

## SCS ENGINEERS

August 16, 2024  
File No. 02195001.08

Mr. Clarke W. Gibson, PE  
Solid Waste Director  
Region 2000 Services Authority  
361 Livestock Road  
Rustburg, Virginia 24588

Subject: Design/Build Proposal for LFG Collection and Control System Expansion Project  
Region 2000 Regional Landfill – Livestock Road Facility

Dear Clarke:

SCS Engineers (SCS) appreciates the opportunity to submit the enclosed Proposal (Proposal) to the Region 2000 Services Authority (Authority) for implementation of the Phase IV Landfill Gas Collection and Control System Design/Build Expansion Project at the Region 2000 Regional Landfill – Livestock Road Facility (Landfill) in Rustburg, Virginia. Our Proposal is structured as the fifth amendment to SCS' existing Comprehensive Agreement with the Authority for design, construction, and operation of a landfill gas collection and control system, dated 4/27/16.

The proposed Project involves the design, construction, and construction quality control (CQC) of the expansion of the existing landfill gas (LFG) collection and control system in Phase IV at the Landfill for the purpose of recovering LFG and reducing LFG-related odors from the Phase IV waste disposal unit at this Facility (referred to as the D/B Project). As you know, SCS has over 50 years of engineering and contracting experience involving LFG collection and control systems in Virginia. Similar to our previous D/B assignments for the Authority in 2016 through 2023, SCS will serve as a "one-stop shop" for LFG system design, construction, and CQC, thereby reducing the Authority's overall costs associated with administering a capital project.

Similar to our proposals for the previous D/B assignments, which were submitted to the Authority in accordance with the Implementation Procedures and Guidelines for the Public-Private Education Facilities and Infrastructure Act (PPEA), adopted by the Authority on 10/26/11, SCS requests that the Authority treat the information contained in the enclosed Proposal as non-releasable under the Virginia Freedom of Information Act (VFOIA) until such time as the enclosed Amendment to our existing Agreement has been executed.

Our Project Team includes the same professional engineering and construction staff who were engaged in SCS previous D/B assignments at the Landfill in 2016 through 2023. We believe this D/B Expansion Project at the Landfill represents an excellent opportunity for the Authority and SCS to continue our collaborative work to deliver innovative solutions at solid waste management facilities.

We are excited about this opportunity to continue our formal public-private partnership with the Authority related to implementation of this D/B Expansion Project.



Mr. Clarke W. Gibson, PE  
August 16, 2024  
Page 2

If you have questions or require additional information, please do not hesitate to contact us at the letterhead address.

Sincerely,



D. Brandon King  
Project Manager  
**SCS ENGINEERS**



Guy F. Lewis  
Vice President  
**SCS FIELD SERVICES**

Enclosures

AMENDMENT 5  
TO THAT  
COMPREHENSIVE AGREEMENT  
between  
REGION 2000 SERVICES AUTHORITY  
and  
SCS ENGINEERS  
for  
DESIGN, CONSTRUCTION AND OPERATION OF A LANDFILL GAS  
COLLECTION AND CONTROL SYSTEM AT THE LIVESTOCK ROAD LANDFILL

THIS AMENDMENT 5 (this "Amendment") is entered into as of August 16, 2024, between the REGION 2000 SERVICES AUTHORITY ("the Owner"), and STEARNS, CONRAD AND SCHMIDT, CONSULTING ENGINEERS, INC. d/b/a SCS ENGINEERS (the "Design-Builder") ("the Contract").

Recitals

1. The Owner and SCS have entered into a Contract dated April 27, 2016 for the construction of a Landfill Gas Collection and Control System ("the GCCS") at the Region 2000 Regional Landfill – Livestock Road Facility ("the Project").
2. Amendment 1 to that Contract dated October 6, 2017, expanded the GCCS in Phase III. Amendment 2 to that Contract dated October 4, 2019, expanded the GCCS in Phase IV. Amendment 3 to that Contract dated May 27, 2020, expanded the GCCS in Phase IV. Amendment 4 to that Contract dated April 1, 2022, expanded the GCCS in Phase IV. These portions of Project are substantially complete.
3. Owner now desires to expand the Project to include the additional expansion of the Phase IV GCCS as further described herein.

