

Invitation for Bids

Landfill Temperature Monitoring System Installation Project

Bristol Integrated Solid Waste Management Facility



City of Bristol
300 Lee Street
Bristol, Virginia 24201
276-645-7380



SCS ENGINEERS

02218208.12 | July 8, 2022

15521 Midlothian Turnpike, Suite 305
Midlothian, VA 23113
804-378-7440

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INVITATION FOR BIDS

**LANDFILL TEMPERATURE MONITORING SYSTEM
INSTALLATION PROJECT**

BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY

Sealed bids will be received by the City of Bristol, Virginia (referred to as City or OWNER) in the Purchasing Department Office, 300 Lee Street, Bristol, VA 24201, until **2:00 pm on Friday, July 22, 2022** and immediately thereafter publicly opened and read aloud for providing labor, material and equipment pertaining to the installation of a landfill temperature monitoring system at the Bristol Integrated Solid Waste Management Facility in Bristol, VA. The sealed envelope shall be addressed to City of Bristol Purchasing Department, attention of Tamrya Spradlin. The City reserves the right to reject any or all bids and to waive informalities and irregularities.

A Non-Mandatory virtual Pre-Bid Meeting will be held via video conference at **2:00 pm on Wednesday, July 13, 2022.**

- ♦ Invitations to participate in the Pre-Bid Meeting can be obtained by contacting Mr. Bob Dick, PE of SCS Engineers at (804) 486-1911 or BDick@scsengineers.com.
- ♦ Site visits may be scheduled by contacting Mike Martin, Solid Waste Administrator, at (423) 571-7332 or mmartin@bristolva.org, or Michael Maine, Operations Manager, at (276) 645-7360 or mmaine@bristolva.org.

All work will be in accordance with the Drawings and Specifications which are on file with the City of Bristol and SCS Engineers.

Bids will be received under the Single-Prime bidding method only. Bids must be on the standard form provided in the Project Manual. Bids may be submitted via courier, mail, or hand delivered. Bids submitted via fax or electronic mail or other means will not be accepted.

The scope of work includes, but not limited to, installation of approximately 9 boreholes to construct temperature monitoring probes along with certain corresponding instrumentation to measure subsurface temperature.

The Bidding Documents may be obtained by contacting SCS Engineers at 15521 Midlothian Turnpike, Suite 305, Midlothian, Virginia 23113, (804) 486-1911. Requests for electronic copies of the Bidding Documents should be directed to Mr. Bob Dick, PE at (804) 486-1911 or BDick@scsengineers.com.

CITY OF BRISTOL

Michael Maine, Operations Manager

END OF SECTION 00 11 10

SECTION 00 21 10

INSTRUCTIONS TO BIDDERS

For a Bid to be considered, it must be in accordance with the following instructions:

1. BIDS

Bids must be made on the Bid Forms provided herein, and all blank spaces for Bids, Alternates and Unit Prices, applicable to bidder's work, shall be properly filled in. When requested Alternates are not Bid, the Bid may be considered non responsive. The Bidders agree that Bids submitted on the specified Bid Forms, which are detached from specifications, will be considered and will have the same force and effect as if attached thereto. Numbers shall be stated both in writing and in figures for the Base Bids and Alternates.

Any modification to the Bid Forms (including Alternates and/or Unit Prices) may disqualify the Bid and may cause the Bid to be rejected.

The Contractor shall fill in the Bid Forms as follows:

- A. If the documents are executed by a sole Owner, that fact shall be evidenced by the word "Owner" appearing after the name of the person.
- B. If the documents are executed by a Partnership, that fact shall be evidenced by the word "Co-Partner" appearing after the name of the partner executing them.
- C. If the documents are executed on the part of a Corporation, they shall be executed by either the President or the Vice-President and attested by either the Secretary or Assistant Secretary. In all cases the title of the office of such person shall appear after their signatures.
- D. If the Bid is made by a Joint Venture, it shall be executed by each member of the Joint Venture in the above form for sole Owner, Partnership, or Corporation, whichever form is applicable.
- E. All signatures shall be properly witnessed or attested as applicable.
- F. Each Bid shall be addressed and delivered as indicated in Item 6 of the Instructions to Bidders. The address of the Bidder, the Bidder's license number and, if applicable, the designated portion of the Work for which Bid is submitted should also be referenced on the Bid envelope.
- G. It shall be the specific responsibility of the Bidder to deliver the Bid to the proper official at the appointed place and prior to the announced time for the opening of Bids. Later delivery of a Bid for any reason, including delivery by the United States Mail, shall disqualify the Bid.
- H. Modifications of previously deposited Bids or requests for withdrawal will be acceptable only if delivered in person or in writing to the place of the Bid opening prior to the time for opening Bids.

- I. Unit Prices quoted in the Bid shall include overhead and profit and shall be the full compensation for the Contractor's cost involved in the work.
- J. Failure to submit a bid/Bid on the official City of Bristol Virginia form provided for that purpose shall be a cause for rejection of the bid/Bid. Modification of or additions to any portion of the Invitation for Bid/Request for Bid may be cause for rejection of the bid/Bid; however, the City of Bristol Virginia reserves the right to decide, on a case by case basis, in its sole discretion, whether to reject such a bid/Bid as nonresponsive. As a precondition to its acceptance, the City of Bristol Virginia may, in its sole discretion, request that the bidder/proposer withdraw or modify nonresponsive portions of a bid/Bid which do not affect quality, quantity, price, or delivery. No modification of or addition to the provisions of the contract shall be effective unless reduced to writing and signed by the parties.

2. QUALIFICATIONS OF BIDDERS

The Bidder shall provide a summary of relevant experience with installing borings (for wells, probes, piezometers, etc.) into landfills via sonic drilling techniques and well/probe construction within solid waste landfills. The Bidder shall submit as part of the Bid, information related to previous relevant projects including job location and work summary, contract amount and duration, and contact name and phone number on the forms provided herein. A minimum of three (3) relevant landfill borehole sonic drilling and well/probe construction projects shall be submitted with the Bid. It is the Bidder's responsibility to submit sufficient documentation to demonstrate relevancy.

The City of Bristol Virginia may make such reasonable investigations as deemed proper and necessary to determine the ability of the bidder/proposer to perform the services/furnish the goods and the bidder/proposer shall furnish to the City of Bristol Virginia all such information and data for this purpose as may be requested. The City of Bristol Virginia reserves the right to inspect bidder's/proposer's physical facilities prior to award to satisfy questions regarding the bidder/proposer's capabilities. The City of Bristol Virginia further reserves the right to reject any bid/Bid if the evidence submitted by, or investigations of, such bidder/proposer fails to satisfy the City of Bristol Virginia that such bidder/proposer is properly qualified to carry out the obligations of the contract and to provide the services and/or furnish the goods contemplated therein.

3. EXAMINATION OF CONDITIONS

It is understood and mutually agreed that by submitting a Bid the Contractor acknowledges his/her careful examination of the Bidding Documents pertaining to the work, the location, accessibility and general character of the site of the work and all existing buildings and structures within and adjacent to the site; and has satisfied himself/herself as to the nature of the work, the condition of existing infrastructure, the conformation of the ground, the character, quality and quantity of the materials to be encountered; the general and local conditions; the construction hazards; and all other matters, including but not limited to, the labor situation which can in any way affect the work under the Contract; and including all safety measures required by the latest edition of the Occupational Safety Health Act and all rules and regulations issued pursuant thereto. It is further mutually agreed that by submitting a Bid, the Contractor acknowledges that he/she has satisfied himself/herself as to the feasibility and meaning of the plans, drawings, specifications, and other Contract Documents for the construction of the work and that he/she accepts all the terms, conditions and stipulations contained therein; and that he/she is prepared to work in cooperation with the Owner and all other Contractors performing work on the site.

Reference is made to the Contract Documents for the identification of those surveys and investigative reports of subsurface or latent physical conditions at the site or otherwise affecting performance of the work which have been relied upon by the Licensed Professional who prepared the documents. Copies of all such surveys and reports are available to the Bidders, upon request. All Bidders are responsible for reviewing these documents prior to submission of their Bid Bid.

Each Bidder may, at his/her own expense, make such additional surveys and investigations, as he/she may deem necessary to determine his/her Bid price for the performance of the work. Any on-site investigation shall be done at the convenience of the Owner. The Owner will honor any reasonable request for access to the site.

4. ADDENDA

Any Addenda to bidding documents issued during the time of bidding will be sent to each Bidder, and are to be considered covered in the Bid Bid. It is the Contractor's responsibility to ascertain prior to Bid time, which Addenda have been issued and confirm that his/her Bid Bid includes any changes covered by the Addenda.

Should the Bidder find discrepancies in, or omissions from, the drawings or documents or should he/she be in doubt as to their meaning, he/she shall at once notify the Licensed Professional who prepared said drawings or documents. Neither the Owner nor the Licensed Professional who prepared the bidding documents will be responsible for any oral instructions.

The Bidder on his/her Bid shall acknowledge all Addenda. Failure to do so may disqualify the Bid and may cause the Bid to be rejected.

5. RECEIPT OF BIDS

All copies of the Bid, the Bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. All sealed Bid envelopes shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof and marked on the outside of the envelope as follows:

City of Bristol Purchasing Department
Tamrya Spradlin, Chief Financial Officer
City Hall
300 Lee Street
Bristol, Virginia 24201

LANDFILL TEMPERATURE MONITORING SYSTEM INSTALLATION PROJECT BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY

Due Date: Friday, July 22, 2022 at 2:00 P.M. EST

To be considered for selection, bids/Bids must be received by the City of Bristol Virginia Purchasing Department 300 Lee Street, Bristol, VA 24201, by the designated date and hour. Bids/Bids received in the City of Bristol Virginia Purchasing Department after the date and hour designated are automatically disqualified and will not be considered. The City of Bristol Virginia is not responsible for delays in the delivery of mail by the U.S. Postal Service, private couriers, or other means of delivery. It is the sole responsibility of the bidder/proposer to ensure that its bid/Bid reaches the City of Bristol Virginia Purchasing Department by the designated time and hour.

6. REJECTION OF BIDS

The Owner reserves the unqualified right to reject any and all Bids. Reasons for rejection may include, but shall not be limited to, the following:

- A. If the Form of Bid furnished to the Bidder is not used or is altered.
- B. If the Bidder fails to insert a price for all Bid items, Alternates and Unit Prices requested.
- C. If the Bidder adds any provisions reserving the right to accept or reject any award.
- D. If there are unauthorized additions or conditional Bids, or irregularities of any kind which tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning.
- E. If the Bidder fails to complete the Bid forms where information is requested so the Bid may be properly evaluated by the Owner.
- F. If the Unit Prices contained in the Bid Schedule are unacceptable to the Owner.
- G. If the Bidder fails to demonstrate relevant experience to the satisfaction of the Owner in accordance with the criteria outlined under Qualifications of Bidders.
- H. If the Bidder fails to comply with other instructions stated herein.

7. BID EVALUATION AND AWARD

The City of Bristol, Virginia will make the award on a Grand Total or Total Bid Price to the lowest responsive and responsible bidder. Should the successful Bidder default and fail to execute a Contract, the Contract may be awarded to the next lowest responsive and responsible Bidder.

In accordance with Section 00 45 13, Bidder must submit certain information pertaining to Bidder's qualifications along with the Bid. Before awarding a Contract, the Owner may require the apparent low Bidder to supply supplemental information and documentation, or request clarifications, to qualify himself/herself to be a responsible Bidder by furnishing any or all of the following data:

- A. The latest financial statement showing assets and liabilities of the company or other information satisfactory to the Owner.
- B. A listing of similar completed projects of similar size, with contact persons and telephone numbers.
- C. Permanent name and address of place of business.
- D. The number of regular employees of the organization and length of time the organization has been in business under present name and percentage of work typically performed by the contractor's firm.
 - 1. Qualifications of key employees assigned to this Project.
 - 2. References for key employees assigned to this Project.

- E. The name and home office address of the Surety proposed and the name and address of the responsible local claim agent.
- F. The names of members of the firm who hold appropriate trade licenses, together with license numbers.
- G. Complete list of all subcontractors and suppliers proposed.
- H. Any pending arbitration or mediation cases or lawsuits. This may include all arbitration, mediation and lawsuits settled or resolved within last ten (10) years.

Failure or refusal to furnish any of the above information if requested shall constitute a basis for disqualification of any Bidder.

In determining the lowest responsible Bidder, the Owner may consider the past performance of the Bidder on construction contracts. Particular concern will be given to completion times, quality of work, cooperation with other Contractors, and cooperation with the Designer and Owner.

Should the Owner adjudge that the apparent low Bidder is not the lowest "responsible" Bidder by virtue of the above information, said apparent low Bidder will be so notified and his/her Bid Security shall be returned to him/her.

The Owner shall have the right to accept Alternates in any order or combination and to determine the low Bidder on the basis of the sum of the Base Bid and the Alternates accepted.

The Owner reserves the right to reject any and all Bids, to waive all technicalities and irregularities, and to make the award as considered to be in the best interest of the Owner.

Upon the award or the announcement of the decision to award a contract as a result of this solicitation, the City of Bristol Virginia will publicly post such notice on the City of Bristol Virginia website (www.bristolva.org) if the amount of the transaction is \$30,000 or more. Award information may also be obtained by contacting the buyer whose name appears on this solicitation.

8. BID SECURITY

Each Bid shall be accompanied by bid security in accordance with the instructions specified in Section 00 43 10. Bids shall be accompanied by a cashier's or bank check or Bid Guarantee Bond in the amount of not less than five percent (5%) of the bid made payable to the City of Bristol, Virginia, Owner, and subject to the conditions provided in the Instruction to Bidders.

9. PERFORMANCE BOND

The successful Bidder, upon award of Contract, shall furnish a Performance Bond in an amount equal to one hundred percent (100%) of the Contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's requirements under such contract.

10. PAYMENT BOND

The successful Bidder, upon award of Contract, shall furnish a Payment Bond in an amount equal to one hundred percent (100%) of the Contract price. A "payment bond" is one executed in

connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

11. PRE-BID CONFERENCE

Bidders are requested to attend a virtual Pre-Bid Conference at the time and place stipulated in the Bidding Documents and to conduct a site visit prior to submitting the bid.

Site visits may be scheduled by contacting Mike Martin, Solid Waste Administrator, at (423) 571-7332 or mmartin@bristolva.org, or Michael Maine, Operations Manager, at (276) 645-7360 or mmaine@bristolva.org.

12. BIDS TO BE BID

Landfill Temperature Monitoring System Installation Project for the City of Bristol Integrated Solid Waste Management Facility

13. INFORMATION TO BIDDER

All questions concerning the plans and specifications should be directed to the Licensed Professional who prepared said documents, which is Mr. Bob Dick, PE of SCS Engineers at (804) 486-1911 or BDick@scsengineers.com.

Address all inquiries and correspondence regarding this ITB to:

Tamrya Spradlin, Chief Financial Officer
300 Lee Street Bristol, VA 24201
Email: tamrya.spradlin@bristolva.org
PHONE (276) 645-7358

END OF SECTION 00 21 10

SECTION 00 41 13
BID FORM
LANDFILL TEMPERATURE MONITORING SYSTEM
INSTALLATION PROJECT
BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY
Engineer's Project No. 02218208.12

1.0 OWNER AND BIDDER

1.1

This Bid is submitted to: City of Bristol, Purchasing Department

1.2

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.0 ATTACHMENTS TO THIS BID

The following documents are submitted with and made a condition of this Bid:

- List of Proposed Subcontractors;
- List of Proposed Suppliers;
- Evidence of authority to do business in the Commonwealth of Virginia; or a written covenant to obtain such authority within the time for acceptance of Bids;
- Contractor's license number as evidence of Virginia Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids; and,
- Required Bidder Qualification Statement with supporting data.

