Report of Construction

August 2022
NORTH CELL LANDFILL GAS CONSTRUCTION
PHASE VII CONSTRUCTION
TOMOKA FARMS ROAD LANDFILL

Prepared for:

Volusia County Solid Waste Division
1990 Tomoka Farms Road
Port Orange, FL 32124

Prepared by:

HDR Engineering, Inc.
76 S. Laura Street, Suite 1600
Jacksonville, FL 32202
(904) 598-8900

Presented to:

Florida Department of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767

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Attachments

Introduction

HDR Engineering, Inc. (HDR) was retained by Volusia County (the County) to provide construction quality assurance (CQA) and certification for expansion the Landfill Gas Collection System (LFGCS) at the Class 1 Active Area of the Tomoka Farms Road Landfill (the Landfill). The gas collection system construction drawings were prepared by HDR dated August 24, 2021 and modified May 13, 2022. The project included a portion of the Phase VI design of the landfill gas master plan to enhance gas collection. SCS Field Services provided construction services for the project in May 2022. Chelsea Williams E.I. (HDR) provided part-time CQA during this period. This Construction Certification Report describes the construction activities involved, documents the materials and components of the project and any deviations.

Site Background

The Landfill is an active municipal solid waste landfill that is owned and operated by Volusia County, located at 1990 Tomoka Farms Road, Port Orange, Florida. The Landfill has a flare station located adjacent to the former landfill gas to energy (LFGTE) plant to destruct landfill gas before emitting into the atmosphere.

Project Overview

This report provides certification of construction for Phase VII of the North Cell Landfill Gas Collection System Construction Master Plan. This portion of Phase VI design of the landfill gas expansion system included installation of five (5) horizontal collectors. Expansion of LFGCS began May 18, 2022 with substantial completion on June 1, 2022.

Contact List

The parties involved in this project are listed below:

Owner:

Volusia County Solid Waste Division
1990 Tomoka Farms Road
Port Orange, Florida 32124
(386) 947-2952

Landfill Gas Master Plan Design Engineer:

HDR Engineering, Inc.
76 South Laura Street, Suite 1600
Jacksonville, Florida 32202
(904) 598-8900

Construction Contractor:

SCS Field Services
11260 Roger Bacon Drive, Suite 300
Reston, Virginia 20190
(571) 353-2041

Construction Quality Assurance and Record Documentation:

HDR Engineering, Inc.
315 E Robinson Street, Suite 400
Orlando, Florida 32828
(407) 420-4200

Surveyor:

Smith Surveying Group
9770 Baymeadows Road, Suite 121
Jacksonville, Florida 32256
(904) 260-6300

Horizontal Collector Installation

As part of Phase VI construction, five (5) horizontal gas extraction collectors were installed: HC-20B, HC-21B, HC-22B, HC-23B, and HC-23A. The installed horizontal collectors were fabricated from 6-inch SDR 11 HDPE solid pipe and 6-inch SDR 11 HDPE perforated pipe. SCS installed U-traps at the low point of each horizontal collector and excavated the trench in general sloping from the high point to the low point to collect and return leachate to the leachate collection system. SCS continuously checked the trench bottom slopes using a laser level. Table 1 below shows the length of pipe for each horizontal collector.

Table 1: Horizontal Collector Details

Horizontal Collector	**Perforated Pipe**	**Solid Pipe**
HC-20B	565 ft	50 ft
HC-21B	546 ft	50 ft
HC-22B	507 ft	50 ft
HC-23B	445 ft	50 ft
HC-23A	325 ft	50 ft

Waste hauled from trench extraction was taken to the active working face for proper disposal. Prior to placing the pipe into the bottom of the trench, one foot of tire chips was placed into the trench. One foot of tire chips was placed over the 6-inch perforated pipe, filter fabric was placed over the tire chips, and the trench was backfilled with excavated material. A hydrated bentonite plug was installed in the trench at the transition points from perforated to solid pipe to prevent lateral gas migration beyond the perforated pipe.

Tie-Ins

6-inch HDPE SDR 11 laterals were installed from the wellhead U traps to the 10-inch HDPE SDR 17 subheader. 4-inch SDR 11 condensate forcemain and 2-inch SDR 9 air supply line were installed in the same trench as the 6-inch laterals and connected to the air and forcemain lines previously installed with the 10-inch sub-header.

Design Modifications/Deviations

Below describes the design modifications and deviations that occurred prior and during construction of the five (5) horizontal collectors.

- During the project's kick-off meeting with HDR, SCS and County staff, the master plan drawings were modified. HC-21A, HC-22A were eliminated per discussions with the County due obstruction with the existing haul road. The locations of HC-23A and HC-23B were moved approximately 25 feet east to influence gas collection as result of lateral expansion of Cell 4. This modification increased spacing between HC-22 and HC-23 from 100 feet to 125 feet. These modifications are shown in **Attachment A**. It should be noted that addition of a horizontal collector is not feasible due to perforated pipe being too close to the east slope and will enhance air intrusion into the system.

- The length of solid pipe for the horizontal collectors were modified from the design plans. Design plans show 150 feet minimum of solid pipe for each horizontal collector. However, it was determined based on field conditions and past construction of horizontal collectors by SCS that 50 feet of solid pipe is sufficient to avoid air intrusion into the system. Increase in perforated pipe will enhance gas collection.
- The original design was to maintain a 1% minimum slope for the horizontal collectors. The completed As-Builts from Smith Surveying (**Attachment B**) show some areas that did not achieve 1% minimum slope. There are four points along HC-20B that did not achieve 1% slope, ranging from -1.53% to 0.86%. There are five points along HC-21B that did not achieve 1% slope, ranging from -0.84% to 0.85%. There are two points along HC-22B that did not achieve 1% slope, ranging from 0.16% to 0.76%. There are two points along HC-23B that did not achieve 1% slope, ranging from -1.74% to 0.65%. There are two points along HC-23A that did not achieve 1% slope, ranging from 0.35% to 0.52%. Considering horizontal collector is perforated, collected condensate in the horizontal collector will escape into the tire chips and permeate downward into the leachate collection system. Therefore, deviation in the slope should not impact gas collection.

Certification

Certified as-builts provided by Smith Surveying are provided in **Attachment B**. Daily logs completed by HDR and key photographs are provided in **Attachment C**. Daily logs completed by SCS are provided in **Attachment D**.

This Construction Report is submitted by HDR to Volusia County to provide Certification for quality of the construction of the project at the Tomoka Farms Road Landfill. Based upon my review of the documentation, survey, testing results, and visual observations by those under my direct supervision, it is my professional opinion that the construction of the project was performed in general conformance with the approved construction drawings prepared by HDR. I herby certify the construction as a professional engineer licensed in Florida as evidence by my stamp provided below.

HDR ENGINEERING, INC.

KANISHKA PERERA LICENSE NO. 67647 STATE OF FLORIDA PROFESSIONAL ENGINEER

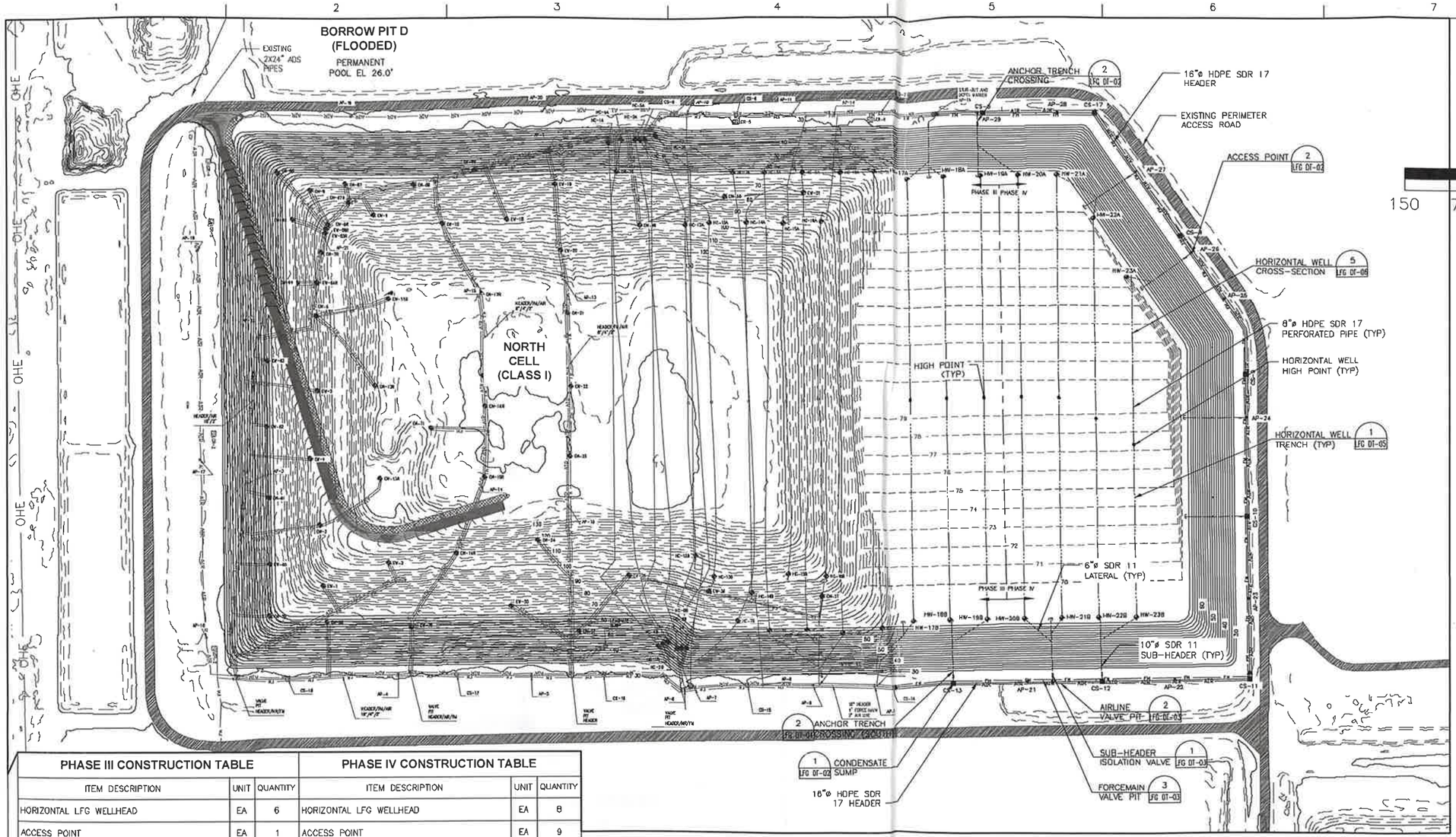
8/2/22

Kanishka Perera, P.E.

Project Engineer

ATTACHMENT A

Select Master Plan Drawings and Conformed Construction Drawings



LEGEND

- PROPERTY BOUNDARY
- LIMITS OF LINER
- 1080 EXISTING CONTOURS (MAJOR)
- EXISTING CONTOURS (MINOR)
- 1080 PROPOSED CONTOURS (MAJOR)
- PROPOSED CONTOURS (MINOR)
- LFG COMPONENTS TO BE ABANDONED
- EXISTING HORIZONTAL WELL
- EXISTING LATERAL
- EXISTING HEADER (SIZE VARIES)
- PROPOSED ACCESS ROAD PAVEMENT
- LCR-1 EXISTING LEACHATE CLEANOUT RISER
- HC-7B EXISTING HORIZONTAL LFG WELLHEAD
- EW-1 EXISTING LFG WELL
- LCRS EXISTING LEACHATE CLEANOUT
- CS-2 EXISTING CONDENSATE SUMP

LFG COMPONENTS (CURRENT PHASE)

- CS-14 CONDENSATE SUMP
- LFG VALVES
- HW-8B HORIZONTAL LFG WELLHEAD
- EW-1 VERTICAL LFG WELLHEAD
- AP-1 ACCESS POINT
- HP HIGH POINT
- HDPE SDR 11 LATERAL (SIZE VARIES)
- 10"ø HDPE SDR 11 SUB-HEADER
- 8"ø SDR 11 HORIZONTAL WELL
- HDPE HEADER (SIZE VARIES)
- AIR 2" HDPE SDR 9 AIR LINE
- FM 4" HDPE SDR 11 FORCEMAIN LINE

NOTES:

1. HORIZONTAL WELLS TO PLACED WITHIN THE LIMITS AS SHOWN.
2. 10"ø HDPE SDR 11 SUB-HEADER SHALL CONNECT TO HEADER DIRECTLY VIA TEE FITTING AND 10" ISOLATION VALVE, ADJACENT TO CONDENSATE SUMPS AND ACCESS POINTS.
3. 4" FORCEMAIN & 2" AIR LINE NOT SHOW WITH 10" SUB-HEADER FOR CLARITY. ALL SUB-HEADER LINES SHOWN INCLUDE FORCEMAIN AND AIR LINE IN THE SAME TRENCH.
4. 6" LATERAL LINES FOR VERTICAL WELLS SHALL BE CONSTRUCTED WITH 4" FORCEMAIN AND 2" AIRLINE IN THE SAME TRENCH
5. ELEVATIONS REFERED TO IN THE HORIZONTAL WELL SCHEDULE FOR THE WELLHEADS AND HIGH POINTS ARE GROUND ELEVATIONS
6. QUANTITIES IN PHASE III & IV CONSTRUCTION TABLES ARE APPROXIMATE.

