby certify that the monitoring well herein described was constructed in accordance with Missouri Department of Natural Resources requirements.

MONITORING WELL INSTALLATION CONTRACTOR	PERMIT NUMBER	DATE	MONITORING WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	PERMIT NUMBER
	006329-M	03/29/2021		

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION REPORT

NOTE: This form is not to be used for nested wells

OFFICE USE ONLY		DATE RECEIVED	
REFERENCE NO.		CHECK NO.	
STATE WELL NO.		REVENUE NO.	
ENTERED	APPROVED	DATE	ROUTE / /

OWNER AND SITE INFORMATION

PROPERTY OWNER NAME WHERE WELL IS LOCATED	PRIMARY PHONE NUMBER WITH AREA CODE	WELL NUMBER	WELL COMPLETION DATE
Bridgeton Landfill, LLC	(209) 227-9531	SVE-03	02/25/2021

PROPERTY OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
13570 St. Charles Rock Rd	Bridgeton	MO	63044

PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED	CITY	COUNTY
13570 St. Charles Rock Rd	Bridgeton	St. Louis CO

NAME OF SITE, BUSINESS, OR CLEANUP PROJECT	DNR/EPA PROJECT NUMBER OR REGULATORY SITE ID NUMBER (IF APPLICABLE)	VARIANCE NUMBER (IF ISSUED)
Bridgeton Landfill, LLC	118912	6723

PRIMARY CONTRACTOR NAME (PLEASE PRINT)	PERMIT NUMBER	
John Gates	003501-M	Section 256.607(3), RSMo, requires all primary contractors to comply with all rules and regulations promulgated pursuant to Sections 256.600 to 256.640 RSMo.

SURFACE COMPLETION

TYPE: ☐ Above Ground ☐ Flush Mount

LENGTH AND DIAMETER OF SURFACE COMPLETION: Length n/a FT. Diameter n/a IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: Diameter 24 IN. Length 2.5 FT.

SURFACE COMPLETION GROUT: ☑ Concrete ☐ Other _____

☐ Locking Cap
☐ Weep Hole

Elevation _____ FT.

ANNULAR SEAL

Length n/a FT.

☐ Slurry ☐ Chips
☐ Pellets ☐ Granular
☐ Cement/Slurry

IF CEMENT/BENTONITE MIX:

Bags of Cement Used _____
% of Bentonite Used _____
Water Used Per Bag _____ GAL.

SECONDARY FILTER PACK LENGTH

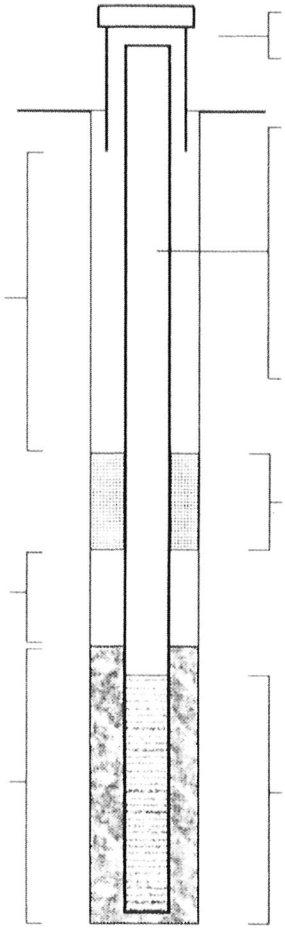
n/a FT.

DEPTH TO TOP OF PRIMARY FILTER PACK

7.0 FT.

LENGTH OF PRIMARY FILTER PACK

29.2 FT.



SURFACE COMPLETION

☑ Steel ☐ Aluminum ☑ Plastic

RISER OR CASING (IF OPEN HOLE COMPLETION)

Riser/Casing Diameter 6 IN.
Riser/Casing Length 11.2 FT.
Diameter Of Drill Hole 12 IN.
Weight Or SDR# 40

MATERIAL

☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

BENTONITE SEAL

Length 4.5
☑ Chips ☐ Pellets ☐ Granular
☐ Saturated Zone ☑ Hydrated

SCREEN

Screen Diameter 6 IN.
Screen Length 27.7 FT.
Diameter Of Drill Hole 12 IN.
Depth To Top 7.5 FT.

SCREEN MATERIAL

☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

For cased wells, submit additional as-built diagrams showing well construction details including type and size of all casing, hole diameter and grout used.

LOCATION OF WELL (D/M/S FORMAT ONLY)

Latitude 38 ° 45 ' 50.43 "
Longitude 90 ° 26 ' 47.45 "

SMALLEST ¼ LARGEST ¼ ¼
Section _____ Township _____ North
Range _____ ☐ E ☐ W

TYPE OF WELL (CHECK ONE)

☐ Direct Push ☑ Extraction ☐ Inclinometer
☐ Gas Migration ☐ Injection ☐ Lysimeter
☐ Observation ☐ Open Hole ☐ Other (specify)
☐ Piezometer ☐ Standard

MONITORING FOR (CHECK ALL THAT APPLY)

☐ Explosives ☐ Metals
☐ Pesticides/Herbicides ☐ Petroleum
☐ Radionuclides ☐ SVOCS
☐ VOCS (non-petroleum) ☐ Geotechnical Data

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION (OR ATTACH BORING LOG*)
o	2.5	Crushed Gravel
2.5	7	CLAY
7	36.2	Silty SAND
36.2		LIMESTONE
	35.2	Bottom of SVE Well

TOTAL DEPTH: 36.2 FT. ☐ *Boring Log Attached

STATIC WATER LEVEL: ~20 FT.

PUMP INSTALLED: ☐ Yes ☑ No

I hereby certify that the monitoring well herein described was constructed in accordance with Missouri Department of Natural Resources requirements.

MONITORING WELL INSTALLATION CONTRACTOR	PERMIT NUMBER	DATE	MONITORING WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	PERMIT NUMBER
[signature]	006329-M	03/29/2021		

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION REPORT

NOTE: This form is not to be used for nested wells

OFFICE USE ONLY		DATE RECEIVED	
REFERENCE NO.		CHECK NO.	
STATE WELL NO.		REVENUE NO.	
ENTERED	APPROVED	DATE	ROUTE / /

OWNER AND SITE INFORMATION

PROPERTY OWNER NAME WHERE WELL IS LOCATED	PRIMARY PHONE NUMBER WITH AREA CODE	WELL NUMBER	WELL COMPLETION DATE
Bridgeton Landfill, LLC	(209) 227-9531	SVE-04	02/23/2021

PROPERTY OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
13570 St. Charles Rock Rd	Bridgeton	MO	63044

PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED	CITY	COUNTY
13570 St. Charles Rock Rd	Bridgeton	St. Louis CO

NAME OF SITE, BUSINESS, OR CLEANUP PROJECT	DNR/EPA PROJECT NUMBER OR REGULATORY SITE ID NUMBER (IF APPLICABLE)	VARIANCE NUMBER (IF ISSUED)
Bridgeton Landfill, LLC	118912	6723

PRIMARY CONTRACTOR NAME (PLEASE PRINT)	PERMIT NUMBER	
John Gates	003501-M	Section 256.607(3), RSMo, requires all primary contractors to comply with all rules and regulations promulgated pursuant to Sections 256.600 to 256.640 RSMo.

SURFACE COMPLETION

TYPE: ☐ Above Ground ☐ Flush Mount

LENGTH AND DIAMETER OF SURFACE COMPLETION: Length n/a FT. Diameter n/a IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: Diameter 24 IN. Length 3.0 FT.

SURFACE COMPLETION GROUT: ☑ Concrete ☐ Other _____

☐ Locking Cap
☐ Weep Hole

Elevation _____ FT.

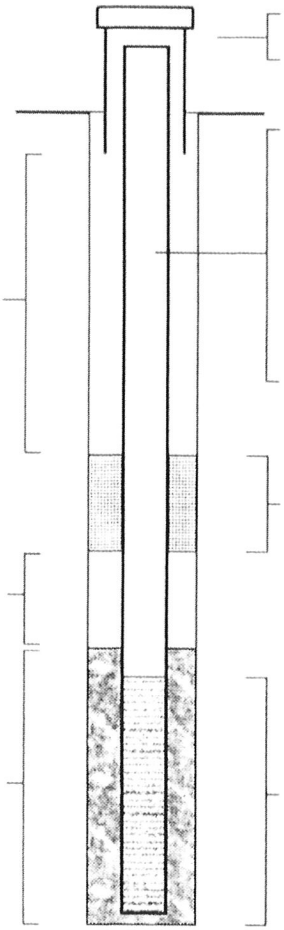
ANNULAR SEAL
Length n/a FT.
☐ Slurry ☐ Chips
☐ Pellets ☐ Granular
☐ Cement/Slurry

IF CEMENT/BENTONITE MIX:
Bags of Cement Used _____
% of Bentonite Used _____
Water Used Per Bag _____ GAL.

SECONDARY FILTER PACK LENGTH
n/a FT.

DEPTH TO TOP OF PRIMARY FILTER PACK
5.0 FT.

LENGTH OF PRIMARY FILTER PACK
28.0 FT.



SURFACE COMPLETION
☑ Steel ☐ Aluminum ☑ Plastic

RISER OR CASING (IF OPEN HOLE COMPLETION)
Riser/Casing Diameter 6 IN.
Riser/Casing Length 9.2 FT.
Diameter Of Drill Hole 12 IN.
Weight Or SDR# 40

MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

BENTONITE SEAL
Length 2
☑ Chips ☐ Pellets ☐ Granular
☐ Saturated Zone ☑ Hydrated

SCREEN
Screen Diameter 6 IN.
Screen Length 26.5 FT.
Diameter Of Drill Hole 12 IN.
Depth To Top 5.5 FT.

SCREEN MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

For cased wells, submit additional as-built diagrams showing well construction details including type and size of all casing, hole diameter and grout used.

LOCATION OF WELL (D/M/S FORMAT ONLY)
Latitude 38 ° 45 ' 50.09 "
Longitude 90 ° 26 ' 47.90 "

SMALLEST ¼ LARGEST ¼
Section _____ Township _____ North
Range _____ ☐ E ☐ W

TYPE OF WELL (CHECK ONE)
☐ Direct Push ☑ Extraction ☐ Inclinometer
☐ Gas Migration ☐ Injection ☐ Lysimeter
☐ Observation ☐ Open Hole ☐ Other (specify)
☐ Piezometer ☐ Standard

MONITORING FOR (CHECK ALL THAT APPLY)
☐ Explosives ☐ Metals
☐ Pesticides/Herbicides ☐ Petroleum
☐ Radionuclides ☐ SVOCS
☐ VOCS (non-petroleum) ☐ Geotechnical Data

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION (OR ATTACH BORING LOG*)
o	3	Crushed Gravel
3	5	CLAY
5	33	Silty SAND
33		LIMESTONE
	32	Bottom of SVE Well

TOTAL DEPTH: 33.0 FT.
☐ *Boring Log Attached

STATIC WATER LEVEL: ~20 FT.
PUMP INSTALLED: ☐ Yes ☑ No

I hereby certify that the monitoring well herein described was constructed in accordance with Missouri Department of Natural Resources requirements.