3.0 BASIS OF BID—UNIT PRICES

3.1 UNIT PRICE BIDS

A. Unit Price

#	Description	Estimated Quantity	Unit	Unit Price	Subtotal
Base Bid Items					
1	Mobilization/Demobilization	1	Lump Sum	\$	\$
2	4-inch Dia. Borehole Drilling	2,000	FT	\$	\$
3	Belowgrade Temperature Probe Construction	2,000	FT	\$	\$
4	Temperature Probe Termination Apparatus	9	EA	\$	\$
5	Temperature Measurement Instrumentation	9	EA	\$	\$

B. Total Bid Price

Total Base Bid Price (Items #1 through #5)	\$
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4.0 TIME OF COMPLETION

4.1

Bidder agrees that the Work will be substantially complete within 40 calendar days after the date when the Contract Times commence to run, and will be completed and ready for final payment within 50 calendar days after the date when the Contract Times commence to run.

4.2

Bidder accepts the provisions of the Agreement as to liquidated damages.

5.0 BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

5.1 BID ACCEPTANCE PERIOD

This Bid will remain subject to acceptance for 30 calendar days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner. At the end of the 30 calendar days, the bid/proposal may be withdrawn at the written request of the bidder/proposer. If the bid/proposal is not withdrawn at that time, it remains in effect until an award is made or the solicitation is cancelled

5.2 INSTRUCTIONS TO BIDDERS

Bidder accepts all of the terms and conditions of the Instructions to Bidders.

5.3 RECEIPT OF ADDENDA

Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

6.0 BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.1 BIDDER'S REPRESENTATIONS

In submitting this Bid, Bidder represents the following:

- A. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
- B. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
- E. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- I. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.
- J. The Bid/Proposal price shall be an all-inclusive price to deliver the specified goods and/or services FOB Destination to the address specified per the specifications. Invoices must be itemized and will be paid at the unit price in the Bid. The City will not accept or pay for additional line items such as freight, shipping and handling, delivery, downtime, equipment, lost time due to inclement weather or any other charges additional to the unit prices quoted in the Bid/Proposal.
- K. By submitting their bids/proposals, all bidders/proposers certify and warrant that the price offered for FOB destination includes only the actual freight rate costs at the lowest and best rate and is based upon the actual weight of the goods to be shipped. Except as otherwise specified herein, standard commercial packaging, packing and shipping containers shall be used. All shipping containers shall be legibly marked or labeled on the outside with purchase order number, commodity description, and quantity.
- L. The bid price shall be for complete delivery of equipment, ready for use by the City of Bristol Virginia, and shall include all applicable freight and installation charges; extra charges will not be allowed.

6.2 BIDDER'S CERTIFICATIONS

The Bidder certifies the following:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding.
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 6.2.D:
 - 1. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - 2. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

3. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
4. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

Bidder:

(typed or printed name of organization)

By:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

Address for giving notices:

Bidder's Contact:

Name:

(typed or printed)

Title:

(typed or printed)

Phone:

Email:

Address: _____

Bidder's Contractor License No.: (if applicable) _____

END OF SECTION 00 41 13



SECTION 00 43 10

BID BOND

LANDFILL TEMPERATURE MONITORING SYSTEM INSTALLATION PROJECT

BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY

Bids shall be accompanied by a cashier's or bank check or Bid Guarantee Bond in the amount of not less than five percent (5%) of the bid made payable to the City of Bristol, Virginia, Owner, and subject to the conditions provided in the Instruction to Bidders.

BID GUARANTY

The undersigned bidder submits herewith bid guaranty in an amount of not less than five percent (5%) of the total amount of the bid offered and agrees and consents that the bid guaranty shall be forfeited to the City as liquidated damages if the required contract bond is not executed within fifteen (15) days from the date of the notice of award and work has not been started as required. The following documents are attached to and made a condition of this bid and constitute required Bid Security:

_____ Certified Check or Bank Check

_____ Bid Bond

BID AMOUNT: \$ _____

BIDDER: _____

PERSON PREPARING BID: _____

TELEPHONE NUMBER: _____

ADDRESS: _____

Submittal of signed BID Form signifies understanding and acceptance of all stated terms and conditions and acknowledgment of requirement of compliance with all applicable local, state and federal ordinances, laws, rules and regulations whether expressly stated herein or not.



SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____

COMPANY: _____

DATE: _____

SECTION 00 45 13

BIDDERS QUALIFICATIONS

1.0 GENERAL INFORMATION

1.1

Provide contact information for the Business:

Legal Name of Business:			
Corporate Office			
Name:		Phone number:	
Title:		Email address:	
Business address of corporate office:			
Local Office			
Name:		Phone number:	
Title:		Email address:	
Business address of local office:			

1.2

Provide information on the Business's organizational structure:

Form of Business:	☐ Sole Proprietorship ☐ Partnership ☐ Corporation		
☐ Limited Liability Company ☐ Joint Venture comprised of the following companies:			
1.			
2.			
3.			
Provide a separate Qualification Statement for each Joint Venturer.			
Date Business was formed:		State in which Business was formed:	
Is this Business authorized to operate in the Project location?		☐ Yes ☐ No ☐ Pending	
SCC Identification Number:			

1.3

Identify all businesses that own Business in whole or in part (25% or greater), or that are wholly or partly (25% or greater) owned by Business:

Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			

1.4

Provide information regarding the Business's officers, partners, and limits of authority.

Name:		Title:	
Authorized to sign contracts:	☐ Yes ☐ No	Limit of Authority:	\$
Name:		Title:	
Authorized to sign contracts:	☐ Yes ☐ No	Limit of Authority:	\$
Name:		Title:	
Authorized to sign contracts:	☐ Yes ☐ No	Limit of Authority:	\$
Name:		Title:	

2.0 LICENSING

2.1

Provide information regarding licensure for Business:

Name of License:			
Licensing Agency:			
License No:		Expiration Date:	
Name of License:			
Licensing Agency:			
License No:		Expiration Date:	

3.0 DIVERSE BUSINESS CERTIFICATIONS

3.1

Provide information regarding Business's Diverse Business Certification, if any. Provide evidence of current certification.

Certification	Certifying Agency	Certification Date
☐ Disadvantaged Business Enterprise		
☐ Minority Business Enterprise		
☐ Woman-Owned Business Enterprise		
☐ Small Business Enterprise		
☐ Disabled Business Enterprise		
☐ Veteran-Owned Business Enterprise		
☐ Service-Disabled Veteran-Owned Business		
☐ HUBZone Business (Historically Underutilized) Business		
☐ Other		
☐ None		

4.0 SAFETY

4.1

Provide information regarding Business's safety organization and safety performance.

Name of Business's Safety Officer:			
Safety Certifications			
Certification Name	Issuing Agency		Expiration

4.2

Provide Worker's Compensation Insurance Experience Modification Rate (EMR), Total Recordable Frequency Rate (TRFR) for incidents, and Total Number of Recorded Manhours (MH) for the last 3 years and the EMR, TRFR, and MH history for the last 3 years of any proposed Subcontractor(s) that will provide Work valued at 10% or more of the Contract Price. Provide documentation of the EMR history for Business and Subcontractor(s).

Year									
Company	EMR	TRFR	MH	EMR	TRFR	MH	EMR	TRFR	MH

5.0 FINANCIAL

5.1

Provide information regarding the Business's financial stability. Provide the most recent audited financial statement, and if such audited financial statement is not current, also provide the most current financial statement.

Financial Institution:			
Business address:			
Date of Business's most recent financial statement:		☐ Attached	
Date of Business's most recent audited financial statement:		☐ Attached	
Financial indicators from the most recent financial statement			
Contractor's Current Ratio (Current Assets ÷ Current Liabilities)			
Contractor's Quick Ratio ((Cash and Cash Equivalents + Accounts Receivable + Short Term Investments) ÷ Current Liabilities)			

6.0 SURETY INFORMATION

Provide information regarding the surety company that will issue required bonds on behalf of the Business, including but not limited to performance and payment bonds.

Surety Name:			
Surety is a corporation organized and existing under the laws of the state of:			
Is surety authorized to provide surety bonds in the Project location?	☐ Yes ☐ No		
Is surety listed in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" published in Department Circular 570 (as amended) by the Bureau of the Fiscal Service, U.S. Department of the Treasury? ☐ Yes ☐ No			
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

7.0 INSURANCE

Provide information regarding Business's insurance company(s), including but not limited to its Commercial General Liability carrier. Provide information for each provider.

Name of insurance provider, and type of policy (CLE, auto, etc.):			
Insurance Provider		Type of Policy (Coverage Provided)	
Are providers licensed or authorized to issue policies in the Project location?		☐ Yes ☐ No	
Does provider have an A.M. Best Rating of A-VII or better?		☐ Yes ☐ No	
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

8.0 CONSTRUCTION EXPERIENCE

8.1

Provide information that will identify the overall size and capacity of the Business.

Average number of current full-time employees:	
Estimate of revenue for the current year:	
Estimate of revenue for the previous year:	

8.2

Provide information regarding the Business's previous contracting experience.

Years of experience with projects like the proposed project:			
As a general contractor:		As a joint venturer:	
Has Business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:			
Been disqualified as a bidder by any local, state, or federal agency within the last 5 years? ☐ Yes ☐ No			
Been barred from contracting by any local, state, or federal agency within the last 5 years? ☐ Yes ☐ No			
Been released from a bid in the past 5 years? ☐ Yes ☐ No			
Defaulted on a project or failed to complete any contract awarded to it? ☐ Yes ☐ No			
Refused to construct or refused to provide materials defined in the contract documents or in a change order? ☐ Yes ☐ No			
Been a party to any currently pending litigation or arbitration? ☐ Yes ☐ No			

Provide full details in a separate attachment if the response to any of these questions is Yes.

8.3

List all projects currently under contract in Schedule A and provide indicated information.

8.4

List a minimum of three and a maximum of six projects completed in the last 5 years in Schedule B and provide indicated information to demonstrate the Business's experience with projects similar in type and cost of construction.

8.5

In Schedule C, provide information on key individuals whom Business intends to assign to the Project. Provide resumes for those individuals included in Schedule C. Key individuals include the Project Manager, Project Superintendent, Quality Manager, and Safety Manager. Resumes may be provided for Business's key leaders as well.

9.0 REQUIRED ATTACHMENTS

9.1

Provide the following information with the Statement of Qualifications:

- A. If Business is a Joint Venture, separate Qualifications Statements for each Joint Venturer, as required in Paragraph 1.2.
- B. Diverse Business Certifications if required by Paragraph 3.1.
- C. Certification of Business's safety performance if required by Paragraph 4.1.
- D. Financial statements as required by Paragraph 5.1.
- E. Attachments providing additional information as required by Paragraph 8.2.
- F. Schedule A (Current Projects) as required by Paragraph 8.3.
- G. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.4.
- H. Schedule C (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.5.
- I. Additional items as pertinent.

This Statement of Qualifications is offered by:

Business:

(typed or printed name of organization)

By:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(date signed)

(If Business is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Address for giving notices:

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

Schedule A—Current Projects

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule B—Previous Experience with Similar Projects

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule B—Previous Experience with Similar Projects

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager	
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Schedule C—Key Individuals

Project Manager			
Name of individual			
Years of experience as project manager			
Years of experience with this organization			
Number of similar projects as project manager			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	
Project Superintendent			
Name of individual			
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

Safety Manager			
Name of individual			
Years of experience as project manager			
Years of experience with this organization			
Number of similar projects as project manager			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	
Quality Control Manager			
Name of individual			
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

END OF SECTION 00 45 13

SECTION 00 70 00

XVI. TERMS AND CONDITIONS

The Agreement for Service ("Contract" or "Agreement") with the successful Offeror will contain the following Terms and Conditions. Offerors taking exception to these Terms and Conditions or intending to propose additional or alternative language must (a) identify with specificity the City Terms and Conditions to which they take exception or seek to amend or replace; and (b) include any additional or different language with their bid. Failure to both identify with specificity those terms and conditions Offeror takes exception to or seeks to amend or replace as well as to provide Offeror's additional or alternate terms and conditions may result in rejection of the bid.

A. Procedures

The extent and character of the services to be performed by the Offeror shall be subject to the general control and approval of the City and their authorized representative(s). Any change to the Contract must be approved in writing by the City.

B. Delays and Delivery Failures

The Offeror must keep the City advised at all times of services' status relative to the schedule as agreed upon by the parties. If delay is foreseen, the Offeror shall give immediate written notice to the Purchasing Department and include an expected resolution timeframe. Should the Offeror fail to deliver the proper item(s)/service(s) at the time and place(s) contracted for, or within the resolution timeframe submitted with the delay notification or should the Offeror fail to make a timely replacement of rejected items /services when so required, the City may purchase items/services of comparable quality and quantity in the open market to replace the undelivered or rejected items/services. The Offeror shall reimburse the City for all costs in excess of the Agreement price when purchases are made in the open market; or in the event that there is a balance the City owes to the Offeror from prior transactions, an amount equal to the additional expense incurred by the City as a result of the Offeror's nonperformance shall be deducted from the balance as payment.

C. Business, Professional, & Occupational License Requirement

All firms or individuals doing business in the City are required to be licensed in accordance with the City Code Section 18-28. - License Requirement.

Questions regarding licensing should be directed to the Office of Commissioner of Revenue, telephone (276) 645-7316.

D. Authorization to Conduct Business in the Commonwealth

A contractor organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code of Virginia or as otherwise required by law. Any business entity described above that enters into a contract with a public body pursuant to the Virginia Public Procurement Act shall

not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the contract. A public body may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this section.