**NOW THEREFORE**, for and in consideration of the mutual promises, conditions and covenants herein set forth the Parties, for the purpose of this Amendment, agree that those sections from the Contract are modified and replaced in their entirety as follows:

§3. **General Scope.** The Design-Builder shall perform, provide or cause to be provided all design, permitting, construction, material, equipment, services and labor, necessary for the development of Phase IV GCCS Expansion as more fully set forth in Attachments A and B (Work Order, dated 8/16/24), which is made a part of this Amendment. The Design-Builder shall be responsible for obtaining all necessary federal, state, and local permits and approvals, conducting negotiations and entering access agreements with private landowners or other entities if necessary, and performing the Project in compliance with all applicable federal, state and local laws and regulations and the Contract Documents. It is the intent of the Owner and the Design-Builder that, unless otherwise specifically set forth in this Amendment, the Design-Builder shall perform or provide all design, permitting, construction and related services that are necessary to provide the Owner with a completed, fully functional Project.

§6. **Contract Price.**

- a. **Contract Price.** The Owner shall pay the Design-Builder the amount which shall be Three-Hundred Sixty One Thousand, Eight Hundred and 00/100 (\$361,800.00) dollars, which shall include the Scope of Work in Attachments A and B. Unless otherwise provided in the Contract Documents, the Contract Price is deemed to include all sales, use, consumer and other taxes imposed by law or any governmental authority. The Design-Builder shall be wholly responsible to complete the Project at no compensation above the Contract Price, subject to any adjustments in the Contract Price made as a result of changes made in accordance with this Amendment.

§8. **Contract Time.**

- a. **Date of Commencement.** The Work shall commence as of the date of this Amendment unless the Parties mutually agree otherwise in writing.
- b. **Final Completion.** Final Completion of the Work shall be achieved as expeditiously as reasonably practicable, but in no event later than February 28, 2025, time being of the essence.
- c. All construction provided or caused to be provided by the Design-Builder in compliance with all applicable Legal Requirements and applicable permits, both public and private.

This Amendment sets forth all of the covenants, promises, agreements, conditions and understandings between Design-Builder and the Owner concerning this Amendment 5 and there are no covenants, promises, agreements, conditions or understandings, either oral or written, between them other than are herein set forth. No alteration, amendment, change or addition to the Contract shall be binding upon the Design-Builder or the Owner unless reduced to writing in a formal amendment signed by each Party. This Amendment makes no other changes to the Contract.

IN WITNESS WHEREOF, the Parties have executed this Amendment 5 as of the day and year first above written.


**REGION 2000 SERVICES AUTHORITY**

By: \_\_\_\_\_  
Name: Clarke W. Gibson  
Title: Director

Approved as to Form:

\_\_\_\_\_  
William H. Hefty, Counsel

**STEARNS, CONRAD AND SCHMIDT,  
CONSULTING ENGINEERS. d/b/a SCS  
ENGINEERS**

  
By: \_\_\_\_\_  
Name: D. Brandon King  
Title: Project Manager

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**ATTACHMENT A**

**LANDFILL GAS COLLECTION AND CONTROL SYSTEM DESIGN &  
CONSTRUCTION QUALITY CONTROL**

**REGION 2000 REGIONAL LANDFILL**

**LIVESTOCK ROAD FACILITY**

**ENGINEERING SERVICES WORK ORDER**

**1. SCOPE OF SERVICES TO BE PERFORMED:**

This scope of services outlines the engineering tasks to be performed by SCS Engineers (SCS) in conjunction with the implementation of the landfill gas (LFG) collection and control system Design/Build (DB) Project at the Region 2000 Regional Landfill – Livestock Road Facility (Facility) in Rustburg, Virginia.

The proposed DB Project involves the design, construction, and construction quality control (CQC) of the Phase IV LFG Collection and Control System (LFGCCS) expansion at the Landfill for the purpose of recovering LFG from the Phase IV waste disposal unit. The proposed scope of services is divided into the following tasks:

- Task 1 – Design of the Phase IV LFG Collection and Control System and Design Criteria Memorandum; preparation of Construction Documents for the Phase IV LFG System, including final horizontal collector schedule and Issued for Construction Layout Drawing
- Task 2 – Construction Quality Control

The proposed Project may include subsequent task assignments that are consistent with the Authority’s Implementation Procedures and Guidelines for the Public-Private Education Facilities and Infrastructure Act (PPEA), as directed by the Authority.