MONITORING WELL INSTALLATION CONTRACTOR	PERMIT NUMBER	DATE	MONITORING WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	PERMIT NUMBER
	006329-M	03/29/2021		

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION REPORT

NOTE: This form is not to be used for nested wells

OFFICE USE ONLY		DATE RECEIVED	
REFERENCE NO.		CHECK NO.	
STATE WELL NO.		REVENUE NO.	
ENTERED	APPROVED	DATE	ROUTE / /

OWNER AND SITE INFORMATION

PROPERTY OWNER NAME WHERE WELL IS LOCATED	PRIMARY PHONE NUMBER WITH AREA CODE	WELL NUMBER	WELL COMPLETION DATE
Bridgeton Landfill, LLC	(209) 227-9531	SVE-05	02/03/2021

PROPERTY OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
13570 St. Charles Rock Rd	Bridgeton	MO	63044

PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED	CITY	COUNTY
13570 St. Charles Rock Rd	Bridgeton	St. Louis CO

NAME OF SITE, BUSINESS, OR CLEANUP PROJECT	DNR/EPA PROJECT NUMBER OR REGULATORY SITE ID NUMBER (IF APPLICABLE)	VARIANCE NUMBER (IF ISSUED)
Bridgeton Landfill, LLC	118912	6723

PRIMARY CONTRACTOR NAME (PLEASE PRINT)	PERMIT NUMBER	
John Gates	003501-M	Section 256.607(3), RSMo, requires all primary contractors to comply with all rules and regulations promulgated pursuant to Sections 256.600 to 256.640 RSMo.

SURFACE COMPLETION

TYPE: ☐ Above Ground ☐ Flush Mount

LENGTH AND DIAMETER OF SURFACE COMPLETION: Length n/a FT. Diameter n/a IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: Diameter 24 IN. Length 2.5 FT.

SURFACE COMPLETION GROUT: ☑ Concrete ☐ Other _____

☐ Locking Cap
☐ Weep Hole

Elevation _____ FT.

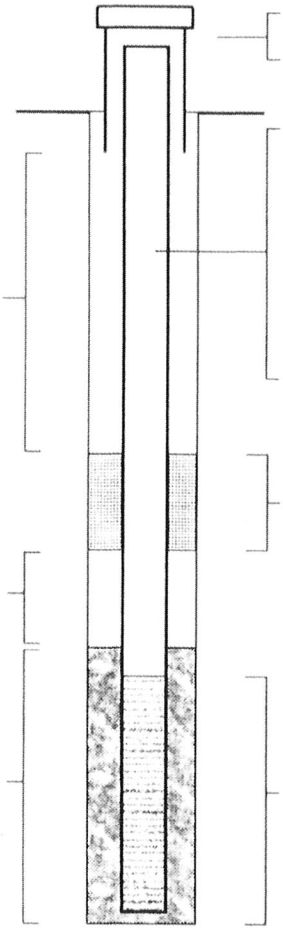
ANNULAR SEAL
Length n/a FT.
☐ Slurry ☐ Chips
☐ Pellets ☐ Granular
☐ Cement/Slurry

IF CEMENT/BENTONITE MIX:
Bags of Cement Used _____
% of Bentonite Used _____
Water Used Per Bag _____ GAL.

SECONDARY FILTER PACK LENGTH
n/a FT.

DEPTH TO TOP OF PRIMARY FILTER PACK
4.5 FT.

LENGTH OF PRIMARY FILTER PACK
25.9 FT.



SURFACE COMPLETION
☑ Steel ☐ Aluminum ☑ Plastic

RISER OR CASING (IF OPEN HOLE COMPLETION)
Riser/Casing Diameter 6 IN.
Riser/Casing Length 8.7 FT.
Diameter Of Drill Hole 12 IN.
Weight Or SDR# 40

MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

BENTONITE SEAL
Length 2
☑ Chips ☐ Pellets ☐ Granular
☐ Saturated Zone ☑ Hydrated

SCREEN
Screen Diameter 6 IN.
Screen Length 24.4 FT.
Diameter Of Drill Hole 12 IN.
Depth To Top 5.0 FT.

SCREEN MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

For cased wells, submit additional as-built diagrams showing well construction details including type and size of all casing, hole diameter and grout used.

LOCATION OF WELL (D/M/S FORMAT ONLY)
Latitude 38 ° 45 ' 49.57 "
Longitude 90 ° 26 ' 47.82 "

SMALLEST ¼ LARGEST ¼
Section _____ Township _____ North
Range _____ ☐ E ☐ W

TYPE OF WELL (CHECK ONE)
☐ Direct Push ☑ Extraction ☐ Inclinometer
☐ Gas Migration ☐ Injection ☐ Lysimeter
☐ Observation ☐ Open Hole ☐ Other (specify)
☐ Piezometer ☐ Standard

MONITORING FOR (CHECK ALL THAT APPLY)
☐ Explosives ☐ Metals
☐ Pesticides/Herbicides ☐ Petroleum
☐ Radionuclides ☐ SVOCS
☐ VOCS (non-petroleum) ☐ Geotechnical Data

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION (OR ATTACH BORING LOG*)
o	2.5	Crushed Gravel
2.5	4.5	CLAY
4.5	30.4	Silty SAND
30.4		LIMESTONE
	29.4	Bottom of SVE Well

TOTAL DEPTH: 30.4 FT.
☐ *Boring Log Attached

STATIC WATER LEVEL ~20 FT.
PUMP INSTALLED ☐ Yes ☑ No

I hereby certify that the monitoring well herein described was constructed in accordance with Missouri Department of Natural Resources requirements.

MONITORING WELL INSTALLATION CONTRACTOR	PERMIT NUMBER	DATE	MONITORING WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	PERMIT NUMBER
	006329-M	03/29/2021		

MO 780-1415 (03-18) **SEND COMPLETED FORM ALONG WITH $100 CERTIFICATION FEE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2165 FAX: 573-368-2317 EMAIL: welldrillers@dnr.mo.gov**
RECORD (AND FEE) MAY BE SUBMITTED ONLINE: dnr.mo.gov/mowells

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION REPORT

NOTE: This form is not to be used for nested wells

OFFICE USE ONLY		DATE RECEIVED	
REFERENCE NO.		CHECK NO.	
STATE WELL NO.		REVENUE NO.	
ENTERED	APPROVED	DATE	ROUTE

OWNER AND SITE INFORMATION

PROPERTY OWNER NAME WHERE WELL IS LOCATED	PRIMARY PHONE NUMBER WITH AREA CODE	WELL NUMBER	WELL COMPLETION DATE
Bridgeton Landfill, LLC	(209) 227-9531	SVE-06	02/05/2021

PROPERTY OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
13570 St. Charles Rock Rd	Bridgeton	MO	63044

PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED	CITY	COUNTY
13570 St. Charles Rock Rd	Bridgeton	St. Louis CO

NAME OF SITE, BUSINESS, OR CLEANUP PROJECT	DNR/EPA PROJECT NUMBER OR REGULATORY SITE ID NUMBER (IF APPLICABLE)	VARIANCE NUMBER (IF ISSUED)
Bridgeton Landfill, LLC	118912	6723

PRIMARY CONTRACTOR NAME (PLEASE PRINT)	PERMIT NUMBER	
John Gates	003501-M	Section 256.607(3), RSMo, requires all primary contractors to comply with all rules and regulations promulgated pursuant to Sections 256.600 to 256.640 RSMo.

SURFACE COMPLETION

TYPE: ☐ Above Ground ☐ Flush Mount

LENGTH AND DIAMETER OF SURFACE COMPLETION: Length n/a FT. Diameter n/a IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: Diameter 24 IN. Length 2.5 FT.

SURFACE COMPLETION GROUT: ☑ Concrete ☐ Other _____

☐ Locking Cap
☐ Weep Hole

Elevation _____ FT.

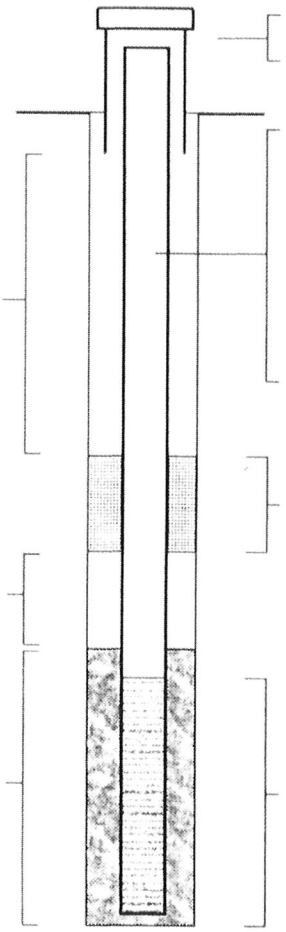
ANNULAR SEAL
Length n/a FT.
☐ Slurry ☐ Chips
☐ Pellets ☐ Granular
☐ Cement/Slurry

IF CEMENT/BENTONITE MIX:
Bags of Cement Used _____
% of Bentonite Used _____
Water Used Per Bag _____ GAL.

SECONDARY FILTER PACK LENGTH
n/a FT.

DEPTH TO TOP OF PRIMARY FILTER PACK
4.5 FT.

LENGTH OF PRIMARY FILTER PACK
36.2 FT.



SURFACE COMPLETION
☑ Steel ☐ Aluminum ☑ Plastic

RISER OR CASING (IF OPEN HOLE COMPLETION)
Riser/Casing Diameter 6 IN.
Riser/Casing Length 8.7 FT.
Diameter Of Drill Hole 12 IN.
Weight Or SDR# 40

MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

BENTONITE SEAL
Length 2
☑ Chips ☐ Pellets ☐ Granular
☐ Saturated Zone ☑ Hydrated

SCREEN
Screen Diameter 6 IN.
Screen Length 34.7 FT.
Diameter Of Drill Hole 12 IN.
Depth To Top 5.0 FT.