E. Insurance

1. The Offeror shall be responsible for its work and every part thereof, and for all materials, tools, equipment, appliances, and property of any and all description used in connection therewith. The Offeror assumes all risk of direct and indirect damage or injury to the property or persons used or employed on or in connection with the work contracted for, and of all damage or injury to any person or property wherever located, resulting from any action, omission, commission or operation under the Contract.
2. The Offeror and all sub-offerors shall, during the continuance of the work under the Contract, provide the following:
 - a. Workers' Compensation and Employer's Liability to protect the Offeror from any liability or damages for any injuries (including death and disability) to any and all of its employees, including any and all liability or damage which may arise by virtue of any statute or law in force within the Commonwealth of Virginia.
 - b. Comprehensive General Liability insurance to protect the Offeror, and the interest of the City, its officers, employees, and agents against any and all injuries to third parties, including bodily injury and personal injury, wherever located, resulting from any action or operation under the Contract or in connection with the contracted work. The General Liability insurance shall also include the Broad Form Property Damage endorsement, in addition to coverage for explosion, collapse, and underground hazards, where required.
 - c. Automobile Liability insurance, covering all owned, non-owned, borrowed, leased, or rented vehicles operated by the Offeror.
 - d. Professional Liability against any and all wrongful acts, errors, or omissions on the part of the Offeror resulting from any action or operation under the Contract or in connection with the contracted work.
3. The Offeror agrees to provide the above referenced policies with the following limits. Liability insurance limits may be arranged by General, Automobile and Professional Liability policies for the full limits required, or by a combination of underlying policies for lesser limits with the remaining limits provided by an Excess or Umbrella Liability policy.
 - a. Workers' Compensation: Statutory requirements and benefits. Coverage is compulsory for employers of three or more employees, to include the employer.
 - b. Employer's Liability:

- i. Each Accident: \$1,000,000
 - ii. Disease, Each Employee: \$1,000,000
 - iii. Disease, Policy Limit: \$2,000,000
 - c. Commercial General Liability:
 - i. General Aggregate \$2,000,000
 - ii. Each Occurrence \$1,000,000
 - iii. Commercial General Liability shall include bodily injury and property damage, personal injury, advertising injury, products and completed operations coverage. General Aggregate limit shall apply separately to the project. Contractor's insurance coverage shall be primary and non-contributory.
 - d. Automobile Liability: Combined Single Limit of \$1,000,000
 - e. Professional Liability:
 - i. General Aggregate \$2,000,000
 - ii. Each Occurrence \$1,000,000
 - f. Umbrella Liability: \$2,000,000 per occurrence.
4. The following provisions shall be agreed to by the Offeror:
- a. No change, cancellation, or non-renewal shall be made in any insurance coverage without a forty-five (45) day written notice to the City. The Offeror shall furnish a new certificate prior to any change or cancellation date. The failure of the Offeror to deliver a new and valid certificate will result in suspension of all payments until the new certificate is furnished.
 - b. Liability Insurance "Claims Made" basis:

If the liability insurance purchased by the Offeror has been issued on a "claims made" basis, the Offeror must comply with the following additional conditions. The limits of liability and the extensions to be included as described previously in these provisions, remain the same. The Offeror must either:

 - i. Agree to provide, prior to commencing work under the Contract, certificates of insurance evidencing the above coverage for a period of two (2) years after final payment for the Contract for General Liability policies and five (5) years for Professional Liability policies. This certificate shall evidence a "retroactive date" no later than the beginning of the Offeror's work under this Contract,
 - or
 - ii. Purchase the extended reporting period endorsement for the policy or policies in force during the term of this Contract and evidence the purchase of this extended reporting period endorsement by means of a certificate of insurance or a copy of the endorsement itself.
 - c. The Offeror must disclose the amount of deductible/self-insured retention

applicable to the General Liability, Automobile Liability and Professional Liability policies, if any. The City reserves the right to request additional information to determine if the Offeror has the financial capacity to meet its obligations under a deductible /self-insured plan. If this provision is utilized, the Offeror will be permitted to provide evidence of its ability to fund the deductible /self-insured retention.

d. Origin of Insurance

- i. The Offeror agrees to provide insurance issued by companies admitted within the Commonwealth of Virginia, with the Best's Key Rating of at least A:VII.
- ii. European markets including those based in London, and the domestic surplus lines market that operate on a non-admitted basis are exempt from this requirement provided that the Offeror's broker can provide financial data to establish that a market's policyholder surpluses are equal to or exceed the surpluses that correspond to Best's A:VII Rating.

e. Required Certificates

- i. The Offeror will provide an original signed Certificate of Insurance and such endorsements as prescribed herein.
 - ii. The Offeror will provide on request certified copies of all insurance coverage related to the Contract within ten (10) business days of request by the City. These certified copies will be sent to the City from the Offeror's insurance agent or representative. Any request made under this provision shall be deemed confidential and proprietary.
 - iii. Any certificates provided shall indicate the Contract name and number.
- f. The City, its officers and employees shall be Endorsed to the Offeror's Automobile and General Liability policies as an "additional insured" with the provision that this coverage "is primary to all other coverage the City may possess." (Use "loss payee" where there is an insurable interest). A Certificate of Insurance evidencing the additional insured status must be presented to the City along with a copy of the Endorsement.
- g. Compliance by the Offeror with the foregoing requirements as to carrying insurance shall not relieve the Offeror of their liabilities provisions of the Contract.

5. Contractual and other Liability insurance provided under this Contract shall not contain a supervision, inspection or engineering services exclusion that would preclude the City from supervising and/or inspecting the project as to the end result. The Offeror shall assume all on-the-job responsibilities as to the control of persons directly employed by it.

6. Precaution shall be exercised at all times for the protection of Persons (including employees) and property.

7. The Offeror is to comply with the Occupational Safety and Health Act of 1970,

Public Law 91-956, as it may apply to this Contract.

8. If an "ACORD" Insurance Certificate form is used by the Offeror's insurance agent, the words "endeavor to" and ". . . but failure to mail such notice shall impose no obligation or liability of any kind upon the company" in the "Cancellation" paragraph of the form shall be deleted.
9. The Offeror agrees to waive all rights of subrogation against the City, its officers, employees, and agents.

F. Hold Harmless

The Offeror shall indemnify and hold harmless the City, including its officials and employees, from all liability, losses, costs, damages, claims, causes of action, and suits of any nature (specifically including reasonable attorney's fees and defense costs incurred with the defense of third party claims) incidental to or brought as a consequence of any negligent act, error, omission, or breach of the applicable professional standard of care by the Offeror and /or its subcontractors. The Offeror agrees that this clause shall include, but is not limited to, claims involving infringement of patent or copyright. This section shall survive completion of the Contract. The City is prohibited from indemnifying Offeror and/or any other third parties.

G. Safety

All Offerors and sub-offerors performing services for the City are required and shall comply with all Occupational Safety and Health Administration (OSHA), State and City Safety and Occupational Health Standards and any other applicable rules and regulations. Also, all Offerors and sub-offerors shall be held responsible for the safety of their employees and any unsafe acts or conditions that may cause injury or damage to any persons or property within and around the work site area under this Contract.

H. Anti-Discrimination

By submitting their bids, offerors certify to the City that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act and § 2.2-4311 of the Virginia Public Procurement Act (VPPA). If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender sexual orientation, gender identity, or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (Code of Virginia, § 2.2-4343.1E).

In every contract over \$10,000 the provisions in 1. and 2. below apply:

1. During the performance of this contract, the contractor agrees as follows:
 - a. The contractor will not discriminate against any employee or applicant for

employment because of race, religion, color, sex, sexual orientation, gender identity, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

- b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
- c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- d. If the contractor employs more than five employees, the contractor shall (i) provide annual training on the contractor's sexual harassment policy to all supervisors and employees providing services in the Commonwealth, except such supervisors or employees that are required to complete sexual harassment training provided by the Department of Human Resource Management, and (ii) post the contractor's sexual harassment policy in (a) a conspicuous public place in each building located in the Commonwealth that the contractor owns or leases for business purposes and (b) the contractor's employee handbook.
- e. The requirements of these provisions 1. and 2. are a material part of the contract. If the Contractor violates one of these provisions, the City may terminate the affected part of this contract for breach, or at its option, the whole contract. Violation of one of these provisions may also result in debarment from State contracting regardless of whether the specific contract is terminated.
- f. In accordance with Executive Order 61 (2017), a prohibition on discrimination by the contractor, in its employment practices, subcontracting practices, and delivery of goods or services, on the basis of race, sex, color, national origin, religion, sexual orientation, gender identity, age, political affiliation, disability, or veteran status, is hereby incorporated in this contract.

2. The contractor will include the provisions of 1. above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

I. Ethics in Public Contracting

The provisions contained in § 2.2-4367 through § 2.2-4377 of the Virginia Public Procurement Act as set forth in the 1950 Code of Virginia, as amended, shall be applicable to all Contracts solicited or entered into by the City. A copy of these provisions may be obtained from the Purchasing Department upon request.

The above-stated provisions supplement, but do not supersede, other provisions of law including, but not limited to, the Virginia State and Local Government Conflict of

Interests Act (§ 2.2-3100 et seq.), the Virginia Governmental Frauds Act (§ 18.2-498.1 et seq.) and Articles 2 and 3 of Chapter 10 of Title 18.2. The provisions apply notwithstanding the fact that the conduct described may not constitute a violation of the Virginia Conflict of Interests Act.

J. Drug-free Workplace

Every Contract of over \$10,000 shall include the following provisions:

During the performance of this Contract, the Offeror agrees to (i) provide a drug-free workplace for the Offeror's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Offeror's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Offeror that the Offeror maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each sub-offeror or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific Contract awarded to an Offeror in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana during the performance of the Contract.

K. Immigration Reform and Control Act of 1986

By entering this Contract, the Offeror certifies that it does not and will not during the performance of this Contract violate the provisions of the Federal Immigration Reform and Control Act of 1986, which prohibits employment of illegal aliens.

L. Exemption from Taxes

Pursuant to Va. Code § 58.1-609.1, the City is exempt from Virginia State Sales or Use Taxes and Federal Excise Tax, therefore the Offeror shall not charge the City for Virginia State Sales or Use Taxes or Federal Excise Tax on the finished goods or products provided under the Contract. However, this exemption does not apply to the Offeror, and the Offeror shall be responsible for the payment of any sales, use, or excise tax it incurs in providing the goods required by the Contract, including, but not limited to, taxes on materials purchased by an Offeror for incorporation in or use on a construction project. Nothing in this section shall prohibit the Offeror from including its own sales tax expense in connection with the Contract in its Contract price.

M. Ordering, Invoicing and Payment

All work requested under this Contract shall be placed on a City issued Purchase Order. The Offeror shall not accept credit card orders or payments.

The Offeror shall submit invoices, at the completion of tasks and submission of deliverables; such statement to include a detailed breakdown of all charges for that deliverable.

Payments for services are to be requested as monthly billings submitted by Offeror by the end of the calendar month and payable by the City within 30 days of receipt.

All such invoices will be paid timely by the City unless any items thereon are questioned, in which event payment will be withheld pending verification of the amount claimed and the validity of the claim. The Offeror shall provide complete cooperation during any such investigation.

All invoices shall be forwarded to the following address:

Director of Public Works
City of Bristol, Virginia
2515 Valley Drive
Bristol, VA 24201

Individual Offerors shall provide their social security numbers and proprietorships, partnerships, and corporations shall provide their federal employer identification number on the pricing form.

Offeror shall provide a current Form W-9 – Request for Taxpayer Identification Number and Certification.

N. Payments to Subcontractors

Within seven (7) days after receipt of amounts paid by the City for work performed by a subcontractor under this Contract, the Offeror shall either:

1. Pay the subcontractor for the proportionate share of the total payment received from the City attributable to the work performed by the subcontractor under this Contract; or
2. Notify the City and subcontractor, in writing, of his/her intention to withhold all or a part of the subcontractor's payment and the reason for non-payment.

The Offeror shall pay interest to the subcontractor on all amounts owed that remain unpaid beyond the seven (7) day period except for amounts withheld as allowed in item 2 above.

Unless otherwise provided under the terms of this Contract interest shall accrue at the rate of one percent (1 %) per month.

The Offeror shall include in each of its subcontracts a provision requiring each subcontractor to include or otherwise be subject to the same payment and interest requirements as set forth above with respect to each lower-tier subcontractor.

The Offeror's obligation to pay an interest charge to a subcontractor pursuant to this provision may not be construed to be an obligation of the City.

O. Substitutions

NO substitutions, additions or cancellations, including those of key personnel are

permitted after Contract award without written approval by the Purchasing Department. Where specific employees are proposed by the Offeror for the work, those employees shall perform the work as long as that employee works for the Offeror, either as an employee or subcontractor unless the City agrees to the substitution. Requests for substitutions will be reviewed by the City and approval may be given by the City at its sole discretion. The City shall be notified immediately by the Offeror when the substitution of key personnel or those identified in the bid may be necessary. The substitution process shall be complete within 14 calendar days of the Offerors notification to the City.

P. Assignment

The Agreement may not be assigned in whole or in part without the prior written consent of the Purchasing Department. The rights and obligations of the Offeror are personal and may be performed only by the Offeror. Any purported assignment that does not comply with this provision is void. This Agreement is binding upon and inures to the benefit of the parties and their respective permitted successors and assigns.

Q. Termination

Subject to the provisions below, the Contract may be terminated by the City upon thirty (30) days advance written notice to the Offeror; but if any work or service hereunder is in progress, but not completed as of the date of termination, then the Contract may be extended upon written approval of the City until said work or services are completed and accepted.

1. Termination for Convenience

The City may terminate this Contract for convenience at any time in which case the parties shall negotiate reasonable termination costs.

2. Termination for Cause

In the event of Termination for Cause, the thirty (30) days advance notice is waived and the Offeror shall not be entitled to termination costs.

3. Termination Due to Unavailability of Funds in Succeeding Fiscal Years

If funds are not appropriated or otherwise made available to support continuation of the performance of this Contract in a subsequent fiscal year, then the Contract shall be canceled and, to the extent permitted by law, the Offeror shall be reimbursed for the reasonable value of any non-recurring costs incurred but not amortized in the price of the supplies or services delivered under the Contract.

4. Availability of Funds

It is understood and agreed between the parties herein that the City of Bristol Virginia shall be bound hereunder only to the extent of the funds appropriated and available or which may hereafter become available for the purpose of this agreement.

R. Contractual Disputes

The Offeror shall give written notice to the City Manager of intent to file a claim for money or other relief within ten (10) calendar days of the occurrence giving rise to the claim or at the beginning of the work upon which the claim is to be based, whichever is earlier.

The Offeror shall submit its invoice for final payment within thirty (30) days after completion or delivery.

The claim, with supporting documentation, shall be submitted to the City Manager by US Mail, return receipt requested, courier, or overnight delivery service, no later than sixty (60) days after final payment. If the claim is not disposed of by agreement, the City Manager shall reduce his decision to writing and mail via U.S. mail or otherwise forward a copy thereof to the Offeror within thirty (30) days of the City's receipt of the claim.

The City Manager's decision shall be final unless the Offeror appeals within thirty (30) days by submitting a written letter of appeal to the City Manager, or his designee. The City Manager shall render a decision within sixty (60) days of receipt of the appeal.

No Offeror shall institute any legal action until all statutory requirements have been met. Each party shall bear its own costs and expenses resulting from any litigation, including attorney's fees.

S. Prime Offeror Responsibilities

The Offeror(s) shall be responsible for completely supervising and directing the work under the resulting Contract(s) and all subcontractors that they may utilize. Subcontractors who perform work under the resulting Contract shall be responsible to the prime Offeror. The Offeror agrees to be fully responsible for the acts and omissions of their subcontractors and of persons employed by them.

T. Ownership of Documents

Any reports, specifications, drawings, blueprints, negatives, electronic files or other documents prepared by the Offeror in the performance of its obligations under the Contract shall be the exclusive property of the City, and all such materials shall be returned to the City upon completion, termination, or cancellation of this Contract. The Offeror shall not use, willingly allow, or cause such materials to be used for any purpose other than performance of all Offeror's obligations under the resulting Contract without the prior written consent of the City. However, the Offeror may retain file copies which cannot be used without prior written consent of the City. The City agrees that the Offeror shall not be liable for damages, loss, or injury resulting from the future use of the provided documents for other than the project specified when the Offeror is not the firm of record.

U. Submissions

All Project correspondence, design/review documents, reports etc., prepared by the Offeror shall be distributed to the City Manager for each major phase and sub phase of the Project in the quantities as directed. Within thirty (30) days of completion of each Project phase, submit a Project phase completion report with phase documents to the

City Manager.

V. Responsibility for Claims and Liabilities

The City's review, approval, or acceptance of, or payment for, any services required shall not be construed to operate as a waiver by the City of any rights or of any cause of action arising out of the Contract. The Offeror shall be and remains liable to the City for the accuracy and competency of plans, specifications, or other documents or work and Offeror is responsible to the City for any costs incurred resulting from any errors, acts or omissions in the performance of any services furnished.