**TASK 1 – PHASE IV LFG SYSTEM DESIGN AND CONSTRUCTION DOCUMENTS**

SCS will design the LFG collection and control system necessary to extract LFG from the appropriate portions of Phase IV where LFG extraction components were not installed during the initial Phase IV LFGCCS installation in accordance with the Authority’s requirements. SCS will prepare construction level drawings and technical specifications suitable for the Design/Build format of the Project which will indicate the necessary construction methods and materials for a functional LFG system in these areas.

The objectives of the Phase IV LFG collection and control system expansion will consist of migration control, odor control, emissions control, fuel for a potential future LFG project, and future compliance with NSPS and other existing Clean Air Act requirements. The final design will likely include, but is not limited to the following components:

- Eight horizontal collectors each approximately 150-feet in length installed across the top deck area of Phase IV. These horizontal collectors are not equipped with vertical caissons and are a minimum 8-feet in total depth, reverse draining landfill liquids on a minimum 4 percent slope to the terminus of each collector (up to 23-feet total depth) near the center of Phase IV Landfill. The terminus of each collector will be over excavated with additional stone to allow optimal liquids drainage and prevent blockages from landfill liquids.
- Approximately 460 feet of 4-inch LFG lateral piping to connect the new horizontal collectors in Phase IV to the existing laterals near the north and south crest of slope. SCS will coordinate with the Landfill Operations Manager regarding the filling operations along the eastern crest slope to verify the elevations at the eastern crest of slope will allow the proposed 8-inch LFG header to achieve the desired grade.
- Eight existing leachate cleanouts (LC-1, LC-2, LC-3, LC-14 through LC-18) will receive new 2-inch QED Precision wellheads (ORP-215M), 2-inch Solarguard flexible tubing, and be anchored and resecured to the existing leachate cleanout to avoid oxygen intrusion.
- The LFG system layout drawing will depict the alignment of header and lateral pipes, which will transport collected LFG to the existing blower/flare station.
- A 4 percent minimum slope on LFG header pipes will be specified to allow for condensate drainage.

This task addresses the engineering efforts required to prepare design documents suitable for the Design/Build format of this Project. Our design engineering activities will involve the following:

- Prepare final design drawings for the expansion of the LFG control system to address LFG management (and future NSPS compliance) in the Phase IV fill area. We anticipate the drawings will include multiple layout sheets and several detail sheets.
- The design documents will include technical specifications for the LFG system. The specification sections will address earthwork, horizontal collector, condensate management, and LFG piping.
- Submit draft design documents to the Authority for review and comment. Meet with the Authority to review the draft design documents. Revise the draft documents to incorporate comments as appropriate. Submit 2 sets of final design documents (drawings and technical specifications), sealed by a licensed engineer, along with cost estimate.

The final design drawings and technical specifications developed under Task 1 will be utilized for preparation of construction documents, suitable for issuing to SCS Field Services (SCS-FS) for construction. The construction documents will include the sealed, construction-level drawings and the technical specifications for the LFG collection and control system expansion.

SCS will coordinate with the Authority personnel to stake out the layout of eight horizontal collectors, which may be relocated from the coordinates in the preliminary horizontal collector schedule at the Authority's request.

## **TASK 2 – CONSTRUCTION QUALITY CONTROL AND CERTIFICATION**

SCS will provide a qualified field engineer to perform on-site CQC activities during the expansion of the LFG collection and control system. The on-site staff will be supported in the office and field by the Project Engineer and Project Director. Under the design/build format with SCS-FS, many of these activities will be performed under an accelerated schedule. Our CQC services will include the following:

- Attend a pre-construction meeting with the Authority and SCS-FS Superintendent. Review any questions and discuss schedule, material substitutions, and other relevant issues. Prepare and distribute meeting minutes.
- Review shop drawings and material submittals, Subcontractor's requests for information, and other technical submittals. Recommend approval or rejection based on technical, contractual, and functional adequacy. Distribute approved submittals and/or review comments to appropriate parties. Review pre-excavation survey data from the Authority and adjust horizontal collector schedule accordingly.
- SCS will maintain a full-time presence at the site during LFG header pipe and horizontal collector installation to observe system construction activities, verify grade of excavated trench, and to verify general compliance with construction documents.
- SCS will maintain a part-time presence at the site during the leachate cleanout modifications in Phase III and verify general compliance with construction documents.
- Monitor and document the pressure testing of the completed LFG header and lateral piping network. Provide guidance during testing.
- Telephone calls among the SCS Project Director, SCS-FS Project Manager, SCS on-site personnel, and the Authority to answer questions, resolve issues, and coordinate interpretations of the plans and specifications. SCS on-site staff will handle some of these issues in person.
- Prepare sketches or outline approaches required to address field conditions impacting the LFG system.
- Maintain files for correspondence, reports, photographs, requests for information or clarification, and other construction project related documentation, and forward to the Authority and others, as appropriate.
- Conduct a final walk-through inspection of the project, document the substantial completion inspection, and provide a punch-list for completion and issuance of final payment. Distribute final close-out meeting minutes.

Our CQC services anticipate that the Authority will utilize their in-house GPS equipment to layout the LFG System components and record the As-Built locations necessary to document the system installation.

One of the advantages of a design/build format is an accelerated construction schedule. Accordingly, SCS believes the Contract Time for the construction phase of the expansion project under a design/build scenario will be approximately 4 consecutive calendar weeks. For budgeting purposes, we have assumed that installation of the horizontal collectors, collection piping, wellhead connections, and leachate cleanout modifications will require SCS field staff to be at the site full-time for 4 weeks (160 hours total) to oversee horizontal collector installation and leachate cleanout modifications. Because the nature of the LFG system construction project will likely involve periods of more intense construction efforts along with periods of relatively low levels of construction activity, the manpower resources are presented in terms of average weekly labor efforts during the Contract Time. As with any construction administration project, the level of effort required by SCS is directly dependent on the field conditions encountered during construction.

Upon completion of the Phase IV LFG system expansion installation and start-up, SCS will prepare a Construction Certification Report certifying that the LFG system expansion at the Landfill was installed in accordance with the construction drawings and specifications as well as the solid waste and air quality permit requirements. The final report will be signed and sealed by a Virginia Professional Engineer. The report will present the project objectives, a description of the roles and responsibilities of the parties involved, a discussion of the CQA activities performed, a section on adjustments or changes made in the field, and a review of the applicable permit conditions. The Construction Certification Report will also contain the following information:

- SCS Daily Logs
- Horizontal Collector Installation Logs
- Pressure Test Reports
- Construction Photographs
- Record Drawing

The Authority will provide as-built coordinates and elevation shots for key features of the LFG collection system including LFG header, horizontal collector, wellheads, etc. SCS will incorporate the as-built markups into AutoCAD format and provide a Record Drawing showing the system layout in plan view as part of the Construction Certification Report. Furthermore, SCS-FS will provide redline markup drawings of the LFG collection system plan showing any project elements that deviated from the final construction drawings.

## **2. WORK ORDER SCHEDULE:**

SCS is available to commence work on the engineering tasks immediately upon receiving authorization to proceed. Based on our preliminary schedule, the duration for each Task is outlined below:

- |   |         |
|---|---------|
| • Task 1 – Phase IV LFG System Design Documents | 2 weeks |
| • Task 1 – Phase IV Construction Documents      | 2 weeks |
| • Task 2 – Construction Quality Control         | 4 weeks |



**3. COMPENSATION:**

SCS will be compensated in the lump sum amounts as follows:

- Task 1 – Phase IV Design and Construction Documents \$ 16,500
- Task 2 – Construction Quality Control \$35,000

Total Amount of this Work Order = **\$51,500**

Any work added to the Scope of Services to be performed shall be compensated at SCS' standard fee schedule in effect at the time of performance.

**4. CONTRACT TERMS:** These services will be performed in accordance with the terms of the Comprehensive Agreement between the parties.