SCREEN MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

For cased wells, submit additional as-built diagrams showing well construction details including type and size of all casing, hole diameter and grout used.

LOCATION OF WELL (D/M/S FORMAT ONLY)
Latitude 38 ° 45 ' 50.29 "
Longitude 90 ° 26 ' 48.77 "

SMALLEST ¼ LARGEST ¼
Section _____ Township _____ North
Range _____ ☐ E ☐ W

TYPE OF WELL (CHECK ONE)
☐ Direct Push ☑ Extraction ☐ Inclinometer
☐ Gas Migration ☐ Injection ☐ Lysimeter
☐ Observation ☐ Open Hole ☐ Other (specify)
☐ Piezometer ☐ Standard

MONITORING FOR (CHECK ALL THAT APPLY)
☐ Explosives ☐ Metals
☐ Pesticides/Herbicides ☐ Petroleum
☐ Radionuclides ☐ SVOCS
☐ VOCS (non-petroleum) ☐ Geotechnical Data

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION (OR ATTACH BORING LOG*)
o	2.5	Crushed Gravel
2.5	4.5	CLAY
4.5	40.7	Silty SAND
40.7		LIMESTONE
	39.7	Bottom of SVE Well

TOTAL DEPTH: 40.7 FT.
☐ *Boring Log Attached

STATIC WATER LEVEL ~20 FT.
PUMP INSTALLED ☐ Yes ☑ No

I hereby certify that the monitoring well herein described was constructed in accordance with Missouri Department of Natural Resources requirements.

MONITORING WELL INSTALLATION CONTRACTOR	PERMIT NUMBER	DATE	MONITORING WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	PERMIT NUMBER
	006329-M	03/29/2021		

MO 780-1415 (03-18) **SEND COMPLETED FORM ALONG WITH $100 CERTIFICATION FEE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2165 FAX: 573-368-2317 EMAIL: welldrillers@dnr.mo.gov**
RECORD (AND FEE) MAY BE SUBMITTED ONLINE: dnr.mo.gov/mowells

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

MONITORING WELL CERTIFICATION REPORT

NOTE: This form is not to be used for nested wells

OFFICE USE ONLY		DATE RECEIVED	
REFERENCE NO.		CHECK NO.	
STATE WELL NO.		REVENUE NO.	
ENTERED	APPROVED	DATE	ROUTE / /

OWNER AND SITE INFORMATION

PROPERTY OWNER NAME WHERE WELL IS LOCATED	PRIMARY PHONE NUMBER WITH AREA CODE	WELL NUMBER	WELL COMPLETION DATE
Bridgeton Landfill, LLC	(209) 227-9531	SVE-07	03/02/2021

PROPERTY OWNER MAILING ADDRESS	CITY	STATE	ZIP CODE
13570 St. Charles Rock Rd	Bridgeton	MO	63044

PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED	CITY	COUNTY
13570 St. Charles Rock Rd	Bridgeton	St. Louis CO

NAME OF SITE, BUSINESS, OR CLEANUP PROJECT	DNR/EPA PROJECT NUMBER OR REGULATORY SITE ID NUMBER (IF APPLICABLE)	VARIANCE NUMBER (IF ISSUED)
Bridgeton Landfill, LLC	118912	6723

PRIMARY CONTRACTOR NAME (PLEASE PRINT)	PERMIT NUMBER	
John Gates	003501-M	Section 256.607(3), RSMo, requires all primary contractors to comply with all rules and regulations promulgated pursuant to Sections 256.600 to 256.640 RSMo.

SURFACE COMPLETION

TYPE: ☐ Above Ground ☐ Flush Mount

LENGTH AND DIAMETER OF SURFACE COMPLETION: Length n/a FT. Diameter n/a IN.

DIAMETER AND DEPTH OF THE HOLE SURFACE COMPLETION WAS PLACED: Diameter 24 IN. Length 2.0 FT.

SURFACE COMPLETION GROUT: ☑ Concrete ☐ Other _____

☐ Locking Cap
☐ Weep Hole

Elevation _____ FT.

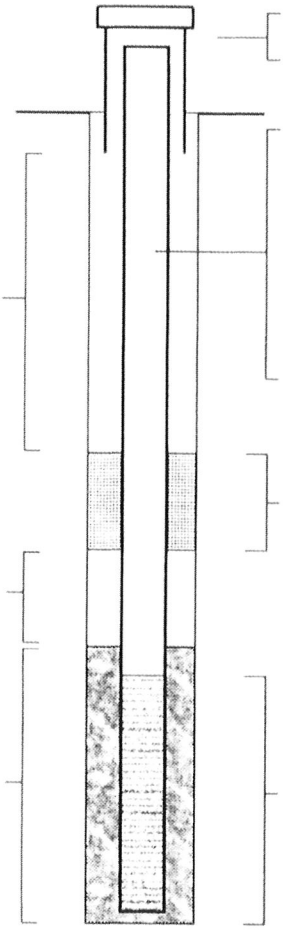
ANNULAR SEAL
Length n/a FT.
☐ Slurry ☐ Chips
☐ Pellets ☐ Granular
☐ Cement/Slurry

IF CEMENT/BENTONITE MIX:
Bags of Cement Used _____
% of Bentonite Used _____
Water Used Per Bag _____ GAL.

SECONDARY FILTER PACK LENGTH
n/a FT.

DEPTH TO TOP OF PRIMARY FILTER PACK
4.5 FT.

LENGTH OF PRIMARY FILTER PACK
32.5 FT.



SURFACE COMPLETION
☑ Steel ☐ Aluminum ☑ Plastic

RISER OR CASING (IF OPEN HOLE COMPLETION)
Riser/Casing Diameter 6 IN.
Riser/Casing Length 8.7 FT.
Diameter Of Drill Hole 12 IN.
Weight Or SDR# 40

MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

BENTONITE SEAL
Length 2.5
☑ Chips ☐ Pellets ☐ Granular
☐ Saturated Zone ☑ Hydrated

SCREEN
Screen Diameter 6 IN.
Screen Length 31 FT.
Diameter Of Drill Hole 12 IN.
Depth To Top 5.0 FT.

SCREEN MATERIAL
☐ Steel ☑ Thermoplastic (PVC)
☐ Other _____

For cased wells, submit additional as-built diagrams showing well construction details including type and size of all casing, hole diameter and grout used.

LOCATION OF WELL (D/M/S FORMAT ONLY)
Latitude 38 ° 45 ' 49.57 "
Longitude 90 ° 26 ' 48.78 "

SMALLEST ¼ LARGEST ¼ ¼
Section _____ Township _____ North
Range _____ ☐ E ☐ W

TYPE OF WELL (CHECK ONE)
☐ Direct Push ☑ Extraction ☐ Inclinometer
☐ Gas Migration ☐ Injection ☐ Lysimeter
☐ Observation ☐ Open Hole ☐ Other (specify)
☐ Piezometer ☐ Standard

MONITORING FOR (CHECK ALL THAT APPLY)
☐ Explosives ☐ Metals
☐ Pesticides/Herbicides ☐ Petroleum
☐ Radionuclides ☐ SVOCS
☐ VOCS (non-petroleum) ☐ Geotechnical Data

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION (OR ATTACH BORING LOG*)
0	4.5	CLAY
4.5	37	Silty SAND
37		LIMESTONE
	36	Bottom of SVE Well

TOTAL DEPTH: 37.0 FT.
☐ *Boring Log Attached

STATIC WATER LEVEL ~20 FT.
PUMP INSTALLED ☐ Yes ☑ No

I hereby certify that the monitoring well herein described was constructed in accordance with Missouri Department of Natural Resources requirements.

MONITORING WELL INSTALLATION CONTRACTOR	PERMIT NUMBER	DATE	MONITORING WELL INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE)	PERMIT NUMBER
	006329-M	03/29/2021		

MO 780-1415 (03-18) **SEND COMPLETED FORM ALONG WITH $100 CERTIFICATION FEE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2165 FAX: 573-368-2317 EMAIL: welldrillers@dnr.mo.gov**
RECORD (AND FEE) MAY BE SUBMITTED ONLINE: dnr.mo.gov/mowells

Sub-Appendix B.2

Pipeline Pressure Testing Results

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

PIPELINE FIELD TESTING REPORT

Client: Republic Services - Bridgeton Landfill
Project: 2021 Soil Gas Monitoring
Engineers/Owner Rep: Dane Hale

Date: 3/5/2021
Job No.: BT-209-21
Page: 2

Location: (Bldg. to Bldg., Struct. to Struct., M.H. to M.H., Sta. to Sta., etc.)
CS-1 to east flange
Description: (Material and Line Usage - HDPE -Header, HDPE Force-main)
8" SDR-17 HDPE Header and 6" SDR-17 HDPE lateral
Type of Test: (Air, Hydrostatic, Infiltration, Exfiltration, Other)
AIR
Test Pressure Per Spec: 4psi

Pipe Diameter & Length 8" LFG -44'

Start Pressure (PSI)	Temperature (F)	Start Time
11	45	**13:25**
11	45	**13:35**
11	45	**13:45**
11	45	**13:55**
11	45	**14:05**
11	45	**14:15**
Ending Pressure (PSI)	**Ending Temperature (F)**	**Ending Time**
11	45	**14:25**

Comments: **Pass / Fail (Circle One)**

Date Test Performed.: 3/5/2021

Engineers/Owners Rep.: Dane C. Hale

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

PIPELINE FIELD TESTING REPORT

Client: Republic Services - Bridgeton Landfill
Project: 2021 Soil Gas Monitoring
Engineers/Owner Rep: Dane Hale

Date: 3/5/2021
Job No.: BT-209-21
Page: 1

Location: (Bldg. to Bldg., Struct. to Struct., M.H. to M.H., Sta. to Sta., etc.)
CS-1 to end of clean out by SVE-6
Description: (Material and Line Usage - HDPE -Header, HDPE Force-main)
8" gas hdpe sdr-17
Type of Test: (Air, Hydrostatic, Infiltration, Exfiltration, Other)
AIR
Test Pressure Per Spec: 4psi

Pipe Diameter & Length 8" LFG -35'

Start Pressure (PSI)	Temperature (F)	Start Time
9	44	**13:25**
9	44	**13:35**
9	44	**13:45**
9	44	**13:55**
9	44	**14:05**
9	45	**14:15**
Ending Pressure (PSI)	**Ending Temperature (F)**	**Ending Time**
9	45	**14:25**

Comments: **Pass / Fail (Circle One)**

Date Test Performed.: 3/5/2021

Engineers/Owners Rep.: Dane C. Hale

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

Engineering for a Better World
FEEZOR
ENGINEERING, INC.