W. Severability

In the event that any provision shall be adjudged or decreed to be invalid, by a court of competent jurisdiction, such ruling shall not invalidate the entire Agreement but shall pertain only to the provision in question and the remaining provisions shall continue to be valid, binding and in full force and effect.

X. Governing Law /Forum

This Agreement shall be governed and construed in all respects by its terms and by the laws of the Commonwealth of Virginia, without giving effect to its conflicts of law's provisions. Any judicial action shall be filed in the Circuit Court for the City of Bristol, Virginia. Offeror expressly waives any objection to venue or jurisdiction of the Circuit Court for the City of Bristol, Virginia. Offeror expressly consents to waiver of service of process in an action pending in the Circuit Court for the City of Bristol, Virginia pursuant to Virginia Code § 8.01-286.1.

Y. Notices

All notices and other communications hereunder shall be deemed to have been given when made in writing and either (a) delivered in person, (b) delivered to an agent, such as an overnight or similar delivery service, or (c) deposited in the United States mail, postage prepaid, certified or registered, addressed as follows:

TO OFFEROR:
TBD

TO CITY OF BRISTOL VIRGINIA:
City of Bristol Virginia
Purchasing Department
Attn: Tamrya Spradlin
300 Lee Street
Bristol, VA 24201

Notice is deemed to have been received: (i) on the date of delivery if delivered in person; (ii) on the first business day after the date of delivery if sent by same day or overnight courier service; or (iii) on the third business day after the date of mailing, if sent by certified or registered United States Mail, return receipt requested, postage and charges prepaid.

Z. Counterparts

This Contract and any amendments or renewals hereto may be executed in a number of counterparts, and each counterpart signature, when taken with the other counterpart

signatures, is treated as if executed upon one original of this Contract or any amendment or renewal. A signature by any party to this Contract provided by facsimile or electronic mail is binding upon that party as if it were the original.

AA. Force Majeure

A party is not liable for failure to perform the party's obligations if such failure is as a result of Acts of God (including fire, flood, earthquake, storm, hurricane or other natural disaster), war, invasion, act of foreign enemies, hostilities (regardless of whether war is declared), civil war, rebellion, revolution, insurrection, military or usurped power or confiscation, terrorist activities, nationalization, government sanction, blockage, embargo, strikes at national level or industrial disputes at a national level, or strike or industrial disputes by labor not employed by the affected party, its subcontractors or its suppliers and which affect an essential portion of the contracted for works but excluding any industrial dispute which is specific to the performance of the works or this contract, interruption or failure of electricity or telephone service.

If a party asserts Force Majeure as an excuse for failure to perform the party's obligation, that party must immediately notify the other party giving full particulars of the event of force majeure and the reasons for the event of force majeure preventing that party from, or delaying that party in performing its obligations under this contract that party must use its reasonable efforts to mitigate the effect of the event of force majeure upon its or their performance of the contract and to fulfill its or their obligations under the contract.

An event of force majeure does not relieve a party from liability for an obligation which arose before the occurrence of that event, nor does that event affect the obligation to pay money in a timely manner which matured prior to the occurrence of that event.

The Offeror has no entitlement and City has no liability for: (1) any costs, losses, expenses, damages or the payment of any part of the contract price during an event of force majeure; and (2) any delay costs in any way incurred by the Offeror due to an event of force majeure.

BB. Survival of Terms

Upon discharge of this Agreement, Sections (Notice, Hold Harmless, Warranties, Governing Law/Forum, Contractual Disputes) of these Terms and Conditions continue and survive in full force and effect.

CC. Non-Waiver

No waiver of any provision of this Agreement shall constitute a waiver of any other provision nor shall any waiver of this Agreement constitute a continuing waiver unless otherwise expressly provided.

DD. Workmanship and Inspection

All services provided under this Contract shall be performed in a skillful, workmanlike and professional manner. The Offeror and its employees shall be professional and courteous at all times. The City may, in writing, require the Offeror to remove any employee from work for reasonable cause, as determined by the City. Further, the City

may, from time to time, make inspections of the services performed under this Agreement. Any inspection by the City does not relieve the Offeror of any responsibility in meeting the Agreement requirements. Offeror employees that have been removed at the direction of the City shall be replaced within seven calendar days after City notification.

EE. Debarment Status

By participating in this procurement, the vendor certifies that they are not currently debarred by the Commonwealth of Virginia or Federal Government from submitting a response for the type of goods and/or services covered by this solicitation. Vendor further certifies that they are not debarred from filling any order or accepting any resulting order, or that they are an agent of any person or entity that is currently debarred by the Commonwealth of Virginia or Federal Government. If a vendor is created or used for the purpose of circumventing a debarment decision against another vendor, the nondebarred vendor will be debarred for the same time period as the debarred vendor.

FF. Supremacy Clause

Notwithstanding any provision in the bidder's/proposer's response to the contrary, the bidder/proposer agrees that the terms and conditions contained in the City of Bristol, Virginia's Invitation to Bid or Request for Proposal prevail over contrary terms and conditions contained in the bidder's/proposer's response.

GG. Equal Employment Opportunity

The offeror hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
3. The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
5. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
6. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
7. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
8. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect

to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The offeror further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that if the offeror so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The offeror agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The offeror further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the offeror agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the offeror under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such offeror; and refer the case to the Department of Justice for appropriate legal proceedings.

HH. Antitrust

By entering into a contract, the contractor conveys, sells, assigns, and transfers to the City of Bristol Virginia all rights, title and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the City of Bristol Virginia under said contract.

II. Liquidated Damages

If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time and as otherwise required by the Contract Documents, the Owner shall be entitled to retain or recover from the Contractor, as Step One Liquidated Damages and not as a penalty, the following per diem amount commencing upon the first day following

expiration of the Contract Time and continuing until the actual date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed Substantial Completion of the Work:

Two Thousand Dollars (\$2,000.00) per consecutive calendar day

If the Contractor fails to achieve Final Completion of the Work within the Contract Time, as Step Two Liquidated Damages and not as a penalty, the following per diem amount commencing upon the first day following the actual date of Substantial Completion and continuing until the actual date of Final Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed Final Completion of the Work:

Two Thousand Dollars (\$2,000.00) per consecutive calendar day

The Owner may deduct liquidated damages described above from any unpaid amounts then or thereafter due the Contractor under this Agreement. Should the amount of any liquidated damages exceed the amount due or to become due to the Contractor, then the Contractor and his sureties shall be liable for and shall pay to the Owner the amount of any such excess.

JJ. Good Housekeeping

In accordance with the Clean Water Act, established by the Environmental Protection Agency (EPA) and enforced by the Virginia Department of Environmental Quality (DEQ), the City of Bristol Virginia is required to implement and enforce written procedures as part of the Municipal Separate Storm Sewer System (MS4) permit program requirements to prevent, to the maximum extent practicable, potential pollutants that will lead to a point discharge at a natural drainage way. The City of Bristol Virginia's written procedures are provided in the Good Housekeeping/Pollution Prevention (GH/PP) manual provided to the Contractor. The Contractor shall employ good housekeeping practices outlined in the GH/PP manual and as directed in response to City inspection reports on all City properties and immediately remediate all spills containing potential pollutants as directed in the manual. If, through an audit or inspection, the EPA or DEQ renders fines to the City on account of poor practices determined to be the fault of Contractor, the City reserves the right to collect compensation from the Contractor. Contractors applying pesticides and herbicides shall provide evidence of appropriate certification in accordance with Virginia Law.

By signing the Contract, the Contractor acknowledges receipt of the GH/PP manual and certifies Contractor's understanding of its roles, responsibilities and liabilities associated with the City's MS4 Program. If the Contractor has any questions during the term of this contract concerning the Good Housekeeping and Pollution Prevention Manual, the Contractor may contact the Landfill Environmental & Safety Compliance Officer.

KK. Contract Provisions for Non-Federal Entity Contracts Under Federal Awards

1. All contracts awarded in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations, 29 CFR Part 5. Each contractor must be required to compute the wages of every

mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. No laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

2. Contracts in excess of \$150,000 must contain a provision requiring compliance with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency.
3. A contract award will not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180.
4. Contractors that apply or bid for an award exceeding \$100,000 must file the required certification per the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The contractor certifies that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award will be disclosed.
5. As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cements, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award. For purposes of this section:
 - a. "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
 - b. "Manufactured products" means items and construction materials composed in whole or in part of nonferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.
6. Contractor must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the

item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximized energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

ATTACHMENT A**Sample Contract**

(to be completed later)

CONTRACT FOR**Contract Number:**

This contract entered into this ____ day of _____, 2022, by _____ hereinafter called the "Contractor" and the City of Bristol Virginia, hereinafter called the "City".

WITNESSETH that the Contractor and the City, in consideration of mutual covenants, promises and agreements herein contained, agree as follows:

SCOPE OF SERVICES: The Contractor shall provide the services to the City as set forth in the Invitation for Bid attached hereto.

CONTRACT PERIOD: The contract period is from _____.

COMPENSATION AND METHOD OF PAYMENT: The Contractor shall be paid in accordance with the Contract Documents in the amount of _____, subject to the Contract Document, Section 01 22 00 Measurement and Payment and Section 00 41 13 Bid Form. There shall be no addition(s) or deletion(s) to the Contract without the prior written approval of a Change Order issued by the City.

CONTRACT DOCUMENTS: The Contract Documents shall consist of the contract, Invitation for Bid and all attachments to the Invitation for Bid.

CONTRACTOR:**CITY OF BRISTOL VIRGINIA:**

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____

END OF SECTION 00 70 00

SECTION 01 11 00

SUMMARY OF WORK

PART 1 – GENERAL

1.1 PROJECT DESCRIPTION

- A. Scope: The project work to be performed by the CONTRACTOR consists of furnishing all labor, materials, equipment, tools, transportation, services, incidentals, and performing all work necessary to complete the project, in place and ready for service in accordance with the plans and specifications prepared for the Landfill Temperature Monitoring System. The work generally involves installation of boreholes to construct temperature monitoring probes along with certain corresponding instrumentation to measure subsurface temperature in the quarry landfill at the Bristol, Virginia ISWMF, including but not limited to the following items:
1. Construction mobilization and demobilization.
 2. Coordinating with ENGINEER and OWNER'S SURVEYOR.
 3. Installation of the boreholes into the landfill waste mass.
 4. Installation of the belowgrade temperature probes.
 5. Installation of the temperature probe termination apparatus.
 6. Installation of the temperature measurement instrumentation.
 7. Providing as-built record documentation.

1.2 WORK SEQUENCE

- A. The CONTRACTOR shall sequence construction work to accommodate continued landfilling operations by OWNER forces. The CONTRACTOR shall sequence construction work to accommodate continued landfill gas (LFG) system operations by OWNER forces.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises for work, storage, and access to allow work by other contractors, owner occupancy, and normal landfill and LFG system operations.
- B. Facility Hours: The CONTRACTOR shall have equipment and material delivery access to and from the site under the site's normal operating hours from 7:00 A.M. to 4:00 P.M.
- C. Access: No later than 5 days after notice to proceed, the CONTRACTOR shall arrange with the OWNER a sequence of procedures, means of access, space for storage of materials and equipment, and use of approaches and roadways. CONTRACTOR's use of the premises shall be confined to the areas approved by the OWNER.
- D. Odor Mitigation: CONTRACTOR shall not initiate drilling within the limits of waste unless the work can be completed and the temperature probe can be constructed and the borehole can be backfilled prior to the end of the work day. CONTRACTOR shall install boreholes and construct temperature monitoring probes as efficiently as

possible to minimize odors. CONTRACTOR shall minimize periods of open boreholes or exposed waste to reduce odors.

- E. CONTRACTOR shall not dispose of waste oils, fuels, cleaners or other potentially hazardous substances on site.

1.4 OWNER OCCUPANCY AND LANDFILL OPERATIONS

The OWNER will occupy the site and continue to conduct landfilling operations at the active landfill cells. The CONTRACTOR shall cooperate with the OWNER during construction operations to minimize conflicts and facilitate OWNER usage. The CONTRACTOR shall cooperate with the OWNER during construction operations. The CONTRACTOR shall perform the Work so as not to interfere with the OWNER's landfilling operations, LFG collection and control, maintenance, odor mitigation, environmental monitoring, and other OWNER activities at the site.

1.5 SITE CONDITIONS

- A. Existing Grades: The existing grades may vary from those indicated on the Plans due to landfill settlement and waste filling activities.
- B. Existing Features: The Contract Documents require the CONTRACTOR to field verify the location of existing features.
- C. The CONTRACTOR shall enforce safety procedures to minimize hazards to workers, the public, and the environment.
- D. Contractor shall be aware that drilling or excavating within the waste will expose workers to hazardous/flammable gases as well as leachate, potentially under high pressure.

1.6 SUPERINTENDENT

CONTRACTOR shall provide a single qualified full time English-speaking superintendent for the duration of the project. CONTRACTOR shall not change superintendent without the OWNER's prior written permission. CONTRACTOR's proposal to change personnel must be justifiable to the OWNER, and must demonstrate that the proposed replacement possesses adequate qualifications to the satisfaction of the OWNER.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 01 11 00

SECTION 01 14 00

PROJECT COORDINATION

PART 1 – GENERAL

1.1 SUMMARY

- A. The CONTRACTOR shall prepare schedules, work staging and sequencing plan, and submittals, as well as participate in project meetings necessary to coordinate the Work with construction and operations activities at the site conducted by others. This Section specifies administrative and procedural requirements for project meetings including the Pre-Construction Conference and routine Progress Meetings.
- B. The CONTRACTOR shall coordinate the Work being performed under this contract to recognize and accommodate relevant activities associated with the routine operation of the landfill, routine operation of the landfill gas (LFG) collection and control system, continuous and uninterrupted delivery of LFG to the landfill gas-to-energy (LFGE) Facility, to the extent practicable.

1.2 DESCRIPTION

- A. The OWNER will schedule and administer a preconstruction conference, construction progress meetings, and specially called meetings throughout the progress of work. The ENGINEER or OWNER will be responsible for preparing the agenda, making arrangements, preparing the meeting summaries and presiding at these meetings.
- B. Representatives of CONTRACTOR, Subcontractor(s), and Suppliers attending these meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. The CONTRACTOR shall attend meetings to ascertain that work is expedited consistent with Contract Documents and construction schedules.

1.3 SCHEDULES

- A. The CONTRACTOR shall submit construction progress schedules to the OWNER and ENGINEER in accordance with Section 01 33 00 as necessary to coordinate site activities.
- B. If necessary for the installation of the landfill temperature monitoring system, the CONTRACTOR shall submit the proposed date, time, and anticipated duration of any planned shutdowns or interruptions of the existing landfill access road

network or the existing LFG collection system to the OWNER, ENGINEER, and LFGE Facility Operator at least 48 hours in advance of the proposed event.

1.4 SUBMITTALS

- A. When specified in individual specification sections, submit drawings, product data, samples, and other documentation in accordance with Section 01 33 00. Revise and resubmit as required by the ENGINEER.
- B. Submit applications for payment on approved OWNER forms to ENGINEER for review, and for transmittal to OWNER.
- C. Submit requests for interpretation of Contract Documents, and obtain instructions through the OWNER.
- D. Process requests for substitutions, and change orders, through the OWNER.

1.5 PRECONSTRUCTION CONFERENCE

- A. After award of the contract, but prior to the Notice-to-Proceed, a joint meeting shall be held with representatives of the OWNER, ENGINEER, CONTRACTOR and Project Superintendent and other invited parties which may be affected by the project.
- B. This meeting is intended to introduce the various key personnel from each organization and to discuss the Contract Documents, the start of construction, order of work, labor and legal requirements, approved insurance requirements, names of the major subcontractors, method of payment, shop drawing submittal schedule, protection of existing facilities and other pertinent items associated with the Project. The CONTRACTOR shall bring copies of a construction schedule, work sequencing and staging plan, schedule of values, and shop drawing submittals to this meeting, as specified in Section 01 33 00.