ATTACHMENT A-1  
 BUDGETARY FEE ESTIMATE FOR PHASE IV LFGCCS EXPANSION PLANNING, DESIGN, & CQC  
 REGION 2000 REGIONAL LANDFILL - LIVESTOCK ROAD FACILITY

SCS ENGINEERS LABOR CATEGORY	Rate \$/hr	TASK 1 PHASE IV LFG SYSTEM DESIGN DOCUMENTS		TASK 2 CONSTRUCTION QUALITY CONTROL		TOTAL	
		Hours	Cost	Hours	Cost	Hours	Cost
Project Director II	\$ 280	8	\$ 2,240	4	\$ 1,120	12	\$ 3,360
Project Manager II	\$ 200	18	\$ 3,600	30	\$ 6,000	48	\$ 9,600
Senior Project Professional	\$ 155	32	\$ 4,960	6	\$ 930	38	\$ 5,890
Project Coordinator	\$ 150	2	\$ 300	2	\$ 300	4	\$ 600
Project Professional I	\$ 130	2	\$ 260	12	\$ 1,560	14	\$ 1,820
Staff Professional I	\$ 115	8	\$ 920	90	\$ 10,350	98	\$ 11,270
Associate Staff Scientist	\$ 105	32	\$ 3,360	90	\$ 9,450	122	\$ 12,810
<b>TOTAL LABOR</b>		<b>102</b>	<b>\$ 15,640</b>	<b>234</b>	<b>\$ 29,710</b>	<b>336</b>	<b>\$ 45,350</b>
<b>OTHER DIRECT COSTS</b>							
Auto/Mileage			\$ -		\$ 3,000		\$ 3,000
Per Diem			\$ -		\$ 1,400		\$ 1,400
Telephone			\$ 30		\$ 25		\$ 55
Postage/Freight			\$ 40		\$ 15		\$ 55
Reproduction/Printing			\$ 80		\$ 20		\$ 100
Computer			\$ 600		\$ 138		\$ 738
<b>TOTAL ESTIMATED ODC's BY TASK</b>			<b>\$ 748</b>		<b>\$ 4,600</b>		<b>\$ 5,348</b>
Administrative (15%)			\$ 112		\$ 690		\$ 802
<b>TOTAL</b>			<b>16,500</b>		<b>35,000</b>		<b>\$ 51,500</b>

Note: this Work Order assumes 2 full-time weeks for a Staff Professional and 2 weeks for an Associate Staff Professional to perform on-site Construction Quality Assurance.

**SCS FIELD SERVICES****ATTACHMENT B**

August 16, 2024

Email: [BDick@scsengineers.com](mailto:BDick@scsengineers.com)

Mr. Robert E. Dick, PE  
Sr. Vice President  
SCS Engineers  
15521 Midlothian Turnpike, Suite 305  
Midlothian, VA 23113

**SUBJECT:** Proposal for the Construction of the Phase IV Landfill 2024 GCCS Expansion  
Region 2000 Regional Landfill - Livestock Rd Facility, Rustburg, VA

Dear Bob:

SCS Field Services (SCS-FS) is pleased to submit this Proposal for the construction of the above-referenced project.

**SCOPE OF WORK**

The scope of work is based on the Conceptual Phase IV Landfill LFG Collection and Control System Layout Drawings and the Conceptual Design Specifications prepared by SCS Engineers, revised with highlighting to omit select features. The scope of work is described below, in the Price Schedule Sheet and in the Assumptions and Conditions.

1	Mobilization/Demobilization	1	LS
<b>LFG EXTRACTION COMPONENTS &amp; WELLFIELD INFRASTRUCTURE</b>			
2	LFG Extraction Wellheads - 2" Standard	8	EA
3	LFG Horizontal Collectors (6" Dia. Perforated) up to 23-feet deep	1,200	LF
4	4" Dia. LFG Collection Piping (Below Grade)	460	LF
5	Phase III Leachate Cleanout Modifications	8	EA
<b>TIE-IN CONNECTIONS &amp; TERMINATIONS</b>			
6	Tie-In to Existing 8" Header	1	EA
7	Tie-Ins to Existing 4" Laterals	7	EA



# SCS FIELD SERVICES

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## COMPENSATION

SCS-FS would be pleased to construct the project as described for **\$310,300** according to the unit prices included in the Price Schedule Sheet (Attachment B-1). The Unit Prices are based on the attached Assumptions and Conditions for Construction.