PIPELINE FIELD TESTING REPORT

Client: Republic Services - Bridgeton Landfill
Project: 2021 Soil Gas Monitoring
Engineers/Owner Rep: Dane Hale

Date: 3/15/2021
Job No.: BT-209-21
Page: 1

Location: (Bldg. to Bldg., Struct. to Struct., M.H. to M.H., Sta. to Sta., etc.)
Flange to tie-in NE
Description: (Material and Line Usage - HDPE -Header, HDPE Force-main)
8" gas hdpe sdr-17
Type of Test: (Air, Hydrostatic, Infiltration, Exfiltration, Other)
AIR
Test Pressure Per Spec: 4psi

Pipe Diameter & Length 8" LFG - 42 LF

Start Pressure (PSI)	Temperature (F)	Start Time
10.5	46	**8:20**
10.5	46	**8:30**
10.5	46	**8:40**
10.5	46	**8:50**
10.5	46	**9:00**
10.5	46	**9:05**
Ending Pressure (PSI)	**Ending Temperature (F)**	**Ending Time**
10.5	46	**14:25**

Comments: (Pass) / Fail **(Circle One)**

Date Test Performed.: 3/15/2021

Engineers/Owners Rep.: Dane C. Hale

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

PIPELINE FIELD TESTING REPORT

Client: Republic Services - Bridgeton Landfill
Project: 2021 Soil Gas Monitoring CQA
Engineers/Owner Rep: Dane Hale

Date: 3/16/2021
Job No.: BT-209-21
Page: 1

Location: (Bldg. to Bldg., Struct. to Struct., M.H. to M.H., Sta. to Sta., etc.)
Entire SVE network
Description: (Material and Line Usage - HDPE -Header, HDPE Force-main)
2" SDR-11 HDPE carrier of 2"x4" Forcemain
Type of Test: (Air, Hydrostatic, Infiltration, Exfiltration, Other)
AIR
Test Pressure Per Spec: 15psi-100psi

Pipe Diameter & Length 4" FM -290 LF

Start Pressure (PSI)	Temperature (F)	Start Time
30	44	**8:00**
30	44	**8:10**
30	44	**8:20**
30/100	44	**8:30**
100	44	**8:40**
100	44	**8:50**
Ending Pressure (PSI)	**Ending Temperature (F)**	**Ending Time**
100	44	**9:00**

Comments: **Pass / Fail (Circle One)**

air pressure was raised from 30psi to 100 psi from 08:30 -08:33

Date Test Performed.: 3/16/2021

Engineers/Owners Rep.: Dane C. Hale

Feezor Engineering, Inc.
406 E. Walnut St.
Chatham, IL 62629
(217) 483-3118

PIPELINE FIELD TESTING REPORT

Client: Republic Services - Bridgeton Landfill | **Date:** 3/16/2021
Project: 2021 Soil Gas Monitoring CQA | **Job No.:** BT-209-21
Engineers/Owner Rep: Dane Hale | **Page:** 1

Location: (Bldg. to Bldg., Struct. to Struct., M.H. to M.H., Sta. to Sta., etc.)
Entire SVE network
Description: (Material and Line Usage - HDPE -Header, HDPE Force-main)
4" SDR-17 HDPE outer containment of 2"x4" Forcemain
Type of Test: (Air, Hydrostatic, Infiltration, Exfiltration, Other)
AIR

Test Pressure Per Spec: 30psi

Pipe Diameter & Length 4" FM - 290 LF

Start Pressure (PSI)	Temperature (F)	Start Time
31	46	**14:00**
31	46	**14:10**
31	46	**14:20**
31	46	**14:30**
31	46	**14:40**
31	46	**14:50**
Ending Pressure (PSI)	**Ending Temperature (F)**	**Ending Time**
31	46	**15:00**

Comments: **Pass / Fail (Circle One)**

Date Test Performed.: 3/16/2021

Engineers/Owners Rep.: Dane C. Hale

Feezor Engineering, Inc.
3377 Hollenberg Drive
Bridgeton, MO 63044
(217) 483-3118

PIPELINE FIELD TESTING REPORT

Client: Republic Services - Bridgeton Landfill
Project: SVE Installation
Date: 3/15/2021
Job No.: BT-209-21

Engineers/Owner Rep: Andrew Roberts
Contractor: Fusion Solutions
Page: 1 of 1

Location: (Bldg. to Bldg., Struct. to Struct., M.H. to M.H., Sta. to Sta., etc.)

Entire SVE System

Description: (Material and Line Usage - HDPE -Header, HDPE Force-main)
2" SDR-9 - HDPE Airline
Type of Test: (Air, Hydrostatic, Infiltration, Exfiltration, Other)
AIR

Test Pressure Per Spec: 100 PSI
Pipe Diameter & Length: 2" SDR-9 - 290 LF

Test Results

Start Pressure (PSI)	Temperature (F)	Start Time	Notes
100	52	**13:30**	
100	52	**13:40**	
100	52	**13:50**	
100	52	**14:00**	
100	52	**14:10**	
100	52	**14:20**	

Ending Pressure (PSI)	Ending Temperature (F)	Ending Time
100	52	**14:30**

Comments: **Pass / Fail (Circle One)**

Date Test Performed.: 3/15/2021

Engineers/Owners Rep.:

Feezor Engineering, Inc.
3377 Hollenberg Drive
Bridgeton, MO 63044
(217) 483-3118

PIPELINE FIELD TESTING REPORT

Client: Republic Services - Bridgeton Landfill
Project: SVE Installation
Date: 3/8/2021
Job No.: BT-209-21

Engineers/Owner Rep: Andrew Roberts
Contractor: Fusion Solutions
Page: 1 of 1

Location: (Bldg. to Bldg., Struct. to Struct., M.H. to M.H., Sta. to Sta., etc.)

LFG Lateral - CS-1 to SVE-7

Description: (Material and Line Usage - HDPE -Header, HDPE Force-main)
8" SDR-17 - HDPE LFG Lateral
Type of Test: (Air, Hydrostatic, Infiltration, Exfiltration, Other)
AIR

Test Pressure Per Spec: 4 PSI
Pipe Diameter & Length: 8" SDR-17 - 42 LF

Test Results

Start Pressure (PSI)	Temperature (F)	Start Time	Notes
12	56	**13:00**	
12	56	**13:10**	
12	56	**13:20**	
12	56	**13:30**	
12	56	**13:40**	
12	56	**13:50**	

Ending Pressure (PSI)	Ending Temperature (F)	Ending Time
12	56	**14:00**

Comments: **Pass / Fail (Circle One)**

Date Test Performed.: 3/8/2021

Engineers/Owners Rep.:

Feezor Engineering, Inc.
3377 Hollenberg Drive
Bridgeton, MO 63044
(217) 483-3118

PIPELINE FIELD TESTING REPORT

Client: Republic Services - Bridgeton Landfill
Project: SVE Installation
Date: 3/15/2021
Job No.: BT-209-21

Engineers/Owner Rep: Andrew Roberts
Contractor: Fusion Solutions
Page: 1 of 1

Location: (Bldg. to Bldg., Struct. to Struct., M.H. to M.H., Sta. to Sta., etc.)

LFG Lateral - 8" Header to SVE-1, SVE-3 and SVE-4

Description: (Material and Line Usage - HDPE -Header, HDPE Force-main)
6" SDR-17 - HDPE LFG Lateral

Type of Test: (Air, Hydrostatic, Infiltration, Exfiltration, Other)
AIR

Test Pressure Per Spec: 4 PSI

Pipe Diameter & Length: 6" SDR-17 - 115 LF

Test Results

Start Pressure (PSI)	Temperature (F)	Start Time	Notes
10	51	**12:45**	
10	51	**12:55**	
10	51	**13:05**	
10	51	**13:15**	
10	51	**13:25**	
10	51	**13:35**	

Ending Pressure (PSI)	Ending Temperature (F)	Ending Time
10	52	**13:45**

Comments: **Pass / Fail (Circle One)**

Date Test Performed.: 3/15/2021

Engineers/Owners Rep.:

APPENDIX C

CONSTRUCTION CERTIFICATION DRAWINGS (REDUCED SET)

Drawing 000	Title Page
Drawing 001	Site Plan
Drawing 002	SVE Installation Plan View
Drawing 003	Details 1
Drawing 004	Details 2

AS-BUILT RECORD DRAWINGS FOR THE

BRIDGETON LANDFILL
2021 SVE INSTALLATION

APRIL 2021
PREPARED FOR:

Bridgeton Landfill, LLC

13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

LOCATION MAP

N

Engineering for a Better World
FEEZOR ENGINEERING, INC.