1.6 PROGRESS MEETINGS

Progress meetings will be organized and conducted by the OWNER to discuss the progress of the Work on a routine basis. The CONTRACTOR and Project Superintendent shall attend these meetings.

1.7 CONTRACT CHANGES

Changes can be made to the contract in any of the following ways:

- A. The parties may agree in writing to modify the scope of the contract. An increase in the price of the contract resulting from such modification shall be agreed to by

the parties pending City Council approval as a part of their written agreement to modify the scope of the contract.

- B. The City of Bristol Virginia may order changes within the general scope of the contract at any time by written notice to the contractor. Changes within the scope of the contract include, but are not limited to, things such as services to be performed, the method of packing or shipment, and the place of delivery or installation. The contractor shall comply with the notice upon receipt. The contractor shall be compensated for any additional costs incurred as the result of such order and shall give the City of Bristol Virginia a credit for any savings. Said compensation shall be determined by one of the following methods:
1. By mutual agreement between the parties in writing; or
 2. By agreeing upon a unit price or using a unit price set forth in the contract, if the work to be done can be expressed in units, and the contractor accounts for the number of units of work performed, subject to the City of Bristol Virginia's right to audit the contractor's records and/or to determine the correct number of units independently; or
 3. By ordering the contractor to proceed with the work and keep a record of all costs incurred and savings realized. A markup for overhead and profit may be allowed if provided by the contract. The same markup shall be used for determining a decrease in price as the result of savings realized. The contractor shall present the City of Bristol Virginia with all vouchers and records of expenses incurred and savings realized. The City of Bristol Virginia shall have the right to audit the records of the contractor as it deems necessary to determine costs or savings. Any claim for an adjustment in price under this provision must be asserted by written notice to the City of Bristol Virginia within thirty (30) days from the date of receipt of the written order from the City of Bristol Virginia. If the parties fail to agree on an amount of adjustment, the question of an increase or decrease in the contract price or time for performance shall be resolved in accordance with the procedures for resolving disputes provided by the Disputes Clause of this contract. Neither the existence of a claim nor a dispute resolution process, litigation or any other provision of this contract shall excuse the contractor from promptly complying with the changes ordered by the City of Bristol Virginia or with the performance of the contract generally.

1.8 DEFAULT

In case of failure to deliver goods or services in accordance with the contract terms and conditions, the City of Bristol Virginia, after due oral or written notice, may procure them from other sources and hold the contractor responsible for any resulting additional

purchase and administrative costs. This remedy shall be in addition to any other remedies which the City of Bristol Virginia may have. In addition, the City of Bristol Virginia reserves the right to cancel any orders placed that are not delivered by the date specified in the Invitation for Bid.

END OF SECTION 01 14 00

SECTION 01 22 00

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The CONTRACTOR shall receive and accept the compensation provided in the Contract as full payment for furnishing all labor, equipment, and materials and for performing all construction/operations necessary to complete the Work as described in the Contract, and in full payment for all losses or damages incurred during the Work, for any discrepancies between actual and estimated quantities, or from any unanticipated difficulties which may arise during the Work until final acceptance by the OWNER.
- B. The prices included in the Bid Form shall include all costs for labor, equipment, materials, taxes, freight, permits, handling and tests required to perform the Work as shown on the Contract Documents.
- C. The CONTRACTOR shall field verify all quantities and dimensions shown on the Plans or contained in the Contract Specifications including the Bid Form.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 MEASUREMENT AND PAYMENT – GENERAL

- A. Item No. 1: Mobilization/Demobilization
 - 1. Measurement. The Work required for this item will not be measured for payment.
 - 2. Payment. Payment for this item will be at the Bid Item No. 1 lump sum price, and shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Contract Documents. Payment shall cover all Work as per Section 01 11 00. This includes, but is not limited to, movement of personnel, equipment, supplies and incidentals to the project site; obtaining all permits, insurance, and bonds; and any other pre-construction expense necessary for the start of the Work. No price adjustments will be made for this item due to changes in the Work. Demobilization includes removal from the site of all materials, resources, equipment, temporary support facilities, utilities, and all remaining construction debris at the completion of the project and includes release of liens and other incidentals as specified as requirements of project closeout. A partial payment of 50 percent of the Bid Item No. 1 lump sum price may be made once mobilization is completed. However, the remainder of the Bid Item No. 1 lump sum price shall not be paid until demobilization is completed at project closeout. The maximum amount allowed to be paid for mobilization/demobilization is 5 percent of the total bid price.

- B. Item No. 2: 4-inch Diameter Borehole Drilling
1. Measurement. Borehole drilling will be measured on a vertical linear foot basis from the existing ground surface to the bottom of the probe bore as measured in the field by the ENGINEER.
 2. Payment. Payment for this item will be at the contract unit price per vertical foot drilled. Payment will include all drilling, boring, transport of waste materials, and shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Contract Documents.
- C. Item No. 3: Belowgrade Temperature Probe Construction
1. Measurement. Temperature probes will be measured on an installed vertical linear foot basis from existing ground surface to the bottom of the probe pipe as measured in the field by the ENGINEER.
 2. Payment. Payment for this item will be at the contract unit price per foot installed. Payment will include all installation of stone, sand, soil, bentonite, backfilling, health and safety requirements, probe piping, connections, and shall constitute full compensation for all material, labor, equipment, and work incidental thereto, necessary to complete this item in accordance with the Contract Documents.
- D. Item No. 4: Temperature Probe Termination Apparatus
1. Measurement. Temperature probe termination apparatus will be installed by the CONTRACTOR and verified and counted in the field by the ENGINEER.
 2. Payment. Payment for this item will be at the contract unit price for each temperature probe termination apparatus installed. Payment will include installation of all affiliated components, such as probe protective steel casing, bollards, concrete pad, probe cap and fittings, and other parts, incidental thereto, necessary to complete this item in accordance with the Contract Documents.
- E. Item No. 5: Temperature Measurement Instrumentation
1. Measurement. The temperature measurement instrumentation for each probe will be installed by the CONTRACTOR and verified and counted by the ENGINEER.
 2. Payment. Payment for this item will be at the contract unit price for each temperature measurement instrumentation installed in a temperature probe. Payment will include installation of the custom thermistor temperature sensors (digital temperature cable) and activities, incidental thereto, necessary to complete this item in accordance with the Contract Documents.

END OF SECTION 01 22 00

SECTION 01 33 00

SUBMITTALS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope of Work: The CONTRACTOR shall develop and distribute project submittals in accordance with procedures specified herein. The required submittals include, but are not limited to the following:
1. Construction progress schedules
 2. Work Staging and Sequence Plan
 3. Odor Mitigation Procedures
 4. Proposed products list
 5. Product data
 6. Shop drawings
 7. Design data
 8. Test reports
 9. Certificates
 10. Manufacturer's instructions, Maintenance Manuals, and Warranty
 11. Health and Safety Plan
 12. Record Drawings
 13. Project Photographs
 14. Survey data
- B. Related Work Described Elsewhere
1. All Sections.

1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal with ENGINEER accepted form.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- C. Identify Project, CONTRACTOR, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work,

and coordination of information is in accordance with the requirements of the Work and Contract Documents.

- E. Schedule submittals to expedite the Project, and deliver to ENGINEER at their business address. Coordinate submission of related items.
- F. For each submittal, allow 3 days for review excluding delivery time to and from the CONTRACTOR.
- G. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- H. When revised for resubmission, identify all changes made since previous submission.
- I. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- J. Submittals not requested will not be recognized or processed.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedule in duplicate within 5 days after date of OWNER-CONTRACTOR Agreement.
- B. Revise and resubmit as required by the OWNER or ENGINEER.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit a chart with separate line for each major portion of Work, identifying first workday of each week.
- E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities.
- F. Indicate estimated percentage of completion for each item of Work at each submission.

1.4 WORK STAGING AND SEQUENCING PLAN

- A. Submit proposed Work staging and sequencing plan within 3 days after issuance of Notice-to-Proceed.

- B. Revise and resubmit plan if field conditions change or as required by OWNER to accommodate landfill or landfill gas-to-energy Facility operations.

1.5 ODOR MITIGATION PROCEDURES

- A. Submit proposed odor mitigation procedures within 3 days after issuance of Notice-to-Proceed.
- B. Introduce additional procedures if field conditions warrant or as required by OWNER to accommodate odor abatement measures.

1.6 PROPOSED PRODUCTS LIST

- A. Within 5 days after date of OWNER-CONTRACTOR Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- C. Unless otherwise provided in this solicitation, the name of a certain brand, make or manufacturer does not restrict proposers to the specific brand, make or manufacturer named, but conveys the general style, type, character, and quality of the article desired. Any article which the public body, in its sole discretion, determines to be the equivalent of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, shall be accepted. The bidder/proposer is responsible to clearly and specifically identify the product being offered and to provide sufficient descriptive literature, catalog cuts and technical detail to enable the City to determine if the product offered meets the requirements of the solicitation. This is required even if offering the exact brand, make or manufacturer specified. Normally in competitive sealed bids only the information furnished with the bids will be considered in the evaluation. Failure to furnish adequate data for evaluation purposes may result in declaring a bid/proposal nonresponsive. Unless the bidder/proposer clearly indicates in its bid/proposal that the product offered is an equivalent product, such bid/proposal will be considered to offer the brand name product referenced in the solicitation.

1.6 PRODUCT DATA

- A. Product Data for Review:

1. Submitted to ENGINEER for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 2. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01 70 00.
- B. Product Data for Information:
- Submitted for the ENGINEER'S knowledge as contract administrator or for the OWNER.
- C. Product Data for Project Closeout:
- Submitted for the OWNER'S benefit during and after project completion.
- D. Submit the number of copies required by the CONTRACTOR, plus two copies which will be retained by the ENGINEER.
- E. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- F. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- G. After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01 70 00.

1.7 SHOP DRAWINGS

- A. Shop Drawings for Review:
1. Submitted to ENGINEER for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 2. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01 70 00.

- B. Shop Drawings for Information to be submitted for the ENGINEER'S knowledge as contract administrator or for the OWNER.
- C. Shop Drawings for Project Closeout to be submitted for the OWNER'S benefit during and after project completion.
- D. Submit the Shop Drawings to ENGINEER in suitable electronic file format, such as Adobe (pdf), or similar.

1.8 DESIGN DATA

- A. Submit for the ENGINEER'S knowledge as contract administrator or for the OWNER.
- B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.9 TEST REPORTS

- A. Submit for the ENGINEER'S knowledge as contract administrator or for the OWNER.
- B. Submit test reports for information for the limited purpose of assessing conformance with the design concept expressed in the contract documents.

1.10 CERTIFICATES

- A. When specified in individual specification sections, submit certification by the manufacturer, installation/application subcontractor, or the CONTRACTOR to ENGINEER, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to ENGINEER.

1.11 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to ENGINEER for delivery to OWNER in quantities specified for Product Data.

- B. Indicate special procedures, parts list, spare parts to be kept on hand, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.12 HEALTH AND SAFETY PLAN

- A. The CONTRACTOR shall develop a Health and Safety Plan, which specifically addresses the Work to be performed, in accordance with OSHA requirements, SWANA Compilation of Landfill Gas Field Practices and Procedures (August 2011), and other health and safety reference materials published by solid waste management industry organizations such as NWRA. The CONTRACTOR is directed particularly in Section H of the SWANA document with regard to drilling procedures, if applicable. The Health and Safety Plan shall include provisions which anticipate possible exposure to waste materials, landfill gas, condensate, leachate, and other related conditions during installation of the probes and other aspects of the Work as outlined in Section 01 35 29.
- B. The CONTRACTOR shall submit a complete Health and Safety Plan to the OWNER and ENGINEER prior to commencing the Work for informational purposes. **The CONTRACTOR will not be allowed to commence the Work until a Health and Safety Plan has been submitted and reviewed.** The CONTRACTOR and Subcontractor shall be solely responsible for the health and safety of their employees.

1.13 RECORD DRAWINGS

Submit record drawings in accordance with Section 01 70 00.

END OF SECTION 01 33 00

SECTION 01 35 29

HEALTH AND SAFETY PLAN

PART 1 – GENERAL

1.1 GENERAL

- A. In the event that the ENGINEER or OWNER identify an exclusion zone, the CONTRACTOR will use only site crew members in the identified area that are trained in accordance with the United States Occupational Safety and Health Administration (OSHA) regulations 29 CFR 1910.120. The workers also need to have completed the minimum 40-hour Hazardous Materials training course and necessary refresher courses. This applies to both the CONTRACTOR's workers and any Subcontractor site workers.
- B. All site workers that work in the identified exclusion zone must be under a Medical Monitoring Program as outlined in 29 CFR 1910.120, and be physically capable of wearing a respirator, if necessary.
- C. Actions that potentially endanger workers shall be stopped immediately and brought to the OWNER's attention. Health and Safety is the responsibility of the CONTRACTOR.

1.2 SITE-SPECIFIC HEALTH AND SAFETY PLAN

- A. The CONTRACTOR shall prepare a written site-specific Health and Safety Plan (Plan) for use by the CONTRACTOR and Subcontractor site workers. This plan must be prepared to meet the 29 CFR 1910.120 OSHA regulations and shall include as a minimum, the following:
 - 1. Organizational Structure: to include general supervision, Health and Safety officer, lines of authority, and responsibility and communication. The Health and Safety Officer shall be a worker who will be present at all times during site construction, in addition to his/her other site duties.
 - 2. Comprehensive Work Plan: to include the work tasks and objectives, resources needed, and training requirements for workers (health and safety, machine operations license, etc.). This shall also include a section on safety procedures to be followed for excavation and well/probe drilling in landfill waste and work in areas where exposure to landfill gas, condensate, and/or leachate is likely.
 - 3. Health and Safety: to include identification of possible site hazards (e.g., solid waste, landfill gas, and leachate), training levels for each category of

site workers, personal protective equipment and medical surveillance needed, site control measures, and confined space entry procedures.

4. Emergency Response Plans: to include all emergency telephone numbers, a highlighted map showing the quickest route to the nearest emergency care facility and written directions to such facility.
 5. Air Monitoring Procedures: to include frequency and type of air monitoring of exposed refuse, landfill surfaces, boreholes and excavations, and site worker areas, calibration of air monitoring equipment, and action levels of air contaminants for site worker protection. All equipment calibration and field gas measurements shall be recorded with the date and time of sample, and the sampler's name. Sampling shall be done by a CONTRACTOR's worker trained in the use of the gas sampling equipment. These trained workers shall be designated in the CONTRACTOR's Plan.
 6. Respiratory Protection Program: to include written documentation of the CONTRACTOR's respiratory program.
 7. Drilling Installation Safety Procedures: to include prevention of fall hazards and controlled access zones.
 8. A signature page for all site workers covered by the Plan (CONTRACTOR and Subcontractor site workers).
- B. Acceptance of the CONTRACTOR's Plan by the OWNER is necessary prior to the start of site operations. The Plan should incorporate and be consistent with the OWNER's and the LANDFILL OPERATOR's health and safety policies and procedures.
- C. The CONTRACTOR shall consider the various materials disposed of (municipal solid waste, construction and demolition debris) that may be encountered during excavation in preparing the Health and Safety Plan.
- D. The Health and Safety Plan should reflect information contained in "A Compilation of Landfill Gas Field Practices and Procedures, Solid Waste Association of North America (SWANA), August 2011."