PHASE III CONSTRUCTION TABLE

ITEM DESCRIPTION	UNIT	QUANTITY
HORIZONTAL LFG WELLHEAD	EA	6
ACCESS POINT	EA	1
CONDENSATE SUMP	EA	0
10" ø SUB-HEADER ISOLATION VALVES	EA	3
2"ø HDPE SDR 9 AIRLINE	LF	1,020
4"ø HDPE SDR 11 CONDENSATE FORCEMAIN	LF	1,020
6"ø HDPE SDR 11 LATERAL	LF	960
8"ø HDPE SDR 11 HORIZONTAL WELL	LF	2,630
10"ø HDPE SDR 11 SUB-HEADER	LF	720
16"ø HDPE SDR 17 HEADER	LF	300

PHASE IV CONSTRUCTION TABLE

ITEM DESCRIPTION	UNIT	QUANTITY
HORIZONTAL LFG WELLHEAD	EA	8
ACCESS POINT	EA	9
CONDENSATE SUMP	EA	7
10" ø SUB-HEADER ISOLATION VALVES	EA	6
2"ø HDPE SDR 9 AIRLINE	LF	4,300
4"ø HDPE SDR 11 CONDENSATE FORCEMAIN	LF	4,300
6"ø HDPE SDR 11 LATERAL	LF	1,280
8"ø HDPE SDR 11 HORIZONTAL WELL	LF	2,950
10"ø HDPE SDR 11 SUB-HEADER	LF	1,140
12"ø HDPE SDR 11 HEADER	LF	1,980
16"ø HDPE SDR 17 HEADER	LF	800

PHASE III & IV HORIZONTAL WELL SCHEDULE

	WELL ID	WELLHEAD A			HIGH POINT			WELLHEAD B			SOLID PIPE	PERFORATED PIPE
		NORTHING	EASTING	ELEVATION	NORTHING	EASTING	ELEVATION	NORTHING	EASTING	ELEVATION		
PHASE III	HW-17	1746909.18	625278.50	68	1746321.34	625294.56	80	1745716.81	625295.58	68	320	875
	HW-18	1746910.61	625378.49	68	1746323.24	625394.55	80	1745719.98	625395.55	68	320	875
	HW-19	1746912.05	625478.48	68	1746325.39	625494.53	80	1745722.86	625495.51	68	320	875
PHASE IV	HW-20	1746914.29	625578.46	68	1746327.01	625594.51	80	1745723.85	625595.51	68	320	875
	HW-21	1746915.99	625681.51	68	1746257.57	625695.52	80	1745726.21	625695.49	68	320	870
	HW-22	1746800.86	625779.92	68	1746184.67	625796.57	79	1745734.48	625795.47	68	320	753
	HW-23	1746644.77	625869.21	68	1746111.77	625897.63	77	1745728.50	625895.47	68	320	438

Volusia County
FLORIDA

ISSUE	DATE	DESCRIPTION
A	JULY 2016	BIDDING DOCUMENTS

PREPARED BY: JUNOS REED, P.E.

JUNOS REED LICENSE No 86408 STATE OF FLORIDA PROFESSIONAL ENGINEER

LANDFILL GAS MASTER PLAN

CLASS I ACTIVE AREA
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA

LFG MASTER PLAN PHASE III & IV (OVERALL)

0 1" 2"

SCALE 1" = 300'

LFG-02

Volusia County
FLORIDA

ISSUE	DATE	DESCRIPTION
A	JULY 2016	BIDDING DOCUMENTS

PREPARED BY: JUNOS REED, P.E.

JUNOS REED LICENSE No 66408 STATE OF FLORIDA PROFESSIONAL ENGINEER

LANDFILL GAS MASTER PLAN

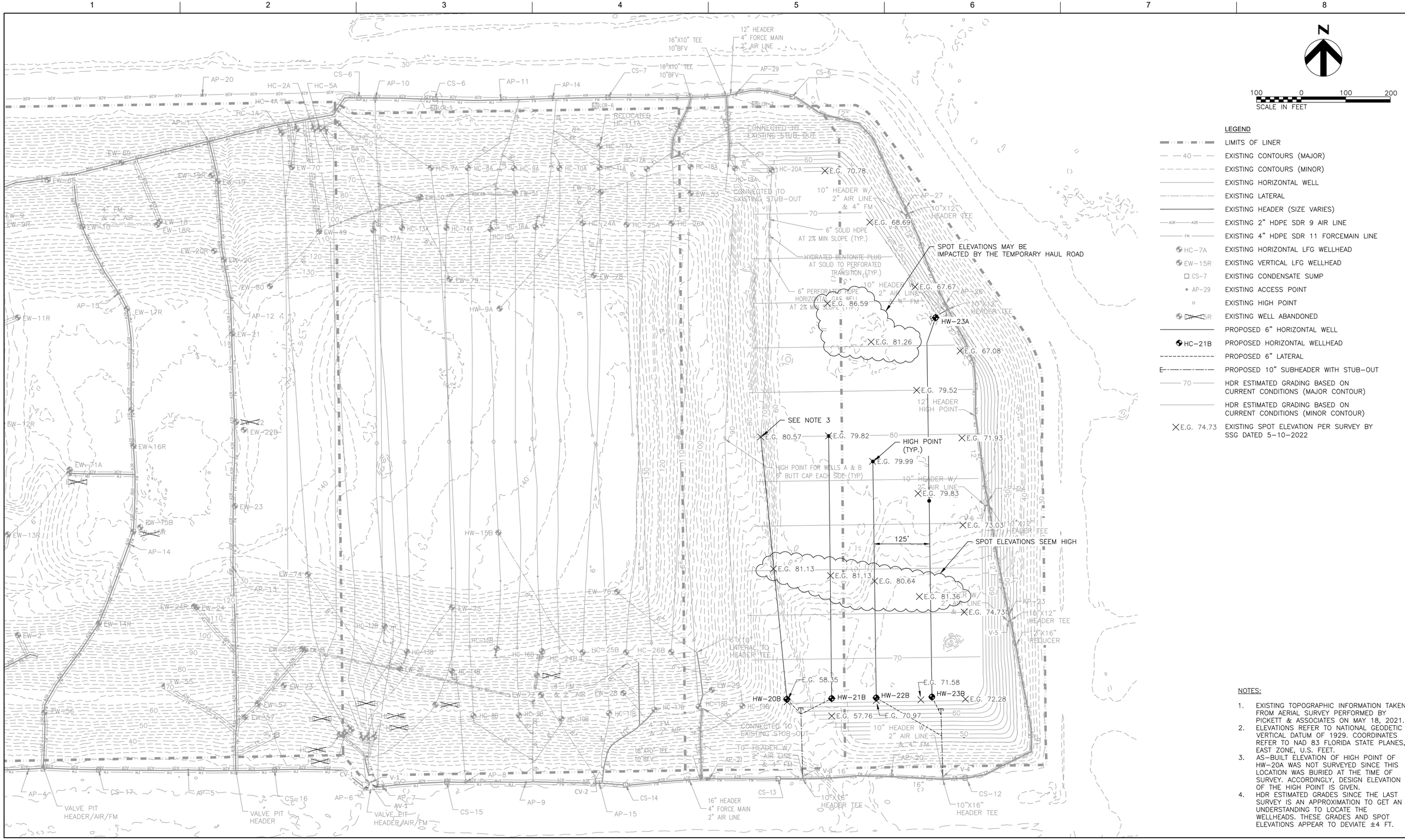
CLASS I ACTIVE AREA
TOMOKA FARMS ROAD LANDFILL
VOLUSIA COUNTY, FLORIDA

LFG MASTER PLAN PHASE IV

0 1"

SCALE 1" = 150'

LFG-02-PHIV



NOTES:

1. EXISTING TOPOGRAPHIC INFORMATION TAKEN FROM AERIAL SURVEY PERFORMED BY PICKETT & ASSOCIATES ON MAY 18, 2021.
2. ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929. COORDINATES REFER TO NAD 83 FLORIDA STATE PLANES, EAST ZONE, U.S. FEET.
3. AS-BUILT ELEVATION OF HIGH POINT OF HW-20A WAS NOT SURVEYED SINCE THIS LOCATION WAS BURIED AT THE TIME OF SURVEY. ACCORDINGLY, DESIGN ELEVATION OF THE HIGH POINT IS GIVEN.
4. HDR ESTIMATED GRADES SINCE THE LAST SURVEY IS AN APPROXIMATION TO GET AN UNDERSTANDING TO LOCATE THE WELLHEADS. THESE GRADES AND SPOT ELEVATIONS APPEAR TO DEVIATE ±4 FT.

ISSUE	DATE	DESCRIPTION
B	8/24/21	CONFORMED CONSTRUCTION DRAWINGS

PROJECT MANAGER	M. ROBERTS, P.E.
DRAWN BY	J. RAYMOND
CHECKED BY	K. PERERA, P.E.
PROJECT NUMBER	10166567

Volusia County FLORIDA

TOMOKA FARMS ROAD LANDFILL
PHASE VI CONSTRUCTION DRAWINGS
VOLUSIA COUNTY, FLORIDA

PROPOSED GAS COLLECTION SYSTEM

0 1" 2"

FILENAME	Gas Well Staking - August 2021.dwg
SCALE	1" = 100'
SHEET	1

HORIZONTAL WELL SCHEDULE

WELLHEAD A				HIGH POINT				WELLHEAD B				SOLID PIPE LENGTH (FT)	PERFORATED PIPE LENGTH (FT)
WELL ID	NORTHING	EASTING	ELEVATION	WELL ID	NORTHING	EASTING	ELEVATION	WELL ID	NORTHING	EASTING	ELEVATION		
HW-23	1746594.340	625936.078	68	HW-20	1746327.359	625543.923	NA	HW-20	1745738.189	625602.438	68*	160	432
				HW-21	1746328.634	625696.033	80	HW-21	1745739.747	625702.951	68*	160	429
				HW-22	1746271.498	625795.330	80	HW-22	1745741.297	625802.923	71	160	370
				HW-23	1746183.190	625921.606	78	HW-23	1745743.235	625927.908	72	220	634

ELEVATIONS SHOWN ARE THE EXISTING GROUND ELEVATIONS

*LOCATION IS CURRENTLY BEING FILLED AND IS EXPECTED TO BE FILLED TO PROPOSED WELLHEAD ELEVATION TOWARDS THE END OF THE CURRENT CONSTRUCTION PHASE

NOTES:

1. ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929. COORDINATES REFER TO NAD 83 FLORIDA STATE PLANES, EAST ZONE, U.S. FEET.