Please feel free to contact the undersigned if you have any questions.

Very truly yours,



Guy F. Lewis  
Vice President  
SCS FIELD SERVICES

## SCS FIELD SERVICES

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### **ASSUMPTIONS AND CONDITIONS FOR THE CONSTRUCTION OF THE REGION 2000 - REGIONAL LANDFILL PHASE IV 2024 LANDFILL GAS COLLECTION AND CONTROL SYSTEM, RUSTBURG, VA**

August 16, 2024

Dust control to be performed by others. If SCS-FS is required to perform dust control, additional fee will apply.

Our unit prices include the cost of all equipment necessary to complete the project.

Our price reflects the Authority is responsible for surveying for the As-Built drawing.

Excavated waste will be used for backfill up to the existing waste height.

Handling or disposal of any hazardous material, including asbestos is excluded.

SCS will backfill and regrade all excavated areas. However, our price excludes revegetation.

SCS' proposal excludes costs due to conditions which differ materially from the information provided by the client, or conditions not reasonably anticipatable considering the nature of the work.

Work may be performed in OSHA Level D protection. Additional health and safety requirements can be provided with adjustment in our price.

This proposal and assumptions and conditions shall become part of a mutually satisfactory contract, agreement or purchase order.

## ATTACHMENT B-1. LFG SYSTEM DESIGN &amp; CONSTRUCTION

PHASE IV 2024 LANDFILL GAS COLLECTION AND CONTROL SYSTEM EXPANSION  
REGION 2000 REGIONAL LANDFILL - LIVESTOCK ROAD FACILITY

Date: 8/16/24

No.	Item Description	Quantity	Unit	Unit Price	Total Cost
1	Mobilization/Demobilization	1	LS	\$24,000	\$24,000
<b>LFG EXTRACTION COMPONENTS &amp; WELLFIELD INFRASTRUCTURE</b>					
2	LFG Extraction Wellheads - 2" Standard	8	EA	\$1,300	\$10,400
3	LFG Horizontal Collectors (6" Dia. Perforated) up to 23' Deep	1,200	LF	\$167	\$200,400
4	4" Dia. LFG Collection Piping (Below Grade)	460	LF	\$55	\$25,300
5	Phase III Leachate Cleanout Modifications	8	EA	\$2,600	\$20,800
<b>TIE-IN CONNECTIONS &amp; TERMINATIONS</b>					
6	Tie-In to Existing 8" Header	1	EA	\$4,900	\$4,900
7	Tie-In to Existing Laterals	7	EA	\$3,500	\$24,500
<b>MISCELLANEOUS</b>					
<b>TOTAL CONSTRUCTION COST</b>					<b>\$310,300</b>
<b>TOTAL ENGINEERING COST</b>					<b>\$51,500</b>
<b>TOTAL ENGINEERING AND CONSTRUCTION COST</b>					<b>\$361,800</b>

## Notes:

1. This estimated construction cost to install the LFG System is based on the Phase IV LFG System Layout Drawing and the Conceptual Design Specifications, prepared by SCS Engineers, dated 8/12/24, respectively.
2. SCS' proposal excludes costs due to conditions which differ materially from the information provided by the client, or conditions not reasonably anticipated considering the nature of the work.
3. Our unit prices include the cost of all equipment necessary to complete the project.
4. SCS will backfill and regrade all excavated areas. However, our price excludes revegetation.
5. SCS' proposal excludes costs associated with surveying (both pre-construction stakeout and post-construction as-built). We assume that the Authority will utilize their in-house GPS equipment as necessary to layout the LFG System components and record the As-Built locations.
6. Payment and performance bonds are not included.