1.3 SITE OPERATIONS

- A. The Plan will be kept on site in an easily accessible spot during all site operating hours. All site workers will be notified of the location of the Plan.

- B. A Safety Meeting will be held by CONTRACTOR and attended by all CONTRACTOR site workers prior to starting construction. At this safety meeting, the Plan will be reviewed with the site workers, and all site workers will sign the Plan indicating that they have been apprised of the Plan's contents. New site workers must review the Plan with the CONTRACTOR's Health and Safety Officer prior to beginning work on site, and must sign that they have been apprised of the Plan's contents.
- C. Site operations will take place in conditions of adequate light only.
- D. Areas of open refuse (i.e., excavations, trenches and boreholes) will be periodically monitored for combustible gases, methane, carbon monoxide, volatile organics, hydrogen sulfide and oxygen through the use of field gas meters. Respiratory protection for acid gases and organic vapors will be used by the worker while monitoring gas levels, if deemed necessary by the CONTRACTOR. Appropriate respiratory protection will be taken by other workers as necessary.
- E. No workers will be allowed in any trench or excavation while excavation of the area is in progress. Entry into the excavation shall be made only after the CONTRACTOR's site worker has monitored the air in the excavation, and determined the appropriate level of personal protection required for entry into the excavation. Site workers in excavations must be supervised at all times.
- F. Site workers will limit their dermal exposure to landfill gas, leachate, condensate, and excavated refuse. Minimal skin protection includes puncture resistant shoes meeting ANSI standards, long pants, long-sleeved shirts, safety glasses, safety vests, hard hats, and rubber gloves to be used when handling refuse.
- G. Start-up and shutdown of engines will not be done in areas of excavated refuse or where elevated landfill gas emissions have been documented.

END OF SECTION 01 35 29

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SECTION 01 70 00

CONTRACT CLOSEOUT

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope of Work: The CONTRACTOR shall provide all labor, materials, equipment and incidentals necessary to closeout the project as specified herein. Activities may include, but are not limited to final cleaning, preparation of record documents, operations and maintenance documents, delivery of spare parts, and transfer of warranties.
- B. Related Work Described Elsewhere
 - 1. All Sections.

1.2 CLOSEOUT PROCEDURES

- A. The CONTRACTOR shall submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for ENGINEER'S review.
- B. Provide submittals to OWNER that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- D. The City of Bristol Virginia reserves the right to conduct any test/inspection it may deem advisable to assure goods and services conform to the specifications.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean equipment and fixtures with cleaning materials appropriate to the surface and material being cleaned. Clean filters of operating equipment, clean debris from manholes, and other areas of the site. CONTRACTOR shall remove all dirt, stones and other debris from the roadways, parking lot and other paved surfaces.

- C. Remove from the site all waste and surplus materials, rubbish, and construction facilities installed by the CONTRACTOR.
- D. Verify that grading, seeding, mulching, landscaping replacement, landfill surface restoration, access road restoration, and repair of all disturbed areas have been accomplished to the satisfaction of OWNER and ENGINEER. Verify that temporary erosion and sediment control structures and features installed by the CONTRACTOR have been removed and that permanent structures and features have been repaired as necessary and left in place.

1.4 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents and record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
 - 7. Probe Boring Logs, as specified in Section 33 24 10
- B. Ensure entries are complete and accurate, enabling future reference by OWNER.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications. Legibly mark and record for each Product section a description of actual Products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. As-built drawings shall include the following:
 - 1. Title Sheet (includes project name and number, site location map, site address and phone number, and names, addresses and phone numbers

of design engineer and CONTRACTOR).

2. Temperature Probe Layout (as-built and drawn using surveyed horizontal and vertical coordinates).
 3. Record Construction Probe Survey showing coordinates and elevations of surveyed top of pipe, fittings, tie-ins and appurtenances, and ground surface elevation. Probe Survey data shall be provided in a tabular format, which shall be approved by the ENGINEER.
 4. As-Built Typical Details.
- G. Submit documents to ENGINEER with claim for final Application for Payment.

1.5 OPERATION AND MAINTENANCE DATA

- A. The Contractor shall provide with each piece of equipment an operations and maintenance manual with wiring diagrams, parts list, and a copy of all warranties when applicable.
- B. Submit data in suitable electronic file format, such as Adobe (pdf), or similar.
- C. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS," title of project, and subject matter of binder when multiple binders are required.
- D. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced tabs.
- E. Contents. Prepare a Table of Contents for each volume, with each Product or system description identified, typed in three parts as follows:
 1. Part 1: Directory, listing names, addresses, and telephone numbers of ENGINEER, CONTRACTOR, Subcontractors, and major equipment suppliers.
 2. Part 2: Operation and maintenance instructions, arranged and subdivided by subsystem. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:

- a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
- 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Certificates.
 - c. Photocopies of warranties.
- F. Submit one draft copy of completed volumes 5 days prior to final inspection. This copy will be reviewed and returned, with ENGINEER comments. Revise content of all document sets as required prior to final submission.
- G. Submit documentation in suitable electronic file format, such as Adobe (pdf), or similar, within 10 days after final inspection.

1.6 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Provide spare parts, maintenance, and extra Products in quantities specified in individual specification sections.
- B. Deliver to OWNER'S office and place in location as directed; obtain receipt prior to final payment.

1.7 WARRANTIES AND BONDS

- A. The Contractor agrees that the supplies or services furnished under any award resulting from this solicitation shall be covered by the most favorable commercial warranties the contractor gives any customer for such supplies or services and that the rights and remedies of those available to the City of Bristol Virginia by any other clause of this solicitation. A copy of this warranty must be furnished with the Closeout Documentation. Provide two notarized copies.

- B. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers. Clearly distinguish between manufacturer's and installer's warranties.
- C. Provide Table of Contents and assemble in suitable electronic file format, such as Adobe (pdf), or similar.
- D. Submit prior to final Application for Payment.
- E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

END OF SECTION 01 70 00

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SECTION 33 09 20

TEMPERATURE PROBE INSTRUMENTATION

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope of Work: The CONTRACTOR shall supply all materials, equipment, and labor needed to furnish and install all temperature probe instrumentation as specified herein and as indicated on the Drawings.
- B. Related Work Described Elsewhere
 - 1. Section 33 24 10: Temperature Probe Boreholes, Construction, & Termination Apparatus

1.2 SUBMITTALS

- A. The CONTRACTOR shall prepare and submit to the ENGINEER, for review and approval, certificates of compliance on materials furnished and manufacturer's brochures containing complete information and instructions pertaining to the handling, installation, inspection, operation, maintenance, and repair of the temperature probe instrumentation furnished.
- B. Prepare and submit Shop Drawings to the ENGINEER for review and approval. Shop Drawings shall show the configuration and orientation of temperature probe instrumentation.

PART 2 – PRODUCTS

2.1 DIGITAL TEMPERATURE CABLE

- A. Digital Temperature Cable (DTC), also referred to as thermistor temperature sensors, shall be manufactured by Beadedstream; contact information:

Sales Manager
Mark Liland
mark.liland@beadedstream.com
907.351.5088

Main Office
7810 King Street, Anchorage, AK 99518
beadedstream.com
844.488.4880

- B. Custom sensors shall conform to the lengths and monitoring intervals indicated on the Drawings.

- C. Sensor temperature range shall be -55°C to +125°C (-67°F to +257°F) with sensor accuracy of $\pm 0.1^\circ\text{C}$ from -10°C to 30°C (14°F to 86°F) and sensor resolution of $\pm 0.063^\circ\text{C}$.
- D. DTC outer jacket and node construction shall have/be:
 - 1. Low-temperature flexibility polyurethane jacket.
 - 2. 10-feet long armored lead from probe piping end cap to industrial internet of things (IIoT) box (box furnished and installed by the OWNER'S O&M CONTRACTOR).
 - 3. UV stabilized, be cut and abrasion-resistant, and conform to IP68.
 - 4. DTC color shall be high visibility yellow.
- E. DTC Diameter shall conform to:
 - 1. Sensor cable = 7.0 mm (0.28-inch)
 - 2. Sensor nodes = 11.0 mm (0.44-inch)
 - 3. DTC diameter shall not change with the number of sensors
- F. DTC tensile strength shall be 250 lb (113.4 kg), with straight-laid aramid fibers built in.
- G. DTC shall be terminated in the manufacturer's factory with a 3-pin field XLR series connector.

2.2 DIGITAL TEMPERATURE CABLE CONTROLLER

- A. Furnished and installed in IIoT box by the OWNER'S O&M CONTRACTOR

PART 3 – EXECUTION

3.1 GENERAL

- A. After the borehole casing has been installed and capped, furnish and install the cord grip shown on the DRAWINGS in the probe piping end cap and the protective casing cover per the DRAWINGS and the manufacturer's written instructions.
- B. Remove the probe piping end cap and slowly insert the DTC for that specific borehole vertically into the borehole casing to the depth indicated on the DRAWINGS.
 - 1. Do not allow the DTC to rub on the edge of the casing or other sharp objects.
 - 2. Make sure the DTC is not stuck on the casing and easily slides up and down inside the casing.
 - 3. Do not damage the DTC.

- C. Install the cap by slipping the cord grip over the DTC per the cord grip manufacturer's written instructions. Secure the threaded cap and tighten the cord grip to suspend the DTC at an elevation that sets the last thermistor at ground elevation within the casing. Do not damage the DTC.
- D. Neatly coil excess DTC and hang from the outside casing. There should be approximately 10 feet of armored DTC above the last thermistor sensor with 5' inside the casing and 5 feet sticking out of the top of the casing's cap. If there is more or less than this, contact the ENGINEER.
- E. Furnish and install a protective rubber XLR connector cap on the XLR connector for each DTC.
 - 1. Neutrik, RUBBER-CAP-CABLE (<https://www.neutrik.us/en-us/product/rubber-cap-cable>) or equal.

3.2 DTC CONTROLLER

- A. The DTC controller shall be furnished and installed in the IIoT box at each borehole by the OWNER'S O&M CONTRACTOR

3.3 DTC TESTING, STARTUP, AND DOCUMENTATION

- A. Provide on-site support, if needed, during IIoT box installation and system startup by OWNER'S O&M CONTRACTOR to correct issues with the DTC, borehole, and casing.
- B. Furnish documentation of the installed equipment, including but not limited to:
 - 1. O&M manual and warranty documentation for the DTC;
 - 2. The length of cable installed in each borehole and the length of cable left coiled at the top of each borehole; and,
 - 3. Digital photographs of each installed system.

END OF SECTION 33 09 20

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SECTION 33 24 10

TEMPERATURE PROBE BOREHOLES, CONSTRUCTION, & TERMINATION APPARATUS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Scope of Work: The CONTRACTOR shall provide all equipment, materials, and labor needed to install temperature probes as specified herein and as indicated on the Drawings.
- B. It is expected that methane, hydrogen, carbon monoxide, hydrogen sulfide, and other landfill gases will be venting from the boreholes drilled to install temperature probes. It is expected that leachate may be encountered during drilling activities. Landfill fluids (gases and liquids) may be present under high positive pressures. The CONTRACTOR's bid price shall include provision for all equipment and procedures necessary to safely install probes under this condition.
- C. All work shall be performed by qualified workers in accordance with the best standards and practices available. The CONTRACTOR shall make provisions for containment of discharged leachate if emitting from borehole.
- D. The CONTRACTOR shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. Upon completion of each day's work, he shall dispose of all drill tailings at the working face of the landfill, as well as secure all his tools, construction equipment, machinery and surplus materials from the site.
- E. CONTRACTOR shall make every attempt to minimize odors from the probes during construction, by covering borehole between active operations, and as soon as probe is completed, by covering or removing any drill tailings.
- F. Related Work Described Elsewhere
 - 1. Section 33 09 20: Temperature Probe Instrumentation

1.2 SUBMITTALS

- A. The CONTRACTOR shall prepare and submit to the ENGINEER for review and approval catalog cuts on materials furnished, and manufacturer's brochures containing complete information and instructions pertaining to the storage, handling, installation, and inspection of piping and other appurtenances furnished.
- B. The CONTRACTOR shall submit to the ENGINEER for review and approval samples of all backfill materials and the name of the vendor(s) and source of materials furnished.

- C. The CONTRACTOR shall prepare and submit to the ENGINEER for review and approval Shop Drawings showing dimensions, materials, and configuration of the protective steel casing and terminus apparatus.
- D. The following information shall be submitted within ten (10) days of completion of temperature probes:
 - 1. Final boring logs.
 - 2. Probe construction diagrams.
 - 3. Boring abandonment logs.

1.3 JOB CONDITIONS

- A. Probes are to be drilled through the existing landfill daily or intermediate cover, which consists of varying soil depth. Some temperature probe locations may be inaccessible to standard drilling equipment based on existing grades. The CONTRACTOR shall employ whatever temporary means are necessary to provide access to such locations, and return all areas to existing condition.
- B. Certain areas in the southern and middle portions of the Quarry Landfill have demonstrated atypical temperatures, pressures, and landfill gas composition. Contractor shall exercise caution related to subsurface temperature and pressure when drilling probes.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Temperature probe pipe shall be solid-wall Type 304 stainless steel with NPT threaded ends. Fittings shall be Type 304 stainless steel threaded fittings.
- B. Stone backfill for temperature probe borehole shall be VDOT #8 or approved equal and placed in annular space surrounding probe pipe from the bottom of the borehole to approximately five feet below landfill surface grade.
- C. Bentonite material shall consist of clay greater than 85% sodium montmorillinite, without additives and shall be placed and wetted in 6-inch layers.
- D. Protective steel casing shall be painted, 4"x4" and 5 feet long in dimension, and equipped with a cover and lock.
- E. Concrete pad around the protective steel casing shall be ready-mix concrete conforming to ASTM C94, ACI 301, and ACI 350, with minimum strength of 3,000 psi. CONTRACTOR shall use 2"x4" lumber to create forms for concrete.
- F. Bollards shall be steel pipe 6 feet 6 inches in length and 6 inches in diameter filled with Class C concrete. Bollards shall be encased in an 8-inch steel pipe sleeve below ground as shown on the Drawings. Two bollards shall be installed 3 feet from the temperature probe on either side as specified by the on-site ENGINEER.

- G. If utilized, soil backfill shall be clean soil free of stone, rock or gravel larger than one (1) inch in any dimension, debris, waste, frozen materials, vegetation, organic materials, roots, and other deleterious matter. General fill is available from the OWNER's borrow pit cover material stockpile. CONTRACTOR shall be responsible for loading, transport and unloading of these materials used under this Contract, and to ensure that materials used from this stockpile meet the requirements of this Section.

PART 3 – EXECUTION

3.1 GENERAL

- A. The CONTRACTOR shall furnish materials, which fully comply with Section 2.1 at all times.
- B. The CONTRACTOR shall submit all submittals as required by Section 1.2. Work shall not commence on this item until written approval of the pre-construction submittals is received from the ENGINEER.
- C. The CONTRACTOR shall coordinate the start of drilling with the ENGINEER and OWNER.
- D. The CONTRACTOR shall provide at all times a thoroughly experienced, competent driller during all operations at the drill site.
- E. Probe locations and elevations shall be surveyed and such information supplied to the ENGINEER prior to construction. No drilling shall commence until this information has been provided to the ENGINEER, and the ENGINEER has provided a verified probe schedule.
- F. The CONTRACTOR must use sonic drilling equipment. Hollow stem auger, bucket auger, air rotary, or wet rotary drilling equipment may not be used.
- G. The CONTRACTOR shall not initiate drilling of borehole unless the probe can be fully constructed, completed, and capped prior to the end of the workday. No exposed wastes in borehole, trenches, or stockpiles shall remain overnight.
- H. Probes are to be drilled to the depth and diameter as shown on the Drawings. The boring depths shown on the Drawings are estimated and may be adjusted in the field by the ENGINEER. Under no circumstances are the drilling depths from the adjusted probe schedule to be exceeded unless approved by the ENGINEER in advance.