ISSUE	DATE	DESCRIPTION
B	8/24/21	CONFORMED CONSTRUCTION DRAWINGS

PROJECT MANAGER	M. ROBERTS, P.E.
DRAWN BY	J. RAYMOND
CHECKED BY	K. PERERA, P.E.
PROJECT NUMBER	10166567

Volusia County FLORIDA

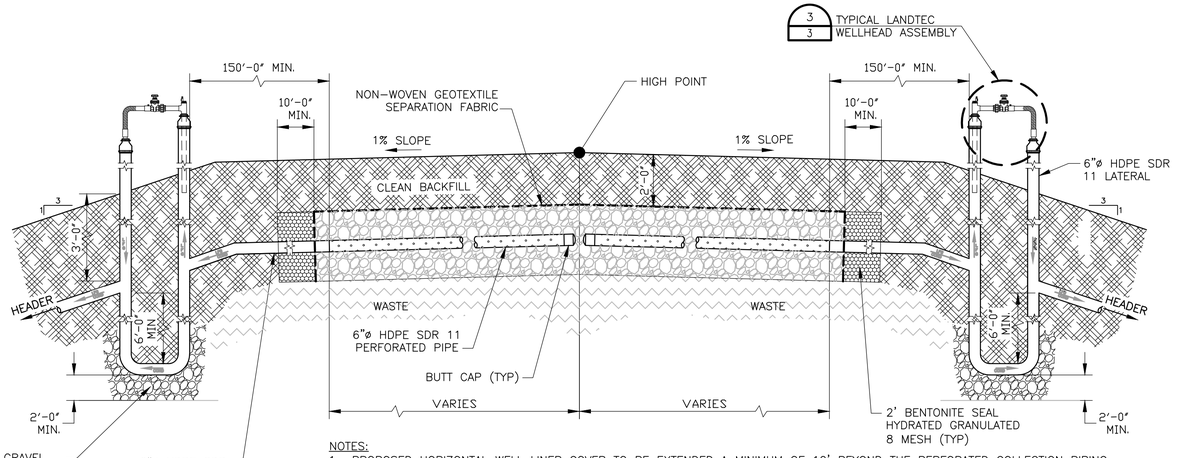
TOMOKA FARMS ROAD LANDFILL
PHASE VI CONSTRUCTION DRAWINGS
VOLUSIA COUNTY, FLORIDA

HORIZONTAL WELL SCHEDULE

0 1" 2"

FILENAME	Gas Well Staking - August 2021.dwg
SCALE	AS SHOWN

SHEET 2



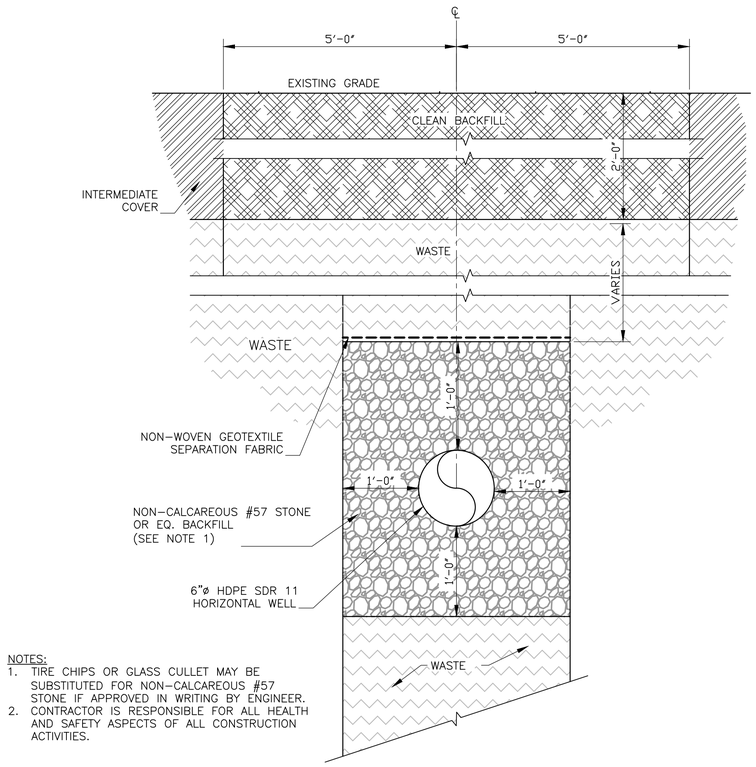
NOTES:

1. PROPOSED HORIZONTAL WELL LINER COVER TO BE EXTENDED A MINIMUM OF 10' BEYOND THE PERFORATED COLLECTION PIPING.
2. PROPOSED HORIZONTAL WELLHEADS TO BE CONSTRUCTED ON EDGE OF TOP DECK AREA.
3. CONTRACTOR TO PLACE STONE 3H:1V AWAY FROM PERFORATED PIPE EXTENDING APPROXIMATELY 10' BEYOND PERFORATIONS.
4. HEADER AND/OR LATERAL PIPING MAY BE IN CLOSE PROXIMITY TO THE ANCHOR TRENCH AND/OR LINER. CONTRACTOR TO TAKE ADDITIONAL PRECAUTIONS DURING ANY CONSTRUCTION RELATED ACTIVITIES NEAR LINER. ANY DAMAGE CAUSED BY THE CONSTRUCTION ACTIVITIES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. CONDITIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND MUST BE VERIFIED DURING CONSTRUCTION BY THE CONTRACTOR.
6. LINER AND ANCHOR TRENCH HAVE BEEN OMITTED FROM THIS DETAIL FOR CLARITY.
7. 6"ø HDPE SDR11 PERFORATED PIPE MAY SUBSTITUTED FOR 8"ø PIPE.
8. ALTERNATIVELY, LOW POINT CONFIGURATION MAY BE UTILIZED.

TYPICAL HORIZONTAL WELL CROSS-SECTION

1 / –

NOT TO SCALE



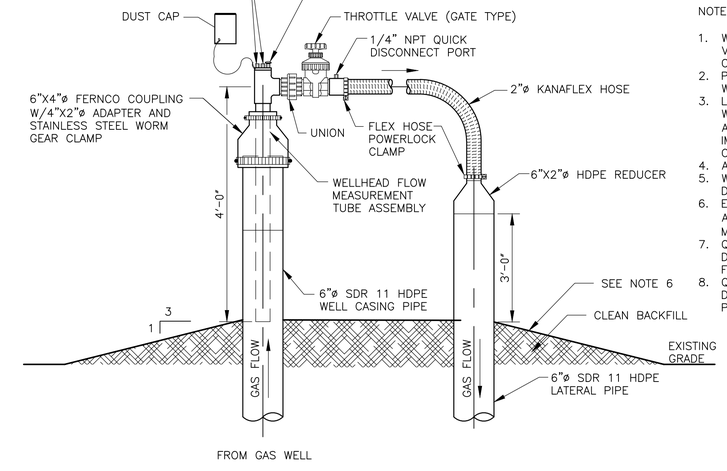
NOTES:

1. TIRE CHIPS OR GLASS CULLET MAY BE SUBSTITUTED FOR NON-CALCAREOUS #57 STONE IF APPROVED IN WRITING BY ENGINEER.
2. CONTRACTOR IS RESPONSIBLE FOR ALL HEALTH AND SAFETY ASPECTS OF ALL CONSTRUCTION ACTIVITIES.

TYPICAL HORIZONTAL WELL TRENCH (FRONT VIEW)

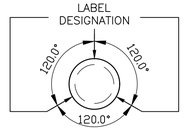
2 / –

NOT TO SCALE



NOTES:

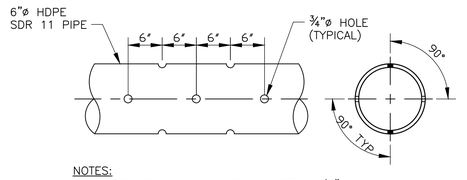
1. WELLHEAD ASSEMBLY SHOWN REPRESENTS 2"ø LANDTEC VERTICAL ACCU-FLO WELLHEAD ASSEMBLY. QED WELLHEAD OR APPROVED EQUAL MAY BE SUBSTITUTED.
2. PROVIDE HIGH VISIBILITY TAPE AROUND TOP 1-FOOT OF WELL CASING AND LATERAL PIPE.
3. LABEL ALL WELL RISERS WITH IDENTIFICATION NUMBER WITH YELLOW OR WHITE PAINT AND STENCILS OR ADHESIVE LABEL AT 2" MINIMUM HEIGHT AND LOCATED IMMEDIATELY BELOW HIGH VISIBILITY TAPE ON 3 SIDES OFFSET BY APPROXIMATELY 120°.
4. AIR AND FORCEMAIN LINES NOT SHOWN FOR CLARITY.
5. WELLHEAD TO BE CONSTRUCTED TO ALLOW INSTALLATION OF DEWATERING PUMP.
6. EXISTING GRADE TO BE SLOPED FOR POSITIVE DRAINAGE IN A 1'-0"ø SURROUNDING SURFACE EXPRESSION WITH A MAXIMUM OF 6" ABOVE SURROUNDING GRADE.
7. QED PART NUMBER 40072 INCLUDED IN FLANGE PACKAGE DETAIL TO BE INSTALLED AT TERMINATING END OF FORCEMAIN PIPE AT THE WELLHEAD.
8. QED PART NUMBER 40070 INCLUDED IN FLANGE PACKAGE DETAIL TO BE INSTALLED AT TERMINATING END OF AIRLINE PIPE AT THE WELLHEAD.



TYPICAL LANDTEC WELLHEAD ASSEMBLY

3 / 3

NOT TO SCALE



NOTES:

1. PERFORATIONS SHALL BE ADJUSTED 1/4" SMALLER THAN THE GRAVEL, TIRE CHIP OR GLASS CULLET SIZE.

TYPICAL PERFORATED PIPE

4 / –

NOT TO SCALE

ISSUE	DATE	DESCRIPTION
B	8/24/21	CONFORMED CONSTRUCTION DRAWINGS

PROJECT MANAGER	M. ROBERTS, P.E.
DRAWN BY	J. RAYMOND
CHECKED BY	K. PERERA, P.E.
PROJECT NUMBER	10166567

Volusia County FLORIDA

TOMOKA FARMS ROAD LANDFILL
PHASE VI CONSTRUCTION DRAWINGS
VOLUSIA COUNTY, FLORIDA

DETAILS

0 1" 2"

FILENAME	Gas Well Staking - August 2021.dwg
SCALE	AS SHOWN
SHEET	3

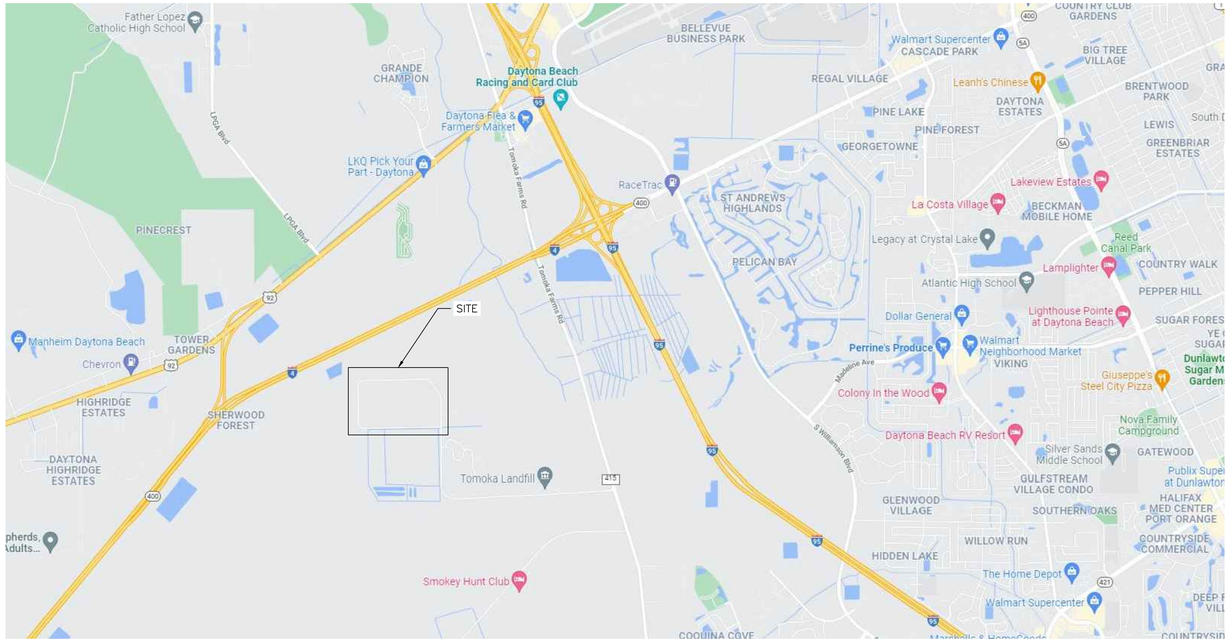
ATTACHMENT B

As-Built Survey (Smith Surveying Group)

MAP SHOWING A AS-BUILT SURVEY OF

NOT A BOUNDARY SURVEY

TAMOKA FARMS ROAD LANDFILL
PHASE VI CONSTRUCTION DRAWINGS
VOLUSIA COUNTY, FLORIDA



VICINITY MAP

NOTES:

1. EXISTING TOPOGRAPHIC INFORMATION TAKEN FROM AERIAL SURVEY PERFORMED BY PICKETT & ASSOCIATES ON MAY 18, 2021.
2. ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929. COORDINATES REFER TO NAD 83 FLORIDA STATE PLANES, EAST ZONE, U.S. FEET.
3. 4" FORCEMAIN & 2" AIR LINE NOT SHOWN WITH 12" HEADER FOR CLARITY.
4. 6" LATERAL LINES FOR VERTICAL WELLS SHALL BE CONSTRUCTED WITH 4" FORCEMAIN AND 2" AIR LINE IN THE SAME TRENCH.