3377 HOLLENBERG DRIVE
BRIDGETON, MO 63044
TEL. (217) 483-3118

INDEX OF DRAWINGS	
	TITLE PAGE
001	SITE PLAN
002	SVE INSTALLATION PLAN VIEW
003	DETAILS 1
004	DETAILS 1

STATE OF MISSOURI
DANIEL RICHARD FEEZOR
NUMBER PE-030292
PROFESSIONAL ENGINEER
4/23/21

LEGEND

- SOLID WASTE BOUNDARY
- QUARRY WALL
- WEST LAKE AREA 1
- WEST LAKE AREA 2
- GAS MONITORING PROBE
- TEMPORARY GAS MONITORING PROBE
- PIEZOMETER MONITORING WELL
- GAS EXTRACTION WELL
- INTERCEPTOR TRENCH SUMP
- SURFACE EXTRACTION WELL
- PERIMETER GAS EXTRACTION WELL
- LFG ISOLATION VALVE
- LEACHATE ISOLATION VALVE
- FLOW METER
- GRIT CHAMBER
- LIFT STATION
- CONDENSATE SUMP
- CONDENSATE TRAP/HEADER CONNECTION SUMP
- LEACHATE COLLECTION SUMP
- HORIZONTAL COLLECTION SUMP
- PERIMETER SUMP
- LEACHATE COLLECTION SUMP
- SURFACE COLLECTOR
- TEMPERATURE MONITORING PROBE
- SUBSURFACE RCP WELLS
- TRENCH SUMP
- INTERCEPTION TRENCH RISER
- PERIMETER LEACHATE SUMP
- WELL HEAD RISER
- WELL BORE BOOT
- TRENCH SUMP
- OVER LINER TIE IN POINT
- GAS INTERCEPTOR WELL
- GAS INTERCEPTOR WELL/HEAT EXTRACTION POINT
- CLEAN OUT
- GAS EXTRACTION WELL WITH 4" STINGER
- EXTRACTION POINT - ABANDONED
- EXTRACTION POINT - TEMPORARILY DECOMMISSIONED
- CONTAINMENT SUMP PUMP STATIION FOR TOE STRIP DRAIN
- DOWNSLOPE STRIP DRAIN COLLECTOR 6" RISER STUB
- QUADRANT #
- POWER PANEL
- QUARRY WALL
- LEACHATE COLLECTION PIPING
- DUAL CONTAINED LCS FORCEMAIN (SIZE VARIES)
- DUAL CONTAINED PERIMETER FORCEMAIN (SIZE VARIES)
- LEACHATE COLLECTION PIPING (SIZE VARIES)
- TOE DRAIN
- 4" PERFORATED TRENCH DRAIN
- BUBBLE SUCKER
- AIR LINE
- AIR LINE (PRESSURIZED BELOW GROUND)
- BURIED LFG COLLECTION PIPING (SIZE VARIES)
- 2" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 4" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 6" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 8" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 10" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 12" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 18" ABOVE GROUND LFG COLLECTION HEADER PIPING
- 24" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 2" PRESSURIZED AIR / 2" FORCEMAIN IN COMMON TRENCH
- ABOVEGROUND ELECTRIC LINE
- OVERHEAD ELECTRIC LINE
- UNDERGROUND ELECTRIC LINE
- SANITARY SEWER
- MSD DISCHARGE FORCEMAIN
- WATERMAIN
- NATURAL GAS LINE
- FIBER OPTIC LINE
- TELEPHONE
- FENCE LINE
- INTERCEPTOR TRENCH
- HEAT EXTRACTION EFFLUENT PIPING
- HEAT EXTRACTION INFLUENT PIPING
- SVE INSTALLATION AREA

0 200 400 Feet

SCALE - 1" = 200'

NOTES:

- *AERIAL TOPOGRAPHY PROVIDED BY COOPER AERIAL SURVEYS CO. AND IS DATED DECEMBER 9, 2020*

DANIEL RICHARD FEEZOR
PE-030292

STATE OF MISSOURI
DANIEL RICHARD FEEZOR
NUMBER PE-030292
PROFESSIONAL ENGINEER
4/23/21

PREPARED BY

Engineering for a Better World
FEEZOR ENGINEERING, INC.
3377 Hollenberg Dr, Bridgeton, MO 63044. Ph: 217-483-3118
Missouri State Certificate Of Authority #: E 2009212211

PROJECT
BRIDGETON LANDFILL
2021 SVE INSTALLATION
AS-BUILT RECORD DRAWINGS
BRIDGETON, ST. LOUIS COUNTY, MO

PREPARED FOR
BRIDGETON LANDFILL, LLC.
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

APRIL 2021
DESIGNED BY: AMR
APPROVED BY: DRF

DRAWING #
001

REVISIONS:	DATE	DSN.	APV.

DRAWING TITLE

FACILITY PLAN

PROJECT NUMBER: BT-209-21 FILE PATH: C:\Users\amiller\Dropbox (Feezor Engineering)\Bridgeton\BT-209 (Soil Gas CQA and PM)\5 – Report\1 – Appendices\C – Drawings

LEGEND

- SOLID WASTE BOUNDARY
- QUARRY WALL
- WEST LAKE AREA 1
- WEST LAKE AREA 2
- GMP-4 — GAS MONITORING PROBE
- TMP-1S,3M,3D — TEMPORARY GAS MONITORING PROBE
- PZ-2/4-4S — PIEZOMETER MONITORING WELL
- GEW-38 — GAS EXTRACTION WELL
- IT/S1 — INTERCEPTOR TRENCH SUMP
- SEW-63 — SURFACE EXTRACTION WELL
- PEW-20 — PERIMETER GAS EXTRACTION WELL
- LFG ISOLATION VALVE
- LEACHATE ISOLATION VALVE
- FLOW METER
- GRIT CHAMBER
- LIFT STATION
- CT-1 — CONDENSATE SUMP
- CT/HC-1 — CONDENSATE TRAP/HEADER CONNECTION SUMP
- LS-1 / LS-6 — LEACHATE COLLECTION SUMP
- HC-1 — HORIZONTAL COLLECTION SUMP
- PS-15 — PERIMETER SUMP
- LCS-2D — LEACHATE COLLECTION SUMP
- SC-61 — SURFACE COLLECTOR
- TMP-9 — TEMPERATURE MONITORING PROBE
- GC-3 — SUBSURFACE RCP WELLS
- IT-2 — TRENCH SUMP
- IT-7 — INTERCEPTION TRENCH RISER
- PL-7 — PERIMETER LEACHATE SUMP
- WELL HEAD RISER
- WB-1 — WELL BORE BOOT
- TS-1 — TRENCH SUMP
- OL-12 — OVER LINER TIE IN POINT
- GAS INTERCEPTOR WELL
- GIW-4 — GAS INTERCEPTOR WELL/HEAT EXTRACTION POINT
- CO — CLEAN OUT
- GEW-38(S) — GAS EXTRACTION WELL WITH 4" STINGER
- GEW-38 — EXTRACTION POINT - ABANDONED
- GEW-38 — EXTRACTION POINT - TEMPORARILY DECOMMISSIONED
- CS-1 — CONTAINMENT SUMP PUMP STATIION FOR TOE STRIP DRAIN
- DOWNSLOPE STRIP DRAIN COLLECTOR 6" RISER STUB
- 1 — QUADRANT #
- POWER PANEL
- QUARRY WALL
- L — LEACHATE COLLECTION PIPING
- L — DUAL CONTAINED LCS FORCEMAIN (SIZE VARIES)
- L — DUAL CONTAINED PERIMETER FORCEMAIN (SIZE VARIES)
- L — LEACHATE COLLECTION PIPING (SIZE VARIES)
- 6TD — TOE DRAIN
- 6GU — 4" PERFORATED TRENCH DRAIN
- BUBBLE SUCKER
- 2A — AIR LINE
- 2AU — AIR LINE (PRESSURIZED BELOW GROUND)
- BURIED LFG COLLECTION PIPING (SIZE VARIES)
- 2G — 2" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 4G — 4" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 6G — 6" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 8G — 8" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 10G — 10" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 12G — 12" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- 18G — 18" ABOVE GROUND LFG COLLECTION HEADER PIPING
- 24G — 24" ABOVE GROUND LFG COLLECTION LATERAL PIPING
- A/FM — 2" PRESSURIZED AIR / 2" FORCEMAIN IN COMMON TRENCH
- E — ABOVEGROUND ELECTRIC LINE
- OHE — OVERHEAD ELECTRIC LINE
- UE — UNDERGROUND ELECTRIC LINE
- SAN — SANITARY SEWER
- FM — MSD DISCHARGE FORCEMAIN
- W — WATERMAIN
- NGAS — NATURAL GAS LINE
- FO — FIBER OPTIC LINE
- T — TELEPHONE
- X — FENCE LINE
- 4G — INTERCEPTOR TRENCH
- HEAT EXTRACTION EFFLUENT PIPING
- HEAT EXTRACTION INFLUENT PIPING
- WORK PLAN AREA
- SVE-01 — 2021 INSTALLED SVE WELL
- CS-1 — 2021 INSTALLED SVE CONDENSATE SUMP

N

0 10 20 Feet

SCALE - 1" = 10'

NOTES:

- AERIAL TOPOGRAPHY PROVIDED BY COOPER AERIAL SURVEYS CO. AND IS DATED DECEMBER 9, 2020

DANIEL RICHARD FEEZOR
PE-030292

STATE OF MISSOURI — DANIEL RICHARD FEEZOR — NUMBER PE-0302292 — PROFESSIONAL ENGINEER

PREPARED BY

FEEZOR ENGINEERING, INC.
Engineering for a Better World
3377 Hollenberg Dr, Bridgeton, MO 63044, Ph: 217-483-3118
Missouri State Certificate Of Authority #: E-2009122211

PROJECT
BRIDGETON LANDFILL
2021 SVE INSTALLATION
AS-BUILT RECORD DRAWINGS
BRIDGETON, ST. LOUIS COUNTY, MO

PREPARED FOR
BRIDGETON LANDFILL, LLC.
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

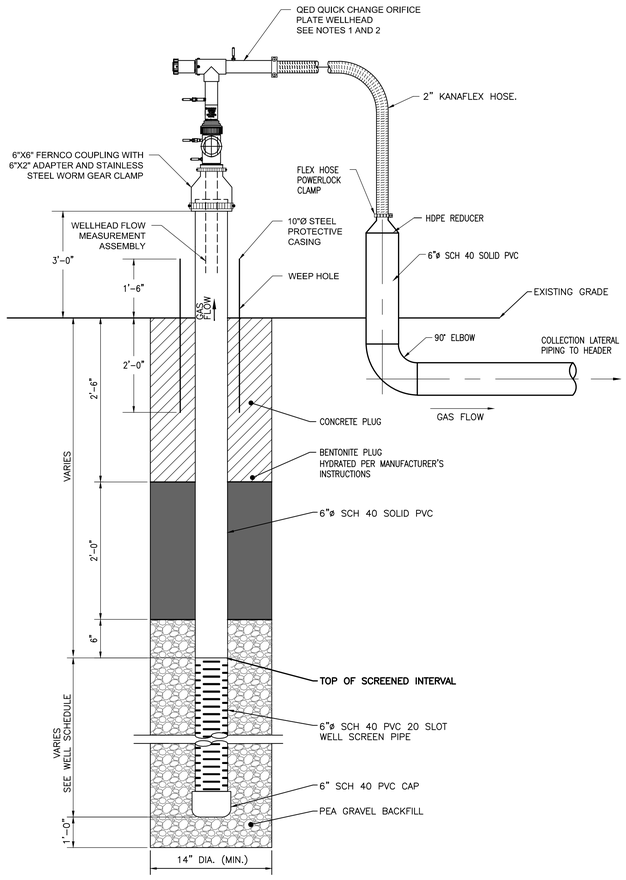
DRAWING TITLE
SVE INSTALLATION PLAN VIEW

APRIL 2021
DESIGNED BY: AMR
APPROVED BY: DRF

DRAWING # **002**

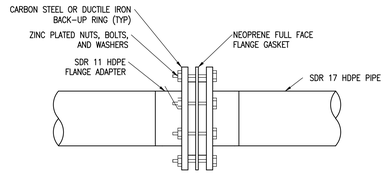
REVISIONS:	DATE	DSN.	APV.