3.2 DRILLING

- A. Wet Borings:
 - 1. If leachate is expected to be encountered in the borings, and the CONTRACTOR will need to utilize sonic drilling techniques to drill beyond the point at which it was encountered. It is possible that wet conditions will be present to the full depth of each probe. The DRILLER should not expect the boring to be terminated exclusively due to wet conditions.

2. If conditions are encountered in a boring that constitute unfavorable circumstances as determined by the ENGINEER, the ENGINEER may decrease the probe depth, or relocate the probe.
 3. If during the drilling of a hole, an obstruction is reached, the driller must use all reasonable means to advance the drilling. If the drilling rate falls to less than 2 feet per hour and the probes cannot be completed as shown on the Drawings, the ENGINEER shall be consulted as to whether the borehole has advanced to a sufficient depth. The CONTRACTOR shall backfill drill tailings, and additional fill as required, in the hole if abandoned. A 2-foot-thick bentonite plug will be placed in the borehole when the depth is 6 feet below the existing grade. The remaining 4 feet of the borehole will then be filled with soil and compacted to approximately match the elevation of the landfill cover. Compensation for abandoned borings shall be at the unit price for this pay item shown on the Bid Form.
- B. Abandoned Borings: If, in the opinion of the ENGINEER, the borehole has not reached a sufficient depth to function as an effective temperature probe, the CONTRACTOR shall abandon this borehole by backfilling it with cuttings removed during drilling. If cuttings are unsuitable as backfill the CONTRACTOR shall use soil backfill material. A 2-foot-thick plug (bentonite or foam sealant) will be placed in the borehole when the depth is 4 feet below the existing grade. The remaining 2 feet of the borehole will then be filled with soil material and compacted to approximately match the elevation of the existing grade. Compensation for abandoned borings shall be at the unit price for this pay item shown on the Bid Form.
- C. The CONTRACTOR shall keep detailed boring logs for all boreholes drilled, including the total depth of the probe, length of pipe, the static water level, the depth, thickness, and description of soil or waste strata, waste temperatures at various depths, and the occurrence of any water bearing zones. Logs shall be submitted to the ENGINEER.
- D. All waste material and drill tailings shall be transported by the CONTRACTOR and disposed at the working face of the landfill before the end of each working day.
- E. The CONTRACTOR shall minimize the duration of open boreholes. If construction of a probe is unfinished, the borehole shall be covered with a steel plate at the end of the day.

3.3 PIPE INSTALLATION

- A. Pipe and pipe fittings shall be prepared, aligned, and joined, in accordance with the Drawings.
- B. Pipe shall be left above grade to allow for installation of probe termination apparatus and instrumentation as shown on drawings. Temporary caps shall be placed on all probes.
- C. The bore for the probe shall be straight and the probe pipes shall be installed vertically plumb in the center of the bore hole. Derricks, ropes, or other suitable equipment or manual labor shall be used for lowering the pipes into the probe borings, subject to the approval of the ENGINEER.

3.4 BACKFILLING

- A. The CONTRACTOR shall take all necessary precautions to maintain the probe pipes vertically plumbed during the backfill operation of the borehole. Care shall be taken during installation of backfill materials to prevent damage to the probe piping.
- B. If the bore hole collapses partially or completely during backfill operations, the CONTRACTOR will be required to redrill the bore hole, at no additional cost, upon the direction of the ENGINEER.
- C. Backfilling of the probe shall commence immediately after borehole drilling is completed and the probe piping has been installed. Backfill materials shall be placed carefully within the wells to the dimensions shown on the PLANS and as approved by the ENGINEER. Bentonite soil backfill containing foreign material may be rejected on the basis of a visual examination.
- D. Bentonite shall be hydrated and installed from approximately four to two feet below landfill surface to the bottom of the protective steel casing or as approved by the ENGINEER.
- E. Soil backfill shall be rodded in the boring to provide even distribution and compaction.
- F. The probes shall be inspected by the ENGINEER 4 weeks after completion of the final well. Excessive settlement (6" below surrounding grade) in the boring shall be repaired by the CONTRACTOR by adding compacted fill around the protective steel casing at no additional cost to the OWNER.
- G. All temporary equipment bench soils and materials shall be removed and the soil cover replaced and re-graded. Suitable erosion control provisions shall be made to prevent erosion of disturbed areas.

3.5 DISPOSAL

- A. Refuse tailings from probe drilling operations shall be transported by the CONTRACTOR and disposed at the working face of the landfill before the end of each working day.

END OF SECTION 33 24 10

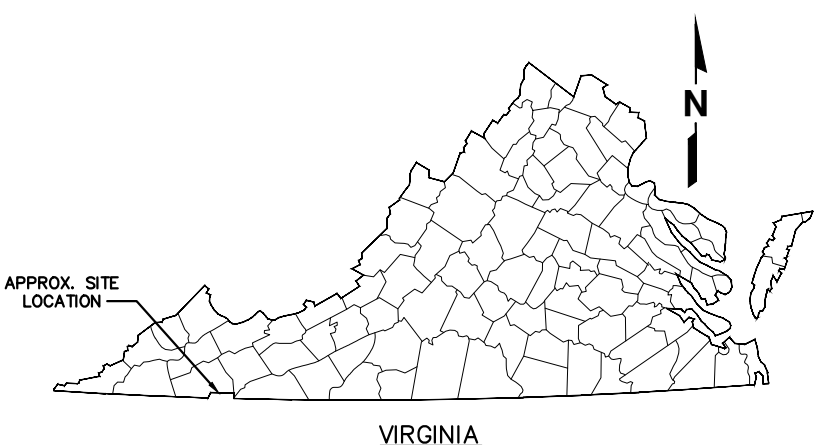
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CITY OF BRISTOL INTEGRATED SOLID WASTE MANAGEMENT FACILITY LANDFILL TEMPERATURE MONITORING SYSTEM DRAWINGS



2125 SHAKESVILLE RD
BRISTOL, VA 24201

PREPARED BY:
SCS ENGINEERS
15521 MIDLOTHIAN TURNPIKE
SUITE 305
MIDLOTHIAN, VA 23113-7313



LIST OF DRAWINGS

- 1. COVER SHEET
- 2. EXISTING CONDITIONS
- 3. TEMPERATURE PROBE LAYOUT
- 4. DETAILS
- 5. BOREHOLE/PROBE SCHEDULE



BRISTOL ISWMF AERIAL PHOTO

COMMONWEALTH OF VIRGINIA

Robert E. Dick

Lic. No. 024815

07/06/2022

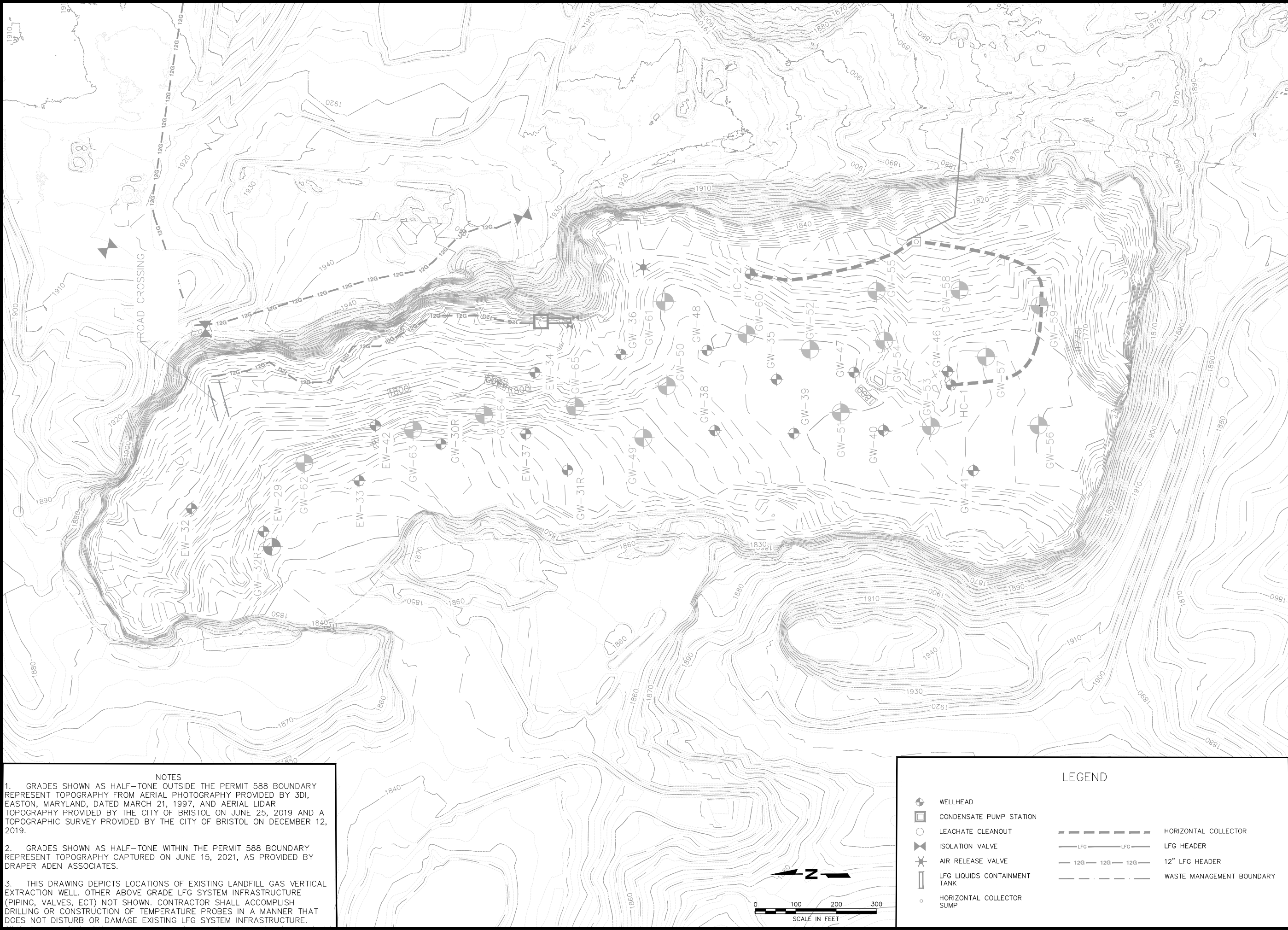
PROFESSIONAL ENGINEER

DATE	REVISION	NO.
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SHEET TITLE	COVER SHEET
PROJECT TITLE	LANDFILL TEMPERATURE MONITORING SYSTEM INSTALLATION

CLIENT	CITY OF BRISTOL INTEGRATED WASTE MANAGEMENT FACILITY 2125 SHAKESVILLE RD BRISTOL, VA 24201
SCS ENGINEERS	STEARN, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 15521 MIDLOTHIAN TURNPIKE - MIDLOTHIAN, VA 23113 PH. (804) 378-7440 FAX. (804) 378-7433
PROJ. NO.	15521-08-12
DATE	07/06/2022
DRAWN BY	LLH
CHECKED BY	DBK
APPROVED BY	DBK
DATE	07/06/2022

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DRAWING NO.	1 of 5



NOTES

- GRADES SHOWN AS HALF-TONE OUTSIDE THE PERMIT 588 BOUNDARY REPRESENT TOPOGRAPHY FROM AERIAL PHOTOGRAPHY PROVIDED BY 3DI, EASTON, MARYLAND, DATED MARCH 21, 1997, AND AERIAL LIDAR TOPOGRAPHY PROVIDED BY THE CITY OF BRISTOL ON JUNE 25, 2019 AND A TOPOGRAPHIC SURVEY PROVIDED BY THE CITY OF BRISTOL ON DECEMBER 12, 2019.
- GRADES SHOWN AS HALF-TONE WITHIN THE PERMIT 588 BOUNDARY REPRESENT TOPOGRAPHY CAPTURED ON JUNE 15, 2021, AS PROVIDED BY DRAPER ADEN ASSOCIATES.
- THIS DRAWING DEPICTS LOCATIONS OF EXISTING LANDFILL GAS VERTICAL EXTRACTION WELL. OTHER ABOVE GRADE LFG SYSTEM INFRASTRUCTURE (PIPING, VALVES, ECT) NOT SHOWN. CONTRACTOR SHALL ACCOMPLISH DRILLING OR CONSTRUCTION OF TEMPERATURE PROBES IN A MANNER THAT DOES NOT DISTURB OR DAMAGE EXISTING LFG SYSTEM INFRASTRUCTURE.

- LEGEND**
- | | | | |
|--|------------------------------|--|---------------------------|
| | WELLHEAD | | HORIZONTAL COLLECTOR |
| | CONDENSATE PUMP STATION | | LFG HEADER |
| | LEACHATE CLEANOUT | | 12" LFG HEADER |
| | ISOLATION VALVE | | WASTE MANAGEMENT BOUNDARY |
| | AIR RELEASE VALVE | | |
| | LFG LIQUIDS CONTAINMENT TANK | | |
| | HORIZONTAL COLLECTOR SUMP | | |