LEGEND:

EW-27	EXISTING VERTICAL EXTRACTION WELL
EW-27	EXISTING VERTICAL EXTRACTION WELL WITH PUMP
HC-16B	EXISTING HORIZONTAL COLLECTOR
HC-15B	EXISTING HORIZONTAL COLLECTOR WITH PUMP
RW-9	EXISTING REMOTE EXTRACTION WELL
LS-1	EXISTING LEACHATE SUMP
AP-6	EXISTING ACCESS POINT
CS-15	EXISTING CONDENSATE SUMP
o	EXISTING HORIZONTAL COLLECTOR HIGH POINT
----------	EXISTING AIR SUPPLY LINE
————	EXISTING HEADER/LATERAL
— · — · — · —	EXISTING DEWATERING DISCHARGE LINE
EW-27	PHASE 1 - PROPOSED VERTICAL EXTRACTION WELL
EW-27	PHASE 2 - PROPOSED VERTICAL EXTRACTION WELL
~~EW-27~~	PHASE 1 - EXISTING WELL TO BE ABANDONED
~~EW-27~~	PHASE 2 - EXISTING WELL TO BE ABANDONED
LS-2	PHASE 1 - PROPOSED LEACHATE SUMP
EW-27	PHASE 1 - PROPOSED PUMP IN EXISTING EXTRACTION WELL
V-1	PHASE 1 - PROPOSED HEADER/LATERAL VALVE
AV-1	PHASE 1 - PROPOSED AIR SUPPLY ISOLATION VALVE
AV-4	PHASE 2 - PROPOSED AIR SUPPLY ISOLATION VALVE
CV-1	PHASE 1 - PROPOSED DEWATERING DISCHARGE ISOLATION VALVE
CV-5	PHASE 2 - PROPOSED DEWATERING DISCHARGE ISOLATION VALVE
----------	PHASE 1 - PROPOSED AIR SUPPLY LINE
----------	PHASE 2 - PROPOSED AIR SUPPLY LINE
————	PHASE 1 - PROPOSED HEADER/LATERAL
————	PHASE 2 - PROPOSED HEADER/LATERAL
— · — · — · —	PHASE 1 - PROPOSED DEWATERING DISCHARGE LINE
— · — · — · —	PHASE 2 - PROPOSED DEWATERING DISCHARGE LINE

SURVEYOR LEGEND

AB AS-BUILT
LF LINIER FEET

SURVEYOR NOTES:

1. THIS IS SURVEY IS TO SHOW AS-BUILT CONDITIONS OF THE HORIZONTAL WELLS FOR THE PHASE VI GAS SYSTEM.
2. THE LAST DATE IN FIELD FOR THIS SURVEY WAS 6/1/2022.
3. ELEVATIONS WERE DERIVED FROM ON SITE BENCH MARKS AS SUPPLIED BY CLIENT AND ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
4. COORDINATES SHOWN HEREON WERE SUPPLIED BY CLIENT AND ARE ASSUMED TO BE RELATIVE NORTH AMERICAN DATUM OF 1983, FLORIDA EAST ZONE 901, IN U.S. SURVEY FEET.
5. ALL ELEVATIONS UNLESS NOTED OTHERWISE ARE TO TOP OF PIPE.
6. * DENOTES INFORMATION AS SUPPLIED BY CONTRACTOR AND NOT CERTIFIED BY THIS FIRM.

THIS MAP IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

SSG
SMITH SURVEYING GROUP
FLORIDA CERTIFICATE OF AUTHORIZATION NO. LB 8368
9770 BAYMEADOWS ROAD, SUITE 121
JACKSONVILLE, FLORIDA 32256
TJS@smithsurvey.net PH# (904)260-6300

7/5/2022
DocuSigned by: Tom Smith 71B76FE6EC264D7...
THOMAS J. SMITH FL PSM NO. 6500
DATE SIGNED:

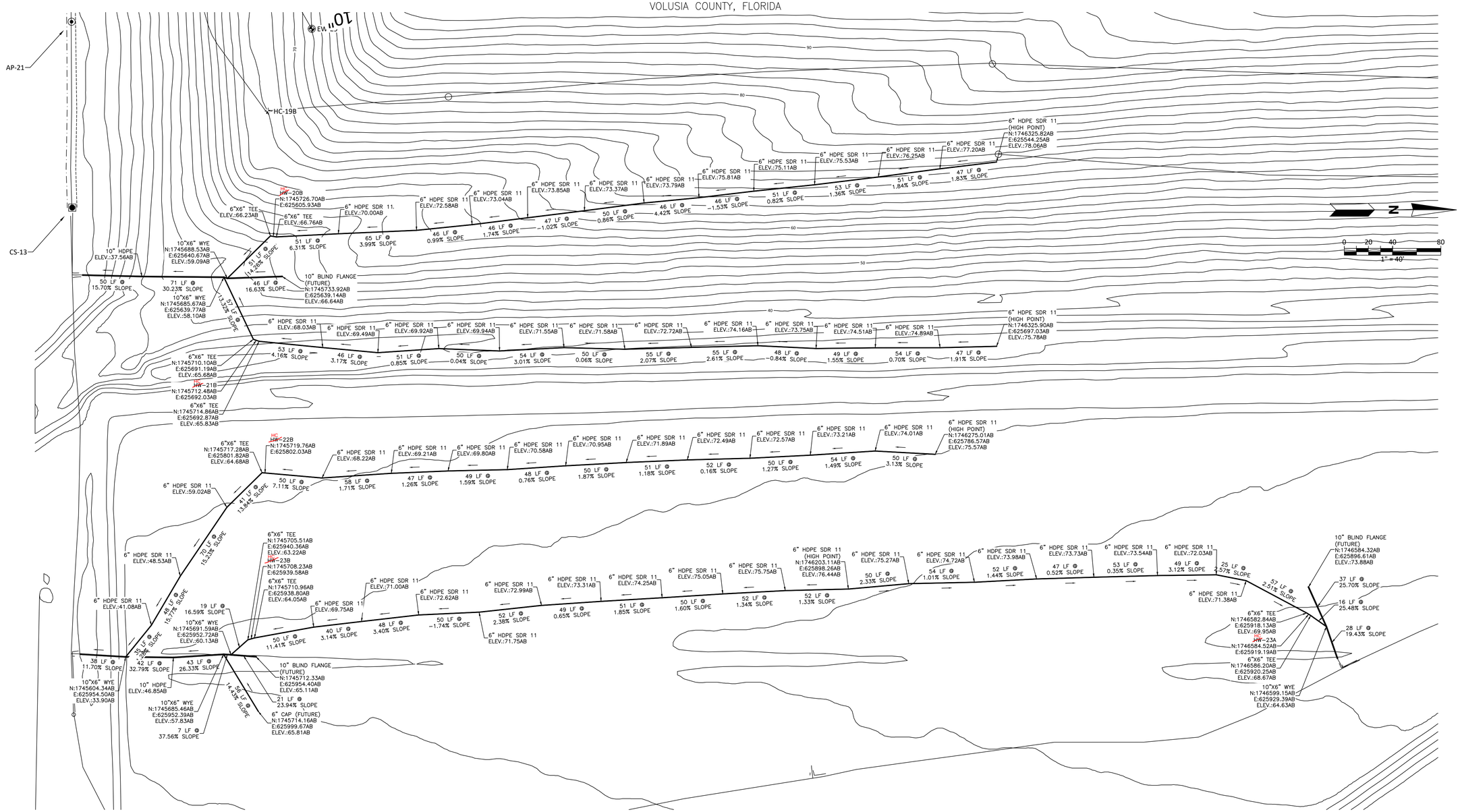
FOR: SCS FIELD SERVICES
DATE: 6/7/2022
WORK ORDER NO.: 574-21
PROJECT NUMBER: 43721
SHEET 1 OF 2 SHEETS
DRAWING NO. D-43721 HZ WELLS

PARTY CHIEF: RUSS COMPUTED BY: N/A CADD TECH: DTS DC FILE NO.: 43721 F.B.: N/A P.G.: N/A

MAP SHOWING A AS-BUILT SURVEY OF

NOT A BOUNDARY SURVEY

TAMOKA FARMS ROAD LANDFILL
PHASE VI CONSTRUCTION DRAWINGS
VOLUSIA COUNTY, FLORIDA



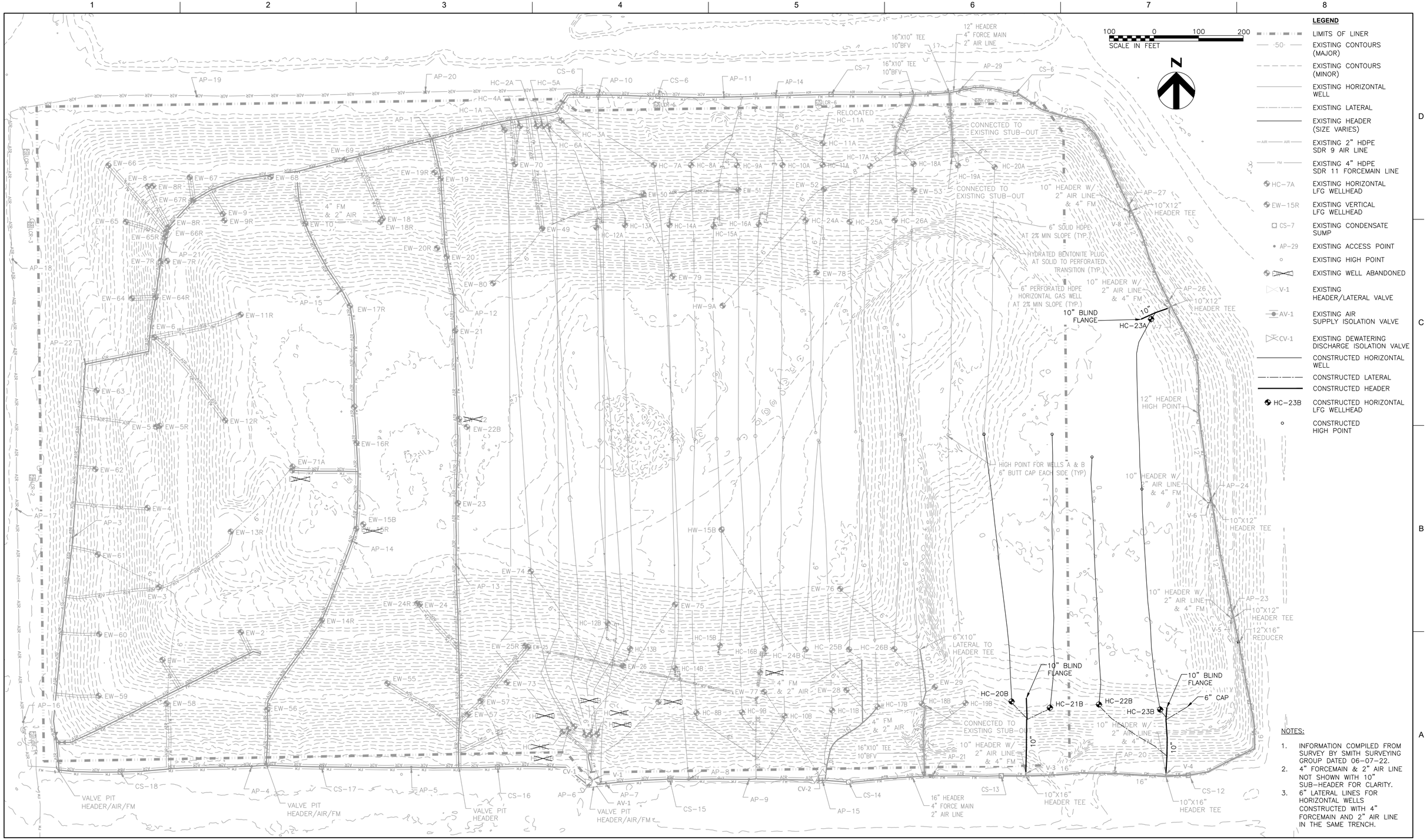
THIS MAP IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