NO.	REVISION	DATE

SHEET TITLE: **MASTERPLAN**  
 PROJECT TITLE: **PRELIMINARY BENNETT PROPERTY SITE MAP  
 LIVESTOCK ROAD FACILITY**

CLIENT: **REGION 2000  
 SERVICES AUTHORITY  
 361 LIVESTOCK ROAD  
 RUSTBURG, VA 24568**

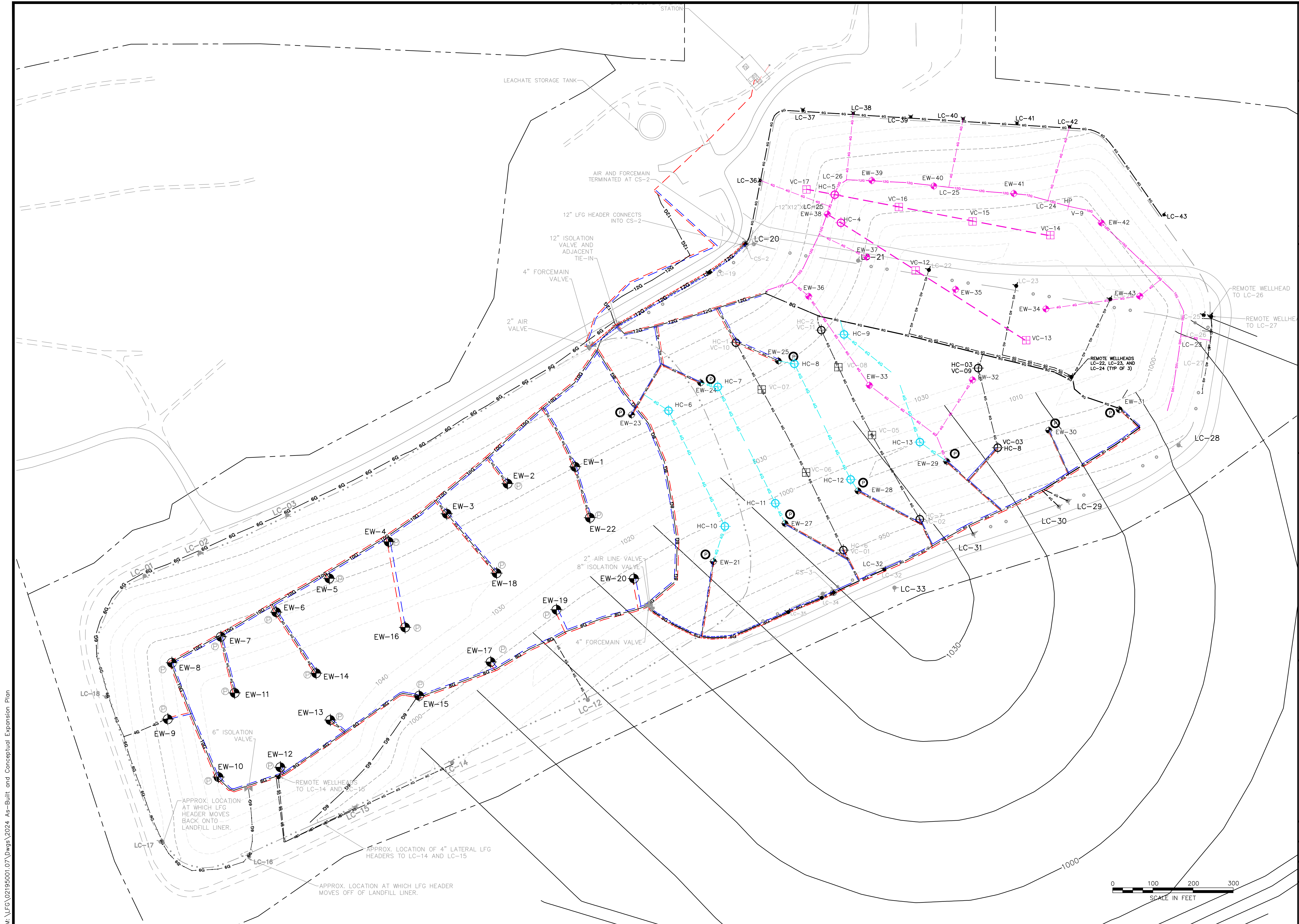
**SCS ENGINEERS**  
 STEARNS, CONRAD AND SCHMIDT  
 CONSULTING ENGINEERS, INC.  
 16521 MIDLOTHIAN TPK - MIDLOTHIAN, VA 23113  
 PH. (804) 378-7440 FAX. (804) 378-7433

CADD FILE: 02195001.07

DATE:

SCALE: AS SHOWN

DRAWING NO.



M:\FC\02195001.07\Drawings 2024 As-Built and Conceptual Expansion Plan