COMMONWEALTH OF VIRGINIA

Robert E. Dick

Lic. No. 024815

07/06/2022

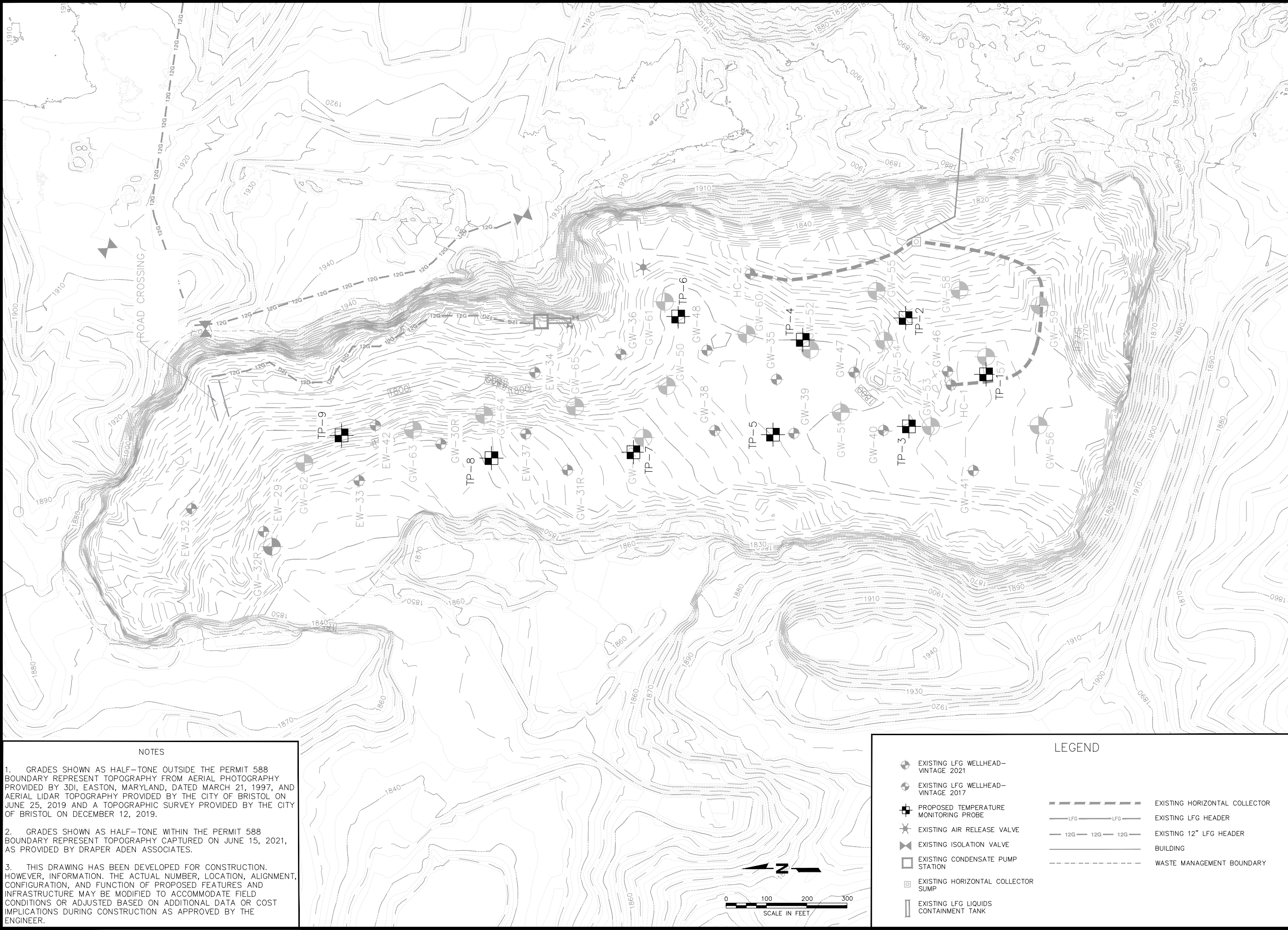
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SHEET TITLE	EXISTING CONDITIONS
PROJECT TITLE	LANDFILL TEMPERATURE MONITORING SYSTEM INSTALLATION

CLIENT	CITY OF BRISTOL INTEGRATED WASTE MANAGEMENT FACILITY 2125 SHAKESVILLE RD BRISTOL, VA 24201
SCS ENGINEERS	STEARNS CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 15231 MIDLOTHIAN TWPK - MIDLOTHIAN, VA 23113 PH. (804) 378-7440 FAX. (804) 378-7433
PROJ. NO.	18-208.12
DATE	07/06/2022
BY	DBK
CHECKED BY	DBK
APPROVED BY	RED

CADD FILE:	
DATE:	07/06/2022
SCALE:	1" = 100'
DRAWING NO.	2 of 5



NOTES

1. GRADES SHOWN AS HALF-TONE OUTSIDE THE PERMIT 588 BOUNDARY REPRESENT TOPOGRAPHY FROM AERIAL PHOTOGRAPHY PROVIDED BY 3DI, EASTON, MARYLAND, DATED MARCH 21, 1997, AND AERIAL LIDAR TOPOGRAPHY PROVIDED BY THE CITY OF BRISTOL ON JUNE 25, 2019 AND A TOPOGRAPHIC SURVEY PROVIDED BY THE CITY OF BRISTOL ON DECEMBER 12, 2019.
2. GRADES SHOWN AS HALF-TONE WITHIN THE PERMIT 588 BOUNDARY REPRESENT TOPOGRAPHY CAPTURED ON JUNE 15, 2021, AS PROVIDED BY DRAPER ADEN ASSOCIATES.
3. THIS DRAWING HAS BEEN DEVELOPED FOR CONSTRUCTION. HOWEVER, INFORMATION. THE ACTUAL NUMBER, LOCATION, ALIGNMENT, CONFIGURATION, AND FUNCTION OF PROPOSED FEATURES AND INFRASTRUCTURE MAY BE MODIFIED TO ACCOMMODATE FIELD CONDITIONS OR ADJUSTED BASED ON ADDITIONAL DATA OR COST IMPLICATIONS DURING CONSTRUCTION AS APPROVED BY THE ENGINEER.

- LEGEND**
- EXISTING LFG WELLHEAD—VINTAGE 2021
 - EXISTING LFG WELLHEAD—VINTAGE 2017
 - PROPOSED TEMPERATURE MONITORING PROBE
 - EXISTING AIR RELEASE VALVE
 - EXISTING ISOLATION VALVE
 - EXISTING CONDENSATE PUMP STATION
 - EXISTING HORIZONTAL COLLECTOR SUMP
 - EXISTING LFG LIQUIDS CONTAINMENT TANK
 - EXISTING HORIZONTAL COLLECTOR
 - EXISTING LFG HEADER
 - EXISTING 12" LFG HEADER
 - BUILDING
 - WASTE MANAGEMENT BOUNDARY

COMMONWEALTH OF VIRGINIA
Robert E. Dick
Lic. No. 024815
07/06/2022
PROFESSIONAL ENGINEER

DATE	REVISION	NO.

SHEET TITLE
TEMPERATURE PROBE

PROJECT TITLE
LANDFILL TEMPERATURE
MONITORING SYSTEM INSTALLATION

CLIENT
CITY OF BRISTOL INTEGRATED
WASTE MANAGEMENT FACILITY
2125 SHAKESVILLE RD
BRISTOL, VA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
15231 MIDLOTHIAN TWPK - MIDLOTHIAN, VA 23113
PH. (804) 378-7440 FAX. (804) 378-7433

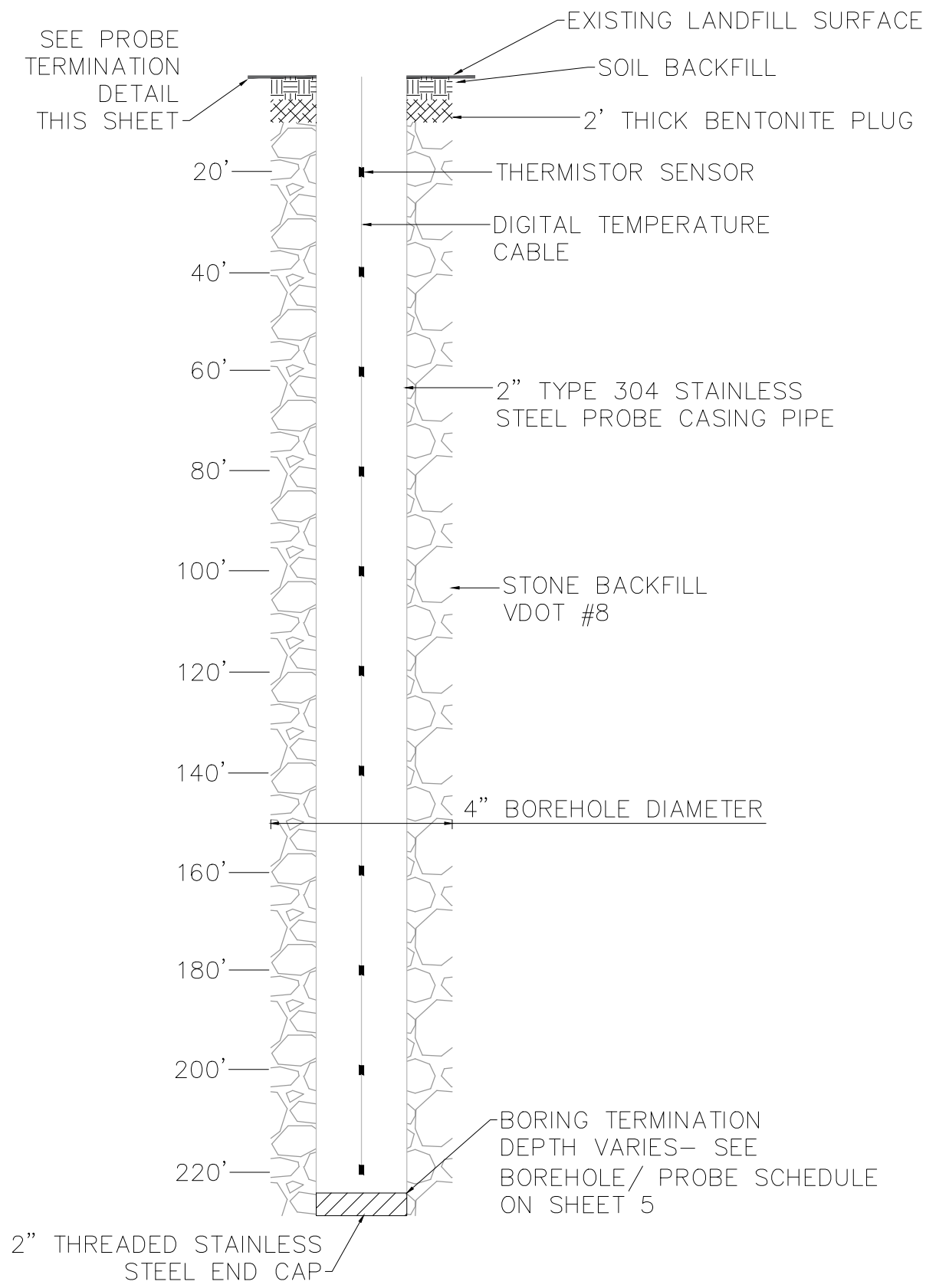
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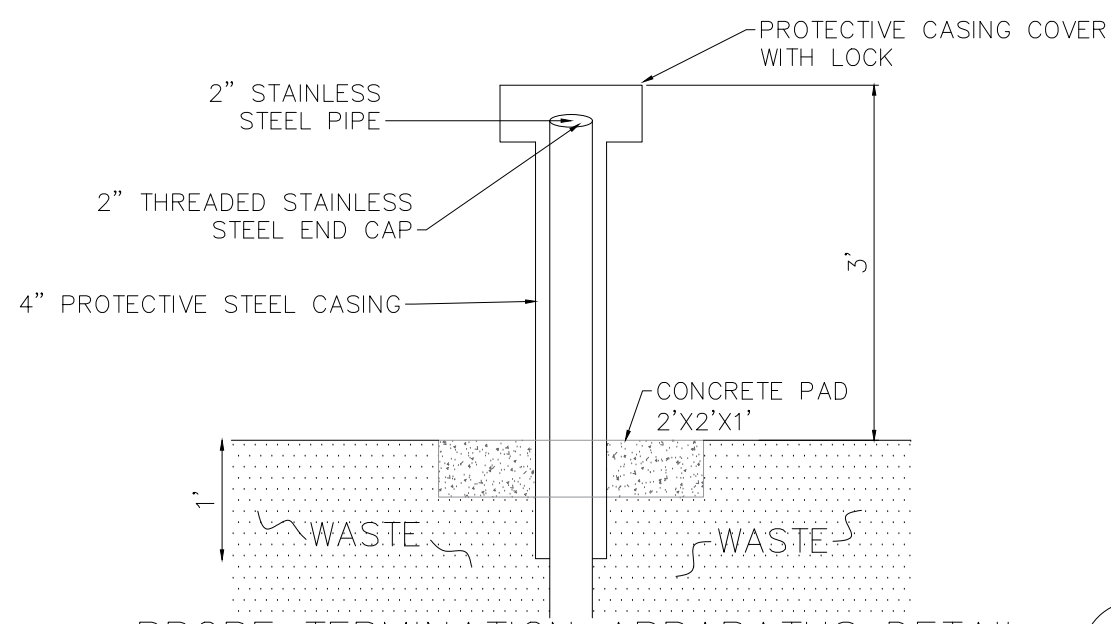
3 of 5



TEMPERATURE PROBE AND BORING DETAIL

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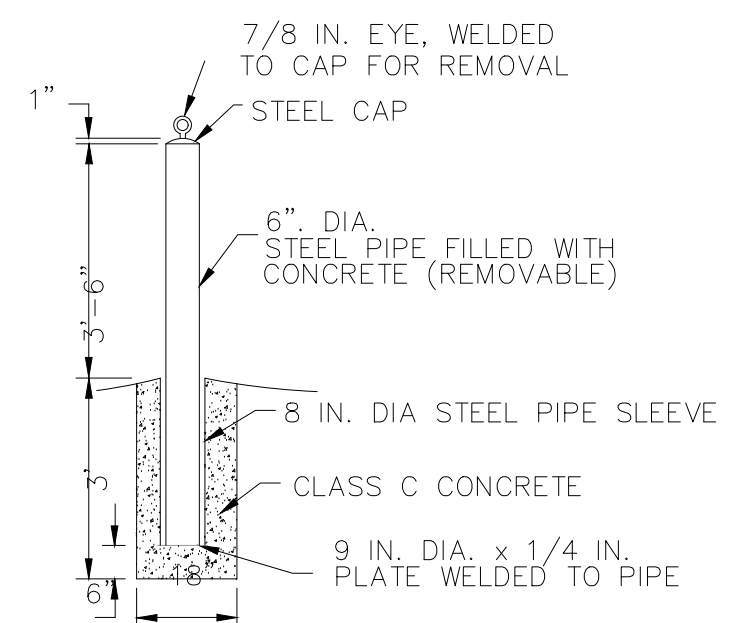


PROBE TERMINATION APPARATUS DETAIL

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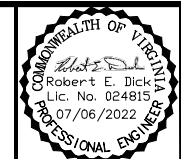
1. INSTALL TWO BOLLARDS ADJACENT TO THE PROBE EXACT POSITION OF BOLLARDS TO BE FIELD DETERMINED BY ENGINEER
2. THREADED END CAP AND PROTECTIVE CASING CAP SHALL BE EQUIPPED WITH CORD-GRIP STYLE COMPRESSION FITTING ORIFICE SUITABLE TO ACCOMMODATE 0.28 INCH DIAMETER DTC
3. PROVIDE 5 FOOT LENGTH OF ARMORED DTC EXTENDING BEYOND THREADED END CAP FOR TERMINATION FITTING.



BOLLARD DETAIL

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DATE	
REVISION	
NO.	

SHEET TITLE	DETAILS
PROJECT TITLE	LANDFILL TEMPERATURE MONITORING SYSTEM INSTALLATION

CLIENT	CITY OF BRISTOL INTEGRATED WASTE MANAGEMENT FACILITY 2125 SHAKESVILLE RD BRISTOL, VA 24201
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SCS ENGINEERS	STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC. 16521 MIDLOTHIAN TRPK - MIDLOTHIAN, VA 23113 PH. (804) 378-7440 FAX. (804) 378-7433
PROJ. NO.	02218208.12
DATE	07/06/2022
CHK. BY	LLH
APP. BY	RED

CADD FILE:	
DATE:	07/06/2022
SCALE:	NO SCALE
DRAWING NO.	4 of 5

[illegible]

SHEET TITLE	BOREHOLE/ PROBE SCHEDULE
PROJECT TITLE	LANDFILL TEMPERATURE MONITORING SYSTEM INSTALLATION

- CITY OF BRISTOL INTEGRATED
WASTE MANAGEMENT FACILITY
2125 SHAKESVILLE RD
BRISTOL, VA 24201

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
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15521 MIDLOTHIAN TWP. - MIDLOTHIAN, VA 23113
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PROJ. NO.	DWN. BY:	LLH	G/A DWG. BY:
02/18208.12	CHK. BY:	DBK	APP. BY:
USN. BY:	DBK	RED	

CADD FILE:

DATE:
07/06/2022

SCALE:
NO SCALE

DRAWING NO.

5 of **5**

CQA Engineer: _____