SSG
SMITH SURVEYING GROUP
FLORIDA CERTIFICATE OF AUTHORIZATION NO. LB 8368
9770 BAYMEADOWS ROAD, SUITE 121
JACKSONVILLE, FLORIDA 32256
TJS@smithsurvey.net PH# (904)260-6300

7/5/2022
DS
DocuSigned by:
Tom Smith
71B76FE0EC284D7...
THOMAS J. SMITH
License Number 6500
STATE OF FLORIDA
SEALED
Digitally signed by THOMAS J SMITH
THOMAS J. SMITH
FL PSM NO. 6500
DATE SIGNED:

FOR: SCS FIELD SERVICES
DATE: 6/7/2022
WORK ORDER NO.: 574-21
PROJECT NUMBER: 43721
SHEET 2 OF 2 SHEETS
DRAWING NO. D-43721 HZ WELLS

PARTY CHIEF: RUSS COMPUTED BY: N/A CADD TECH: DTS DC FILE NO.: 43721 F.B.: N/A P.G.: N/A



ISSUE	DATE	DESCRIPTION
C	07/2022	AS-BUILT
B	01/2022	AS-BUILT
A	08/2019	AS-BUILT

PROJECT MANAGER	M. ROBERTS, P.E.
DRAWN BY	J. RAYMOND
CHECKED BY	K. PERERA, P.E.
PROJECT NUMBER	10166567

Volusia County FLORIDA

TOMOKA FARMS ROAD LANDFILL
PHASE VI RECORD DRAWINGS
VOLUSIA COUNTY, FLORIDA

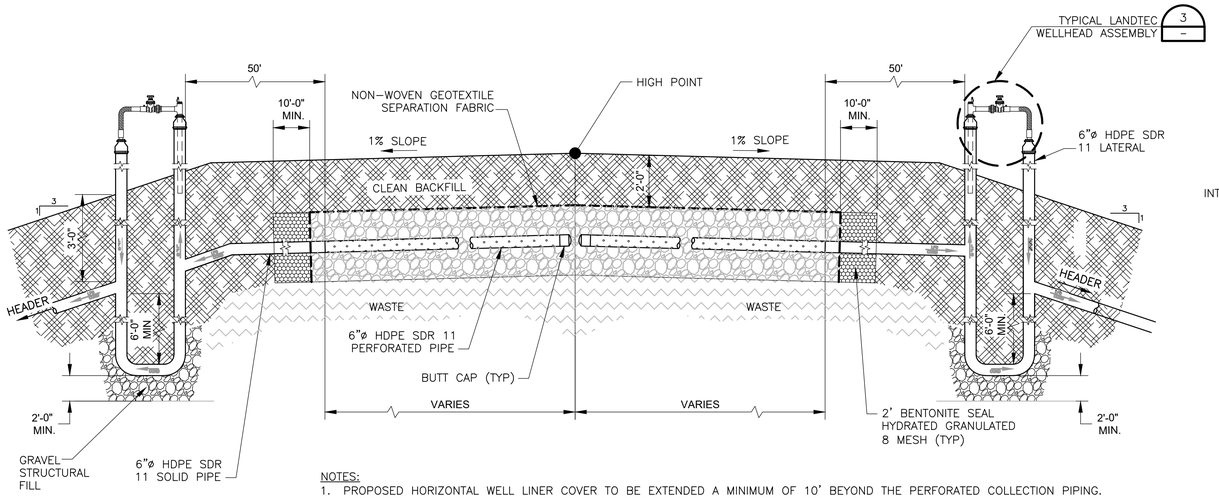
PHASE VII CONSTRUCTION

0 1" 2"

FILENAME LFG-03.dwg

SCALE 1" = 100'

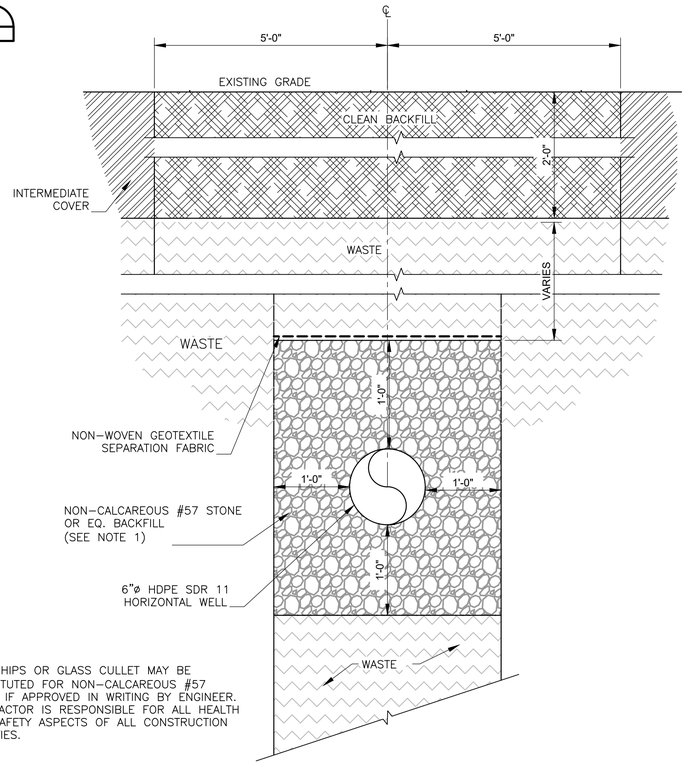
SHEET
LFG-03



NOTES:
1. PROPOSED HORIZONTAL WELL LINER COVER TO BE EXTENDED A MINIMUM OF 10' BEYOND THE PERFORATED COLLECTION PIPING.
2. PROPOSED HORIZONTAL WELLHEADS TO BE CONSTRUCTED ON EDGE OF TOP DECK AREA.
3. CONTRACTOR TO PLACE STONE 3H:1V AWAY FROM PERFORATED PIPE EXTENDING APPROXIMATELY 10' BEYOND PERFORATIONS.
4. HEADER AND/OR LATERAL PIPING MAY BE IN CLOSE PROXIMITY TO THE ANCHOR TRENCH AND/OR LINER. CONTRACTOR TO TAKE ADDITIONAL PRECAUTIONS DURING ANY CONSTRUCTION RELATED ACTIVITIES NEAR LINER. ANY DAMAGE CAUSED BY THE CONSTRUCTION ACTIVITIES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. CONDITIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND MUST BE VERIFIED DURING CONSTRUCTION BY THE CONTRACTOR.
6. LINER AND ANCHOR TRENCH HAVE BEEN OMITTED FROM THIS DETAIL FOR CLARITY.
7. 6"ø HDPE SDR11 PERFORATED PIPE MAY SUBSTITUTED FOR 8"ø PIPE.
8. ALTERNATIVELY, LOW POINT CONFIGURATION MAY BE UTILIZED.

TYPICAL HORIZONTAL WELL CROSS-SECTION
1

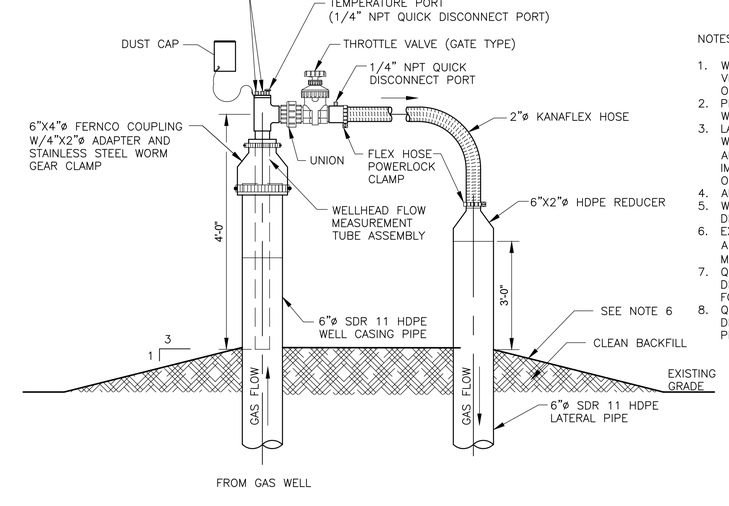
NOT TO SCALE



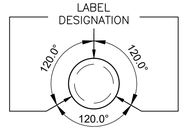
NOTES:
1. TIRE CHIPS OR GLASS CULLET MAY BE SUBSTITUTED FOR NON-CALCAREOUS #57 STONE IF APPROVED IN WRITING BY ENGINEER.
2. CONTRACTOR IS RESPONSIBLE FOR ALL HEALTH AND SAFETY ASPECTS OF ALL CONSTRUCTION ACTIVITIES.

TYPICAL HORIZONTAL WELL TRENCH (FRONT VIEW)
2

NOT TO SCALE

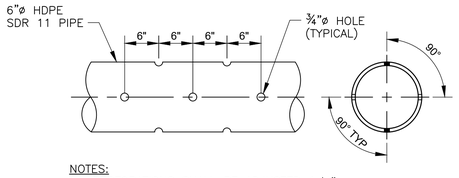


NOTES:
1. WELLHEAD ASSEMBLY SHOWN REPRESENTS 2"ø LANDTEC VERTICAL ACCU-FLO WELLHEAD ASSEMBLY. QED WELLHEAD OR APPROVED EQUAL MAY BE SUBSTITUTED.
2. PROVIDE HIGH VISIBILITY TAPE AROUND TOP 1-FOOT OF WELL CASING AND LATERAL PIPE.
3. LABEL ALL WELL RISERS WITH IDENTIFICATION NUMBER WITH YELLOW OR WHITE PAINT AND STENCILS OR ADHESIVE LABEL AT 2" MINIMUM HEIGHT AND LOCATED IMMEDIATELY BELOW HIGH VISIBILITY TAPE ON 3 SIDES OFFSET BY APPROXIMATELY 120°.
4. AIR AND FORCEMAIN LINES NOT SHOWN FOR CLARITY.
5. WELLHEAD TO BE CONSTRUCTED TO ALLOW INSTALLATION OF DEWATERING PUMP.
6. EXISTING GRADE TO BE SLOPED FOR POSITIVE DRAINAGE IN A 1'-0"ø SURROUNDING SURFACE EXPRESSION WITH A MAXIMUM OF 6" ABOVE SURROUNDING GRADE.
7. QED PART NUMBER 40072 INCLUDED IN FLANGE PACKAGE DETAIL TO BE INSTALLED AT TERMINATING END OF FORCEMAIN PIPE AT THE WELLHEAD.
8. QED PART NUMBER 40070 INCLUDED IN FLANGE PACKAGE DETAIL TO BE INSTALLED AT TERMINATING END OF AIRLINE PIPE AT THE WELLHEAD.



TYPICAL LANDTEC WELLHEAD ASSEMBLY
3

NOT TO SCALE



NOTES:
1. PERFORATIONS SHALL BE ADJUSTED 1/4" SMALLER THAN THE GRAVEL, TIRE CHIP OR GLASS CULLET SIZE.