PROJECT NUMBER: BT-209-21 FILE PATH: C:\Users\amr\Dropbox (Feezor Engineering)\Bridgeton\BT-209 (Soil Gas GCA and PM's)\9 - Report\1 - Appendices\C - Drawings



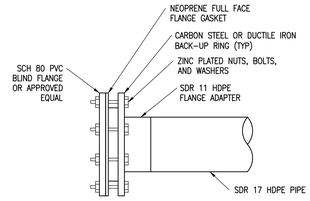
6"Ø PERIMETER SINGLE CASING EXTRACTION WELL

DETAIL 1/003 — SCALE: NOT TO SCALE



TYPICAL FLANGE CONNECTION

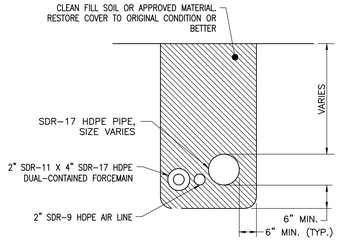
DETAIL 2/003 — SCALE: NOT TO SCALE



TYPICAL BLIND FLANGE

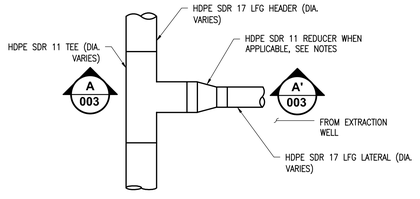
DETAIL 3/003 — SCALE: NOT TO SCALE

SVE WELL SCHEDULE									
WELL ID	Northing	Easting	Ground Elevation (As-Built Survey)	Bottom of Boring	Db	Solid Pipe Above Grade	Solid Pipe Below Grade	Dp	Thickness of Gravel Pack
					Boring Depth			Slotted Pipe	
			(Feet MSL)	(Feet MSL)	(Feet)	(Feet)	(Feet)	(Feet)	(Feet)
SVE-01	1,066,957.0	515,303.0	460.6	426.4	34.2	3.0	9.0	24.5	26.2
SVE-02	1,066,912.0	515,289.9	458.7	429.2	29.5	3.0	6.5	22.0	23.5
SVE-03	1,066,992.0	515,282.0	459.1	422.9	36.2	3.0	8.0	27.5	29.2
SVE-04	1,066,964.0	515,249.3	457.5	424.5	33.0	3.0	6.0	26.5	28.0
SVE-05	1,066,918.0	515,254.5	457.5	427.1	30.4	3.0	5.0	24.5	25.9
SVE-06	1,066,966.0	515,181.8	456.6	415.9	40.7	3.0	5.0	34.7	36.2
SVE-07	1,066,912.0	515,180.3	455.3	418.3	37.0	3.0	5.0	31.0	32.5



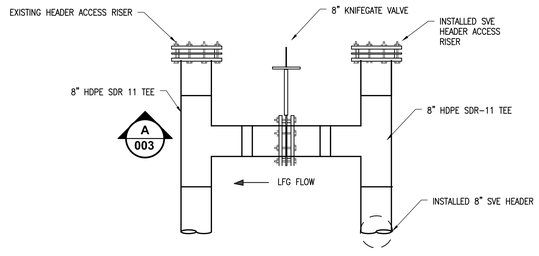
HEADER TRENCH OUTSIDE THE APPROXIMATE LIMITS OF WASTE

DETAIL 4/003 — SCALE: NOT TO SCALE



LFG LATERAL TIE-IN WITH TEE

DETAIL 5/003 — SCALE: NOT TO SCALE



HEADER TIE-IN

DETAIL 6/003 — SCALE: NOT TO SCALE

NOTES:

- *AERIAL TOPOGRAPHY PROVIDED BY COOPER AERIAL SURVEYS CO. AND IS DATED DECEMBER 9, 2020*

DANIEL RICHARD FEEZOR PE-030292

STATE OF MISSOURI — DANIEL RICHARD FEEZOR — NUMBER PE-030292 — PROFESSIONAL ENGINEER — 4/12/21

PREPARED BY

Engineering for a Better World

FEEZOR ENGINEERING, INC.

3377 Hollenberg Dr, Bridgeton, MO 63044, Ph: 217-483-3118

Missouri State Certificate Of Authority #: E-2009122211

PROJECT

BRIDGETON LANDFILL
2021 SVE INSTALLATION
AS-BUILT RECORD DRAWINGS
BRIDGETON, ST. LOUIS COUNTY, MO

PREPARED FOR

BRIDGETON LANDFILL, LLC.
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

DRAWING TITLE

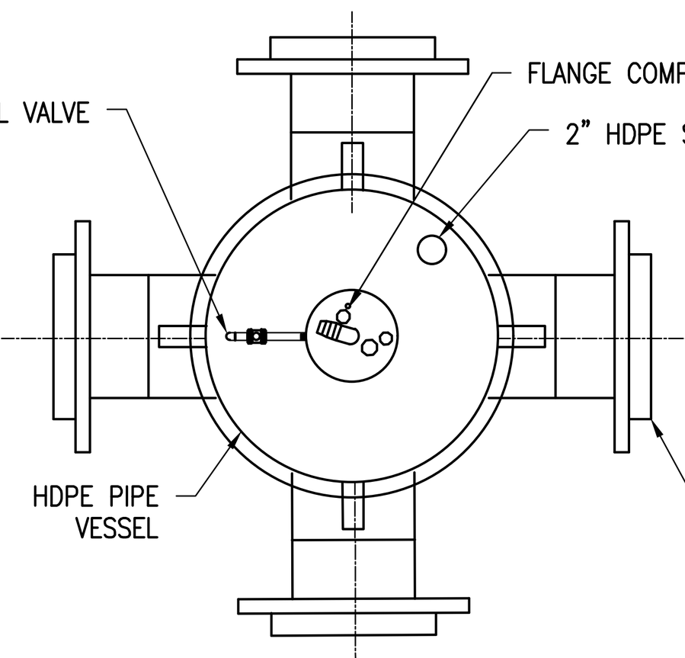
DETAILS 1

APRIL 2021
DESIGNED BY: AMR
APPROVED BY: DRF

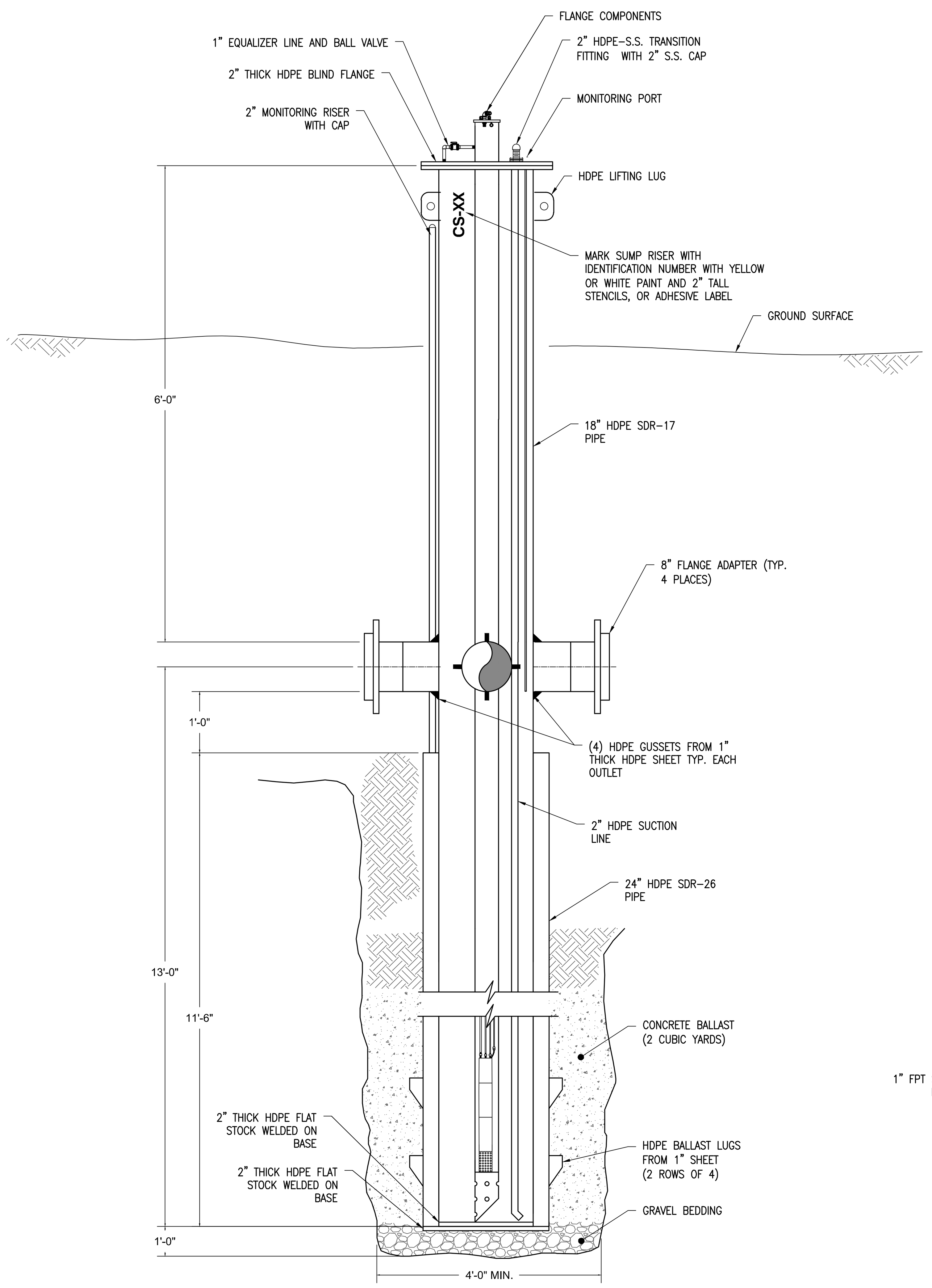
DRAWING # **003**

REVISIONS:	DATE	DSN.	APV.