TYPICAL PERFORATED PIPE
4

NOT TO SCALE

PHASE VII CONSTRUCTION TABLE	
HORIZONTAL LFG WELLHEAD	5
2"ø HDPE SDR 9 AIRLINE	763
4"ø HDPE SDR 11 CONDENSATE FORCEMAIN	763
6"ø HDPE SDR 11 LATERAL	388
10"ø HDPE SDR 11 SUB-HEADER	375

PHASE VII HORIZONTAL WELL SCHEDULE

Well	Northing (ft)	Easting (ft)	High Point Northing (ft)	High Point Easting (ft)	High Point Elevation (ft)	Solid Pipe (ft)	Slotted Pipe (ft)	Gravel Pack (ft)
HC-20B	1745726.70	625605.93	1746325.82	625544.25	78.1	565	50.0	565.0
HC-21B	1745712.48	625692.03	1746325.90	625697.03	75.8	546	50.0	546.0
HC-22B	1745719.76	625802.03	1746275.01	625786.57	75.6	507	50.0	507.0
HC-23B	1745708.23	625939.58	1746203.11	625898.26	76.4	445	50.0	445.0
HC-23A	1746584.52	625919.19	1746203.11	625898.26	76.4	325	50.0	325.0

ISSUE	DATE	DESCRIPTION
C	07/2022	AS-BUILT
B	01/2022	AS-BUILT
A	08/2019	AS-BUILT

PROJECT MANAGER	M. ROBERTS, P.E.
DRAWN BY	J. RAYMOND
CHECKED BY	K. PERERA, P.E.
PROJECT NUMBER	10166567

Volusia County FLORIDA

TOMOKA FARMS ROAD LANDFILL
PHASE VI RECORD DRAWINGS
VOLUSIA COUNTY, FLORIDA

PHASE VII CONSTRUCTION

0 1" 2"

FILENAME LFG DT-01.dwg
SCALE ##########

SHEET
LFG DT-01

ATTACHMENT C

HDR Field Logs and Site Photographs

Day & Date:
Wednesday, May 18, 2022

Project Name & Location:
Tomoka Farms Road Landfill Phase VII Construction; 1990 Tomoka Farms Road Volusia County, Florida

Weather:
Sunny

SCS Construction Team Members on Site:	**Relevant Visitors to Observed Work Areas:**
1. Teddy Blevins	1.
2. Anthony Lawless	
3. Gilberto Gonzalez	

Summary of Work:
SCS mobilized to the site early Wednesday morning and began welding U-traps. SCS started excavating trench for HC-23A. SCS started north as the high point. After discussions with HDR, SCS, and Volusia County, it was confirmed HC-23A should be the low point. After clarification, SCS backfilled the area. Waste hauled from trench extraction was taken to the active working face for proper disposal.

Equipment Observed Onsite:	
F-250 Pick-up	
Volvo A25G dump truck	
Tool Trailer	
Gator	
Hitachi ZAXIS 210LC Excavator	
T740 Bobcat Skid Steer	

Misc. Notes & Pictures:

SCS Welding U-Traps

U-Trap

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

	
Backfilling Trench HC-23B	Solid and Perforated Pipe Prepped for Placement

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

Day & Date:
Thursday, May 19, 2022

Project Name & Location:
Tomoka Farms Road Landfill Phase VII Construction; 1990 Tomoka Farms Road Volusia County, Florida

Weather:
Sunny

SCS Construction Team Members on Site:	**Relevant Visitors to Observed Work Areas:**
1. Teddy Blevins	1.
2. Anthony Lawless	
3. Gilberto Gonzalez	

Summary of Work:
SCS mobilized to the site early Thursday morning. SCS began trenching HC-22B. SCS completed 300 feet of trenching and pipe placement of 6-inch perforated pipe. Trench was bedded with tire chips prior to pipe placement. Pipe was covered with covered with geotextile fabric, tire chips and backfilled. Survey tubes were placed every 50 feet. Waste hauled from trench extraction was taken to the active working face for proper disposal.

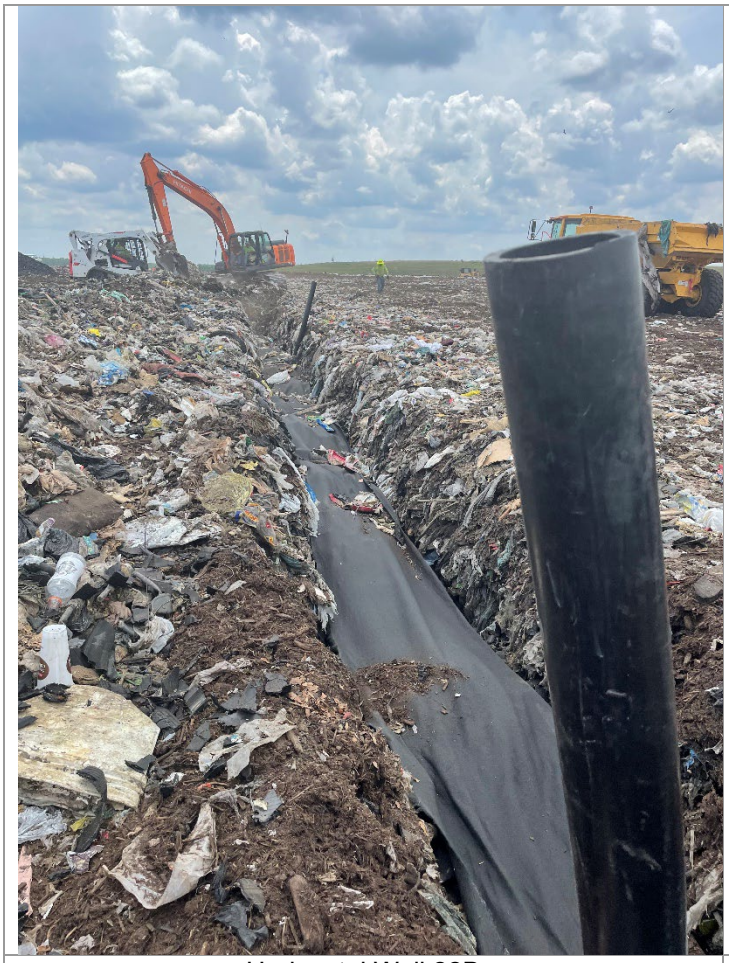
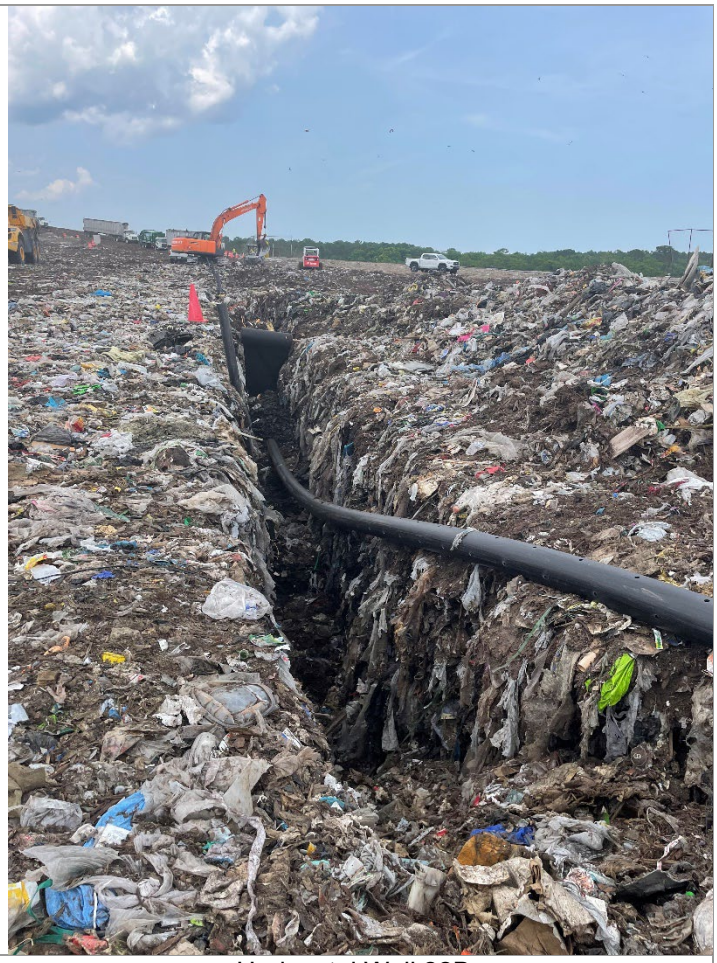
Equipment Observed Onsite:	
F-250 Pick-up	
Volvo A25G dump truck	
Tool Trailer	
Gator	
Hitachi ZAXIS 210LC Excavator	
T740 Bobcat Skid Steer	

Misc. Notes & Pictures:

HC-22B

HC-22B

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

	
Horizontal Well 22B	Horizontal Well 22B

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

Day & Date:
Monday, May 23, 2022

Project Name & Location:
Tomoka Farms Road Landfill Phase VII Construction; 1990 Tomoka Farms Road Volusia County, Florida

Weather:
Sunny

SCS Construction Team Members on Site:	**Relevant Visitors to Observed Work Areas:**
1. Teddy Blevins	1. Tire chip delivery
2. Anthony Lawless	
3. Gilberto Gonzalez	

Summary of Work:

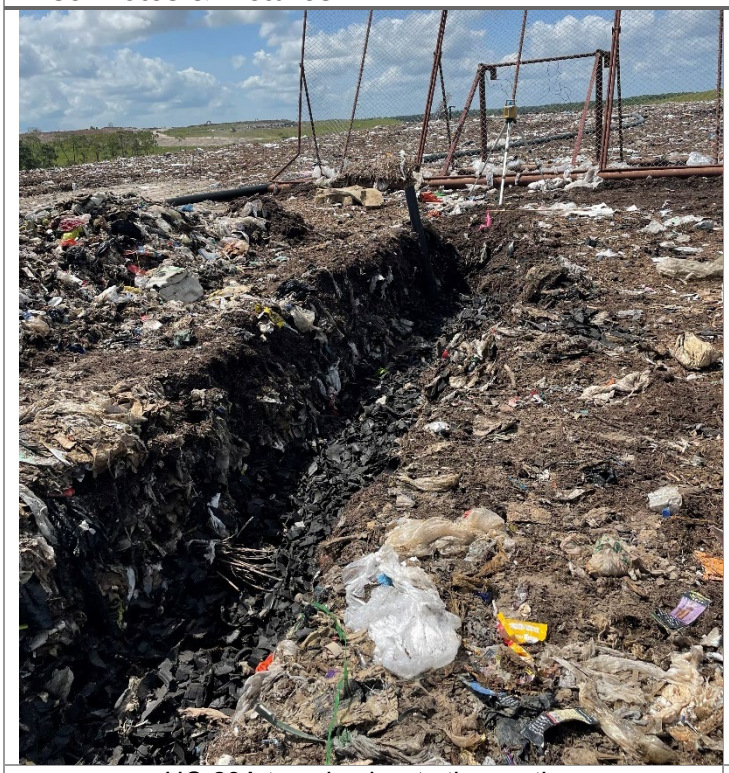
On Friday, May 20, 2022 SCS continued trenching HC-22B. SCS completed an additional 207 feet of 6-inch perforated pipe and 50 feet of 6-inch solid pipe on HC-22B. Trench was bedded with tire chips prior to pipe placement. Pipe was covered with covered with geotextile fabric, tire chips and backfilled. Survey tubes were placed every 50 feet. Waste hauled from trench extraction was taken to the active working face for proper disposal. On Saturday, May 21, 2022 SCS installed U-trap, tied into HC-22B and installed bentonite plug. HDR was not on site these two days.

SCS mobilized to the site early Monday morning and began trenching HC-23A from the high point working north to the low point. SCS completed 325 feet of 6-inch perforated pipe and 50 feet of 6-inch solid pipe. Trench was bedded with tire chips prior to pipe placement. Pipe was covered with geotextile fabric, tire chips and backfilled. Survey tubes were placed every 50 feet. Waste hauled from trench extraction was taken to the active working face for proper disposal.

Equipment Observed Onsite:	
F-250 Pick-up	
Volvo A25G dump truck	
Tool Trailer	
Gator	
Hitachi ZAXIS 210LC Excavator	
T740 Bobcat Skid Steer	

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

Misc. Notes & Pictures:



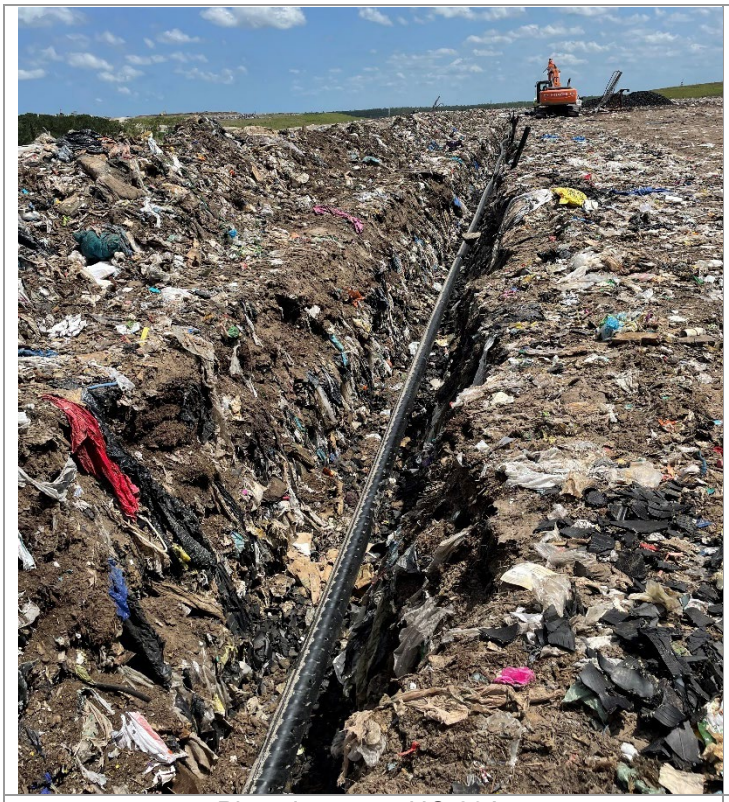
HC-23A trench, view to the south

Trenching HC-23A, view to the north

HC-22B completed with survey tubes

HC-23A trench, view to the north

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead



Pipe placement HC-23A

Pipe placement HC-23A

HC-23A, tie-in to header area exposed

HC-23A, view at high point to low point, facing north

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

	
HC-23A high point capped	Geotextile fabric over HC-23A

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

Day & Date:
Tuesday, May 24, 2022

Project Name & Location:
Tomoka Farms Road Landfill Phase VII Construction; 1990 Tomoka Farms Road Volusia County, Florida

Weather:
Sunny

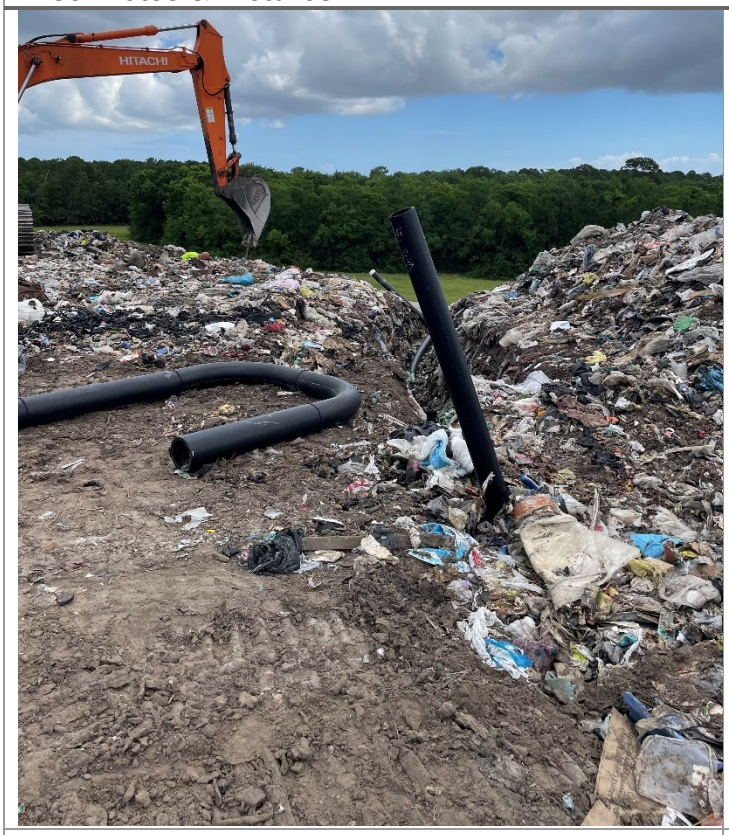
SCS Construction Team Members on Site:	**Relevant Visitors to Observed Work Areas:**
1. Teddy Blevins	1. Tire chip delivery
2. Anthony Lawless	
3. Gilberto Gonzalez	
4. Will Haley	

Summary of Work:
SCS mobilized to the site early Tuesday morning and continued with HC-23A. SCS completed 61 feet of 10-inch pipe lateral pipe, 61 feet of 4-inch forcemain pipe, 61 feet of 2-inch airline pipe, 1 U-trap, 1 future blind, and added bentonite plug.

Equipment Observed Onsite:	
F-250 Pick-up	
Volvo A25G dump truck	
Tool Trailer	
Gator	
Hitachi ZAXIS 210LC Excavator	
T740 Bobcat Skid Steer	

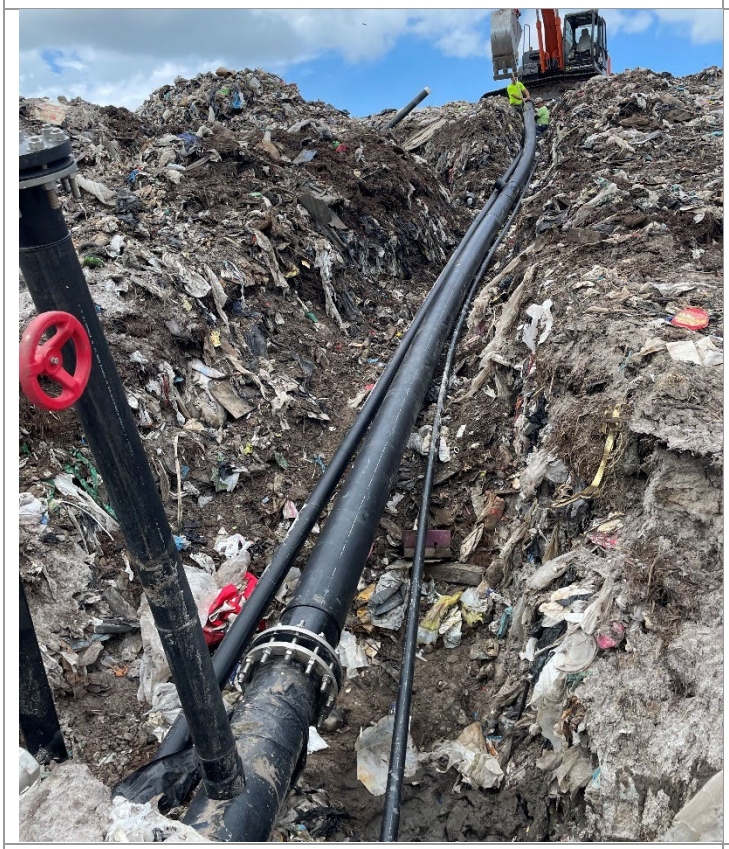
SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

Misc. Notes & Pictures:



HC-23A low point tie-in

HC-23A low point tie-in



HC-23A low point tie-in

HC-23A view to the south

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

Day & Date:
Thursday May 26, 2022

Project Name & Location:
Tomoka Farms Road Landfill Phase VII Construction; 1990 Tomoka Farms Road Volusia County, Florida

Weather:
Sunny

SCS Construction Team Members on Site:	**Relevant Visitors to Observed Work Areas:**
1. Teddy Blevins	1. Tire chip delivery
2. Anthony Lawless	
3. Gilberto Gonzalez	
4. Will Haley	

Summary of Work:
On Wednesday, May 25, 2022 SCS completed 170 feet of 10-inch pipe, 109 feet of 6-inch pipe and hooked into U-trap for HC-20B and HC-21B. HDR was not on site this day. SCS mobilized to the site early Thursday morning and began trenching HC-20B. SCS completed 350 feet of 6-inch perforated pipe for HC-20B. Trench was bedded with tire chips prior to pipe placement. Pipe was covered with geotextile fabric, tire chips and backfilled. Survey tubes were placed every 50 feet. Waste hauled from trench extraction was taken to the active working face for proper disposal.

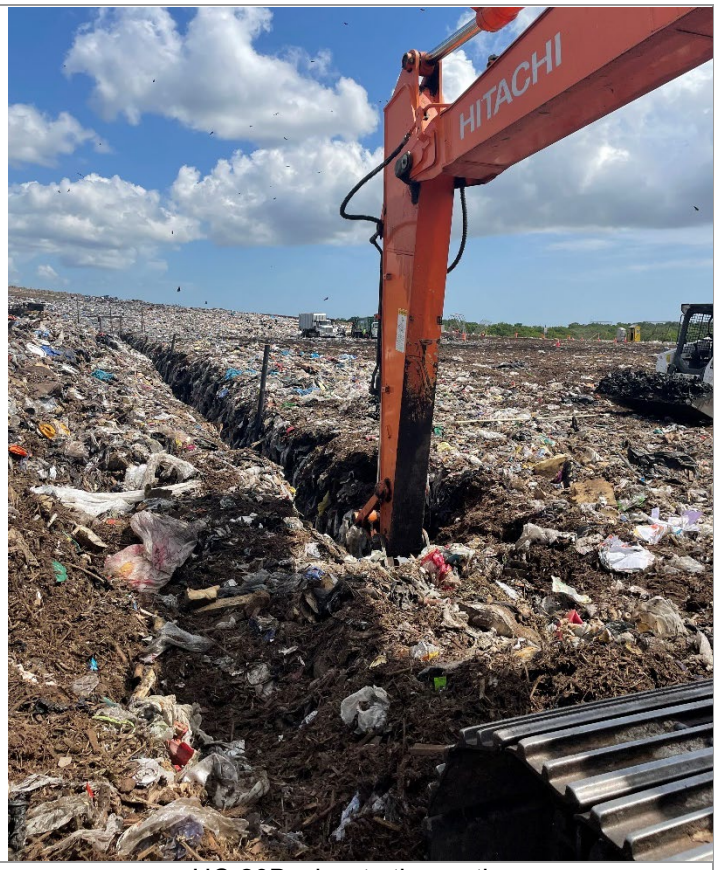
Equipment Observed Onsite:	
F-250 Pick-up	
Volvo A25G dump truck	
Tool Trailer	
Gator	
Hitachi ZAXIS 210LC Excavator	
T740 Bobcat Skid Steer	

Misc. Notes & Pictures:

Trenching HC-20B

Tire Chip Delivery

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

	
HC-20B, view to the south	HC-20B, view to the north

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

Day & Date:
Monday May 30, 2022

Project Name & Location:
Tomoka Farms Road Landfill Phase VI Construction; 1990 Tomoka Farms Road Volusia County, Florida

Weather:
Sunny

SCS Construction Team Members on Site:	**Relevant Visitors to Observed Work Areas:**
1. Teddy Blevins	1.
2. Anthony Lawless	
3. Gilberto Gonzalez	
4. Will Haley (no longer on site after Friday afternoon)	

Summary of Work:

On Friday, May 27, 2022 SCS continued trenching HC-20B. SCS completed 215 feet of 6-inch perforated pipe and 50 feet of 6-inch solid pipe. Trench was bedded with tire chips prior to pipe placement. Pipe was covered with geotextile fabric, tire chips and backfilled. Survey tubes were placed every 50 feet. Waste hauled from trench extraction was taken to the active working face for proper disposal. HC-20B was sealed with bentonite plug. On Saturday, May 28, 2022 SCS began trenching HC-21B at the high point and buried 250 feet of 6-inch perforated pipe. Trench was bedded with tire chips prior to pipe placement. Pipe was covered with geotextile fabric, tire chips and backfilled. Survey tubes were placed every 50 feet. Waste hauled from trench extraction was taken to the active working face for proper disposal. HDR was not on site these two days.

SCS mobilized to the site early Monday morning. SCS continued trenching HC-21B. SCS completed 296 feet of 6-inch perforated pipe, 50 feet of 6-inch solid pipe, and hooked into U-trap. Trench was bedded with tire chips prior to pipe placement. Pipe was covered with geotextile fabric, tire chips and backfilled. Survey tubes were placed every 50 feet. Waste hauled from trench extraction was taken to the active working face for proper disposal.

Equipment Observed Onsite:	
F-250 Pick-up	
Volvo A25G dump truck	
Tool Trailer	
Gator	
Hitachi ZAXIS 210LC Excavator	
T740 Bobcat Skid Steer	

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

Misc. Notes & Pictures:

Trenching HC-21B

Trenching HC-21B

HC-22B

HC-20B

SIGNATURE: Chelsea Williams
TITLE: HDR CQA Lead

ATTACHMENT D

SCS Field Logs

SCS FIELD SERVICES, INC.

DAILY LOG

JOB NO. 12221016.00 **TASK NO.** **DATE** 5/4/22 **PROJECT NAME** Volusia

TEMP: °F °F **WEATHER**

SCS-FS LABOR	HOURS	OT	SCS-FS LABOR	HOURS	OT
Larry Warren	10				
Gilberto Gonzalez	10		Anthony Lawless	5	
Andres Amador	10				

EQUIPMENT	QTY	UNITS	TOTAL	EQUIPMENT	QTY	UNITS	TOTAL
F250	10	2	20	Forklift	10	1	10
200 Excavator	5	1	10	18" Fusion Machine		1	
Off Road Truck		1	0	Skidsteer	10	1	10
Generator	0	1	0				

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					

QUANTITIES OF WORK PERFORMED DESCRIPTION OF ITEM	CONTRACT ITEM NO.	QTY	QUANTITIES FOR WORK PERFORMED DESCRIPTION OF ITEM	CONTRACT ITEM NO.	QTY

ANY VISITOR ON SITE		YES	X	NO	ANY SUBCONTRACTORS ON SITE		YES	X	NO
ANY UNEXPECTED SITE CONDITIONS		YES	X	NO	ANY ACCIDENTS OR INJURIES		YES	X	NO
INSPECTION OF TOOLS & EQUIPMENT		YES	X	NO	INSPECTION OF VEHICLES		YES	X	NO
ANY BACKCHARGES OR EXTRA WORK		YES	X	NO	ANY VERBAL DIRECTIONS		YES	X	NO

(IF YES EXPLAIN BELOW)

	Arrived on site unloaded trailers and equipment
Received Excavator, Skidsteer and forklift	
Received and unloaded pipe and fittings	
Began fusing 6" perforated pipe	

ACCEPTED BY:

SCS FIELD SERVICES, INC.

DAILY LOG

JOB NO. 12221016.00 **TASK NO.** **DATE** 5/12/22 **PROJECT NAME** Volusia

TEMP: °F °F **WEATHER**

SCS-FS LABOR	HOURS	OT	SCS-FS LABOR	HOURS	OT
Larry Warren	5				
Gilberto Gonzalez	5		Anthony Lawless	5	
Andres Amador	5				

EQUIPMENT	QTY	UNITS	TOTAL	EQUIPMENT	QTY	UNITS	TOTAL
F250	5	2	10	Forklift	5	1	5
200 Excavator	5	1	5	18" Fusion Machine		1	
Off Road Truck	5	1	5	Skidsteer	5	1	5
Generator	5	1	5	6" Fusion Machine	5	1	5

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					

QUANTITIES OF WORK PERFORMED DESCRIPTION OF ITEM	CONTRACT ITEM NO.	QTY	QUANTITIES FOR WORK PERFORMED DESCRIPTION OF ITEM	CONTRACT ITEM NO.	QTY
10" header	13A				
10" Stub out	28				

ANY VISITOR ON SITE		YES	X	NO	ANY SUBCONTRACTORS ON SITE		YES	X	NO
ANY UNEXPECTED SITE CONDITIONS		YES	X	NO	ANY ACCIDENTS OR INJURIES		YES	X	NO
INSPECTION OF TOOLS & EQUIPMENT		YES	X	NO	INSPECTION OF VEHICLES		YES	X	NO
ANY BACKCHARGES OR EXTRA WORK		YES	X	NO	ANY VERBAL DIRECTIONS		YES	X	NO

(IF YES EXPLAIN BELOW)

Excavated for 10" header from V-4 to stub out location upslope

Installed 10X6 Wye for lateral to HW-22B when fusion machine broke down (Hydraulic issue)

ACCEPTED BY:

SCS FIELD SERVICES, INC.

DAILY LOG

JOB NO. 12221016.00 **TASK NO.** **DATE** 5/13/22 **PROJECT NAME** Volusia

TEMP: °F °F **WEATHER**

SCS-FS LABOR	HOURS	OT	SCS-FS LABOR	HOURS	OT
Larry Warren	5				
Gilberto Gonzalez	5		Anthony Lawless	5	
Andres Amador	5				

EQUIPMENT	QTY	UNITS	TOTAL	EQUIPMENT	QTY	UNITS	TOTAL
F250	5	2	10	Forklift	5	1	5
200 Excavator	5	1	5	18" Fusion Machine		1	
Off Road Truck	5	1	5	Skidsteer	5	1	5
Generator	5	1	5	6" Fusion Machine	5	1	5

INSTRUMENT CALIBRATION (CAL. GAS)		CH4 (%-VOL)	CH4 (%-LEL)	02 LOW SCALE (%-VOL)	CO2 (%-VOL)	H2S (PPM)
MODEL	S/N					

QUANTITIES OF WORK PERFORMED DESCRIPTION OF ITEM	CONTRACT ITEM NO.	QTY	QUANTITIES FOR WORK PERFORMED DESCRIPTION OF ITEM	CONTRACT ITEM NO.	QTY
10" header	13A	153lf			
10" Stub out	28	1EA			
6" lateral	15A	179lf			

ANY VISITOR ON SITE		YES	X	NO	ANY SUBCONTRACTORS ON SITE		YES	X	NO
ANY UNEXPECTED SITE CONDITIONS		YES	X	NO	ANY ACCIDENTS OR INJURIES		YES	X	NO
INSPECTION OF TOOLS & EQUIPMENT		YES	X	NO	INSPECTION OF VEHICLES		YES	X	NO
ANY BACKCHARGES OR EXTRA WORK		YES	X	NO	ANY VERBAL DIRECTIONS		YES	X	NO

(IF YES EXPLAIN BELOW)

	Repaired fusion machine
Installed 153' of 10" pipe from tie in location to stub out for future	
Installed 10X6 wyes for laterals to HC-23B and future connection where lateral for 23BB was initially located	
Installed 179' of 6" from 10X6 Wye to wellhead location for HC-22B	

ACCEPTED BY:

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia Co. | Job No.: 12221017.00 | Task No.: | Date: 5/19/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10				
Anthony Lawless	10				
Gilberto Gonzalez	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		generator	1	
210 excavator	1		Laser	1	
Utility cart	1		26 pitbull	1	
loader	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Started installing HW-22B from High point	300	lf
HP 0+00 4’		
0+50 6’		
1+00 6’		
1+50 7’		
2+00 8.5’		
2+50 9’		
3+00 10.5’		
4’ – 8’ extra trench depth	200	ft
8’-12’ extra trench depth	100	ft

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/20/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10				
Gilberto Gonzalez	10				
Anthony Lawless	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Continued installingHW-22B perf	207	lf
solid	50	lf
3+50 9.5’		
4+00 10.5’		
4+50 10.5’		
5+07 9’		
8’ – 12’ extra depth of cut	157	LF

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/21/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	8				
Gilberto Gonzalez	8				
Anthony Lawless	8				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Continued installingHW-22B U trap	1	ea
Installed bentonite plug	1	ea
Hauling mulch and trash		

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/23/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10				
Gilberto Gonzalez	10				
Anthony Lawless	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing HW-23A starting at HP		
Perf	325	lf
solid	50	lf
HP 0+00 4’		
0+50 4.5’		
1+00 5’		
1+50 5’		
2+00 6’		
2+50 6.8’		
3+00 8’		
3+50 7’		
4’ to 8’ extra trench depth	350	ft

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/24/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10		Will Haley	8	
Gilberto Gonzalez	10				
Anthony Lawless	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing HW-23A		
10” header , 4” force main, 2” airline	61	lf
U trap	1	ea
10” future blind	1	ea
10” tie in	1	ea
4” force main tie in	1	ea
2” air line tie in	1	ea
Bentonite plug	1	ea
Building 10” pipe for HW-20B and HW-21B		

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/25/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	8		Will Haley	8	
Gilberto Gonzalez	8				
Anthony Lawless	8				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing header to V-3		
10” header ,4 “ force main, and 2” air line	170	lf
U trap	2	ea
6” header to HW-20B and HW-21B	109	lf

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/26/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	9.5		Will Haley	9	
Gilberto Gonzalez	9.5				
Anthony Lawless	9				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing HW-20B		
perf	350	lf
HP 0+00 3.5’		
0+50 5’		
1+00 5’		
1+50 6.4 ‘		
2+00 7.9’		
2+50 5.5’		
3+00 7’		
3+30 8’10”		
4’- 8’ extra trench depth	280	ft

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/27/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10		Will Haley	10	
Gilberto Gonzalez	10				
Anthony Lawless	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing HW-20B		
perf	213	lf
solid	50	lf
4+00 7.2’		
4+50 8’		
5+00 7’		
4’ – 8’ extra trench depth	100	Ft

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/28/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	6				
Gilberto Gonzalez	6				
Anthony Lawless	6				
Equip, SVCS, MLG	**Qty**	**Units**	**Equip, SVCS, MLG**	**Qty**	**Units**
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing HW-21B		
perf	250	lf
HP 0+00 4		
0+50 5’		
1+00 5.8’		
1+50 6.8’		
2+00 7’		
2+50 7.5’		
4’ – 8’ extra trench depth	200	Ft

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/30/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10				
Gilberto Gonzalez	10				
Anthony Lawless	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing HW-21B		
perf	296	lf
solid	50	lf
3+00 9’		
3+50 10.4’		
4+00 11’		
4+50 11’		
5+00 7.6’		
5+50 4’		
8’ – 12’ Extra trench depth	150	ft
4’ – 8’ extra trench depth	100	Ft

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 5/31/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10				
Gilberto Gonzalez	10				
Anthony Lawless	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing HW-23B		
perf	300	lf
HP 0+00 4’		
0+50 5’		
1+00 5.5’		
1+50 6’		
2+00 7’		
2+50 8’		
3+00 8’		
4’- 8’ extra trench depth	300	Ft

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 6/1/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10				
Gilberto Gonzalez	10				
Anthony Lawless	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Installing HW-23B		
perf	145	lf
solid	50	lf
Hooked up to U trap	1	ea
Bentonite plug 1 ea		
3+50 8’		
4+00 9’		
4+45 7.4’		
4’-8’ extra trench depth	95	Ft
Survey done for as builts		
Depth of cuts verified with Chelsea from HDR		

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 6/2/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	10				
Gilberto Gonzalez	10				
Anthony Lawless	10				

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Hauling mulch and dressing up		

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.

SCS FIELD SERVICES DAILY LOG

Job Name: Volusia C0. | Job No.: 1222221017.00 | Task No.: | Date: 6/3/22 | Weather: HOT

SCS-FS Labors	Hours	OT	SCS-FS Labors	Hours	OT
Teddy Blevins	8				
Gilberto Gonzalez	8				
Anthony Lawless					

Equip, SVCS, MLG	Qty	Units	Equip, SVCS, MLG	Qty	Units
F-250	1		laser	1	
210 excavator	1		generator	1	
Haul truck	1		26 pitbull	1	
loader	1				
Buggy	1				

Instrument Calibration (Cal. Gas)		CH4 (%-VOL)	CH4 (%-LEL)	02 Low Scale (%-VOL)	CO2 (%-VOL)	H2S (PPM)
Model	S/N					

Work Summary	Quantity	Unit
Arrived onsite		
Hauling mulch and dressing up		

Prepared By: Teddy Blevins Accepted By: _____

I understand that when performing a one person job assignment, I am acting as my own supervisor.