PROJECT NUMBER: BT-209-21 | FILE PATH: C:\Users\amr\Dropbox (Feezor Engineering)\Bridgeton\BT-209 (Soil Gas GCA and PM's)\9 - Report\1 - Appendices\C - Drawings

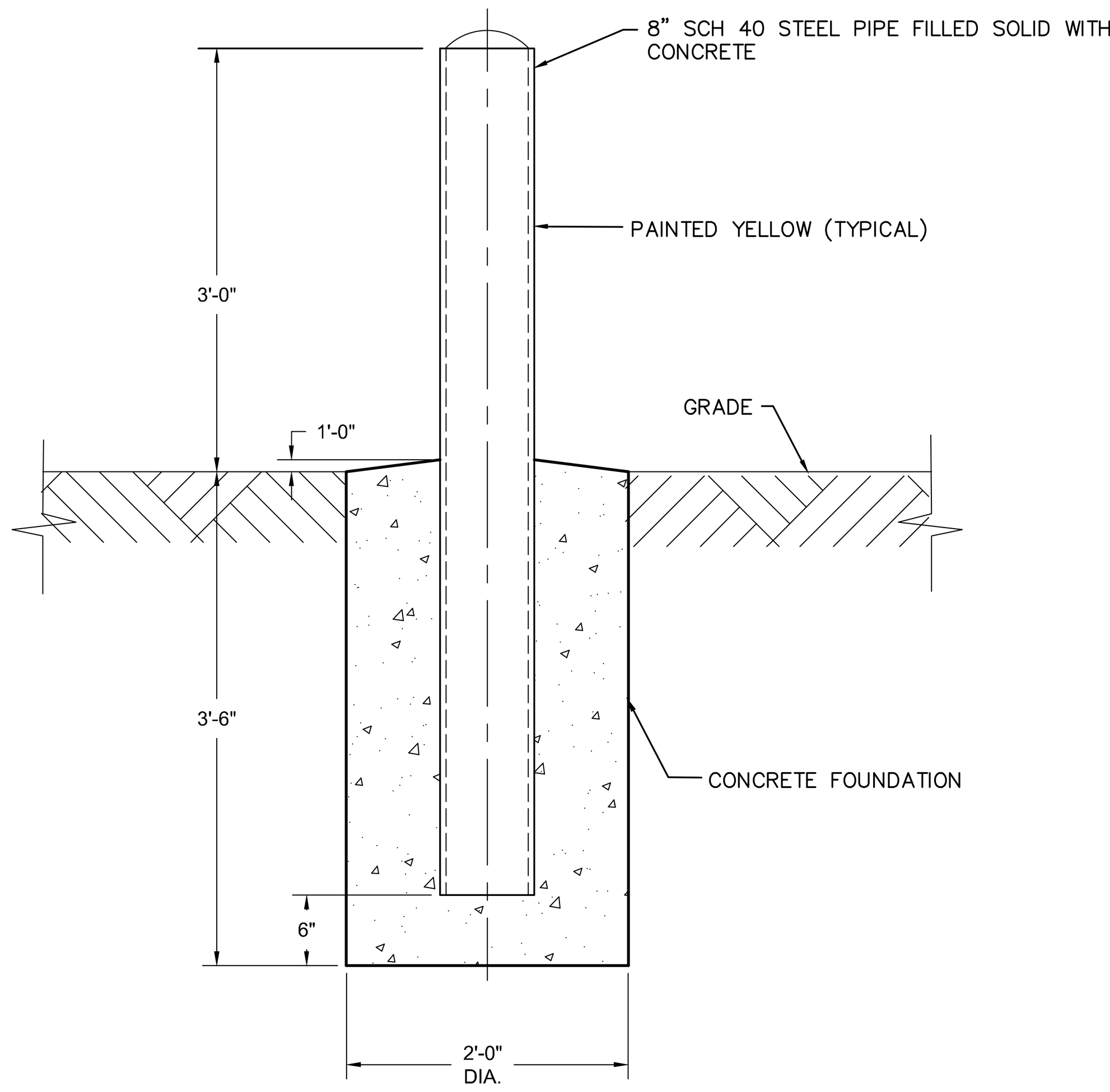


PLAN



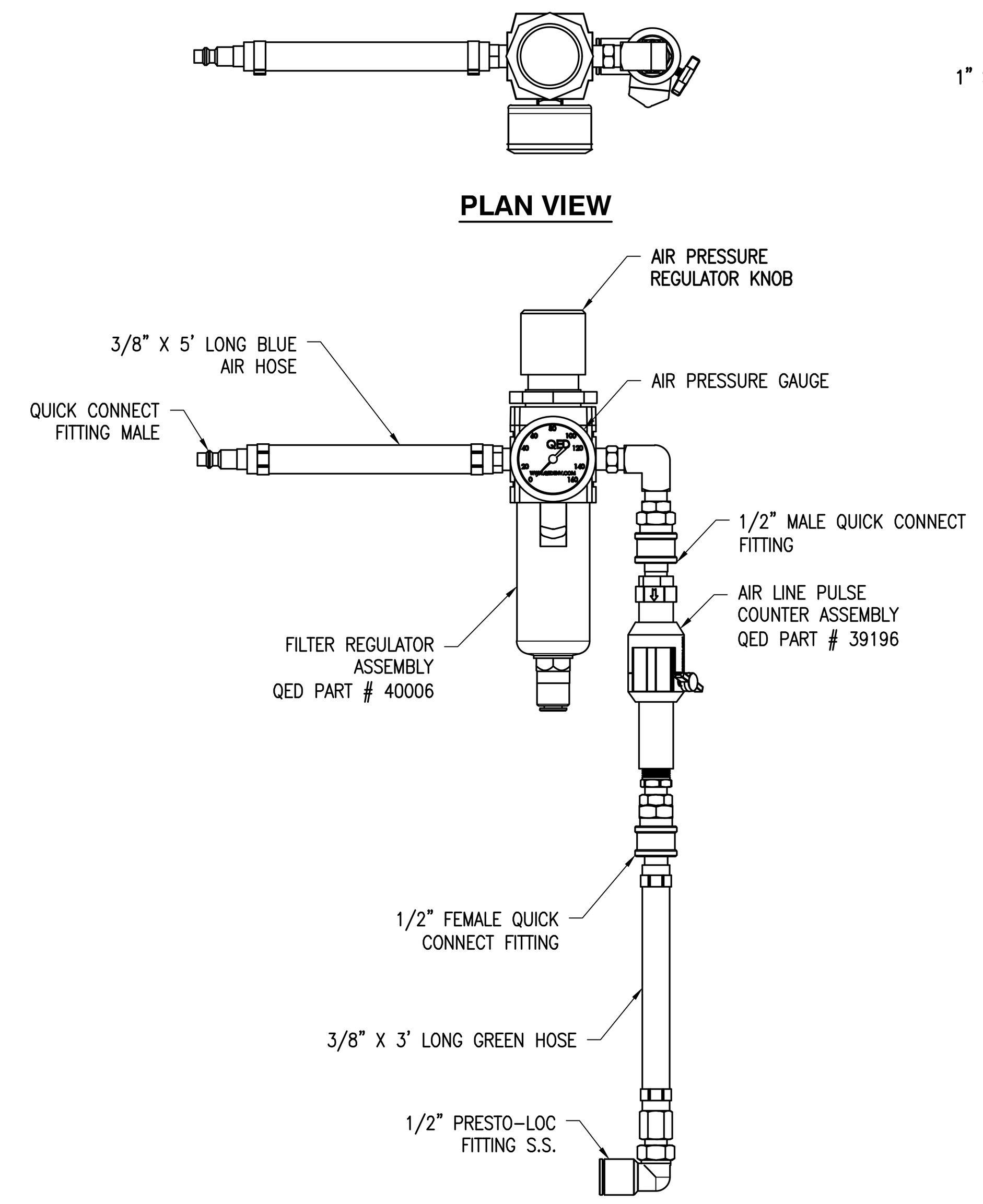
CONDENSATE SUMP

DETAIL 1 / 004
SCALE: NOT TO SCALE



BOLLARD

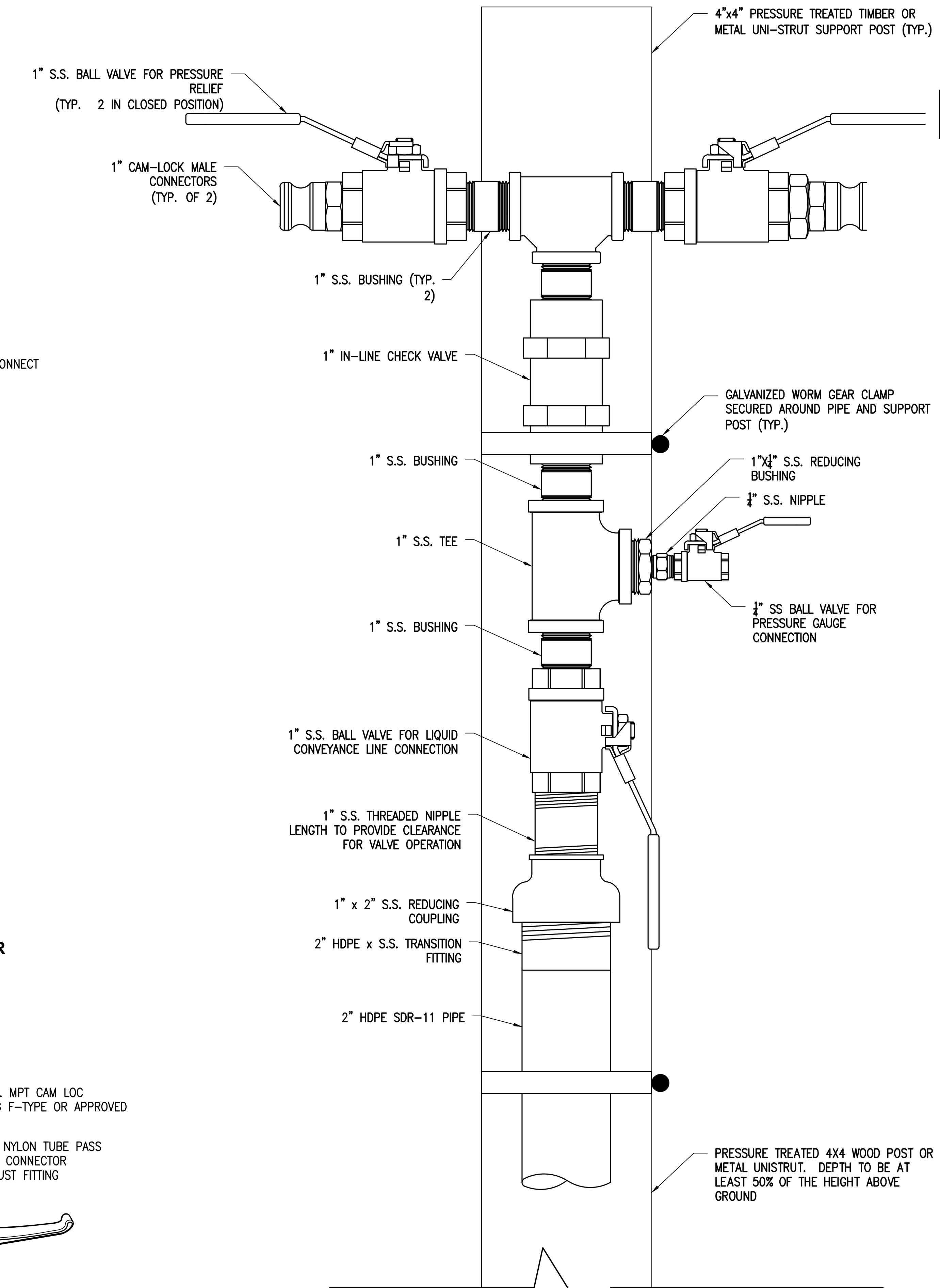
DETAIL 2 / 004
SCALE: NOT TO SCALE



QED PART #40006
QED PART #39196

DUAL EXTRACTION WELL AIR REGULATOR AND COUNTER

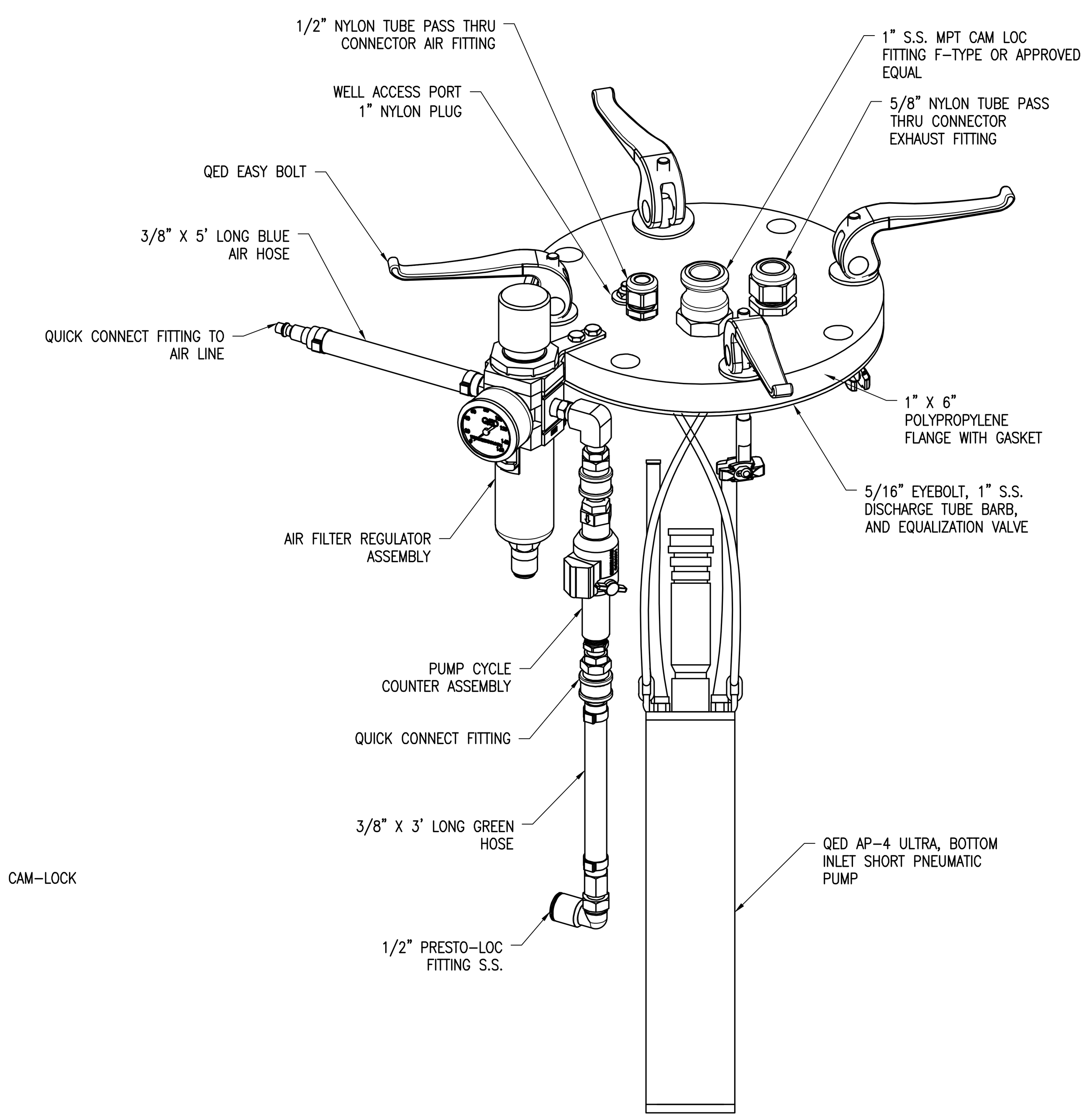
DETAIL 3 / 004
SCALE: NOT TO SCALE



QED PART #41440

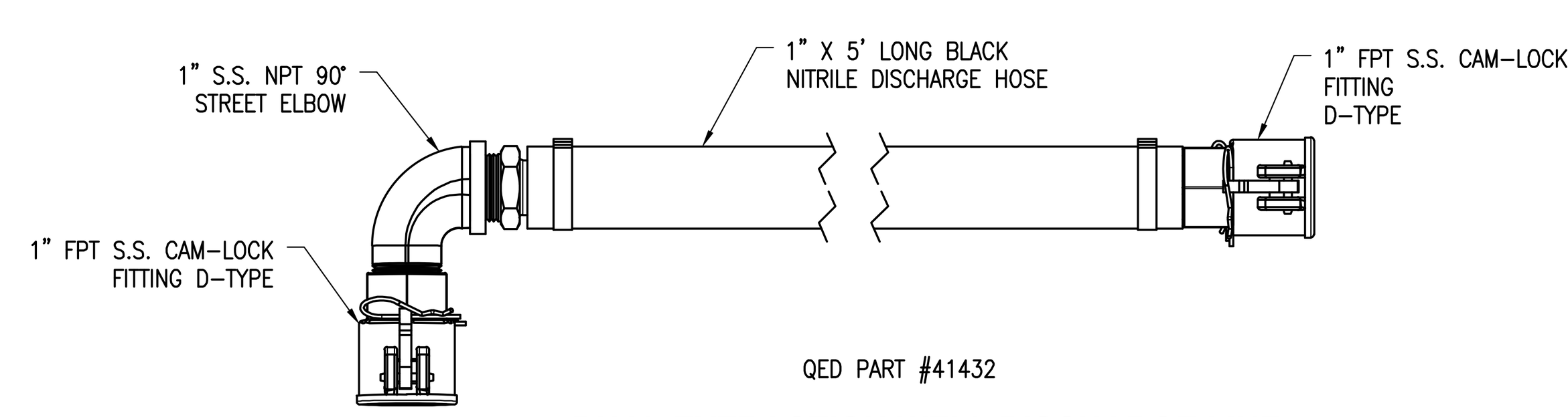
PUMP DISCHARGE ASSEMBLY

DETAIL 4 / 004
SCALE: NOT TO SCALE



PUMP FLANGE ASSEMBLY

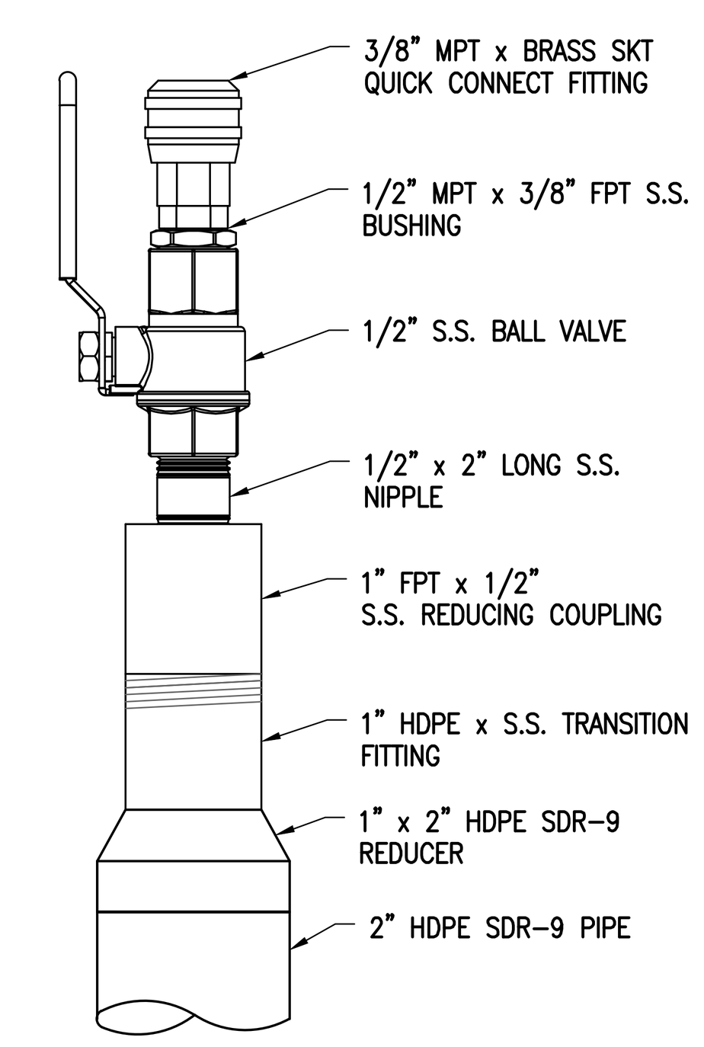
DETAIL 6 / 004
SCALE: NOT TO SCALE



QED PART #41432

DUAL EXTRACTION WELL DISCHARGE LINE

DETAIL 5 / 004
SCALE: NOT TO SCALE



AIR SUPPLY LINE VALVE

DETAIL 7 / 004
SCALE: NOT TO SCALE

NOTES:
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DANIEL RICHARD FEEZOR
PE-030292

STATE OF MISSOURI
DANIEL RICHARD FEEZOR
NUMBER PE-030292
PROFESSIONAL ENGINEER

4/13/21

PREPARED BY
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Engineering for a Better World
3377 Hollenberg Dr, Bridgeton, MO 63044. Ph: 217-483-3118
Missouri State Certificate Of Authority #: E-2009012213

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APRIL 2021
DESIGNED BY: AMR
APPROVED BY: DRF

DRAWING #
004

REVISIONS: | DATE | DSN | APV

DRAWING TITLE
DETAILS 2

PROJECT NUMBER: BT-209-21 | FILE PATH: