



**BID DOCUMENTS FOR**  
**THE GROUNDS SEWER PHASE 3**  
**PROJECT NO. 2020-007B**

**BID NO. 2644**

**SET # \_\_\_\_**

ENGINEERING DEPARTMENT  
635 ALFRED BROWN JR. COURT SW,  
POST OFFICE BOX 308  
CONCORD, NORTH CAROLINA 28026-0308

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SEE City Webpage

<https://concordnc.gov/Portals/0/Concord/Departments/Engineering/Documents/Old%20Site%20Standards/10%2001%2005%20General%20Conditions%20Horizontal.pdf?ver=D9zcv1hzhy5VHaH11P4Ntg%3d%3d>

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## **SECTION I**

### **BIDS, AGREEMENTS, AND NOTICES**



## **BID ADVERTISEMENT/INVITATION TO BID**

**October 15, 2024**

Project Title: **The Grounds Sewer Phase 3**  
Project No. **2020-007B**

**Project Description:** The City of Concord proposes to install 9,954 LF of sanitary sewer. Project includes the installation of erosion control measures, sanitary sewer pipe and manholes, and permanent stabilization.

Sealed Bids will be received by the City of Concord (Owner) at the address below. Please submit notarized bids in a sealed envelope by the bid opening time and date. All Bids must be in accordance with the Bidding Documents on file with the City of Concord Engineering Department. Bidders must be licensed contractors in the State of North Carolina. Bids will be received on a unit price basis. A Bid Bond must accompany each bid. The Successful Bidder will be required to furnish a Construction Performance Bond and a Construction Payment Bond as security for the faithful performance and the payment of all bills and obligations arising from the performance of the Contract. Contractor and all Subcontractors will be required to conform to the labor standards set forth in the Contract Documents. Owner reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, nonresponsive, unbalanced, or conditional Bids, and will award to lowest responsible Bidder taking into consideration quality, performance, and time specified in Bid Form for performance of Work. Owner also reserves the right to waive informalities.

Engineer: Robert Keidel, PE  
223 North G Graham Street  
Charlotte NC 28202  
704-333-0325

Contractors wishing to bid on this project may register to bid by sending an email to [chestnutr@concordnc.gov](mailto:chestnutr@concordnc.gov). Registration for bidding requires the name of the company, physical address, email address, and telephone number. All communication regarding this bid will be done through email.

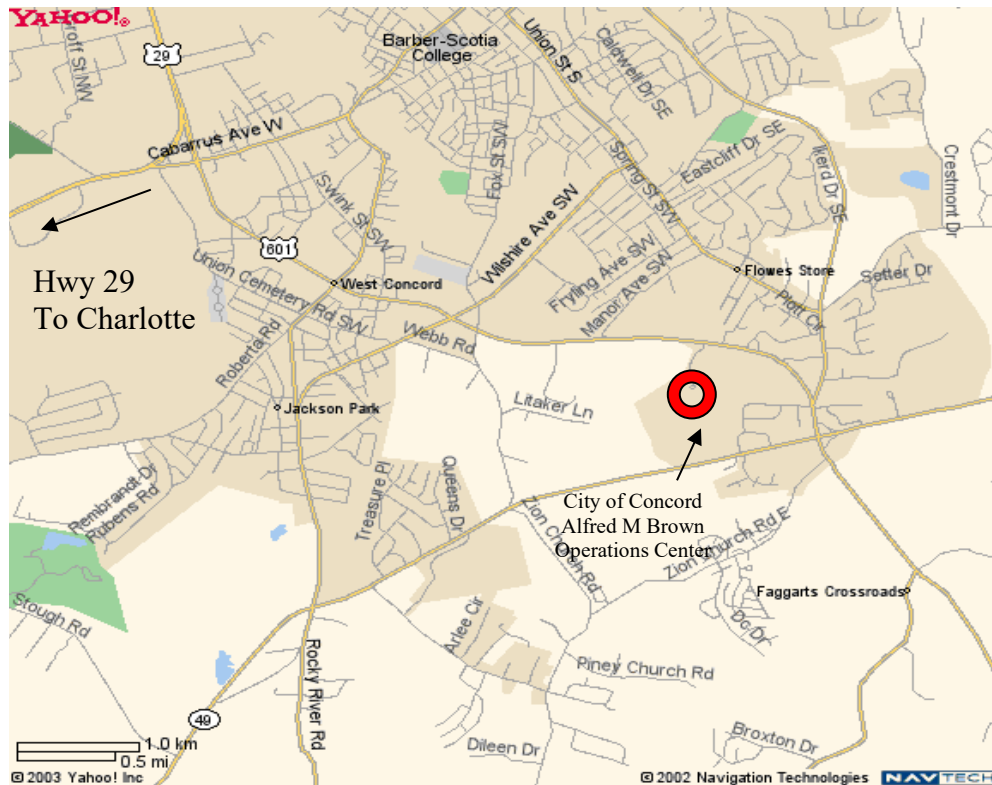
Bid documents are available free of charge from the City of Concord website at:  
<https://concordnc.gov/Departments/Finance/Purchasing/RFPs-RFQs-and-Bids>

**Technical questions:** Jackie Deal, PE ([dealj@concordnc.gov](mailto:dealj@concordnc.gov)), 704-920-5401

Bid Due Date: **October 30, 2024 at 2:30 pm**  
Location: City of Concord, Alfred M. Brown Operations Center  
Conference Room C  
635 Alfred Brown Jr Court SW, Concord, NC 28026  
(See attached map/directions)



# MAP AND DIRECTIONS TO CITY OF CONCORD ALFRED M BROWN OPERATIONS CENTER



## Directions from Charlotte

- Take I-77 north to I-85 north from Charlotte to Concord.
- From I-85 north, take exit 49 to the right towards Lowe's Motor Speedway.
- At the Lowe's Motor Speedway, turn left onto Highway 29 (Concord Pkwy) north.
- Keep going north while you pass the Wal-Mart shopping center on your right.
- Turn right at the light at the Chevrolet dealership onto Cabarrus Avenue.
- Turn right at the next traffic light at the Walgreens onto Hwy 601 South (bypass). (Hwy 601 S is also Warren C. Coleman Boulevard).
- Go straight through two traffic lights at Old Charlotte Road and Wilshire Avenue.
- Pass the Bi-Lo shopping center on your left.
- Turn right at the next traffic light at Alfred Brown Jr Court SW (green & white sign on right for the City of Concord Alfred M. Brown Operations Center).
- You will be on the entrance road into our complex.
- Follow signs to the left to Visitor Parking.
- Proceed to the front desk at the Administration Building and sign in with the receptionist.

## INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS. Terms used in these Instructions to Bidders are meanings assigned to them in the General Conditions and the Supplementary Conditions. An additional term is defined as follows:

Successful Bidder - The lowest, qualified, responsible, and responsive Bidder to whom Owner (on the basis of Owner's evaluation as herein provided) makes an award.

2. COPIES OF BID DOCUMENTS. Bid Documents may be obtained from the Owner via the link below for the City of Concord's website.

	<u>Charge</u>
<b>Complete set of Bid Documents</b>	<b>Free download</b>

<https://concordnc.gov/Departments/Finance/Purchasing/RFPs-RFQs-and-Bids>

Partial sets of Bid Documents will not be issued in response to requests by subject matter.

Complete sets of Bid Documents must be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misrepresentations resulting from the use of incomplete sets of Quoting Documents.

Owner and Engineer, in making copies of Quoting Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS. To demonstrate qualifications to perform the Work, Bidder may be required to submit written evidence on financial data, previous experience, present commitments, and other such data as may be requested by Owner or Engineer. Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located, or Bidder must agree to obtain such qualification prior to award of the Contract.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE. It is the responsibility of each Bidder, before submitting a Bid, to (a) thoroughly examine the Contract Documents, (b) visit the site to become familiar with local conditions that may affect cost, progress, performance, or furnishing of the Work, (c) consider federal, state, and local laws and regulations that may affect cost, progress, performance, or furnishing of the Work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Engineer of all conflicts, errors, or discrepancies discovered by Bidder in the Contract Documents.

4.02. Underground Facilities. Information and data reflected in the Contract Documents with respect to underground facilities at or contiguous to the site are based upon information and data furnished to Owner and Engineer by owners of such underground facilities or others, and Owner and Engineer disclaim responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.

4.03. Additional Information. Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface, and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.

On request 24 hours in advance, Owner will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the site to its former condition upon completion of such explorations.

Arrangements for site visits shall be made by calling the office of the Director of Engineering for the City of Concord at 704.920.5425.

4.04. Easements. The lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by Owner unless otherwise specified in the Contract Documents.

4.05. Unit Price Contracts. Bidders must satisfy themselves of the accuracy of the estimated quantities in the Bid schedule by examination of the site and a review of the drawings and the specifications, including the addenda. After Bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of work or the nature of the work to be done.

4.06. Bidder's Representation. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement concerning examination of the Contract Documents and the site, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

5. INTERPRETATIONS AND ADDENDA. All questions about the meaning or intent of the Quoting Documents and the Contract Documents shall be submitted to Owner in writing. Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Quoting Documents. Questions received less than 10 days prior to the date for opening of Bids may not be answered. Only answers issued by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6. **BID SECURITY. Each Proposal must be accompanied by a deposit equal to 5% of the net price bid.** This deposit may consist of cash, or a Cashier's Check issued by, or a Certified Check drawn on a Bank or Trust Company authorized to do business in North Carolina, or on a Bank insured by the Federal Deposit Insurance Corporation, or a U.S. Money Order, payable to the City of Concord or 5% Bid Bond in the form required by G.S. 143-129 as amended, issued by an Insurance Company authorized to do business in North Carolina, said deposit to be retained in the event of failure of the successful bidder to execute a formal contract within ten (10) days after award or to give satisfactory surety required.

The Bid security of the Successful Bidder (if so required) will be retained until such Bidder has executed the Agreement, furnished the required contract security (if so required), and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within the number of days set forth in the Bid Form, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security (if so required) of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Agreement or the day after the last day the Bid remain subject to acceptance as set forth in the Bid Form, whereupon Bid security furnished by such Bidders will be returned. Bid security accompanying Bid which are deemed by Owner to be noncompetitive will be returned within 7 days after the designated Bid opening.

7. CONTRACT TIMES. The numbers of calendar days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the Contract Times) are set forth in the Bid Form.

8. LIQUIDATED DAMAGES. Provisions for liquidated damages, if any, are set forth in the Agreement.

9. SUBSTITUTES OR "OR-EQUAL ITEMS. Bidder's attention is directed to Article 6.5 of the General Conditions concerning substitutes and "or-equal" items. Where an item or material is specified by a proprietary name, it is done for the purpose of establishing a basis of quality and not for the purpose of limiting competition. The Engineer's intent is to consider alternative products which have the desired essential characteristics. The Engineer will consider any such products offered. Requests for acceptance of alternative products shall be made through Bidders quoting as prime Contractors. Acceptances for substitutions will not be granted directly to suppliers, distributors, or subcontractors. Pursuant to Section 133-3, General Statutes of North Carolina, the following procedures shall be used:

Bidders desiring to submit alternative product proposals for prior acceptance of the Engineers shall submit, in writing, such proposals from n/a, until n/a. Applications received after this time will not be reviewed. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute, including drawings, cuts, performance and test data, and other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment, or other work that incorporation of the substitute would require shall be included. The Engineer shall consider and either accept or reject all alternative product proposals submitted.

If, by the close of the fifth day prior to the deadline for receiving Bid, the Engineer has accepted any alternative product proposals, the Quoting Documents shall be modified to include the alternative products. The Engineer shall publish the modification in an Addenda at least 5 days prior to the deadline for receiving Bids. The Engineer's decision of acceptance or rejection of a proposed substitute shall be final.

10. SUBCONTRACTORS, SUPPLIERS, AND OTHERS. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, and other persons and organizations (including those who are to furnish the principal items of material and equipment) to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within 3 days after the opening submit to Owner the List of Subcontractors completed with all such Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which such identification is required. The list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person, or organization, if requested by Owner. If Owner or Engineer after due investigation has reasonable objection to any proposed Subcontractor, Supplier, or other person or organization, Owner may, before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute without an increase in the Bid.

All Subcontractors shall be a licensed utility contractor in the State of North Carolina.

11. BID FORM. The Bid Form is bound in the Quoting Documents and shall not be removed therefrom. Bid Forms must be completed in ink.

Bids by corporations must be executed in the corporate name by the president or vice-president (or other corporate officer accompanied by evidence of authority to sign for the corporation). Bids by partnerships must be executed in the partnership name and signed by a partner. Bids by joint ventures shall be signed by each participant in the joint venture or by a representative of the joint venture accompanied by evidence of authority to sign for the joint venture.

The names of all persons signing shall be legibly printed below the signature. A Bid by a person who affixes to his signature the word "president", "secretary", "agent", or other designation without disclosing his principal may be held to be the Bid of the individual signing. When requested by Owner, evidence of the authority of the person signing shall be furnished.

All blanks in the Bid Form shall be filled. A Bid price shall be indicated for each unit price item listed therein, or the words "No Bid", "No Charge", "No Change", or other appropriate phrase shall be entered.

The Bid shall contain an acknowledgment of receipt of all Addenda; the numbers and dates of which shall be filled in on the Bid Form.

No alterations in Bids, or in the printed forms therefore, by erasures, interpolations, or otherwise will be acceptable unless each such alteration is signed or initialed by the Bidder; if initialed, Owner may require the Bidder to identify any alteration so initialed.

11.01. Bid Pricing. The Bidder shall complete the schedule of unit prices included in the Bid Form and shall accept all fixed unit prices listed therein.

The total Bid will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid. The final Contract Price will be subject to adjustment according to final measured, used, or delivered quantities as provided in Article 9.7 of the General Conditions, and the unit prices in the Bid will apply to such final quantities except that unit prices will be subject to change by Change Order as stipulated in the Supplementary Conditions.

11.02. Contingency. The Contingency is to be added to the Bid price and is to be used for minor change order items. If the Contingency is to be used, a scope of work and price would be negotiated. The Contingency is for the sole use of Owner. A change order will be issued to delete any unauthorized portion of the Contingency.

12. SUBMISSION OF BIDS. Bids shall be submitted at the time and place indicated in the Invitation to Bid, or the modified time and place indicated by Addendum. Bids shall be enclosed in a sealed envelope or wrapping, addressed to:

City of Concord  
c/o Jackie Deal, PE  
Engineering Director  
P.O. Box 308  
635 Alfred Brown Jr Court SW  
Concord, North Carolina 28026-0308

Bids shall be marked with the name, license number, and address of the Bidder and shall be accompanied by the Bid security (if required) and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

Each Bid envelope shall be identified on the outside with the words:

**“BID FOR THE GROUNDS SEWER PHASE 3 – PROJECT 2020-007B”**

Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.

**One copy of all pages of the BID FORM must be submitted with the Bid, as well as a Bid Bond and Debarred Firms Certification Form.**

Oral, telephone, facsimile, or telegraph Bids are invalid and will not receive consideration.

No Bidder may submit more than one Bid. Multiple Bids under different names will not be accepted from one firm or association.

A conditional or qualified Bid will not be accepted.

13. MODIFICATION AND WITHDRAWAL OF BIDS. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

If, within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security (if any) will be returned. Thereafter, that Bidder will be disqualified from further quoting on the Work to be provided under the Contract Documents.

14. OPENING OF BIDS. Bids will be opened at the office and at the discretion of the Director of Engineering and read aloud.

The procedure for opening Bids will follow guidelines issued by the State Building Commission dated December 10, 1990, and endorsed by the Consulting Engineers Council of North Carolina.

15. BIDS TO REMAIN SUBJECT TO ACCEPTANCE. All Bids will remain subject to acceptance for the number of days set forth in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the security (if any) prior to that date.

16. AWARD OF CONTRACT. Owner reserves the right to reject any or all Bids, including without limitation the rights to reject any or all nonconforming, nonresponsive, unbalanced, or conditional Bids, and will award to lowest responsible Bidder taking into consideration quality, performance, and time specified in Bid Form for performance of Work. Owner also reserves the right to waive informalities.

In evaluating Bids, Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternatives, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

If the Contract is to be awarded, it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of Owner. If the Contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within the number of days set forth in the Bid Form. The evaluation of Suppliers' or manufacturers' data submitted with the Bid, or submitted upon request prior to the Notice of Award, will include consideration of the following:

- Owner-required inventory of spare parts.

- Building design changes which would be required to accommodate the proposed materials and equipment.
- Installation requirements and related engineering, training, and operating costs.
- Experience and performance record of the Supplier or the manufacturer.
- Maintenance and frequency of inspections required to assure reliable performance of the equipment.
- Suppliers' or manufacturers' service facilities and availability of qualified field service personnel.
- Efficiency and related operating expense during the anticipated useful life of the equipment.

17. CONTRACT SECURITY. The General Conditions set forth Owner's requirements as to Performance and Payment Bonds (required). These Bonds shall be delivered to Owner with the executed Agreement.

18. SIGNING OF AGREEMENT. When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by two unsigned counterparts of the Agreement with all other written Contract Documents attached. Within the number of days set forth in the Bid Form, the Successful Bidder shall sign, leaving the dates blank, and deliver the required number of counterparts of the Agreement and attached documents to Owner with the required Bonds and power of attorney. Within 30 days thereafter, Owner shall execute all copies of the Agreement and other Contract Documents submitted by Contractor (Successful Bidder); shall insert the date of contract on the Agreement, Bonds, and power of attorney; and shall distribute signed copies as stipulated in the Agreement.

Should the Owner not execute the Contract within the period specified, the Successful Bidder may, by written notice, withdraw his signed Contract. Such notice or withdrawal shall be effective upon receipt of the notice by the Owner.

19. SALES AND USE TAXES. Provisions for sales and use taxes, if any, are set forth in the Supplementary Conditions.

20. RETAINAGE. Provisions concerning retainage are set forth in the Agreement.

21. LAWS AND REGULATIONS. Modifications, if any, to the General Conditions concerning Laws and Regulations are set forth in the Supplementary Conditions. Additional provisions, if any, concerning Laws and Regulations are set forth in the Agreement.

21.01. Collusive Bidding. In accordance with Section 112(c) of Title 23 USC, and G.S. 75-5(b)(7) of the State of North Carolina, the Contractor (Bidder), by submission and execution of this bid or Bid, certifies that he has not entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding or quoting in connection with his Bid on this project.

End of Section

## DEBARRED FIRMS CERTIFICATION FORM

**The Grounds Sewer Phase 3  
Project No. 2020-007B**

The undersigned hereby certifies that the firm of \_\_\_\_\_ has not been suspended by the State of North Carolina or any agency or department thereof for conviction or indictment or any of the offenses enumerated in G.S. 133-27 nor will award subcontracts of any tier to firms that have been suspended for conviction or indictment of any of the offenses enumerated in G.S. 133-27.

\_\_\_\_\_  
Name of Firm

ATTEST \_\_\_\_\_ (SEAL)

\_\_\_\_\_  
Signature of Authorized Official

\_\_\_\_\_  
Title

Sworn and subscribed before me this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
Notary Public



## **EXHIBIT A – BID FORM**

PROJECT IDENTIFICATION:

**The Grounds Sewer Phase 3  
Project No. 2020-007B**

THIS BID IS SUBMITTED TO:

City of Concord  
c/o Jackie Deal, PE  
Engineering Director  
P.O. Box 308  
635 Alfred Brown Jr Court SW  
Concord, North Carolina 28026-0308

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents within the specified time and for the amount indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. Bidder accepts all of the terms and conditions of the Invitation to Bid and the Instructions to Bid, including without limitation those dealing with the disposition of the Bid security (if security is required by the City Manager). This Bid will remain subject to acceptance for 60 days after the day designated for reception of Bids. Bidder will sign and submit the Agreement with the Bonds and other documents required by the Quoting Documents within 10 days after the date of Owner's Notice of Award.
3. In submitting this Bid, Bidder represents that:
  - a. Bidder has examined copies of all the Quoting Documents and of the following Addenda (receipt of all which is hereby acknowledged):

No. _____	Dated _____
No. _____	Dated _____
No. _____	Dated _____
No. _____	Dated _____
No. _____	Dated _____
  - b. Bidder has visited the site and become familiar with and satisfied itself as to the general, local, and site conditions that may affect cost, progress, performance, and furnishing of the Work.
  - c. Bidder is familiar with and has satisfied itself as to all Federal, State, and Local Laws and Regulations that may affect cost, progress, performance, and furnishing of Work.

- d. Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except underground facilities) which have provided by the owner and under the conditions normally used and identified in the Supplementary Conditions and Special Conditions as provided in Paragraph 4.2.1 of the General Conditions. Bidder accepts the determination set forth in the Supplementary Conditions and Special Conditions of the extent of the "technical data" contained in such reports and drawings upon which Bidder is entitled to rely as provided in Paragraph 4.2 of the General Conditions. Bidder acknowledges that such reports and drawings are not Contract Documents and may not be complete for Bidder's purposes. Bidder acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Quoting Documents with respect to underground facilities at or contiguous to the site. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance and furnishing of the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.
  - e. Bidder is aware of the general nature of Work to be performed by Owner and others at the site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.
  - f. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
  - g. Bidder has given Engineer written and verbal notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Bidder, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
  - h. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid Bidder has not solicited or induced any person, firm, or corporation to refrain from quoting; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.
4. Bidder will complete the Work for the following unit prices. Quantities indicated are estimated and not guaranteed; they are solely for comparing Bids and establishing the initial Contract Price. Final payment will be based on actual quantities.

**EXHIBIT A – BID FORM****The Grounds Sewer Phase 3 - Project No. 2020-007B**

No.	Item	Description	Qty.	Units	Unit Price (\$)	Item Total (\$)
1	800	Mobilization	1	LS		
2	801	Construction Surveying	1	LS		
3	SP-01	Traffic Control	1	LS		
4	SP-02	Comprehensive Grading	1	LS		
5	SP-03	Select Material	1000	TN		
6	SP-04	Borrow Excavation	200	CY		
7	SP-05	Rock Excavation	2500	CY		
8	226	Undercut Excavation	100	CY		
9	300	Foundation Conditioning Material, Minor Structures	500	TN		
10	300	Foundation Conditioning Geotextile	800	SY		
11	520	Aggregate Base Course	50	TN		
12	654	Asphalt Plant Mix, Pavement Repair	100	TN		
13	846	2'-6" Concrete Curb & Gutter	100	LF		
14	848	4" Concrete Sidewalk	35	SY		
15	858	Adjustment of Manholes	1	EA		
16	864	Remove and Reset Existing Guardrail	100	LF		
17	876	Rip Rap, Class B	50	TN		
18	876	Rip Rap, Class 2	260	TN		
19	876	Geotextile for Drainage	600	SY		
20	1205	Thermoplastic Pavement Marking Lines, 4", 90 mils	50	LF		
21	1205	Thermoplastic Pavement Marking Lines, 4", 120 mils	50	LF		
22	SP-07	Stream Pump Around Operations (Stream A Bypass - Sta 35+50)	1	LS		
23	SP-07	Stream Pump Around Operations (Stream A Bypass - Sta 70+20)	1	LS		
24	SP-07	Stream Pump Around Operations (Stream L Bypass - Sta 2+00)	1	LS		

No.	Item	Description	Qty.	Units	Unit Price (\$)	Item Total (\$)
25	1605	Temporary Silt Fence	5360	LF		
26	SP-09	Silt Fence Outlet	30	EA		
27	1631	Matting for Erosion Control (Biodegradable Netting)	400	SY		
28	SP-10	Coir Fiber Matting	550	SY		
29	1660	Seeding and Mulching	4.25	AC		
30	SP-11	Riparian Seeding	2.06	AC		
<b>Sanitary Sewer</b>						
31	WSACC 01025	8" PVC to 6' depth	45	LF		
32	WSACC 01025	8" PVC 6'-8' depth	50	LF		
33	WSACC 01025	8" PVC 8'-10' depth	20	LF		
34	WSACC 01025	12" PVC 6'-8' depth	1756	LF		
35	WSACC 01025	12" PVC 8'-10' depth	1308	LF		
36	WSACC 01025	12" PVC 10'-12' depth	150	LF		
37	WSACC 01025	8" Restrained DI Pipe to 6' depth	162	LF		
38	WSACC 01025	12" Restrained DI Pipe to 6' depth	75	LF		
39	WSACC 01025	12" Restrained DI Pipe 6' to 8' depth	189	LF		
40	WSACC 01025	12" Restrained DI Pipe 8' to 10' depth	60	LF		
41	WSACC 01026	12" Restrained DI Pipe over 10' depth	119	LF		
42	WSACC 01027	12" Restrained DI Carrier Pipe	122	LF		
43	1540	24" Steel Encasement Pipe (t-.250"), inc. Spider Supports	115	LF		
44	SP-12	Bore and Jack of 24" Steel Pipe in Soil	61	LF		
45	SP-12	Bore and Jack of 24" Steel Pipe not in Soil	61	LF		
46	WSACC 01025	4' Dia Standard MH	22	EA		
47	WSACC 01025	4' Dia MH Additional Depth	89	LF		

No.	Item	Description	Qty.	Units	Unit Price (\$)	Item Total (\$)
48	WSACC 01025	Vent Pipe	2	EA		
49	WSACC 01025	Anti-Seep Collar	9	EA		
50	WSACC 01025	Tie to Ex Sewer System	3	EA		

**TOTAL BASE COST** \$ \_\_\_\_\_

**10% CONTINGENCY** \$ \_\_\_\_\_

**TOTAL COST** \$ \_\_\_\_\_

5. Bidder agrees that all work will be completed and ready for final payment in accordance with Paragraph 14.13 of the General Conditions within 365 days from the date of notice to proceed.
6. Liquidated damages are \$1,000.00 per each day past the contract completion date.
7. Communications concerning this Bid shall be sent to Bid at the following address:

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

P.O. BOX: \_\_\_\_\_

CITY: \_\_\_\_\_

STATE: \_\_\_\_\_

ZIP: \_\_\_\_\_

8. The terms used in this BID, which are defined in the General Conditions (Section II), have the meanings assigned to them in the General Conditions.

SIGNATURE OF BIDDER: \_\_\_\_\_

Contractor's License Number \_\_\_\_\_

License Expiration Date \_\_\_\_\_

If an Individual

By \_\_\_\_\_  
(signature of individual)

doing business as \_\_\_\_\_

Business address \_\_\_\_\_

Phone No. \_\_\_\_\_

Date \_\_\_\_\_, 20\_\_\_\_

ATTEST \_\_\_\_\_ TITLE \_\_\_\_\_

If a Partnership

By \_\_\_\_\_  
(firm name)

\_\_\_\_\_  
(signature of general partner)

Business address \_\_\_\_\_

Phone No. \_\_\_\_\_

Date \_\_\_\_\_, 20\_\_\_\_

ATTEST \_\_\_\_\_ TITLE \_\_\_\_\_

If a Corporation

By \_\_\_\_\_  
(corporation name)

By \_\_\_\_\_  
(signature of authorized person) (title) \_\_\_\_\_

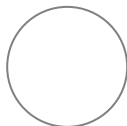
Business address \_\_\_\_\_

Phone No. \_\_\_\_\_

Date \_\_\_\_\_, 20\_\_\_\_

ATTEST \_\_\_\_\_ TITLE \_\_\_\_\_

(Seal)



**If a Joint Venture (Other party must sign below.)**

By (name) \_\_\_\_\_

Contractor's License Number \_\_\_\_\_

License Expiration Date \_\_\_\_\_

**If an Individual**

By \_\_\_\_\_

(signature of individual)

doing business as \_\_\_\_\_

Business address \_\_\_\_\_

Phone No. \_\_\_\_\_

Date \_\_\_\_\_, 20\_\_\_\_

ATTEST \_\_\_\_\_ TITLE \_\_\_\_\_

**If a Partnership**

By \_\_\_\_\_

(firm name)

\_\_\_\_\_  
(signature of general partner)

Business address \_\_\_\_\_

Phone No. \_\_\_\_\_

Date \_\_\_\_\_, 20\_\_\_\_

ATTEST \_\_\_\_\_ TITLE \_\_\_\_\_

If a Corporation

By \_\_\_\_\_  
(corporation name)

By \_\_\_\_\_  
(signature of authorized person)(title) \_\_\_\_\_

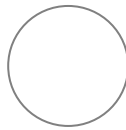
Business address \_\_\_\_\_

Phone No. \_\_\_\_\_

Date \_\_\_\_\_, 20\_\_\_\_

ATTEST \_\_\_\_\_ TITLE \_\_\_\_\_

(Seal)





**EXHIBIT B – STANDARD FORM OF PERFORMANCE BOND**

Date of Execution of this Bond \_\_\_\_\_

Name and Address of  
Principal (Contractor) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name and Address  
of Surety \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name and Address of  
Contracting Body \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Amount of Bond \_\_\_\_\_  
\_\_\_\_\_

Contract                      That certain contract by and between the Principal and the  
Contracting Body above named dated \_\_\_\_\_  
for \_\_\_\_\_  
\_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the above-named Contracting Body, hereinafter called the Contracting Body, in the penal sum of the amount stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal entered into a certain contract with the Contracting Body, identified as shown above and hereto attached;

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the Contracting Body, with or without notice to the Surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of the contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then, this obligation to be void; otherwise, to remain in full force and virtue.

**STANDARD FORM OF PERFORMANCE BOND: (Continued)**

THIS PERFORMANCE BOND is made and given pursuant to the requirements and provisions of Section 129 of Chapter 143 of the General Statutes of North Carolina and pursuant to Article 3 of Chapter 44-A of the General Statutes of North Carolina, and each and every provision set forth and contained in Section 129 of Chapter 143 and in Article 3 of Chapter 44-A of the General Statutes of North Carolina is incorporated herein, made a part hereof, and deemed to be conclusively written into this Bond.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals as of the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned and representative, pursuant to authority of its governing body.

WITNESS:

\_\_\_\_\_  
(Proprietorship or Partnership)

Printed Name \_\_\_\_\_

\_\_\_\_\_  
Principal (Name of individual and trade name,  
partnership, corporation, or joint venture)

BY \_\_\_\_\_ (SEAL)

Printed Name \_\_\_\_\_

TITLE \_\_\_\_\_

(Owner, Partner, Office held in  
corporation, joint venture)

ATTEST: (Corporation)

**(Corporate Seal of Principal)**

BY \_\_\_\_\_

Printed Name \_\_\_\_\_

TITLE \_\_\_\_\_

(Corporation Secretary or  
Assistant Secretary Only)

\_\_\_\_\_  
Surety (Name of Surety Company)

WITNESS:

BY \_\_\_\_\_

Printed Name \_\_\_\_\_

TITLE \_\_\_\_\_ Attorney in Fact

**(Corporate Seal of Surety)**

\_\_\_\_\_  
(Address of Attorney in Fact)

## **EXHIBIT C – PROJECT SPECIAL PROVISIONS**

### **The Grounds Sewer Phase 3**

#### **Project No. 2020-007B**

- 1) Contractor shall utilize the 2024 edition of NCDOT Standard Specifications & Standard Drawings for Roads and Structures, the City of Concord Technical Standards, and Water & Sewer Authority of Cabarrus County Technical Standard specifications, the most restrictive requirement shall apply unless otherwise noted. NCDOT Article Numbers in the Bid Form and these Project Special Provisions reference the NCDOT Standard Specifications for Roadways and Structures.
- 2) The Report of Seismic Refraction Testing is available in Appendix A. It should be noted that the data provided does not reflect the variations in subsurface conditions which could exist between test locations and/or unexplored areas of the site.
- 3) Hours of work at between 7:00 am – 6:00 pm; Monday through Friday.
- 4) Ingress and egress shall be maintained to all business and dwellings affected by the project. Contractor shall notify the adjacent property owners in writing a minimum of 72 hours in advance of construction at the work site. Driveway work shall be coordinated with the city inspector and the property owner(s).
- 5) The Contractor shall include in “Asphalt Plant Mix, Pavement Repair” price the cost of milling to tie into existing asphalt according to the Utility Cut Replacement Detail shown in the project plans.
- 6) The Contractor shall include the cost of any coordination and cooperation of utilities in his bid. No additional compensation shall be allowed for delays or inconvenience sustained by the Contractor due to utility relocation or adjustments. No additional payment will be made for re-mobilization required by the utility’s failure to relocate a utility at the request of the Contractor.
- 7) This project is subject to an U. S. Army Corps of Engineers Nationwide Permit and a NC Individual 401 Water Quality Certification which both are included in Appendix B. Contractor is subject to the requirements of said permits/certifications. All costs generated by this requirement shall be included in the Contractor’s bid.
- 8) This project is subject to the “NC Department of Environmental Health and Natural Resources Sediment Pollution Control Act”. Refer to SP-13 for requirements.

## **SP-01 – TRAFFIC CONTROL**

### **1.0 DESCRIPTION**

Beginning Work and Street Closings: The Contractor is responsible for notifying the Concord Department of Transportation for any work where the number of travel lanes is reduced from normal conditions.

The Contractor shall install advance warning signs for the Project. These signs shall be in place for one week before construction activity begins. The Contractor shall begin construction activity on a street on the scheduled date for the closing of the travel lane.

Traffic Control Plan: Traffic control will be performed by the Contractor based upon the Traffic Control Special Provisions. The Traffic Control Special Provisions may refer to plan sheets for major work items or details, or both.

All traffic control devices and procedures shall conform to the requirements of the current edition of the Federal Highway Administration (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD), the current edition of the North Carolina Department of Transportation (NCDOT) Supplement to the *Manual on Uniform Traffic Control Devices for Streets and Highways*, the NCDOT Roadway Standard Drawings and the current edition of the NCDOT Standard Specifications for Roads and Structures.

The Contractor shall maintain the traffic control as described herein unless the Contractor submits an alternate traffic control plan to the Engineer and it is approved by the Engineer. The Engineer may direct the Contractor to modify the traffic control if, in the Engineer's opinion, traffic is not moving safely or efficiently.

Traffic Control Phasing for this project shall be in accordance with the Traffic Control Plans. The Contractor shall adhere rigidly to these plans. The standards are the minimum required. Additional signs, cones, drums, barricades and warning devices may be used, but at no time will less than what is specified on the plans or in the standards be acceptable.

Maintenance of Traffic: The Contractor shall maintain all travel lanes in accordance with the Traffic Control Plan sheets.

In areas of drop-offs and low shoulders, the Contractor shall backfill up to the edge and elevation of the existing pavement.

The Contractor will be required to maintain ingress and egress to all businesses and dwellings, and easy access to fire hydrants.

The Contractor shall provide adequate drainage under driveways and within the Project area for the duration of the Project.

The Contractor shall mark all hazards within the Project limits with well-maintained signs, barricades, warning and/or channelizing devices.

Traffic Control Devices: The Contractor shall furnish, install, operate, relocate, maintain and remove all temporary traffic control devices necessary for controlling traffic in accordance with the Traffic Control Plans and standards. The Contractor shall notify Engineer regarding conflicting permanent signs. Only Concord Department of Transportation personnel shall install, remove or relocate any permanent signs within the right-of-way. All construction signs and barricades shall remain in place until the appropriate permanent signs and pavement markings are installed.

Equipment and Material Storage: During periods of construction inactivity, all construction materials and equipment shall be stored by the Contractor. The right-of-way or temporary project easement may be used for this purpose, but equipment and materials must be placed safely 10 or more feet away from any open travel lane. It is recommended that all construction equipment and materials be stored on private property, which is posted against trespassing. It is the responsibility of the organization performing the work to obtain the permission to use a property for this purpose.

Excavation and Trenches: Excavations and trenches that cannot be properly backfilled and patched prior to the end of the workday shall be secured.

## **2.0 MEASUREMENT**

There will be no separate measurement made for Traffic Control.

## **3.0 PAYMENT**

Traffic Control will be paid at the lump sum price for “Traffic Control”. This payment will be full compensation for all elements of work required to complete the Project as specified.

Partial payments will be made as follows:

- 25% of the lump sum price on the first partial payment estimate made after any work has been performed on the item of “Traffic Control”.
- 25% of the lump sum price on the first partial payment after work is 25% complete.
- 25% of the lump sum price on the first partial payment after work is 50% complete.
- 25% of the lump sum price on the first partial payment after work is 100% complete.

Payment will be made under:

**TRAFFIC CONTROL..... LS**

## **SP-02, COMPREHENSIVE GRADING**

### **1.0 DESCRIPTION**

This item shall include all elements of work covered by the referenced NCDOT Specifications and the numbered Additional City Specifications provided herein.

**NCDOT Specifications**

200, "Clearing and Grubbing"  
225, "Roadway Excavation"  
235, "Embankments"  
240, "Ditch Excavation"  
250, "Removal of Existing Pavement"  
260, "Proof Rolling"  
340, "Pipe Removal"  
412, "Unclassified Structure Excavation"  
416, "Channel Excavation"  
500, "Fine Grading, Sub-grade, Shoulders and Ditches"  
545, "Incidental Stone Base"  
560, "Shoulder Construction"  
863, "Remove Existing Guardrail and Guiderail"  
1530, "Abandon or Remove Utilities"  
1607, "Gravel Construction Entrance"

### **Additional City Specifications**

1. Clearing and Grubbing: Clearing on this Project shall be performed to the slope stake line or the right-of-way or easement lines unless directed otherwise. The Contractor shall remove all trees in the easement areas.
2. Traffic Bearing Road Plates: The Contractor shall be responsible for all traffic bearing road plates needed in accordance with NCDOT Utility Cut Replacement Detail.
3. Fence Removal and Disposal and or Fence Relocation: as shown on the plans and any additional removal or relocation identified by the Contractor's means and methods shall be included in this item.
4. Mail Boxes and Site Amenities: remove, protect, and reset mail boxes and site amenities. The Contractor shall keep mailboxes in service at all times and allow / provide for other services, including but not limited to trash pickup.
5. Existing Road Signs: remove, protect, and reset road signs. Repair or replace signs damaged in relocating. Erect signs and supports according to requirements of NCDOT Specifications 903 and 904.
6. Removal and Disposal of Existing Infrastructure: concrete curb, sidewalk, miscellaneous concrete, asphalt, driveways, pads, slabs, walls, culverts, structures, catch basins, manholes, etc. within the construction limits as shown on the plans and any additional infrastructure removal identified by the Contractor's means and methods shall be included in this item.
7. Shoring: The Contractor shall be responsible for all shoring to include means, methods, materials and engineering needed to construct the project.
8. Saw Cutting: all saw cutting required to build the Project. Where asphalt or concrete (curb, sidewalk, roadway, driveways, parking lots, etc.) is to be removed, the Contractor shall provide a neat edge along the pavement being retained by sawing the pavement a minimum of 2" deep and 1' wide before breaking and removing adjacent pavement. When the Contractor proposes to saw

pavement more than one foot from the proposed pavement (curb, sidewalk, structure, etc.), the Contractor shall obtain approval from the Engineer prior to saw cutting and removing pavement. The cost of sawing asphalt or concrete shall be included in this item.

9. Sidewalk and Curb Clean-up: The Contractor shall have all related sidewalk and curb work completed within ten (10) days of placement, including but not limited to 1) removal and disposal of construction debris; 2) related grading to include fine grading; 3) site restoration; 4) seedbed preparation and dress up work; 5) seeding and mulching; and 6) final cleaning.

10. Tree and/or Stump Removal and Disposal: as shown on the plans and any additional tree and/or stump removal identified by the Contractor's means and methods shall be included in this item. Trees to be removed shall be approved by the Engineer prior to removal.

11. Water Meter / Sewer Clean Out Protection: all labor and materials required to protect, and replace if necessary, impacted water meters and sewer clean outs in the work area.

12. Utility Pipe/Conduit Removal and Disposal: existing public or private utility pipe / conduit, subsurface and shoulder drain pipe removal and disposal as shown on the plans and any additional utility pipe / conduit removal identified by the Contractor's means and methods shall be included in this item.

13. Stream restoration to preconstruction conditions: Stream areas impacted by the pump around operation, temporary access road or any other contractor's means and methods, shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross-sectional dimensions, platform pattern, and longitudinal profile.

14. Property Access: all labor and materials required to maintain access to properties during construction as directed by the Engineer.

15. Erosion Control Permit: All costs from SP-13, EROSION & SEDIMENT CONTROL - FINANCIAL RESPONSIBILITY AND CERTIFICATE OF COVERAGE shall be included in this item.

## **2.0 MEASUREMENT**

There will be no separate measurement made for Comprehensive Grading.

## **3.0 PAYMENT**

For the above-referenced NCDOT sections and numbered Additional City Specifications, there will be no direct measurement, payment or compensation, all cost incurred to complete the work as specified shall be included in the Lump Sum price bid for "Comprehensive Grading".

There will be **no separate measurement or payment** for the items listed or referenced in this specification.

Payment will be made under:

**COMPREHENSIVE GRADING .....LS**

**SP-03, SELECT MATERIAL**

**1.0 DESCRIPTION**

Work covered in this special provision consists of furnishing, placing, and compacting select material as shown on the plans or as directed.

Select material shall be placed in pipe culvert excavations within the existing or proposed roadway, including beneath the proposed curb and gutter, or as directed. The Engineer will determine the amount and location of select material to be used on the project. The Contractor shall not remove material from the project without approval from the Engineer.

**2.0 MATERIALS**

Select material shall meet the requirements of NCDOT Standard Specifications for Roads and Structures, Select Material, Class III, Type 2 (Section 1016-3), or other approved classes or materials as directed.

With written approval and without additional compensation, a higher class of material may be substituted than stated in the Contract Documents.

**3.0 MEASUREMENT AND PAYMENT**

There will be no separate measurement or payment for select bedding and select backfill material required in the installation of pipe as illustrated in NCDOT 300.01. All bedding and select backfill material required in the installation of the pipe as illustrated in NCDOT 300.01 will be included in cost of the installed pipe.

When local material meeting the requirements for suitable materials as defined in the *Earthwork, Excavation, Unsuitable Materials, and Backfill Materials* Special Provision is approved for use by the Engineer, there will be no separate measurement or payment for the local suitable material incorporated into the completed and accepted Project. The cost to furnish, haul, place and compact local suitable material that meets the requirements will be included in the lump sum price bid for SP-02 *Comprehensive Grading* (a special provision and pay item in this contract).

When other than local material meeting the requirement for select material is used, the quantity of select material for backfill shall be measured by weighing material in trucks in accordance with section 106-7 Scales and Public Weighmaster, as determined by the Engineer. At the Engineer's discretion, truck measurement in accordance with Article 230-5 (B) may be used instead of weighing material in trucks. A unit weight of 135 lb/cf will be used to convert the weight of select material to tons.



The contract unit prices for *Select Material* as described above will be full compensation for furnishing, transporting, handling, placing, compacting, and maintaining select material. Unless otherwise directed by the Engineer, there will be no separate payment for select material above the select bedding and backfill materials included in the cost of the installed pipe culvert, which exceeds the following extents:

**Storm Drainage**

- Pipe
  - Horizontally – the outer diameter of the pipe plus three feet;
  - Vertically – from the top of the select backfill material to the ground line, as illustrated in NCDOT 300.01
- Box Culverts/Bends/Bottomless Culverts
  - Horizontally – outer width of culvert or footer plus six feet (three feet each side);
  - Vertically – from the top of the bedding material or bottom of the structure to the ground line, as illustrated in Figure 1 of the *Precast Reinforced Concrete Culvert* Special Provision;

**Structures**

(Includes but not limited to: headwalls, drainage structures (catch basins, drop inlets, risers, etc.), flared end sections, retaining walls, etc.)

- Vertically – to the ground line elevation as shown on the plans or details;
- Horizontally – two (2) feet from each exterior surface (outer wall of the structure or footer whichever is further)

Material used for the Contractor's means and methods outside of these trench limits shall meet the material requirement and will be at the Contractor's expense.

Do not use *Select Material* until all local material meeting the requirements of suitable material as defined in the *Earthwork, Excavation, Unsuitable Materials, and Backfill Materials* Special Provision has been incorporated into the Project. If the Contractor brings select material onto the Project for its own convenience, that material will not be measured or paid for as *Select Material*.

Payment will be made under:

**SELECT MATERIAL.....TN**

**SP-04, BORROW EXCAVATION**

**1.0 DESCRIPTION**

The work covered in this special provision includes all elements of work covered in section 230 "Borrow Excavation" of the Standard Specifications with the following exception pertaining to payment.

**2.0 MEASUREMENT**

Measurement shall be made in accordance with the Standard Specifications, Section 230-5(A) In-Place Measurement or Section 230-5(B) Truck Measurement as directed by the Engineer.

### 3.0 PAYMENT

The quantity of Borrow Excavation, measured as provided above, will be paid for at the contract unit price per cubic yard for *Borrow Excavation*. When Borrow Excavation is used to replace soil that has been determined to be unsuitable by the Engineering Department due to moisture, poor soil composition, or other factors, the contract unit price for Borrow Excavation shall include all excavation, removal from site, and proper disposal of unsuitable soil.

The contract unit price for *Borrow Excavation* as described above will be full compensation for furnishing, transporting, handling, placing, compacting, and maintaining borrow material. Unless otherwise directed by the Engineer, there will be no separate payment for borrow material above the select bedding and backfill materials included in the cost of the installed pipe, which exceeds the following extents:

#### **Storm Drainage**

- Pipe
  - Horizontally – the outer diameter of the pipe plus three feet;
  - Vertically – from the top of the select backfill material to the ground line, as illustrated in NCDOT 300.01;
- Box Culverts/Bends/Bottomless Culverts
  - Horizontally – outer width of culvert or footer plus six feet (three feet each side);
  - Vertically – from the top of the bedding material or bottom of the structure to the ground line, as illustrated in Figure 1 of the *Precast Reinforced Concrete Culvert* Special Provision;

#### **Structures**

(Includes but not limited to: headwalls, drainage structures (catch basins, drop inlets, risers, etc.), flared end sections, retaining walls, etc.)

- Vertically – to the ground line elevation as shown on the plans or details;
- Horizontally – two (2) feet from each exterior surface (outer wall of the structure or footer whichever is further)

Material used for the contractor's means and methods outside of these trench limits shall meet the material requirement and will be at the contractor's expense.

Payment will be made under:

**BORROW EXCAVATION ..... CY**

### **SP-05, ROCK REMOVAL**

#### **1.0 DESCRIPTION**

Work covered by this special provision consists of the removal and disposal of rock encountered within the construction limits.

## **2.0 CONSTRUCTION METHODS**

Rock shall be defined as any subsurface material (except foundations and pavements) which cannot be excavated by a backhoe, or track hoe which is capable of producing 25,000 pounds of curling force.

When rock is encountered, the Engineer shall be notified to:

- verify that the material cannot be removed as defined above or incorporated into the project feature
- determine the measurement limits

Removal methods include, but are not limited to, drilling, pneumatic hammering, blasting, etc. or as directed by the Engineer.

Blasting shall be performed as specified in Article 220-3 of the Standard Specifications.

Disposal shall be in accordance with Section 802 in the Standard Specifications.

Areas below the proposed project subgrade or pipe culvert trench subgrade shall be backfilled using materials in accordance with SP-06 *Earthwork, Excavation, Unsuitable Materials and Backfill Materials*.

## **3.0 MEASUREMENT**

The quantity of rock removal to be paid for will be the actual number of cubic yards of rock, measured in its original position and computed by the average end area method, which has been removed and disposed of.

Measurements for the determination of actual quantities of rock removed shall be computed as described below or as directed by the Engineer:

### **Storm Drainage**

- Pipe
  - Horizontally – as illustrated in NCDOT 300.01;
  - Lower Limit – as illustrated in NCDOT 300.01
- Box Culverts/Bends/Bottomless Culverts
  - Horizontally – outer width of culvert or footer plus six (6) feet (3 feet each side);
  - Lower Limit – one (1) foot below the bottom of the barrel or footing;

### **Channels**

- Two (2) feet below the finished grade or;
- Stream/channel structures – as directed by the Engineer.

### **Ponds**

- Below normal pool – to finished grade;
- Above normal pool – two (2) feet below finished grade;

**Structures**

*(Includes but not limited to: headwalls, drainage structures (catch basins, drop inlets, risers, etc.), rip rap aprons, flared end sections, retaining walls, etc.)*

- To the subgrade elevation as shown on the plans or details;
- Horizontally – two (2) feet from each exterior surface (outer wall of the structure or footer; boulder or rip rap extents, as approved for stream structures and rip rap aprons)

**Roadways, Yards, Etc.**

- Two (2) feet below finished grade;

**Water & Sewer Lines**

- Horizontally – outside diameter of pipe plus three (3) feet (1.5 feet each side);
- Lower Limit – one (1) foot below the bottom of the outside diameter of pipe.

There will be no measurement of quantities of rock removed beyond these limits. Where the Engineer makes a recommendation for incorporating the encountered rock material into the project feature, there shall be no separate payment for incorporating the in situ rock into the project feature.

**4.0 PAYMENT**

The quantity of rock removal, measured as provided above, will be paid for at the contract unit price per cubic yard for "Rock Removal." Such payment will be full compensation for all work covered by this special provision including but not limited to drilling, pneumatic hammering, blasting (including complying with Article 220-3 of the Standard Specifications), excavating, and disposing of rock encountered within the pay limits of the project.

No separate payment will be made for materials used in backfilling the areas below the proposed project subgrade or pipe culvert trench subgrade as payment at the contract unit price per cubic yard for Rock Removal will be full compensation for furnishing such material.

Payment will be made under:

**ROCK REMOVAL ..... CY**

**SP-06, EARTHWORK, EXCAVATION, UNSUITABLE MATERIALS, AND BACKFILL MATERIALS**

**1.0 DESCRIPTION**

Earthwork shall be performed to the lines and grades indicated on the plans. The work shall include excavation, furnishing, placement, compaction, and satisfactory disposal of all materials encountered within the limits of the Work necessary for the construction of the Project.

All excavated materials that are not required for the Project or are unsuitable for fills shall be considered as waste and shall be hauled off the site at the Contractor's expense.

The Contractor shall be responsible for all borrow material required to construct the Project as shown on the plans.

## **2.0 MATERIALS**

Provide bedding material in accordance with Article 1016-3 for Class II, Type 1 or Class III, Type 1 or Type 2 select material.

Provide backfill material in accordance with Article 1016-3 for Class II, (Type 1 for flexible pipe) or Class III select material.

Provide foundation conditioning material in accordance with Article 1016-3 for Class V or VI select material.

Provide foundation conditioning geotextile in accordance with Article 1056-2 for Type 2 geotextile.

Provide borrow material in accordance with Article 1018.

## **3.0 MEASUREMENT AND PAYMENT**

There will be no direct payment for earthwork, excavation, unsuitable materials, and backfill materials described in this special provision. Payment will be made at the contract unit prices for the various items covered by sections 226 *Undercut Excavation*, 300 *Pipe Installation*, 305 *Drainage Pipe*, 310 *Pipe Culverts*, SP-01 *Comprehensive Grading*, SP-03 *Select Material*, SP-04 *Borrow Excavation*, and SP-05 *Rock Removal*.

### **(A) Unsuitable Material**

Unsuitable material shall be defined as any and all unsuitable materials regardless of its nature. Unsuitable Material not incorporated into the Project shall be removed, hauled, and disposed by the Contractor only as authorized by the Engineer. Stockpiled Unsuitable Material shall be disposed of no less than once per week.

#### Proposed Project Subgrade, other than Pipe Culvert Trench Subgrade

Unsuitable material ***below*** the proposed project subgrade, including but not limited to below the invert of an open channel or bottom of detention facilities, shall be removed, measured, hauled, disposed of, replaced, and paid for under NCDOT Section 226 *Undercut Excavation*. Unsuitable material ***above*** the proposed project sub-grade shall be removed, hauled, and disposed of at no additional cost to the City.

#### Proposed Pipe Culvert Trench Subgrade

Unsuitable material ***below*** the proposed project pipe culvert trench subgrade within the approved trench excavation limits for storm drainage pipe and storm drainage culvert (including but not limited to box culverts, oval pipe culverts and three-sided culverts/bridges) shall be removed, measured, hauled, disposed of, replaced, and paid for in accordance with

Section 300-9 (B) *Foundation Conditioning Material* and Section 300-9 (C) *Foundation Conditioning Geotextile*.

Unsuitable material **above** the proposed pipe culvert trench sub-grade shall be removed, hauled, disposed of at no additional cost to the City.

#### Rock

When rock is found within the limits of the excavation or trench, rock removal and backfill materials used below the proposed project subgrade or pipe culvert trench subgrade will be measured and paid for in accordance with *SP-05 Rock Removal*.

#### **(B) Bedding and Backfill**

- Pipe (including round, elliptical, etc.)
  - There will be no separate measurement or payment for select bedding and select backfill material required in the installation of pipe as illustrated in NCDOT 300.01. All bedding and select backfill material will be included in cost of the installed pipe.
- Culvert (Box Culverts/Bends/Bottomless Culverts)
  - There will be no separate measurement or payment for bedding required in the installation of culverts as illustrated in Figure 2.1 of the *Precast Reinforced Concrete Culvert* Special Provision or as shown on the plans. All bedding material will be included in cost of the installed pipe or culvert.
  - Material needed for buried culvert inverts and channel inverts inside three-sided bridge/culverts shall be incidental to the cost of the culvert unless otherwise directed by the Engineer.

When local material meeting the requirements for the select bedding and backfill is approved for use by the Engineer, no deductions in the cost of pipe culvert will be made. Local material is defined as material generated on the project site or within the project limits.

#### Within the Existing or Proposed Roadway

- Pipe (including round, elliptical, etc.)
  - For pipe located within the existing or proposed roadway, including beneath the proposed curb and gutter or between road ditch lines, the Contractor shall use suitable material from the elevation of the select backfill material included in the cost of the installed pipe to the subgrade.
- Culvert (Box Culverts/Bends/Bottomless Culverts)
  - For culverts located within the existing or proposed roadway, including beneath the proposed curb and gutter or between road ditch lines, the Contractor shall use suitable material from the elevation of the bedding included in the cost of the installed culvert to the subgrade.

When local material meeting the requirements for suitable material is approved for use by the Engineer, there will be no separate measurement or payment for the material incorporated into the completed and accepted Project.

Suitable material shall be defined as material meeting both:

- Unified Soil Classification System (USCS) designation of GW, GP, GM, GC, SW, SP, SM, or SC and
- American Association State Highway Transportation Official (AASHTO) Soil Classification System designation of A-1, A-3, A-2-4, or A-2-5.

When local suitable material is not available to complete the backfill of the trench, the Contractor shall use select material in accordance with SP-03 *Select Material*.

Do not use *Select Material* until all local suitable material has been incorporated into the Project. There shall be no measurement or payment made for *Select Material* brought to the site at the Contractor's convenience.

#### Outside of the Proposed or Existing Roadway

- Pipe (including round, elliptical, etc.)
  - For pipe located outside the existing or proposed roadway, the Contractor shall use local suitable material from the elevation of the select backfill material included in the cost of the installed pipe to the finished grade or subgrade.
- Culvert (Box Culverts/Bends/Bottomless Culverts)
  - For culverts located outside the existing or proposed roadway, the Contractor shall use local suitable material from the elevation of the bedding included in the cost of the installed culvert to the finished grade or subgrade.

When local suitable material is not available to complete the backfill of the trench, the Contractor shall use borrow material in accordance with SP-04, *Borrow Excavation*.

Do not use *Borrow Excavation* material until all local suitable material has been incorporated into the Project. There shall be no measurement or payment made for borrow excavation material brought to the site at the Contractor's convenience.

When local suitable material is not available to complete the backfill of the trench, the Contractor shall use select material in accordance with SP-03, *Select Material*.

Do not use *Select Material* until all local suitable material has been incorporated into the Project. There shall be no measurement or payment made for select material brought to the site at the Contractor's convenience.

#### **(C) Other**

No separate measurement or payment will be made for any other excavation, furnishing, placement, compaction or satisfactory disposal of material encountered within the limits of Work necessary for construction of the Project. All other earthwork shall be considered incidental to the Project and paid for in *Comprehensive Grading*, unless noted elsewhere in the Contract Documents.

## **SP-07, STREAM PUMP AROUND OPERATION**

### **1.0 DESCRIPTION**

Work under this section, includes all work necessary for the installation and maintenance of the pump around operation, and the stream restoration to preconstruction conditions. Work shall be performed in the dry by pumping stream base flow around project work areas for sediment and erosion control purposes as may be necessary or directed by the Engineer and to conform to the plans, specifications, details, permits, local laws, state laws and federal laws and the City of Concord's Ordinances, Policies and Standards Specifications where applicable.

The pump around shall provide a passageway for the normal stream flow through the work site. This pump around operation is for storm drainage work only and should not be considered for sanitary sewer bypass pumping.

### **2.0 METHODS AND MATERIALS**

The measures and works shall include, but are not limited to, the following:

Pump Around Operation – A pump shall be used to convey the stream base flow around the work area during channel excavation, installation of structures, and stabilization. The pump well shall be cased and filter provided to prevent pumping of sediment fines. The intake for the drain mechanism upstream of the impervious dike should be located near the top of the water column unless otherwise specified by the City. Impervious dikes shall be installed at the upstream and downstream locations of the pump around operations. The size of pumps used shall be determined by the onsite contractor with approval from the Engineer. The pump includes temporary flexible hose in sufficient length to pump the water from the upstream side of the active working area to the downstream end. Pumps shall be silent or quiet rated (70 decibels at 25 feet). Water removed from the pond or excavated project site shall pass through a temporary stabilized outlet to be located upstream of the receiving stream unless otherwise noted.

Dewatering Sediment Filter Bag Systems – A special sediment removal device shall be used to filter pumped water from the excavated project site during construction. The quantity of sediment filter bag systems may be increased, decreased, or eliminated entirely at the direction of the on-site Engineer.

Stream restoration to preconstruction conditions - Stream areas impacted by the pump around operation shall be regraded to its preconstruction contours and revegetated with appropriate native species.

### **3.0 MEASUREMENT**

No measurement will be made of any materials under this item. Impervious dikes, dewatering sediment filter bag systems and any grading and revegetating will be incidental to this item.

### **4.0 PAYMENT**

The Pump Around Operation specified under this section consists of furnishing all labor, materials, equipment, supplies, supervision, tools, and performing all work necessary for maintaining



baseflow downstream of stream, culverts, and pipes, and the installation, maintenance, removal of impervious dikes and dewatering sediment filter bag systems, regarding to original contours and revegetating, in conjunction with stream restoration/stabilization construction and shall be paid for at the contract lump sum for *Pump Around Operation*.

Payment will be made under:

**STREAM PUMP AROUND OPERATION..... LS**

### **SP-08, IMPERVIOUS DIKE**

The Contractor shall construct an impervious dike in such a manner as approved by the Engineer, including, but not limited to furnishing materials, construction, maintenance, and removal of an impervious dike for the purpose of preventing normal stream flow and dewatering a stream segment for construction operations. The impervious dike shall not permit seepage of water into the construction site.

#### **1.0 SUBMITTALS**

Prior to construction, the Contractor shall submit a detail illustrating the component materials and dimensions of the impervious dike. The impervious dike shall impound water to a depth range as shown on the impervious dike detail and shall minimize erosion and discharge of sediment in the event of overtopping.

#### **2.0 METHODS**

The impervious dike shall be constructed in locations as directed by the Engineer. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavation to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.

The intake for the drain mechanism upstream of the impervious dike should be located near the top of the water column unless otherwise specified by the City. Water removed from the pond or excavated project site shall pass through a special stilling basin to be located upstream of the receiving stream unless otherwise noted.

#### **3.0 MEASUREMENT**

There will be no measurement made for *Impervious Dike*.

#### **4.0 PAYMENT**

No direct payment will be made for *Impervious Dike*. All work covered in this special provision, including, but not limited to furnishing all labor materials, construction, maintenance, and removal of the impervious dike will be incidental to the lump sum price for *Pump Around Operation*.

**SP-10, SILT FENCE OUTLET**

**1.0 DESCRIPTION**

This special provision shall include all labor and materials to furnish material, construct, maintain and remove silt fence outlets in accordance with the construction plans and the contract.

**2.0 MATERIALS**

Refer to the construction plans.

**3.0 CONSTRUCTION METHODS, MAINTENANCE AND REMOVAL**

Install and maintain silt fence outlets in accordance with the plans and specifications.

Leave silt fence outlets in place until site stabilization and remove at project completion. Dress and seed and mulch all areas where silt fence outlets are removed in accordance with Section 1660.

**4.0 MEASUREMENT AND PAYMENT**

*Silt Fence Outlets* will be measured and paid for by the actual number of silt fence outlets installed and accepted. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the *Silt Fence Outlet*.

Seeding and Mulching will be measured and paid in accordance with Article 1660-8.

Payment will be made under:

**SILT FENCE OUTLET .....EA**

**SP-10 – COIR FIBER MATTING**

**1.0 DESCRIPTION**

Furnish material, install and maintain coir fiber mat in locations shown on the plans or in locations as directed. Work includes providing all materials, excavating and backfilling, and placing and securing coir fiber mat with stakes as directed.

**2.0 MATERIALS**

<b>Item</b>	<b>Section</b>
Coir Fiber Mat	1060-14

    Anchors: Wooden stakes shall be used as anchors.

Provide hardwood stakes 12"- 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2" long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

### **3.0 CONSTRUCTION METHODS**

Place the coir fiber mat immediately upon final grading. Provide a smooth soil surface free from stones, clods, or debris that will prevent the contact of the mat with the soil. Unroll the mat and apply without stretching such that it will lie smoothly but loosely on the soil surface.

For stream relocation applications, take care to preserve the required line, grade, and cross section of the area covered. Bury the top slope end of each piece of mat in a narrow trench at least 6 in. deep and tamp firmly. Where one roll of matting ends and a second roll begins, overlap the end of the upper roll over the buried end of the second roll so there is a 6 in. overlap. Construct check trenches at least 12 in. deep every 50 ft. longitudinally along the edges of the mat or as directed. Fold over and bury mat to the full depth of the trench, close and tamp firmly. Overlap mat at least 6 in. where 2 or more widths of mat are installed side by side.

Place anchors across the mat at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the mat 3 ft. apart.

Adjustments in the trenching or anchoring requirements to fit individual site conditions may be required.

### **4.0 MEASUREMENT AND PAYMENT**

*Coir Fiber Mat* will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

No measurement will be made for anchor items.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Coir Fiber Mat	Square Yard

## **SP-11 – RIPARIAN SEEDING**

### **5.0 DESCRIPTION**

This work shall consist of furnishing and installing all herbaceous seed for the riparian zones as specified in the Construction Plans, or as directed by the Engineer.

Prior to start of work on this item, the Contractor shall submit a proposed seeding schedule, including the source and content of the seed mix, to the Engineer for review. No work shall be performed until the Engineer approves this schedule.

## **6.0 MATERIALS**

### **Seed:**

Seed shall consist of seed varieties specified in the composition and planting schedules on the plans for the “Riparian Seed” planting mix.

Seed shall be certified that the Pure Live Seed (PLS) percentage is equal to or greater than that which is specified on the Plant Schedules. If the PLS is less than specified, the Contractor shall increase the seeding rate to compensate for the PLS difference at his/her own expense. Seed shall be delivered to the project site in the unopened manufacturer’s packaging. Accompanying the seed and attached to the bag will be the manufacturer’s tag stating suppliers name and contact information, seed testing date, percentage of germination, PLS and any noxious or other weed content. If the manufacturer does not normally attach a bag tag, a seller’s invoice with the same information shall be furnished to the City representative.

All seed ecotypes must be derived from the North Carolina Piedmont Region and no further than 200 miles from Concord, NC.

All seed and seed varieties shall be free from State and Federal prohibited noxious weed seeds and the following:

Annual bluegrass	Corn cockle	Spurred anoda
Bermuda grass	Dodder	Wild garlic
Bindweed	Giant foxtail	Wild onion
Cocklebur	Horse nettle	

### **Mulch:**

Seed mulch shall consist of straw or wood cellulose mulch.

### **Water:**

Water used in the establishment or caring of plants and seed shall be free from any substance that is injurious to plant life.

### **Fertilizer:**

The Contractor shall use non-petroleum-based fertilizers. Application rates of fertilizers shall be 2 lbs/1000 square feet of actual nitrogen in a 20-10-5 product or approved substitute of similar ratios.

### **Limestone:**

Application rates of limestone shall be 1-1½ tons/acre.

## **7.0 METHODS**

The seed mixes are specified on the composition and planting schedules. Areas not disturbed shall not be seeded.

The Contractor shall test the soil to ensure the proper pH and nutrient balance to support the growth of species listed on the landscape plan. If the soil does not meet the criteria, then the Contractor shall amend the soil as needed with fertilizer and/or limestone to achieve the proper balance.

All areas to be seeded shall conform to the finished grades as specified on the plans and be free of all weeds, trash, debris, brush, clods, loose rocks and other foreign materials larger than three inches (3") in diameter or length that would interfere with seeding. All gullies, washes or disturbed areas that develop subsequent to final dressing shall be repaired and stabilized prior to seeding.

Seeding may be performed at any time during the year with the only exception when the temperature is 32°F (0°C) or lower.

Seeding shall be accomplished by using a broadcast spreader, or as indicated by the Engineer. The Engineer, prior to Bid Submittal, must approve any alternative seeding method. All seeding equipment shall be calibrated before application to the satisfaction of the Engineer so that the material is applied accurately and evenly to avoid misses and overlaps. Seed installed by a broadcast spreader shall be capable of placing seed at the specified rate.

Seed shall be applied within the top one quarter inch (1/4") of the soil in two different directions. The Contractor shall maximize the seed/soil contact by first loosening the soil with a cultipacker, other similar equipment, or by dragging the surface with chain link fence. After broadcasting the seed, the soil shall be gently firmed around the seed with a smooth roller.

Immediately after seeding, the site shall be watered lightly, but thoroughly, so that the top four inches (4") of soil are saturated. Watering shall not occur between 10am and 2pm between April 15 and September 15.

The Contractor shall mulch and tack all seeded areas within 24 hours after seeding.

Final cleanup shall be the responsibility of the Contractor and consist of removing all trash and materials incidental to the project and disposing of them off-site.

## **8.0 WARRANTY**

At the completion of one full growing season, riparian seeded areas will be assessed by the Engineer. Eighty percent of the surface area planted must be covered with healthy, established riparian vegetation. No single bare area shall exceed 9 square feet. If the riparian seeded areas do not meet this requirement as determined by the Engineer, the Contractor shall scarify the surface to a depth of one inch (1") or more, have fertilizer added to meet soil test requirements, and then reseed all bare areas at the Contractor's expense. The newly seeded areas will also be under warranty and be assessed at the conclusion of the next full growing season.

## **9.0 MEASUREMENT AND PAYMENT**

The quantity of *Riparian Seeding* measured will be the actual number of acres measured along the surface of the ground over which the materials are installed and accepted by the Engineer. Any

fertilizer and/or limestone required to achieve proper soil pH and nutrient balance will be considered incidental to planting.

Payment will be full compensation for all work covered by this section including but not limited to furnishing all of the materials for the seeding operations.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Riparian Seeding	Square Yard

## **SP-12 - TRENCHLESS INSTALLATION OF UTILITIES**

Replace Article 1550-6 Measurement and Payment of the *2024 Standard Specifications* with the following:

### **1550-6 MEASUREMENT AND PAYMENT**

*Bore and Jack of \_\_\_\_* " in Soil will be measured and paid in linear feet. Measurements will be made along the bore to the nearest linear foot.

*Bore and Jack of \_\_\_\_* " not in Soil will be measured and paid in linear feet. Measurements will be made along the bore to the nearest linear foot.

*Directional Drilling of \_\_\_\_* " in Soil will be measured and paid in linear feet. Measurement will be made along the directional drill to the nearest linear foot.

*Directional Drilling of \_\_\_\_* " not in Soil will be measured and paid in linear feet. Measurement will be made along the directional drill to the nearest linear foot.

*Tunneling of \_\_\_\_* " in Soil will be measured and paid in linear feet. Measurement will be made along the tunnel to the nearest linear foot.

*Tunneling of \_\_\_\_* " not in Soil will be measured and paid in linear feet. Measurement will be made along the tunnel to the nearest linear foot.

Measurement will be made along utility pipes with required trenchless installation. Payment for trenchless installation will be made as additional compensation for utility piping with contract pay items of the various sizes. No additional payment will be made for access pits or shoring required for the installation. No additional payment will be made for changes or modifications to the designed method. Shoring required for the maintenance of traffic or the protection of building or other structures, on or off the right of way, will be paid under *Temporary Shoring*. Material used to fill external voids is incidental to the work being performed. No payment will be made for abandoning defective installations.

Trenchless installations will be considered "In Soil" unless classified as "Not in Soil" by observation of the Engineer. "Not in Soil" is all material other than soil as determined and observed by the Engineer. It is the Contractor's responsibility to request and obtain the Engineer's observation for installations "Not in Soil."

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Bore and Jack of ____ " in Soil	Linear Foot
Bore and Jack of ____ " not in Soil	Linear Foot
Directional Drilling of ____ " in Soil	Linear Foot
Directional Drilling of ____ " not in Soil	Linear Foot
Tunneling of ____ " in Soil	Linear Foot
Tunneling of ____ " not in Soil	Linear Foot

### **SP-13, EROSION & SEDIMENT CONTROL - FINANCIAL RESPONSIBILITY AND CERTIFICATE OF COVERAGE**

If this project is subject to the “North Carolina Department of Environmental Health and Natural Resources Sediment Pollution Control Act”, the City has already received approval of the Erosion and Sedimentation Control Plan. The E&SC plan letter of approval can be found as an Appendix to this document. The Contractor, upon recommendation of award shall:

- a. complete Part B of the Financial Responsibility/Ownership form provided as an Appendix. The City will then transfer financial responsibility of the erosion control permit to the Contractor. The Contractor will be responsible for any fines levied for violation of the approved erosion control plan.
- b. fill out and submit an electronic Notice of Intent (e-NOI) form to receive a Certificate of Coverage (COC) under the NCG01 Permit. The Contractor will be responsible for satisfying the requirements of the permit, and for any civil or criminal penalties incurred due to violations of this permit.

All information about the NCG01 permit, including directions on how to fill the e-NOI form, can be found at [deq.nc.gov/NCG01](http://deq.nc.gov/NCG01). The electronic Notice of Intent (e-NOI) form is available at <https://edocs.deq.nc.gov/Forms/NCG01-NOI>. The City of Concord can help fill out the technical information if needed.

The Contractor may begin the construction activity after receipt of the COC. The contractor must print and retain a copy of the permit and the COC on site.

After the completion of the construction project, the contractor will submit an electronic Notice of Termination (e-NOT) form to end coverage under the NCG01 Permit.

There will be no direct payment for this special provision. The Contractor shall **include** the cost of the e-NOI application fees and any other cost incurred by this specification in his bid. The cost of the e-NOI application is **\$120 at the time of writing this Special Provision. It is the responsibility of the contractor to verify the correct amount** at [deq.nc.gov/NCG01](http://deq.nc.gov/NCG01).

**NOTICE OF AWARD**

TO:

FROM: City of Concord City Council (OWNER)  
P.O. Box 308  
35 Cabarrus Ave. W  
Concord, North Carolina 28026-0308

PROJECT: **The Grounds Sewer Phase 3**  
**Project No. 2020-007B**

You are hereby notified that the bid submitted by you for the above named project in response to the City of Concord's Invitation to Bid, dated \_\_\_\_\_ in the amount of

\_\_\_\_\_ and \_\_\_\_\_/100 DOLLARS

(\$\_\_\_\_\_) has been accepted.

You are hereby required to execute the formal AGREEMENT with the City of Concord City Council and to furnish any and all Contractor's Bond(s), Certificate of Insurance and Power of Attorney(s) along with other documents pertaining to the work as designated by the City of Concord.

If you fail to execute said AGREEMENT and to furnish this and any other required documents pertaining to the work within ten (10) days from the date of delivery of this NOTICE OF AWARD, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your bid as abandoned and to award the work covered by your proposal to another, or to re-bid the work or otherwise dispose thereof as the Owner may see fit.

**Dated this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_**

City of Concord, North Carolina

CONTRACTOR

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: City Manager

Title: \_\_\_\_\_

*ACCEPTANCE OF NOTICE OF AWARD*

Receipt of the above NOTICE OF AWARD is hereby acknowledged this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.



**NOTICE TO PROCEED**

TO:

FROM: City of Concord City Council (OWNER)  
P.O. Box 308  
35 Cabarrus Ave. W  
Concord, North Carolina 28026-0308

PROJECT: **The Grounds Sewer Phase 3**  
**Project No. 2020-007B**

Contract Amount: \_\_\_\_\_ and \_\_\_\_/100 DOLLARS

(\$ \_\_\_\_\_).

You are hereby notified to commence work on or before the \_\_\_\_\_ day of \_\_\_\_, 20\_\_, pending acceptance of your Certificate of Insurance and any other required documents, and are to fully complete the work by the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Your project final completion date is therefore the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, and as set forth in the above named project's schedule unless an extension is granted by the City of Concord Director of Engineering in writing.

City of Concord, North Carolina

By: \_\_\_\_\_

Title: City Manager

**Dated this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.**

## STANDARD FORM CONSTRUCTION CONTRACT

This contract (together with all exhibits and valid amendments, the "Agreement" or the "Contract") is made and entered into as of the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by the City of CONCORD ("City") and \_\_\_\_\_ ("Contractor"), ( ) a corporation, ( ) a professional corporation, ( ) a professional association, ( ) a limited partnership, ( ) a sole proprietorship, or ( ) a general partnership; organized and existing under the laws of the State of \_\_\_\_\_.

### **Sec. 1. Background and Purpose.**

The City of Concord proposes to install 9,954 LF of sanitary sewer. Project includes the installation of erosion control measures, sanitary sewer pipe and manholes, and permanent stabilization.

**Sec. 2. Services and Scope to be Performed.** The Contractor shall provide the services at the charges set forth either in this paragraph or in Exhibit "A". Additional exhibits may be used to further define this Agreement when the Contractor and City so agree. Any additional exhibits shall be designated as exhibits to the Agreement with capitalized, sequential letters of the alphabet, shall be attached hereto and incorporated herein by reference as if the same were fully recited, and shall become terms of this Agreement upon execution by both parties.

In this Contract, "services" means the services that the Contractor is required to perform pursuant to this Contract and all of the Contractor's duties to the City that arise out of this Contract. Any amendments, corrections, or change orders by either party must be made in writing signed in the same manner as the original. (This form may be used for amendments and change orders.) The City reserves the right to refuse payment for any work outside that authorized herein or pursuant to a duly approved amendment or change order.

**Sec. 3. Complete Work without Extra Cost.** Unless otherwise provided, the Contractor shall obtain and provide, without additional cost to the City, all labor, materials, equipment, transportation, facilities, services, permits, and licenses necessary to perform the Work.

**Sec. 4. Compensation.** The City shall pay the Contractor for the Work as described in this paragraph below OR as described in Exhibit "A" attached. In the event of a conflict, the provisions of this paragraph shall control. Any additional expenses or charges shall only be paid after both the City and the Contractor agree to and execute a written change order. The City shall not be obligated to pay the Contractor any fees, payments, expenses or compensation other than those authorized in this Contract or in a duly-approved change order. All payments shall be deemed inclusive of tax and other obligations.

**Sec. 4a. Retainage.** The City shall withhold no retainage on Contracts having a "total project cost" of less than \$100,000.00. The City may withhold retainage on contracts having a total project cost between \$100,000 and \$200,000. The City shall withhold retainage on contracts whose total project cost exceeds \$300,000. When withheld, retainage shall equal no more than five percent of each progress payment. When the project is fifty per cent complete, the City shall not retain anything from future project payments provided that (i) the surety concurs in writing, (ii) the Contractor continues to perform satisfactorily, (iii) any non-conforming work identified in writing by the architect, engineer(s) or City has been corrected by the Contractor and accepted by the architect, engineer(s) or City. However, if the City determines that the Contractor's performance is unsatisfactory, the City may withhold up to five percent retainage from each project payment. The City may withhold additional amounts above five percent for unsatisfactory job progress, defective construction not remedied, disputed work, third party claims filed against the owner or reasonable evidence that a third-party claim will be filed.

Definitions:

"Total Project Cost": Total value of the Contract and any approved change orders or amendments.

"Project is Fifty Percent Complete": When the Contractor's validly-issued gross project invoices (excluding the value of the materials stored off-site) equal or exceed fifty percent of the value of the Contract, except that the value of materials stored on-site shall not exceed twenty percent of the Contractor's gross project invoices for the purpose of determining whether the project is fifty percent complete.

**Sec. 5. Term.** The Contractor shall commence work within **ten (10)** days of the date of its receipt of written Notice to Proceed from the City. The date that is **ten (10)** days from the date of the Contractor's receipt of the Notice to Proceed shall be the "Commencement Date." All work as set forth in the Scope of Services in Exhibit "A" shall be completed within **three hundred sixty five (365)** calendar days of the Commencement Date. The date that is **three hundred sixty five (365)** calendar days from the Commencement Date shall be the "Completion Date." Time is of the essence with regard to this Project. If Contractor's obligations are not completed by the Completion Date, the City reserves the right to nullify this Agreement, order the Contractor to immediately cease all work under this Agreement and vacate the premises, and to seek professional services equivalent to those outlined in Exhibit "A." The Contractor shall be held accountable for all damages incurred by the City as a consequence of the missed Completion Date. The exercise of any of these rights by the City shall not be interpreted to prejudice any other rights the City may have under this Agreement or in law or equity. This Contract shall not be automatically extended unless agreed to in writing by the City or as provided in Exhibit "A".

**Sec. 6. Contractor's Billings to City.** Payments will be made in accordance with the schedule found in this section below OR attached at Exhibit "A". Contractor shall submit an original pay request (invoice) to the City Purchasing Agent by the first of each month in order to expedite payment. Upon receipt of the request the City Purchasing Agent shall verify the amounts and if correct forward the request to the Accounts Receivable Division of the Finance Dept. Final payment on the Contract shall be made in 45 days, except in the case of retainage. Within 60 days after the submission of the final pay request, the City (with the written consent of the surety) shall release to the Contractor all retainage payments IF the City receives a certificate of substantial completion from the architect, engineer or designer-in-charge of the project OR the City receives beneficial occupancy and use of the project. In either case, the City may retain up to 2.5 times the estimated value of the work to be completed or corrected.

**Sec. 7. Insurance.** Contractor shall maintain and cause all sub-contractors to maintain insurance policies at all times with minimum limits as follows:

<b><u>Coverage</u></b>	<b><u>Minimum Limits</u></b>
Workers' Compensation	\$500,000 each accident, \$500,000 bodily injury by disease each employee, \$500,000 bodily injury by disease policy limit
General Liability	\$1,000,000 per occurrence regardless of the contract size
Automobile Liability	\$1,000,000 per occurrence regardless of the contract size
Umbrella	<input type="checkbox"/> \$1,000,000 per occurrence if contract does not exceed 180 days and does not exceed \$500,000; otherwise,
	<input type="checkbox"/> \$2,000,000 per occurrence

Contractor shall provide a Certificate of Insurance to the City listing the City as an additional insured. Such Certificate shall be in a form acceptable to the City.

**Sec. 8. Documentation Requirements:**

A. Contractor shall provide the City with a **Certificate of Insurance** for review prior to the issuance of any contract or Purchase Order. All Certificates of Insurance will require written notice by the insurer or Contractor's agent in the event of cancellation, reduction or other modifications of coverage by the insurer. Such notice shall be not less than 30 days for nonrenewal by the insurer, not less than 10 days for cancellation due to nonpayment of the premium and as soon as possible for all other types of modifications. In addition to the notice requirement above, Contractor shall provide the City with written notice of cancellation, reduction, or other modification of coverage of insurance whether instigated by the insurer or by the Contractor immediately upon Contractor's receipt of knowledge of such modifications. Upon failure of the Contractor to provide such notice, Contractor assumes sole responsibility for all losses incurred by the City for which insurance would have provided coverage. The insurance certificate shall be for the insured period in which the initial contract period begins and shall be renewed by the Contractor for each subsequent renewal period of the insurance for so long as the contract remains in effect.

The City shall be named as an **additional insured** on all policies except Workers' Compensation and it is required that coverage be placed with "A" rated insurance companies acceptable to the City. Statement should read, "City of Concord is added as an additional insured as evidenced by an endorsement attached to this certificate." Failure to maintain the required insurance in force may be cause for termination of this Agreement. In the event that the Contractor fails to maintain and keep in force the insurance herein required, the City has the right to cancel and terminate the Agreement without notice.

B. Contractor shall provide a completed W-9 form to the City prior to execution by the City of this Agreement.

**Sec. 9. Performance of Work by Contractor.**

(a) The Contractor warrants that all work performed under this Contract conforms to the Contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of 1 year from the date of issuance by the City of written final completion of the work.

(b) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to City - owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(d) The City shall notify the Contractor, in writing, within a reasonable time, not to exceed 30 days, after the discovery of any failure, defect, or damage.

(e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time, not to exceed 30 days unless otherwise agreed in writing and signed by the City Manager or his designee, after receipt of notice, the City shall have the right to replace repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this Contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice,

(2) Require all warranties to be executed, in writing, for the benefit of the City, if directed to do so by the City; and

(3) Enforce all warranties for the benefit of the City, if directed to do so by the City

(g) In the event the Contractor's warranty has expired, the City may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(h) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the City nor for the repair of any damage that results from any defect in City-furnished material or design.

**Sec. 10. Performance of Work by City.** If the Contractor fails to perform the Work in accordance with the schedule referred to in Exhibit “A”, the City may, in its discretion, perform or cause to be performed some or all of the Work, and doing so shall not waive any of the City’s rights and remedies. Before doing so, the City shall give the Contractor reasonable notice of its intention. The Contractor shall reimburse the City for all costs incurred by the City in exercising its right to perform or cause to be performed some or all of the Work pursuant to this section.

**Sec. 11. Attachments.** Additional exhibits may be used to further define this Agreement when the Contractor and City so agree. Any additional exhibits shall be designated as exhibits to the Agreement with capitalized, sequential letters of the alphabet, shall be attached hereto and incorporated herein by reference as if the same were fully recited, and shall become terms of this Agreement upon execution by both parties.

*The following attachments are made a part of this Contract and incorporated herein by reference:*

- (a) Exhibit “A” – Bid Form
- (b) Exhibit “B” – Standard Form of Performance Bond
- (c) Exhibit “C” – Special Provisions
- (d) Exhibit “D” – Contractor must execute the Affidavit attached as Exhibit “D”, attesting to compliance with state and federal laws related to E-Verify. **\*This requirement only applies to contracts that fall within the formal bidding range.**
- (e) Exhibit “E” – Tax Form(s).
- (f) Exhibit “F” – Certificate of Insurance.
- (g) Exhibit “G” - Drawings

In case of conflict between an attachment and the text of this contract excluding the attachment, the text of this contract shall control. Any attachment that materially alters the standard terms contained herein must be reviewed by the City Attorney and approved by the City in writing.

**Sec. 12. Notice.** (a) All notices and other communications required or permitted by this Contract shall be in writing and shall be given either by personal delivery, fax, or certified United States mail, return receipt requested, addressed as follows:

To the City:

Jacklyn Deal, Director of Engineering  
City of Concord  
P.O. Box 308  
Concord, NC 28026  
Fax Number: (704) 786-4521

To the Contractor:

VaLerie Koleczynski, Esq.  
City Attorney  
PO Box 308  
Concord, NC 28026  
Fax Number: (704) 784-1791

(b) **Change of Address, Date Notice Deemed Given:** A change of address, fax number, or person to receive notice may be made by either party by notice given to the other party. Any notice or other communication under this Contract shall be deemed given at the time of actual delivery, if it is personally delivered or sent by fax. If the notice or other communication is sent by US Mail, it shall be deemed given upon the third calendar day following the day on which such notice or other communication is deposited with the US Postal Service or upon actual delivery, whichever first occurs.

**Sec. 13. Indemnification.** To the maximum extent allowed by law, the Contractor shall defend, indemnify, and save harmless the City of Concord, its agents, officers, and employees, from and against all charges that arise in any manner from, in connection with, or out of this Contract as a result of the acts or omissions of the Contractor or subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable except for damage or injury caused solely by the negligence of the City its agents, officers, or employees. In performing its duties under this section, the Contractor shall at its sole expense defend the City of Concord, its agents, officers, and employees with legal counsel reasonably acceptable to City. As used in this subsection – “Charges” means claims, judgments, costs, damages, losses, demands, liabilities, duties, obligations, fines, penalties, royalties, settlements, expenses, interest, reasonable attorney’s fees, and amounts for alleged violations of sedimentation pollution, erosion control, pollution, or other environmental laws, regulations, ordinances, rules, or orders. Nothing in this section shall affect any warranties in favor of the City that are otherwise provided in or arise out of this Contract. This section is in addition to and shall be construed separately from any other indemnification provisions that may be in this Contract. This section shall remain in force despite termination of this Contract (whether by expiration of the term or otherwise) and termination of the services of the Contract under this Contract.

**Sec. 14. Corporate Status.** If the Contractor is dissolved or suspended and the Contractor does not notify the City of such dissolution within three (3) business days from date of dissolution or suspension, and/or the corporate status is not reinstated within thirty (30) days, this Contract, at the sole option of the City and without prejudice to City's other remedies, shall be declared null and void or the Contractor shall execute a new contract showing the Contractor's correct legal entity.

**Sec. 15. Miscellaneous.**

(a) Choice of Law and Forum. This Contract shall be deemed made in Cabarrus County, North Carolina. This Contract shall be governed by and construed in accordance with the laws of North Carolina. The exclusive forum and venue for all actions arising out of this Contract shall be the appropriate division of the North Carolina General Court of Justice, in Cabarrus County. Such actions shall neither be commenced in nor removed to federal court. This section shall not apply to subsequent actions to enforce a judgment entered in actions heard pursuant to this section.

(b) Waiver. No action or failure to act by the City shall constitute a waiver of any of its rights or remedies that arise out this Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

(c) Performance of Government Functions. Nothing contained in this Contract shall be deemed or construed so as to in any way estop, limit, or impair the City from exercising or performing any regulatory, policing, legislative, governmental, or other powers or functions.

(d) Severability. If any provision of this Contract shall be unenforceable, the remainder of this Contract shall be enforceable to the extent permitted by law.

(e) Assignment, Successors and Assigns. Without the City's written consent, the Contractor shall not assign (which includes to delegate) any of its rights (including the right to payment) or duties that arise out this Contract. Unless the City otherwise agrees in writing, the Contractor and all assigns shall be subject to all of the City's defenses and shall be liable for all of the Contractor's duties that arise out of this Contract and all of the City's claims that arise out of this Contract. Without granting the Contractor the right to assign, it is agreed that the duties of the Contractor that arise out of this Contract shall be binding upon it and its heirs, personal representatives, successors, and assigns.

(f) Compliance with Law. In performing all of the Work, the Contractor shall comply with all applicable law. Without limitation, Contractor shall comply with the requirements of Article 2, Chapter 64 (Verification of Work Authorization) of the North Carolina General Statutes relating to E-Verify. Further, if Contractor utilizes a subcontractor, Contractor shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the General Statutes. Pursuant to the requirements of the Iran Divestment Act, N.C.G.S. § 143C-6A-1, et. seq., Contractor certifies that that as of the Effective Date of this Agreement, Contractor is not on the Final Divestment List as created by the State Treasurer in compliance with N.C.G.S. § 143-6A-4 and located at [www.nctreasurer.com/Iran](http://www.nctreasurer.com/Iran). Furthermore, Contractor agrees that it will not enter into any subcontracts for the performance of this Agreement with any entity on the Final Divestment List.

(g) City Policy. THE CITY OPPOSES DISCRIMINATION ON THE BASIS OF RACE AND SEX AND URGES ALL OF ITS CONTRACTORS TO PROVIDE A FAIR OPPORTUNITY FOR MINORITIES AND WOMEN TO PARTICIPATE IN THEIR WORK FORCE AND AS SUBCONTRACTORS AND VENDORS UNDER CITY CONTRACTS.

(h) EEO Provisions. During the performance of this Contract the Contractor agrees as follows: (1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, political affiliation or belief, age, or disability. The Contractor shall take affirmative action to insure that applicants are employed and that employees are treated equally during employment, without regard to race, color, religion, sex, national origin, political affiliation or belief, age, or disability. The Contractor shall post in conspicuous places available to employees and applicants for employment, notices setting forth these EEO provisions. (2) The Contractor in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, political affiliation or belief, age, or disability.

(i) No Third Party Right Created. This Contract is intended for the benefit of the City and the Contractor and not any other person.

(j) Principles of Interpretation. In this Contract, unless the context requires otherwise the singular includes the plural and the plural the singular. The pronouns "it" and "its" include the masculine and feminine. Reference to statutes or regulations include all statutory or regulatory provisions consolidating, amending, or replacing the statute or regulation. References to contracts and agreements shall be deemed to include all amendments to them. The word "person" includes natural persons, firms, companies associations, partnerships, trusts, corporations, governmental agencies and units, and any other legal entities.

(k) Modifications, Entire Agreement. A modification of this Contract is not valid unless signed by both parties and otherwise in accordance with requirements of law. Further, a modification is not enforceable against the City unless the City Manager or other duly authorized official signs it for the City. This Contract contains the entire agreement between the parties pertaining to the subject matter of this Contract. With respect to that subject matter, there are no promises, agreements, conditions, inducements, warranties, or understandings, written or oral, expressed or implied, between the parties, other than as set forth or referenced in this Contract.

(l) Corporate Seal. If a corporate seal is included by any party to this Contract, it is only for authentication purposes. This Contract is not signed under seal.

(m) No Employment Relationship. For all matters relating to this Agreement, Contractor shall be deemed an Independent Contractor. Nothing in this Agreement shall be construed in such a manner as to create an employee-employer relationship between City and Contractor.

**(The following section applies to construction contracts only if the total amount of contracts awarded for the project is \$300,000 or more.)**

**Sec. 16. Bonding.** Both performance and payment bonds for the full amount of this Contract are required to be attached. Instead of bonds, you may submit a deposit of money, certified check or government securities for the full amount of the Contract. The performance bond shall have a value equal to 100% of this Contract. This bond shall be conditioned upon faithful performance of the Contract in accordance with the plans, specifications and conditions of the Contract. The performance bond shall be solely for the protection of the City. The payment bond shall be in an amount equal to 100% of the Contract, and conditioned upon the prompt payment for all labor or materials for which a contractor or subcontractor is liable. The payment bond shall be solely for the protection of the persons furnishing materials or performing labor for which a contractor, subcontractor or construction manager at risk is liable.

When the total amount of contracts awarded for any project exceeds three hundred thousand dollars (\$300,000), performance and payment bonds are required from any contractor or construction manager at risk with a contract amount of or exceeding fifty thousand dollars (\$50,000).

**Sec. 17. Dispute Resolution.** It is understood and agreed that NCGS 143-128(f1-g) requires that disputes arising under an agreement for the erection, construction, alteration or repair of a building be subject to a dispute resolution process specified by the City. The amount in controversy shall be at least \$15,000.00 before this dispute resolution procedure may be used. In compliance with this statutory provision, the City specifies this Section as the dispute resolution process to be used on this Project. It is further understood and agreed that this dispute resolution process is based on non-binding mediation and will only be effective to the extent that the Parties to any mediated dispute participate in the mediation in good faith. It is also understood and agreed that the City is under no obligation under any circumstance to secure or enforce the participation of any other Party in the mediation of any dispute subject to this Section and NCGS 143-128(f1-g).

**This Section 17 does not apply to:**

(a) **The purchase and erection of prefabricated or relocatable buildings or portions of such buildings, except that portion of the work that must be performed at the construction site; or**

(b) **The erection, construction alteration or repair of a building when the cost of such building is \$300,000 or less.**

17.1 Any dispute arising between or among the Parties listed in Section 17.3 that arises from an agreement to construct the Project, including without limitation a breach of such agreement, shall be subject to non-binding mediation administered by the American Arbitration Association under its Construction Industry Mediation Rules ("Rules"), except as otherwise expressly set forth in this Section. To the extent any provision of the Rules is inconsistent with the provisions of this Section, the provisions of this Section shall control. The mediation provided in this Section shall be used pursuant to this Agreement and NCGS 143-128(f1-g) and is in lieu of any dispute resolution process adopted by the North Carolina State Building Commission, which process shall not apply to this Project.

17.2 For purposes of this Section the following definitions shall apply:

- a. *Agreement to construct the Project* means an agreement to construct the Project that is subject to the requirements of NCGS 143-128 and does not include any agreement related to the Project that is not subject to said statute.
- b. *Construct* or *construction* refers to and includes the erection, construction, alteration or repair of the Project.
- c. *Party* or *Parties* refers to the parties listed in Section 16.4.
- d. *Project* means the building to be erected, constructed, altered or repaired pursuant to this Agreement.

17.3 The City and any Party contracting with the City or with any first-tier or lower-tier subcontractor for the construction of the Project agree to participate in good faith in any mediation of a dispute subject to this Section and NCGS 143-128(f1-g), including without limitation the following Parties (if any): architect(s), engineer(s), surveyor(s), construction manager, construction manager at risk, prime contractor(s), surety(ies), subcontractor(s), and supplier(s).

17.4 In order to facilitate compliance with NCGS 143-128(f1-g), the Contractor and all other Parties shall include this Section 17 in every agreement to which it (any of them) is a Party for the construction of the Project without variation or exception. Failure to do so will constitute a breach of this Agreement, and the Contractor or other Party failing to include this Section in any agreement required by this Section shall indemnify and hold harmless the remaining Parties from and against any and all claims, including without limitation reasonable attorney fees and other costs of litigation, arising in any manner from such breach. Notwithstanding the foregoing provisions of this Section, it is expressly understood and agreed that the Parties are intended to be and shall be third-party beneficiaries of the provisions of this Section and can enforce the provisions hereof.

17.5 The following disputes are not subject to mediation: (i) a dispute seeking a non-monetary recovery; and (ii) a dispute seeking a monetary recovery of \$15,000 or less.

17.6 A dispute seeking the extension of any time limit set forth in an agreement to construct the Project shall be subject to mediation pursuant to this Section and NCGS 143-128(f1-g), but only if the damages which would be suffered by the Party seeking the extension would exceed \$15,000 if the disputed extension is denied. To the extent that liquidated damages are set forth in such agreement as the measurement of damages for failure by such Party to meet such time limit, such liquidated damages shall be the exclusive standard for determining the amount of damages associated with such dispute.

17.7 For purposes of this Section, a dispute is limited to the recovery of monetary damages from the same transaction or occurrence against a single Party or two or more Parties alleged to be liable jointly, severally or in the alternative. Two or more disputes may not be consolidated or otherwise combined without the consent of all Parties to such disputes.

17.8 In addition to such matters as are required by the Rules, a request for mediation shall include the amount of the monetary relief requested.

17.9 Prior to requesting mediation, a Party must form a good faith belief that it is entitled under applicable law to recover the monetary amount to be included in the request from one or more of the remaining Parties. Such belief must be based on a reasonable and prudent investigation into the dispute that is the subject of the request. The request for mediation must be based on such investigation and may not include any amount or the name of any remaining Party, unless supported by such investigation and good faith belief by the Party requesting the mediation.

17.10 If a Party breaches any provision of Section 17.9, it shall indemnify and hold harmless all other Parties from any costs, including reasonable attorney fees and other costs of litigation, and damages incurred by such other Parties that arise from such breach.



17.11 All expenses incurred by a Party to a dispute in preparing and presenting any claim or defense at the mediation shall be paid by the Party. Such expenses include without limitation preparation and production of witnesses and exhibits and attorney fees. All other expenses of the mediation, including filing fees and required traveling and other expenses of the mediator, shall be borne as follows: one half by the Party requesting the mediation, with the remaining parties paying equal shares of the remaining expenses and costs; provided that, if the City is named as a party to the mediation, the City shall pay at least one-third of the mediation expenses and costs divided among the Parties. If more than one Party to a dispute requests a mediation, the mediation expenses and costs to be divided among the Parties shall be borne equally by the Parties to the dispute; provided that, if the City is named as a Party to the mediation, the City shall pay at least one-third of the mediation expenses and costs divided among the Parties.

17.12 The mediation shall be held at a location agreeable to the mediator and all of the Parties; provided that, if no agreement can be reached, the mediation will be held at such location in Cabarrus County as the mediator shall determine.

17.13 The provisions of this Section are subject to any other provision of this Agreement concerning the submission, documentation and/or proof of any claim or dispute. Such other provisions shall apply in full force and shall be satisfied as a condition precedent to mediation pursuant to this Section.

17.14 The Parties understand and agree that mediation in accordance with this Section shall be a condition precedent to institution of any legal or equitable proceeding seeking monetary recovery based on any dispute that is subject to mediation pursuant to this Section.

**Sec. 18. Breach.** In the event of a violation of any material term of this Agreement, the non-violating party may terminate the Agreement upon written notice. Such notice shall state the violation with specificity and shall give ten (10) days to cure the violation. The cure period shall be measured as ten (10) days from the date of receipt of notice by the violating party, or, if the date is not known, then thirteen (13) days from the date the notice is placed in the United States Post. If the violation remains uncorrected at the end of the cure period, the Agreement shall be terminated without any further action by the non-violating party. Any remaining disputes shall be subject to the dispute resolution procedure set forth above, if applicable.

[Signature Page to Follow]

IN WITNESS WHEREOF, the City of Concord and the Contractor have caused this Contract to be executed by their respective duly authorized agents or officers.

CITY OF CONCORD:

(Typed or Printed Legal Name of Contractor)

By: \_\_\_\_\_  
City Manager

By: \_\_\_\_\_  
Signature of President/Vice President/Manager/Partner

Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

ATTEST BY:

Date: \_\_\_\_\_

\_\_\_\_\_  
City Clerk

ATTEST:

BY: \_\_\_\_\_  
Signature of Vice President, Secretary, or other officer

APPROVED AS TO FORM:

Printed Name: \_\_\_\_\_

Title \_\_\_\_\_

\_\_\_\_\_  
Attorney for the City of Concord

SEAL

**APPROVAL BY CITY FINANCE OFFICER**

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

\_\_\_\_\_  
Signature

**EXHIBIT "D"**

STATE OF NORTH CAROLINA

AFFIDAVIT

COUNTY OF CABARRUS

\*\*\*\*\*

I, \_\_\_\_\_ (the individual signing below), being duly authorized by and on behalf of  
\_\_\_\_\_ (the legal name of the entity entering the contract, "Employer") after  
first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-26.
2. Employer understands that Employers Must Use E-Verify. Each employer (as such term is defined in NCGS § 64-25), after hiring an employee (as such term is defined in NCGS § 64-25) to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a). Employer attests that Employer is in compliance with the requirements of the federal and state laws relevant to E-verify.
3. Employer is a person, business entity, or other organization that transacts business in the State of North Carolina. Employer employs 25 or more employees in this State. (mark Yes or No)  
a. YES \_\_\_\_\_, or b. NO \_\_\_\_\_.
4. Employer attests that all subcontractors employed by it as part of this contract comply with the requirements of E-Verify, and Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer as part of any contract with the City of Concord.
5. Employer shall have a continuing duty to inform the City of Concord of any changes to this sworn information.

This \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Signature of Affiant

Print or Type Name: \_\_\_\_\_

State of North Carolina County of Cabarrus

Signed and sworn to (or affirmed) before me, this the \_\_\_\_

day of \_\_\_\_\_, 20\_\_.

My Commission Expires:

\_\_\_\_\_  
\_\_\_\_\_

Notary Public

(Affix Official/Notarial Seal)

**EXHIBIT “E”**

**TAX FORM(S)**

**EXHIBIT “F”**

**CERTIFICATE OF INSURANCE**

4824-4465-9749, v. 1

City of Concord  
Post Office Box 308  
Concord, North Carolina 28026-0308



For City Use Only  
Charge to PO #

Project Name	
Date Notice to Proceed	
Final Completion Date	
Days Remaining in Contract	
Percent Work Complete	
Percent Time Complete	
Percent Payment Complete	

APPLICATION FOR PAYMENT NO.  
PERIOD FROM: TO:

#### CERTIFICATE OF THE CONTRACTOR

To the best of my knowledge and belief, I certify that this periodical estimate is correct and all work has been performed and materials supplied in full accordance with the terms and conditions of the contract documents between the undersigned contractor and the City of Concord.

GROSS AMOUNT OF PARTIAL PAYMENT		\$
RETAINAGE AT 5.0000%	\$	
PREVIOUS PAYMENTS	\$	
LIQUIDATION DAMAGES 0.00 DAYS AT \$0.00 PER DAY, \$0.00 this period.	\$	
OTHER DEDUCTIONS \$0.00 this period.	\$	
TOTAL DEDUCTIONS		\$
NET AMOUNT DUE THIS ESTIMATE		\$

Name of Contractor:

Address:

Signed: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

#### CERTIFICATE OF CONSTRUCTION ADMINISTRATOR/ENGINEER

I certify that I have verified this periodical estimate and that to best of my knowledge and belief, it is a true and correct statement of work performed and materials supplied under the contract.

Consultant Engineer: \_\_\_\_\_ Date: \_\_\_\_\_

Engineering Construction Manager: \_\_\_\_\_ Date: \_\_\_\_\_

APPROVED AND PAYMENT RECOMMENDED: CITY OF CONCORD

Signed: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Project Title: The Grounds Sewer Phase 3 Project No. – 2020-007B													
ITEM	DESCRIPTION	QUANTITY		UNIT PRICE	TOTAL PRICE	QUANT. THIS EST.	TOTAL THIS EST.	QUANT. PREV. EST.	TOTAL PREVIOUS	QUANT. TO DATE	TOTAL TO DATE	QUANT. DIFF.	TOTAL DIFF.
1			LF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
2			LF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
3			LF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
4			LF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
5			LF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
6			LF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
7					\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
8			EA		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
9			LBS		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
10			SF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
11			SF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
12			LF		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
13													
a			EA		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
b			EA		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
c			EA		\$ -		\$ -		\$ -	0.00	\$ -	0.00	\$0.00
Add 1			EA				\$ -		\$ -	0.00	\$ -	0.00	\$0.00
Add 2			LS				\$ -		\$ -	0.00	\$ -	0.00	\$0.00
Add 3			LF				\$ -		\$ -	0.00	\$ -	0.00	\$0.00
Add 4			SY				\$ -		\$ -	0.00	\$ -	0.00	\$0.00
Add 5			SY				\$ -		\$ -	0.00	\$ -	0.00	\$0.00
	Base Bid	\$			\$ -		\$ -		\$ -		\$ -		\$0.00
	10 % Contingency	\$			\$ -								\$ -
	Total Base Bid	\$			\$ -								\$0.00

**CITY OF CONCORD  
CONCORD, NORTH CAROLINA  
CONTRACT CHANGE ORDER**

**Date:** \_\_\_\_\_

**Project Title:**     **The Grounds Sewer Phase 3**

**Project #: 2020-007B**

**Owner:**     **City of Concord**

**Change Order No.**

**To:**

**(CONTRACTOR)**

**Account No.**

**Purchase Order No.**

**You are hereby requested to make the following changes in this Contract to comply with the provisions of the attached and/or the original Contract Documents.**

<b>Item No.</b>	<b>Description of Changes</b>	<b>Additions</b>	<b>Deductions</b>
		<b>\$0.00</b>	<b>\$0.00</b>

**Original Contract Amount**

**Net Changes by Previous Change Orders**

<b>Net Changes this Change Order</b>	<b>\$0.00</b>
--------------------------------------	---------------

<b>New Contract Amount</b>	<b>\$0.00</b>
----------------------------	---------------

**The Contract Time will be \_\_\_\_\_ by \_\_\_\_\_ calendar days.**

**The Completion Date as of this Change Order is:**

**Accepted: (Contractor)**

**By:**

**Date:**

**Accepted: CITY OF CONCORD**

**By:**

**Date:**

**This instrument has been pre-audited in the manner required by Local Government Budget and Fiscal Control Act.**

**By:**

**Finance Director**

**Date:**



## Certificate of Infrastructure Completion

Project Name & Number: <b>The Grounds Sewer Phase 3</b>		Project #: <b>2020-007B</b>	
Contractor Name & Address:		Owner Name & Address:	
Miscellaneous Information:			
Inspector:		Signature:	

The following items have been inspected, reviewed and found to be complete in substantial accordance with the approved plans and specifications. The dates of completion are those agreed upon by the City of Concord when all construction Work and testing was completed. These dates DO NOT initiate the start of any Warranty periods of said item(s). Warranty periods shall begin as specified on the CERTIFICATION OF FINAL COMPLETION.

Sanitary Sewer:	Approved: Initial:            Date:
Potable Water:	Approved: Initial:            Date:
Storm Water:	Approved: Initial:            Date:
Asphalt Base Course:	Approved: Initial:            Date:
Asphalt Surface Course:	Approved: Initial:            Date:
Curb & Gutter	Approved: Initial:            Date:
Sidewalks:	Approved: Initial:            Date:
Street Trees:	Approved: Initial:            Date:
Other:	Approved: Initial:            Date:

### Engineering

Phone (704) 920-5425 • Fax (704) 786-4521

**FIELD ORDER**

**CITY OF CONCORD  
ENGINEERING DEPARTMENT**

Post Office Box 308  
Concord, North Carolina 28026-0308

Project Title: **The Grounds Sewer Phase 3**

**Project #: 2020-007B**

**FIELD ORDER NO** \_\_\_\_\_ **CONTRACT** \_\_\_\_\_ **DATE** \_\_\_\_\_

**PROJECT** \_\_\_\_\_

**LOCATION** \_\_\_\_\_

**TO:** \_\_\_\_\_

---

---

THIS ORDER AUTHORIZES YOU TO PROCEED WITH THE ALTERATIONS AND/OR ADDITIONS TO THE WORK AS DESCRIBED HEREIN, IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF OUR STANDARD FORM OF CONTRACT.

**DESCRIPTION OF WORK:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- ☐ QUOTATION RECEIVED AND APPROVED BY THE CITY OF CONCORD.
- ☐ QUOTATION NOT RECEIVED. PLEASE FURNISH QUOTATION IMMEDIATELY TO THE CITY OF CONCORD FOR CHECK AND APPROVAL.
- ☐ TIME AND MATERIAL BASIS. FURNISH TIME AND MATERIAL REPORTS DAILY TO THE CITY OF CONCORD FOR VERIFICATION AND SIGNATURE.
- ☐ OTHER \_\_\_\_\_

**AUTHORIZED BY:** \_\_\_\_\_

# NORTH CAROLINA SALES TAX REPORT

OWNER:

PROJECT:

CONTRACTOR:

PURCHASE ORDER #:

FROM:

TO:

1

[illegible]

I certify that the above listed vendors were paid sales tax upon purchase of materials during the period covered by the Construction Estimate, the property upon which such taxes were paid or will be used in the performance of this contract. No tax on purchases or rentals of tools and/or equipment is included in the above list. All of the materials became part of or is annexed to the building or structure being erected, altered, or repaired.

SWORN AND SUBSCRIBED BEFORE ME

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, \_\_\_\_\_

Contractor or Subcontractor Name (Print)

Signature:

**NOTARY PUBLIC**

Name (Print):

Title:

MY COMMISSION EXPIRES:

North Carolina One Call Center, Inc.

North Carolina One Call Center, Inc., a non-profit organization funded by participating utility companies and municipalities in the interest of community and job safety and improved service through damage reduction to the utilities.

**A ONE CALL TOLL FREE TELEPHONE NUMBER, 811 or 1-800-632-4949, PROVIDES AN AVENUE TO ALL OF THE PARTICIPATING MEMBERS FROM ANY POINT WITHIN THE STATE OF NORTH CAROLINA.**

Anyone proposing to excavate, dig, bore, tunnel, blast or disturb the earth in any manner in which buried utilities may be damaged is requested to call the toll-free number between the hours of 6:00 a.m. and 10:00 p.m., Monday through Friday, forty-eight hours before starting the proposed work.

Within minutes of your telephone call, the participating members will be made aware of your plans and will be given pertinent information that has been provided by you about your planned work. You will be told the names of the participating members from whom you can expect a response - if there are buried facilities in the path of your activity, the route of the utilities will be staked and/or marked at no expense to you. If there are no facilities in the area of the planned work, you will be called or notified by a representative of a participating company accordingly.

Should a non-participating utility operator be serving your area, we recommend that you call them on an individual basis. All utility operators, whether company or municipality, will be provided an opportunity to become a member of North Carolina One Call Center, Inc.

Naturally, knowing the route of utilities, the excavator is expected to exercise caution and to avoid damage as the project progresses.

Damage prevention does not just happen – it is a planned and orderly process through which each of us can participate - **YES, WE CAN AND WE WILL DRAMATICALLY REDUCE DAMAGES TO THE UTILITIES IN THE STATE OF NORTH CAROLINA!! THANKS FOR YOUR HELP.**

**BEFORE YOU DIG**

**IN THE INTEREST OF COMMUNITY AND JOB SAFETY AND IMPROVED SERVICE**

**CALL NORTH CAROLINA ONE CALL CENTER, INC.**

**811 or 1-800-632-4949**

**North Carolina One Call Center, Inc  
2300 West Meadowview Rd., Suite 227  
Greensboro, NC 27407  
[www.nc811.org](http://www.nc811.org)**

## SECTION II

# GENERAL CONDITIONS

Please reference online at:

<https://concordnc.gov/Portals/0/Concord/Departments/Engineering/Documents/Old%20Site%20Standards/10%2001%2005%20General%20Conditions%20Horizontal.pdf?ver=D9zcv1hzhy5VHaH11P4Ntg%3d%3d>

<https://concordnc.gov/Portals/0/Concord/Departments/Engineering/Documents/Old%20Site%20Standards/10%2001%2008%20GENERAL%20PROVISIONS%20Vertical%20Construction.pdf?ver=RFc9qXewcYckxj7yRIwJuA%3d%3d>

Dated: January 2010

## **APPENDIX A**

# **REPORT OF SEISMIC REFRACTION TESTING**



May 28, 2020

Ms. Sue Hyde  
City of Concord  
P.O. Box 308  
Concord, North Carolina 28026

Reference: Report of Seismic Refraction Testing  
Grounds at Concord Sewer Alignment  
Concord, Cabarrus County, North Carolina  
ECS Project No. 08-14131

Dear Ms. Hyde:

ECS Southeast, LLP (ECS) is pleased to submit this Report of Seismic Refraction Testing for the above referenced site located in Concord, Cabarrus County, North Carolina. This report transmits the field exploratory procedures and results of our seismic refraction testing.

### **Project Information**

The project site is located in Concord, North Carolina. The project includes a new 12 inch sanitary sewer line starting from existing sanitary sewer main at Roberta Church Road and ending at Concord Parkway South. Based on the information provided, the sewer line will be installed at depths ranging from approximately 5 to 20 feet below existing grade.

### **Scope of Services**

The purpose of this exploration is to collect geophysical data to estimate the excavation characteristics /rippability of the surface material along the planned sewer alignment via a seismic refraction P-wave geophysical survey. The seismic refraction survey consisted of twenty-six (26) lines completed along the proposed sewer line alignment. The seismic refraction lines are designated as Seismic Refraction Line 1 through 26. The location of each line is depicted on the attached Seismic Refraction and Location Diagrams. The total linear footage of the seismic refraction survey was approximately 8,000± feet.

### **Subsurface Exploration**

#### **Seismic Refraction Procedures & Data Acquisition**

A seismic refraction survey consisting of twenty-six (26) separate lines (arrays) was completed along the proposed development area. The seismic refraction lines are designated as Seismic Refraction Line 1 through Line 26 and were located within proposed alignment of the sanitary sewer lines indicated by the preliminary drawing provided by Land Design. Seismic refraction line locations are depicted on the Seismic Refraction Diagram attached to this report. The start and end point of the seismic refraction lines as performed were located in the field by ECS using a hand held GPS. The GPS unit used is capable of locating horizontal position to sub-meter accuracy. Accordingly, the seismic refraction lines shown on

the attached Seismic Refraction Location Diagrams should be assumed to be within  $3\pm$  feet of their actual field positions.

Data were collected utilizing a DAQLink III, 24-channel exploration seismograph, with 12 and 24 geophone arrays at 10 foot spacing. Seismic survey testing was conducted by recording the first arrivals of the primary compressional waves (P-waves) created from the energy generated by a 16-pound sledge hammer, impacting a steel plate resting on the ground surface at multiple locations spaced evenly along the array orientation. Due to terrain conditions resulting in a dampening of signal strength, as well as ambient noise that often masks the first arrivals of P-waves, multiple sledge hammer impacts were conducted at each test location and the resulting signals were mathematically stacked in order to provide a clearer indication of P-wave first arrival times. Please note that areas of increased cultural noise can affect our ability to observe the resulting P-wave arrivals due to both destructive and constructive interference.

Analysis of the seismic data was conducted utilizing a seismic refraction analysis program SeisImager® which facilitates the selection of the first arrival times of seismic waves and allows for the graphic interpretation of the data, including the assigning of geologic layers based on seismic velocities, and topographic elevations. Surfer version 10 was then utilized to extrapolate and image the resulting 2D profile. It should be noted that elevations of the profiles will be approximately within  $2\pm$  to  $3\pm$  feet of the existing topography due to the mathematical extrapolation SeisImager® and of Surfer 10. Seismic refraction profiles are presented as attachments to this letter report.

### **Seismic Refraction Limitations**

At the theoretical level, anomalies and refractors near the seismic source (shot point) cannot be seen using refraction, as they are outside the down-going ray path. The multi-shot reversal refraction survey method is used to correct for this condition and does so very well in the center of the survey line, where the seismic source is not too close as to “miss” the refractor, or too far as to have the wave attenuate or loose strength. However, at either end of the line, the measured bedrock is either too close or too far from the shot points. As such, the resolution and accuracy at the ends of lines suffer. There is a fair likelihood of some error between the soil, weathered rock, and rock groupings on the outer edges of each profile.

The gathering of seismic refraction data can be impacted by the amount of residual subsurface seismic energy or “background noise” created by the surrounding environment. At the subject site, the identified sources of background noise included roadway traffic associated nearby traffic, at adjacent parcels, and movement of vegetation (trees) caused by wind. All reasonable efforts were made to reduce the amount of background noise collected while gathering seismic arrival energies from the 10-pound sledge hammer impact seismic source. Although, background noise can affect our ability to determine the P-wave arrival times, raw data observations would appear to indicate that noise interference was minimal.



### **Soil Borings (Seismic Refraction)**

To field verify our interpretation of the seismic refraction data, we compared the results of eight (8) geotechnical soil borings (B-114, B-116, B-122, B-121, B-133, B-132, B-3, B-4, B-7, B-24) completed throughout the project site to the interpreted seismic refraction profiles. The soil borings were performed by ECS, Inc. during the geotechnical exploration completed in March, 2019 and June 2019. Please note that these borings were completed previously by ECS as part of subsurface explorations for other projects and not with regards to the seismic refraction survey. Accordingly, the borings did not coincide directly with our seismic refraction profiles.

The results of the soil borings were generally consistent with our seismic refraction data interpretations indicating increased drilling difficulty within the soil and marginally rippable material shown on the 2D profiles and as discussed in the following sections of this report.

### **Subsurface Conditions**

The subsurface profiles generated from the in-situ testing show the approximate soil, weathered rock, and rock interfaces based on modeled P-wave (compressional wave) seismic velocities derived from recorded first arrivals of the seismic P-wave during testing. Additionally, soil boring data and our knowledge of the geophysical characteristics of the subsurface materials in this geologic setting were utilized to establish the following three groupings based on seismic velocities. These velocities are correlated with the boring and test pit data to estimate the rippability of the subsurface materials. Generally, rippability refers to specific equipment designed for rock excavation through the use of a ripper tooth affixed to a large bulldozer (Caterpillar D8 or larger).

**Table 1: Refraction/Soil Excavation Interpretation**

<b>VELOCITY (ft/sec)</b>	<b>INTERPRETATION OF MATERIAL COMPOSITION</b>
0-3,500 ft/s	Softer materials generally consisting of soils and saprolites which can be excavated using backhoes and scrapers.
3,500-6,500 ft/s	Partially weathered, fractured rock, and/or intermediate geomaterials which can usually be ripped using large earth moving equipment in mass excavations. Trench excavation may require hoe ramming or blasting for removal.
6,500+ ft/s	Competent rock normally requiring blasting in trench or mass excavations.

Seismic data generally indicates the presence of three distinguishable velocity zones or subsurface horizons below the traverse performed in the Piedmont geology. The zones can be interpreted as soil, Partially Weathered Rock (PWR), or rock. The model displays an upper line that represents the approximate ground surface. Shaded areas beneath this line show zones of increasing velocity interpreted as geologic horizons of greater density or hardness. Layers within the models display the measured velocities from the subsurface and are textured to correspond with the legend for a geologic interpretation. The attached Seismic Refraction Lines 1 through 26 display the estimated cross-sections of the recently performed seismic refraction traverse.

## Closure

This report was prepared in accordance with generally accepted geotechnical engineering practice. No warranty is expressed or implied. The data and analysis presented in this report are based on the available project information, as well as on the results of our limited field exploration. Variations in subsurface conditions should be expected away from and between the seismic refraction traverses. ECS is not responsible for rock quantity estimates prepared by others based on this data.

Seismic velocities can vary for various rock types. Therefore, some variations in the rippability of materials should be anticipated. Variations will occur away from and between the seismic traverses.

If it becomes apparent during construction that soil or rock conditions differ significantly from those discussed in this report, ECS should be notified at once so that their effects can be determined and remedial procedures prescribed as necessary. ECS cannot be responsible for interpretations of this collected data by others. No third party is given the right to rely on this report without express written consent by ECS.

ECS appreciates the opportunity to be of service during this phase of your project. If you have any questions regarding this report or if we can be of further assistance, please do not hesitate to call.

Sincerely,

**ECS SOUTHEAST, LLP**



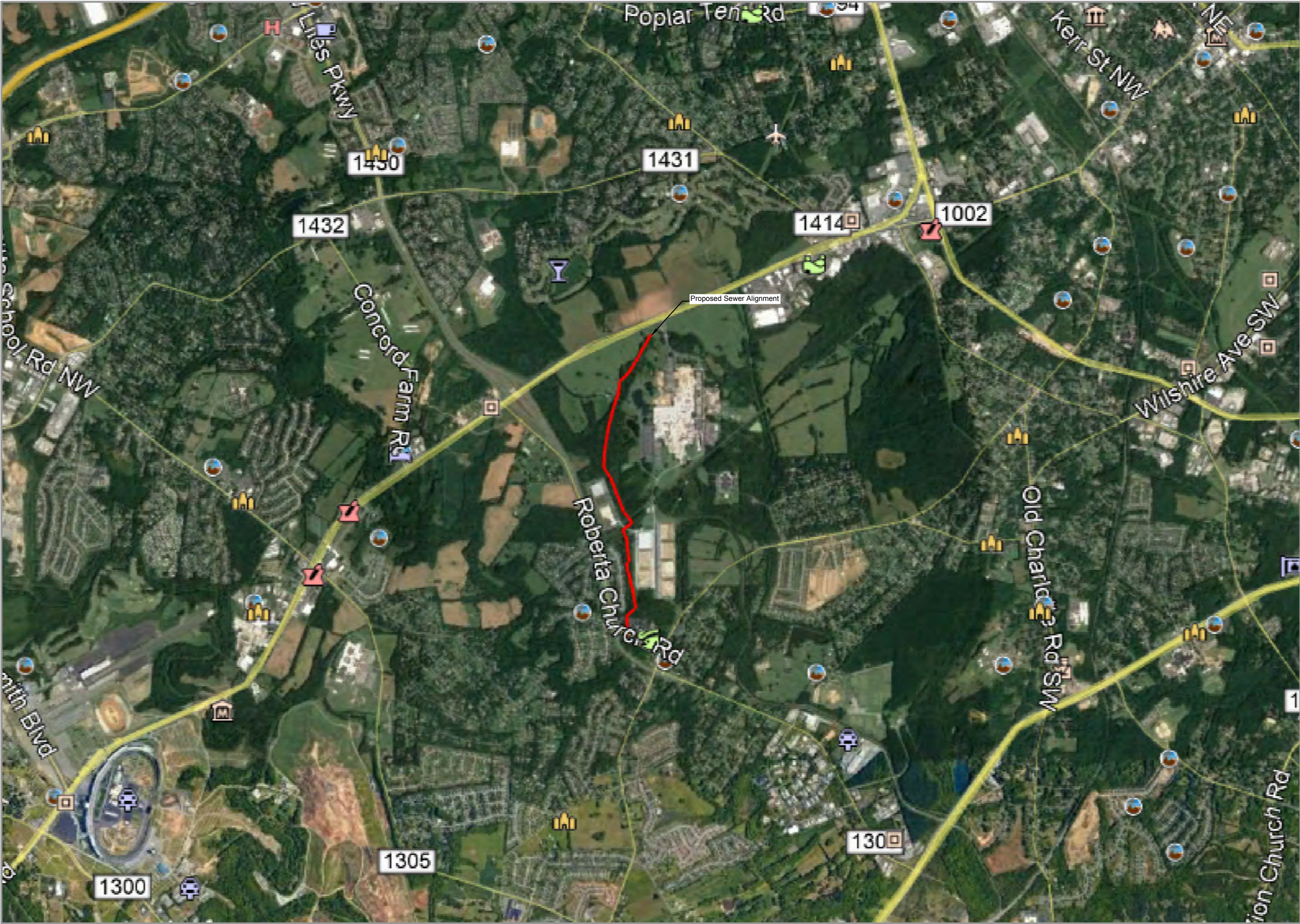
Kashif Hasnain E.I.T.  
Geotechnical Staff Project Manager  
[KHasnain@ecslimited.com](mailto:KHasnain@ecslimited.com)



Marc F. Plotkin, P.E., D.GE  
Principal Engineer  
[MPlotkin@ecslimited.com](mailto:MPlotkin@ecslimited.com)  
NC Registration No. 039550

Attachments:      Site Location Diagram (Figure 1)  
                         Seismic Refraction Location Diagram (Figure 2)  
                         Seismic Refraction P-Wave Velocity Profiles, Lines 1 through 26 (Sheet 3 through 14)  
                         Borehole Logs (March 2019 and June 2019)





OVERALL SITE PLAN

ECs REVISIONS

ENGINEER	DRAFTING
MFP	KUH

SCALE NTS

PROJECT NO. 08-14131

SHEET 1

DATE 05-18-2020

ECs SOUTHEAST, LLP  
1812 CENTER PARK DR - SUITE D  
CHARLOTTE, NC 28217  
(704) 525-5182 (PHONE)  
(704) 357-0023 (FAX)  
NC REGISTERED ENGINEERING  
FIRM # F-078

"SETTING THE STANDARD FOR SERVICE"

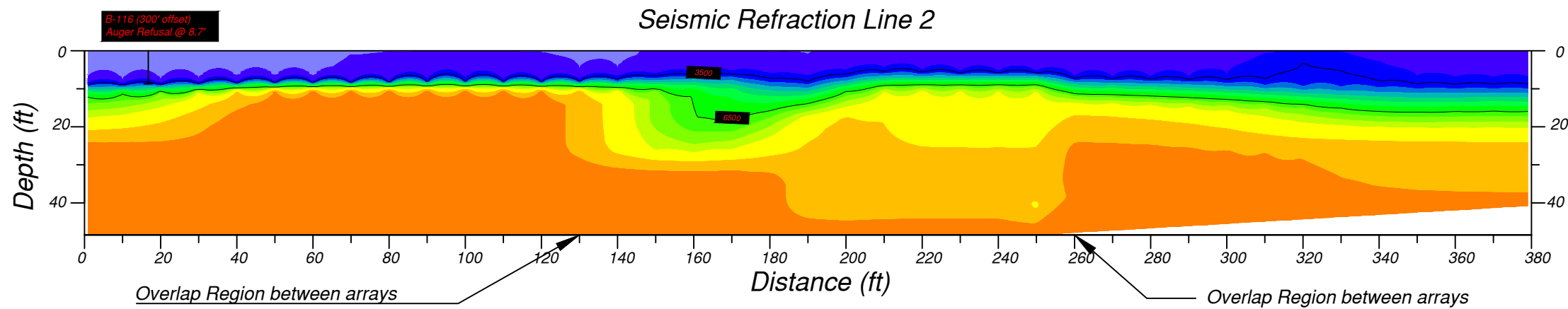
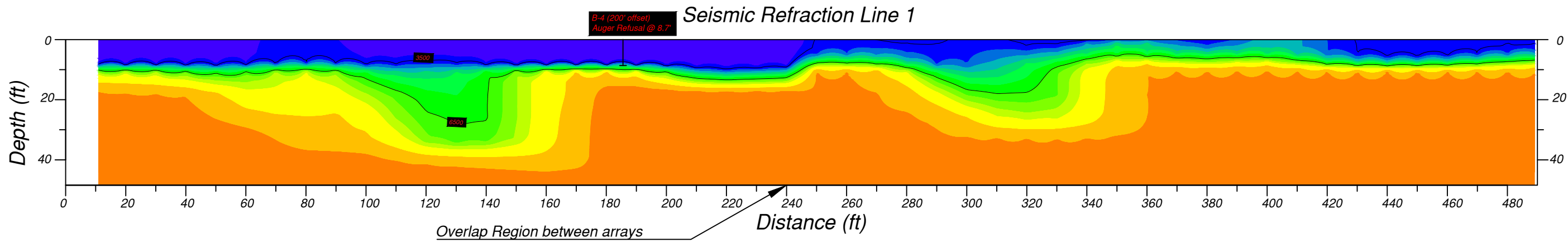
ECs

GROUPS AT CONCORD SEWER ALIGNMENT  
AT CONCORD  
CABARRUS COUNTY, NORTH CAROLINA





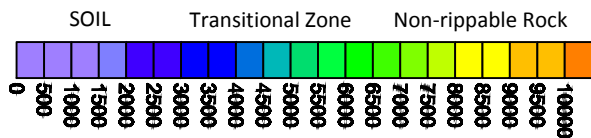




NOTES

- 10 Hz GEOPHONES
- 10 FT GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
- SAMPLE INTERVAL = 0.125 milliseconds

LEGENDS:



ECS SOUTHEAST, LLP  
1812 CENTER PARK DR - SUITE D  
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(704) 383-5152 (PHONE)  
(704) 357-0023 (FAX)  
NC REGISTERED ENGINEERING  
FIRM # E-1078

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GROUND'S AT CONCORD SEWER ALIGNMENT  
AT CONCORD  
CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 1 & 2

ECS REVISIONS

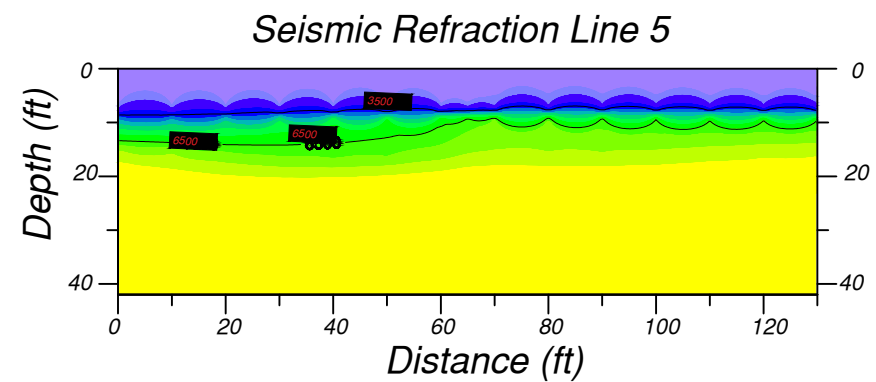
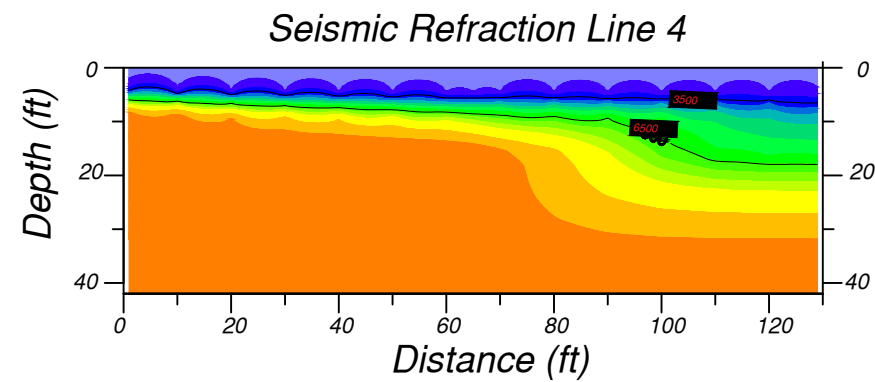
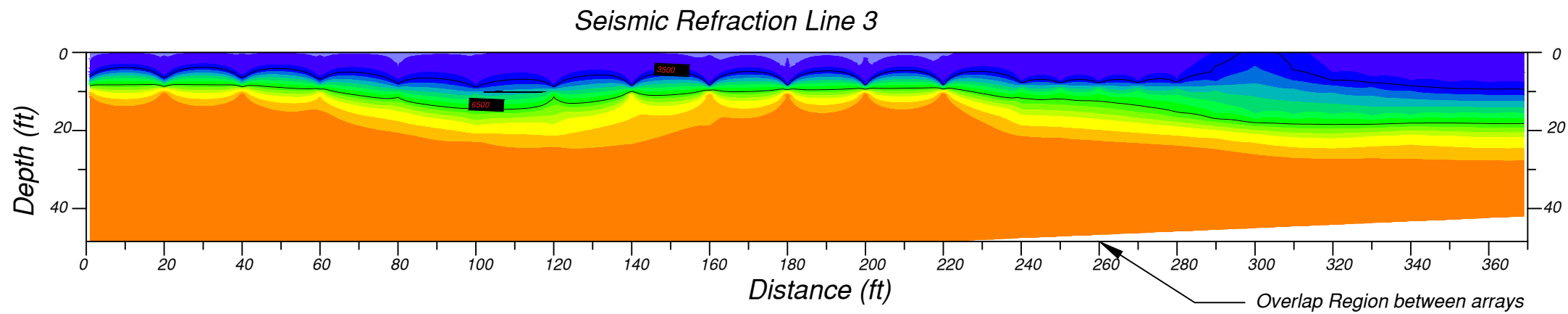
ENGINEER	DRAFTING
MFP	KUH

SCALE  
NTS

PROJECT NO.  
08-14131

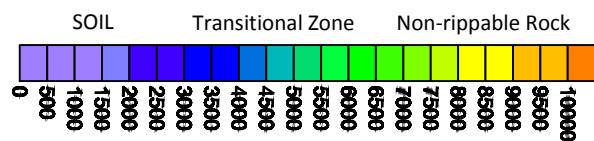
SHEET  
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DATE  
05-18-2020



NOTES  
-10 Hz GEOPHONES  
- 10 FT GEOPHONES SPACING  
-ACQUISITION TIME = 0.128 seconds  
-SAMPLE INTERVAL = 0.125 milliseconds

LEGENDS:



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(704) 357-0023 (FAX)  
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FIRM # E-1078



"SETTING THE STANDARD FOR SERVICE"

GROUND'S AT CONCORD SEWER ALIGNMENT

AT CONCORD

CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 3, 4 & 5

ECS REVISIONS

ENGINEER  
MFP

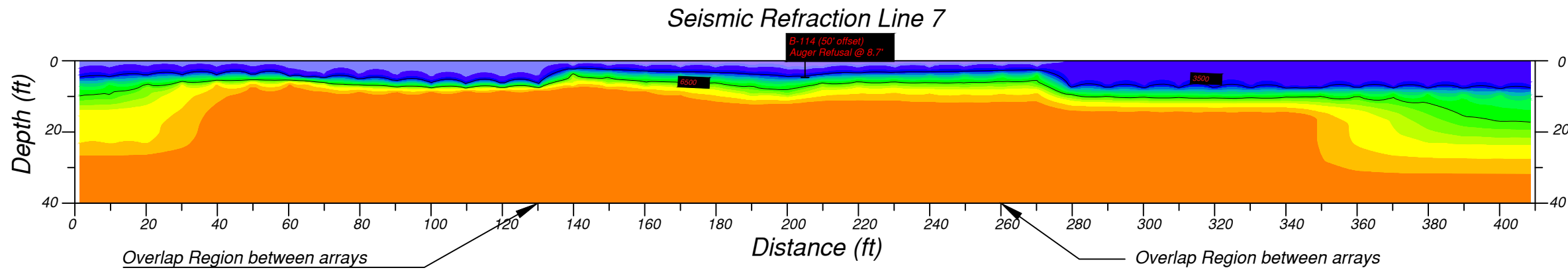
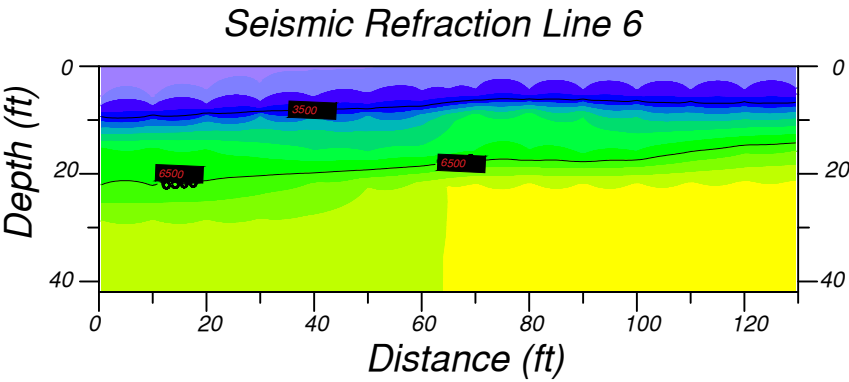
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KUH

SCALE  
NTS

PROJECT NO.  
08-14131

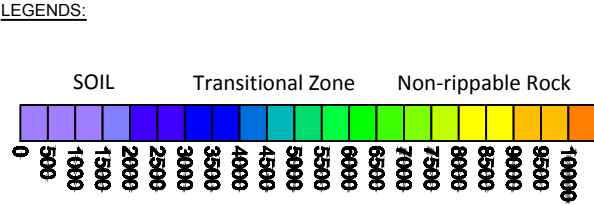
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DATE  
05-18-2020



NOTES

- 10 Hz GEOPHONES
- 10 FT GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
- SAMPLE INTERVAL = 0.125 milliseconds



ECS SOUTHEAST, LLP  
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GROUND'S AT CONCORD SEWER ALIGNMENT  
AT CONCORD  
CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 6 & 7

ECS REVISIONS

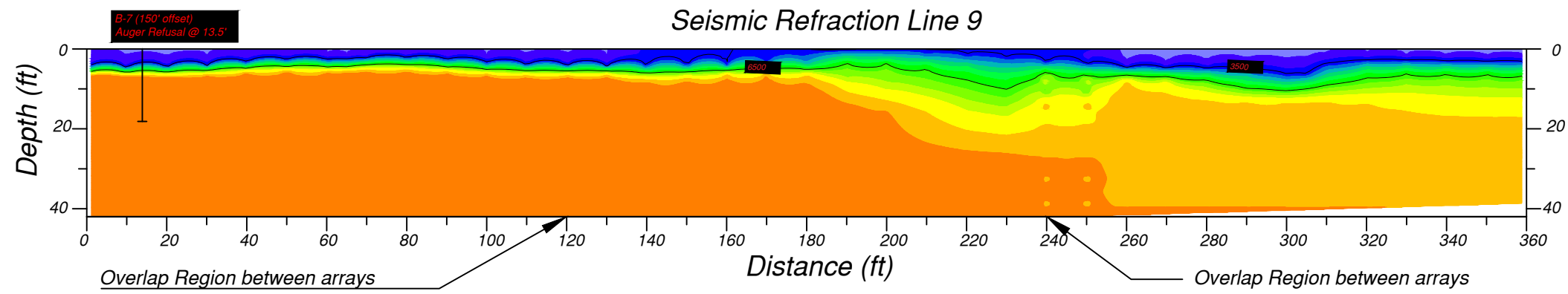
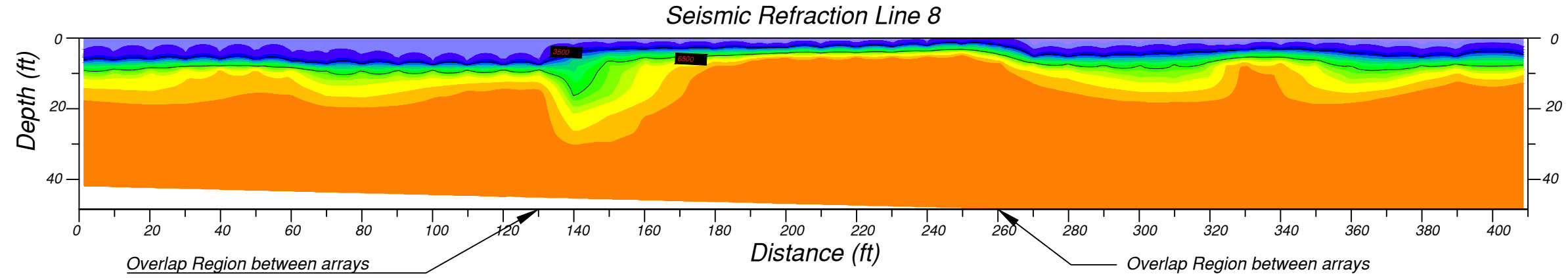
ENGINEER	DRAFTING
MFP	KUH

SCALE  
NTS

PROJECT NO.  
08-14131

SHEET  
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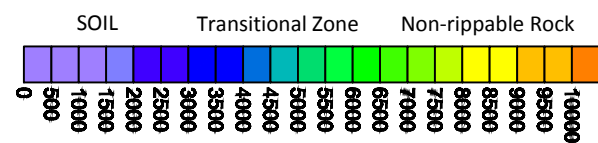
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05-18-2020



NOTES

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- 10 FT. GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
- SAMPLE INTERVAL = 0.125 milliseconds

LEGENDS:



ECS SOUTHEAST, LLP  
1812 CENTER PARK DR. - SUITE D  
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(704) 357-0023 [FAX]  
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FIRM # F-1078



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GROUND'S AT CONCORD SEWER ALIGNMENT

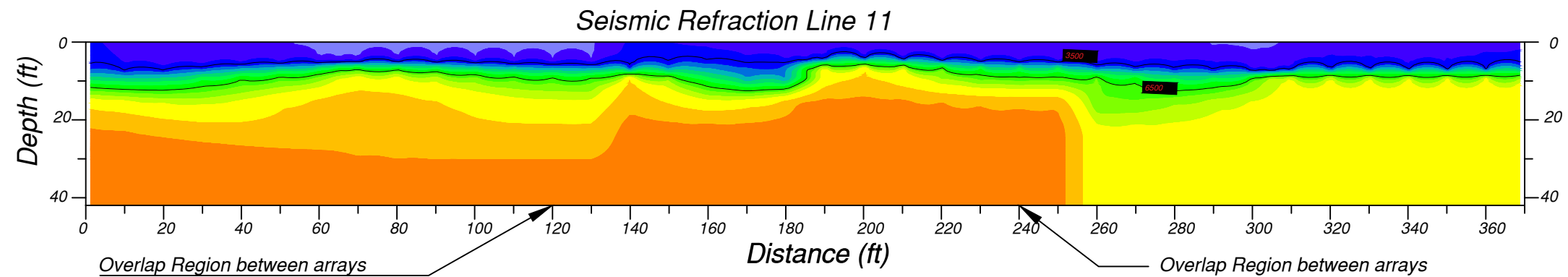
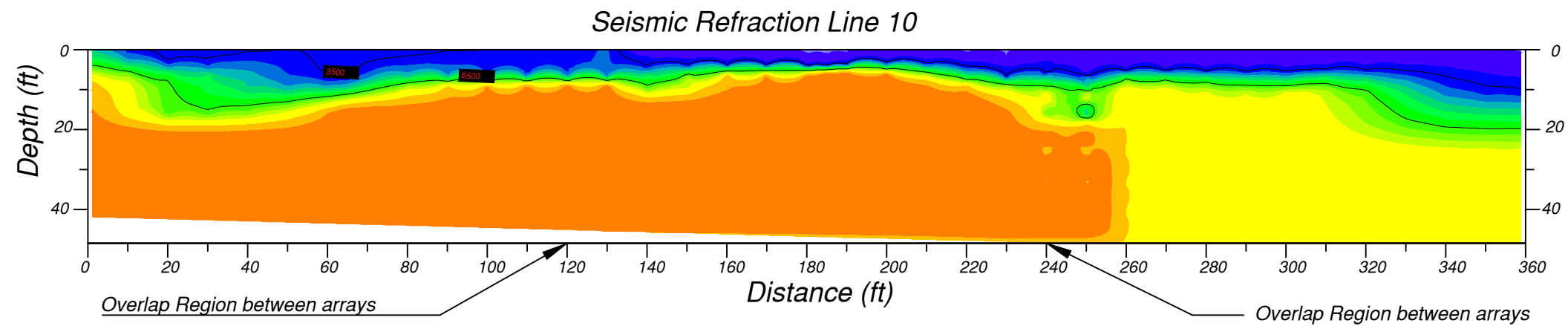
AT CONCORD

CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 8 & 9

ECS REVISIONS	
ENGINEER	DRAFTING
MFP	KUH
SCALE	
NTS	
PROJECT NO.	
08-14131	
SHEET	
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DATE	
05-18-2020	

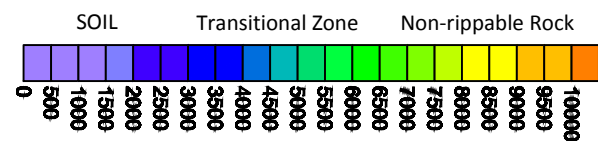




NOTES

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LEGENDS:



ECS SOUTHEAST, LLP  
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NC REGISTERED ENGINEERING  
FIRM # E-1078



"SETTING THE STANDARD FOR SERVICE"

GROUND'S AT CONCORD SEWER ALIGNMENT

AT CONCORD  
CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 10 & 11

ECS REVISIONS

ENGINEER  
MFP

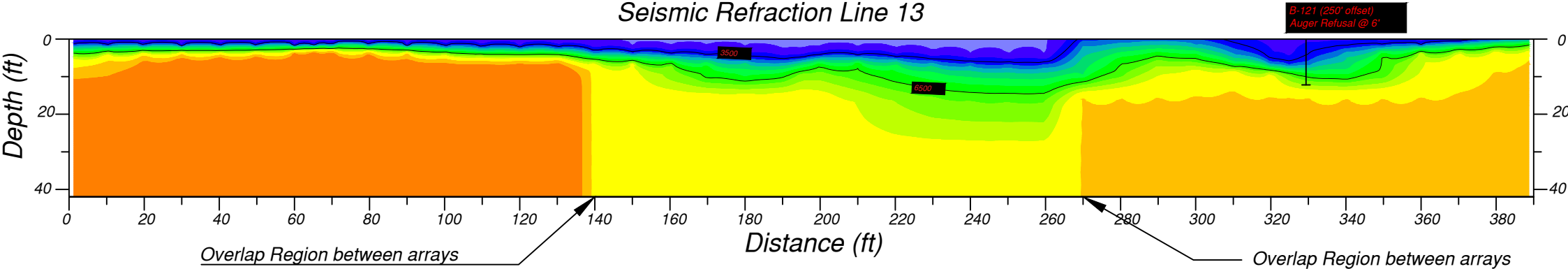
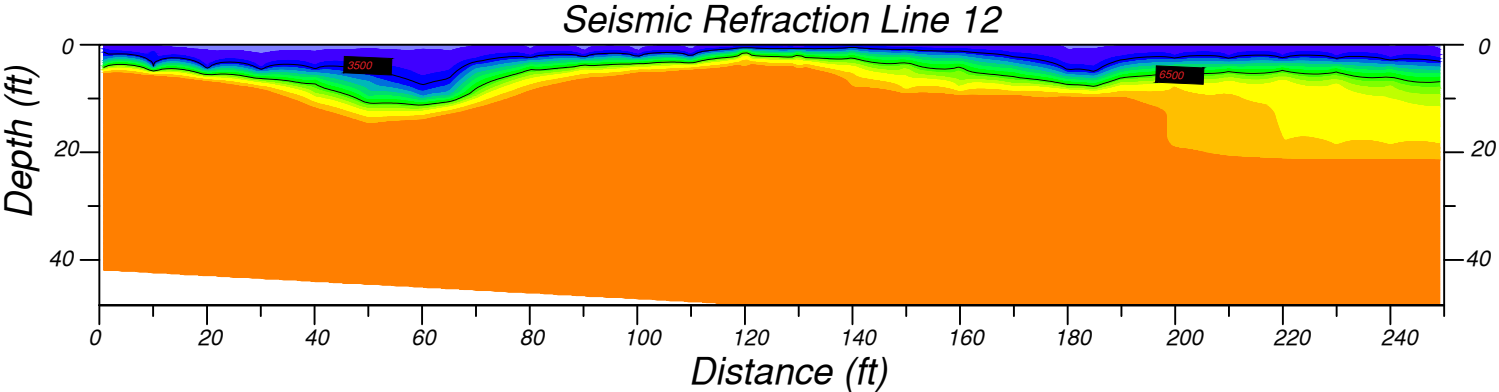
DRAFTING  
KUH

SCALE  
NTS

PROJECT NO.  
08-14131

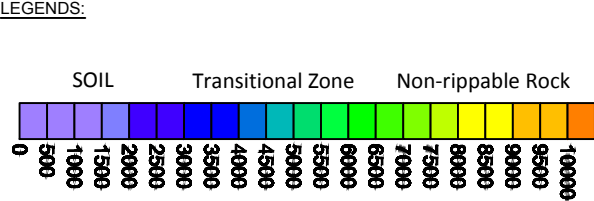
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DATE  
05-18-2020



NOTES

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- 10 FT GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
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ECS SOUTHEAST, LLP  
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FIRM # E-1078

"SETTING THE STANDARD FOR SERVICE"

GROUND'S AT CONCORD SEWER ALIGNMENT  
AT CONCORD  
CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 12 & 13

ECS REVISIONS

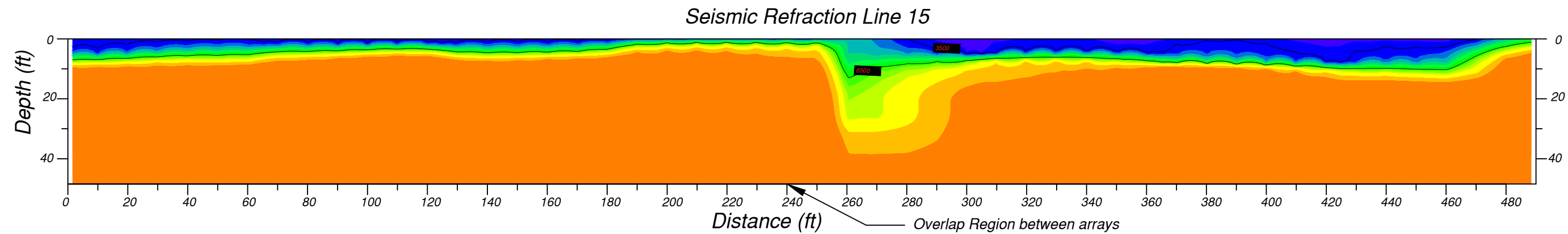
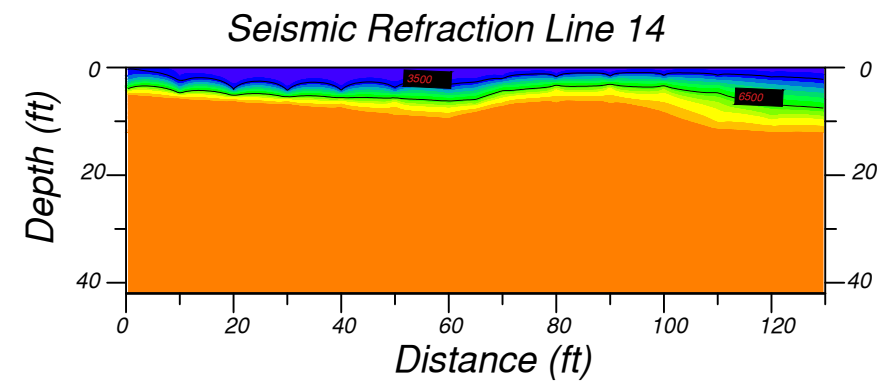
ENGINEER	DRAFTING
MFP	KUH

SCALE  
NTS

PROJECT NO.  
08-14131

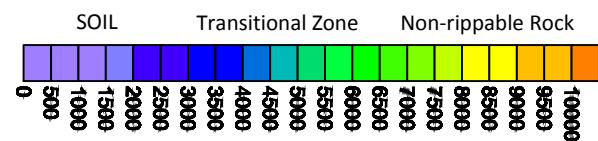
SHEET  
8

DATE  
05-18-2020



NOTES  
-10 Hz GEOPHONES  
- 10 FT GEOPHONES SPACING  
-ACQUISITION TIME = 0.128 seconds  
-SAMPLE INTERVAL = 0.125 milliseconds

LEGENDS:



ECS SOUTHEAST, LLP  
1812 CENTER PARK DR. - SUITE D  
CHARLOTTE, NC 28217  
(704) 383-5152 [PHONE]  
(704) 357-0023 [FAX]  
NC REGISTERED ENGINEERING  
FIRM # E-1078



"SETTING THE STANDARD FOR SERVICE"

GROUPS AT CONCORD SEWER ALIGNMENT

AT CONCORD

CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 14 & 15

ECS REVISIONS

ENGINEER  
MFP

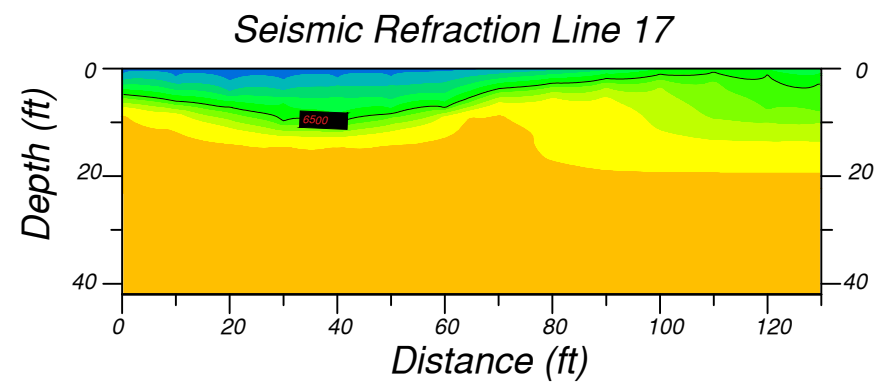
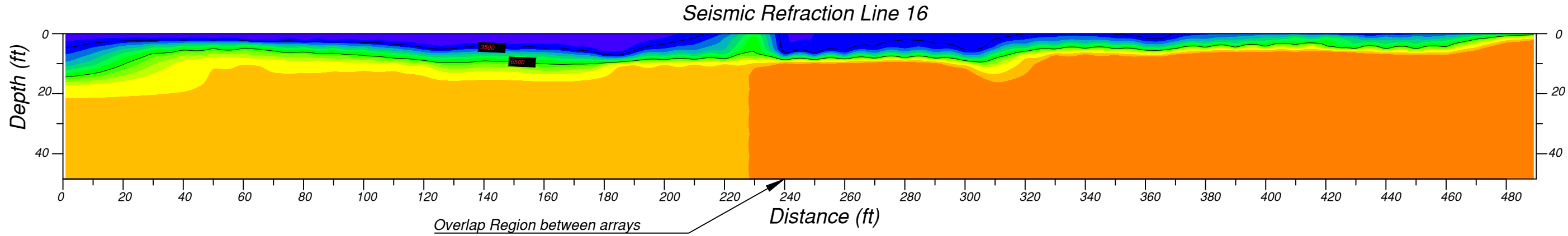
DRAFTING  
KUH

SCALE  
NTS

PROJECT NO.  
08-14131

SHEET  
9

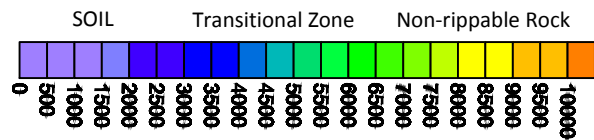
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05-18-2020



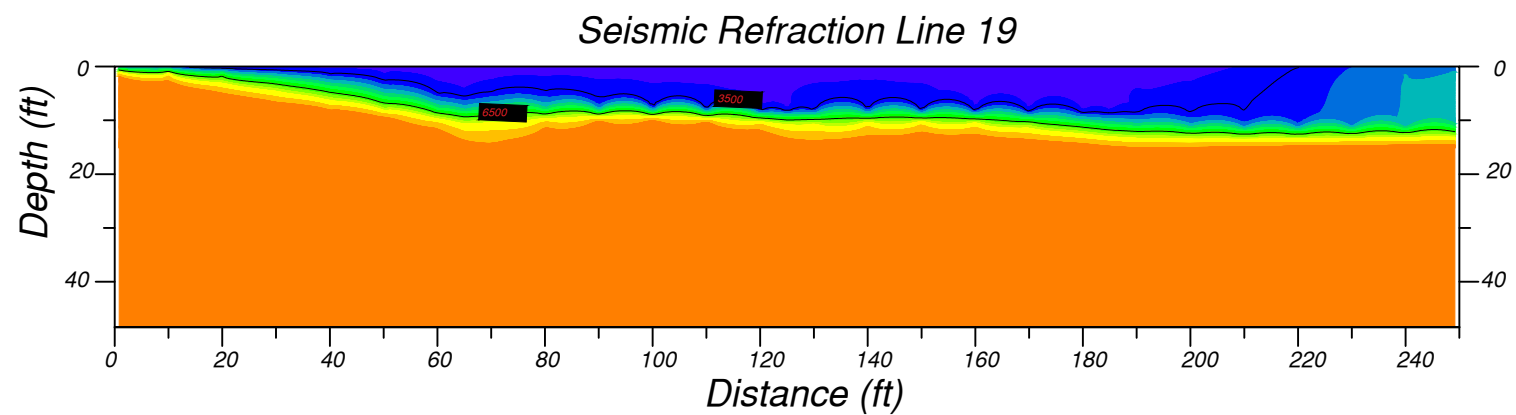
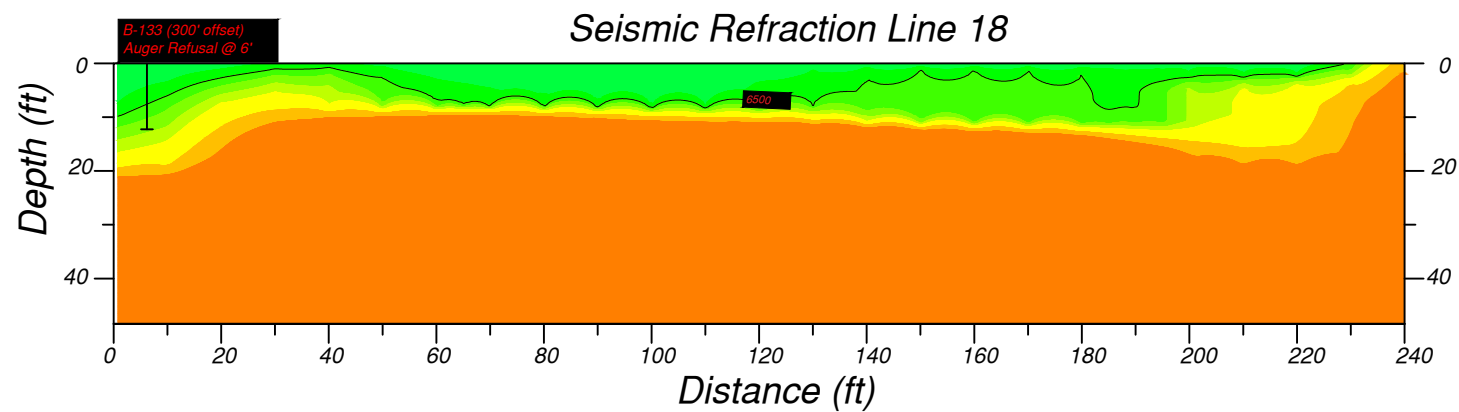
NOTES

- 10 Hz GEOPHONES
- 10 FT GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
- SAMPLE INTERVAL = 0.125 milliseconds

LEGENDS:

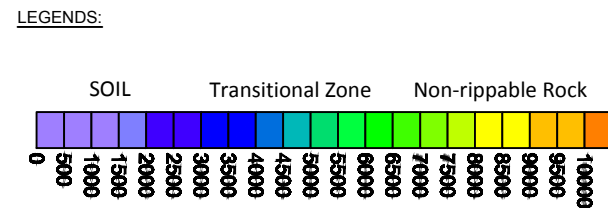


ECS SOUTHEAST, LLP 1812 CENTER PARK DR - SUITE D CHARLOTTE, NC 28217 (704) 383-5152 [PHONE] (704) 357-0023 [FAX] NC REGISTERED ENGINEERING FIRM # F-1078		"SETTING THE STANDARD FOR SERVICE"
GROUNDS AT CONCORD SEWER ALIGNMENT AT CONCORD CABARRUS COUNTY, NORTH CAROLINA		
Seismic Refraction Line 16 & 17		
ECS REVISIONS		
ENGINEER MFP	DRAFTING KUH	SCALE NTS
PROJECT NO. 08-14131		SHEET 10
DATE 05-18-2020		



**NOTES**

- 10 Hz GEOPHONES
- 10 FT GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
- SAMPLE INTERVAL = 0.125 milliseconds



**ECS SOUTHEAST, LLP**  
1812 CENTER PARK DR - SUITE D  
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(704) 525-5152 [PHONE]  
(704) 357-0023 [FAX]  
**NC REGISTERED ENGINEERING**  
**FIRM # F-1078**



## "SETTING THE STANDARD FOR SERVICE"

GROUNDS AT CONCORD SEWER ALIGNMENT  
 AT CONCORD  
 CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 18 &amp; 19

## ECS REVISIONS

ENGINEER  
MFP

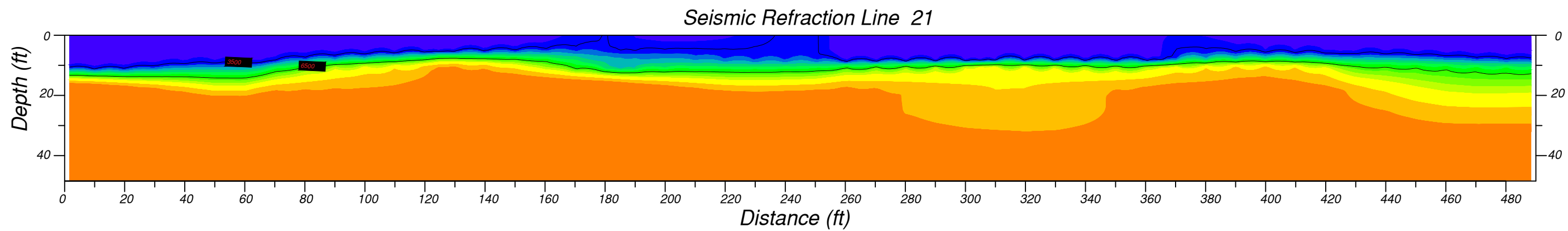
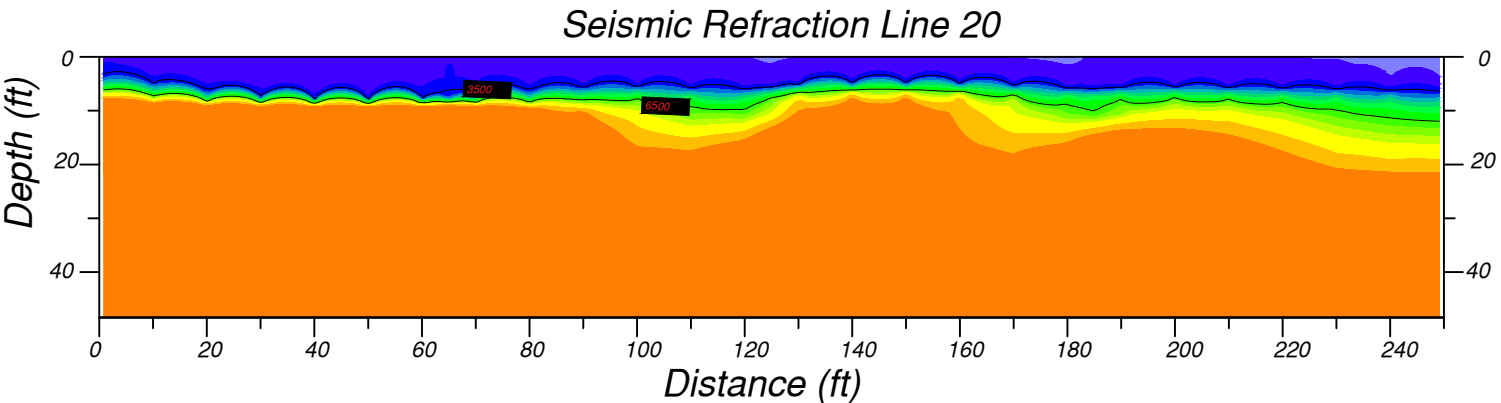
**DRAFTING  
KUH**

SCALE	NTS
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PROJECT NO.	08-14131
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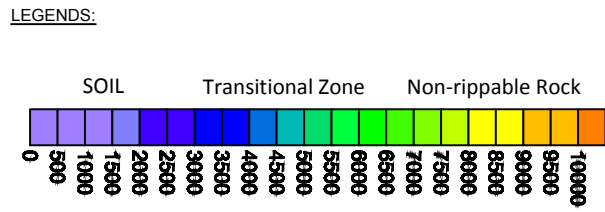
SHEET	11
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DATE	05-18-2020
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NOTES

- 10 Hz GEOPHONES
- 10 FT GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
- SAMPLE INTERVAL = 0.125 miliseconds



ECS SOUTHEAST, LLP  
1812 CENTER PARK DR - SUITE D  
CHARLOTTE, NC 28217  
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(704) 357-0023 [FAX]  
NC REGISTERED ENGINEERING  
FIRM # F-1078

"SETTING THE STANDARD FOR SERVICE"

GROUND'S AT CONCORD SEWER ALIGNMENT  
AT CONCORD  
CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 20 & 21

ECS REVISIONS

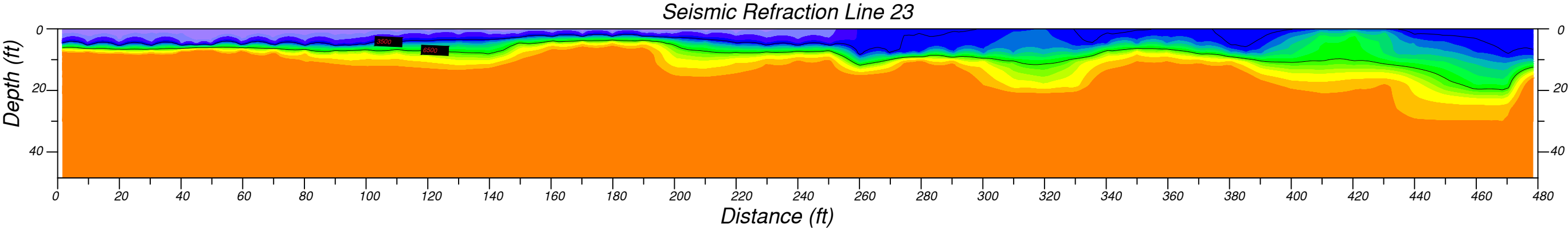
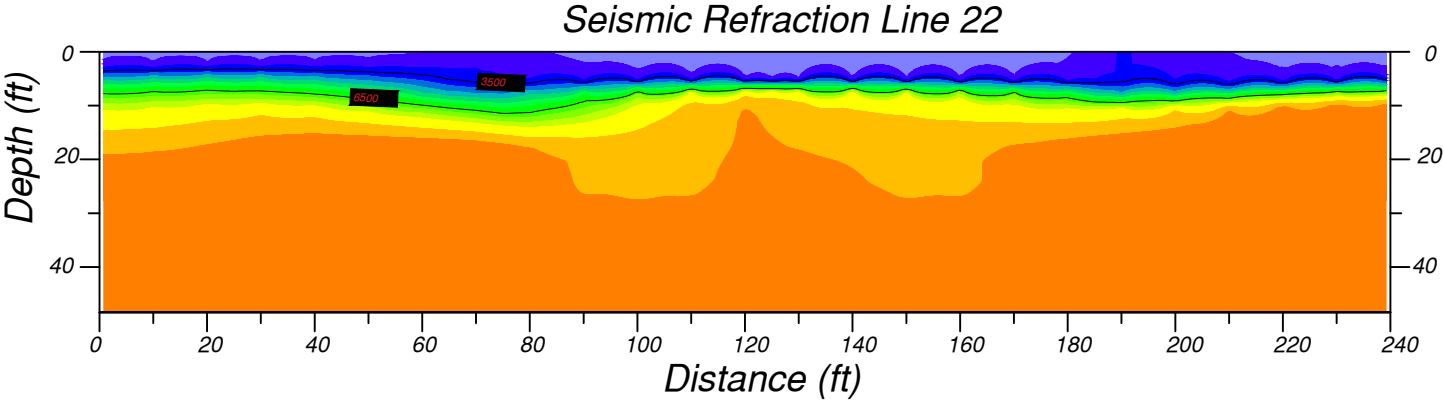
ENGINEER MFP	DRAFTING KUH
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SCALE  
NTS

PROJECT NO.  
08-14131

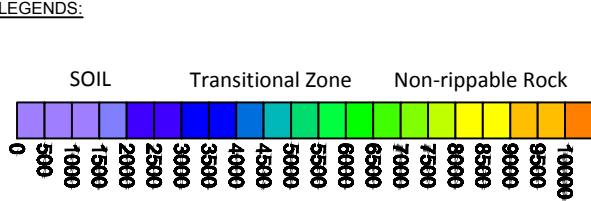
SHEET  
12

DATE  
05-18-2020




NOTES

- 10 Hz GEOPHONES
- 10 FT. GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
- SAMPLE INTERVAL = 0.125 milliseconds



ECS SOUTHEAST, LLP  
1812 CENTER PARK DR. - SUITE D  
CHARLOTTE, NC 28217  
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(704) 357-0023 [FAX]  
NC REGISTERED ENGINEERING  
FIRM # F-1078



"SETTING THE STANDARD FOR SERVICE"

GROUND'S AT CONCORD SEWER ALIGNMENT  
AT CONCORD  
CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 22 & 23

ECS REVISIONS

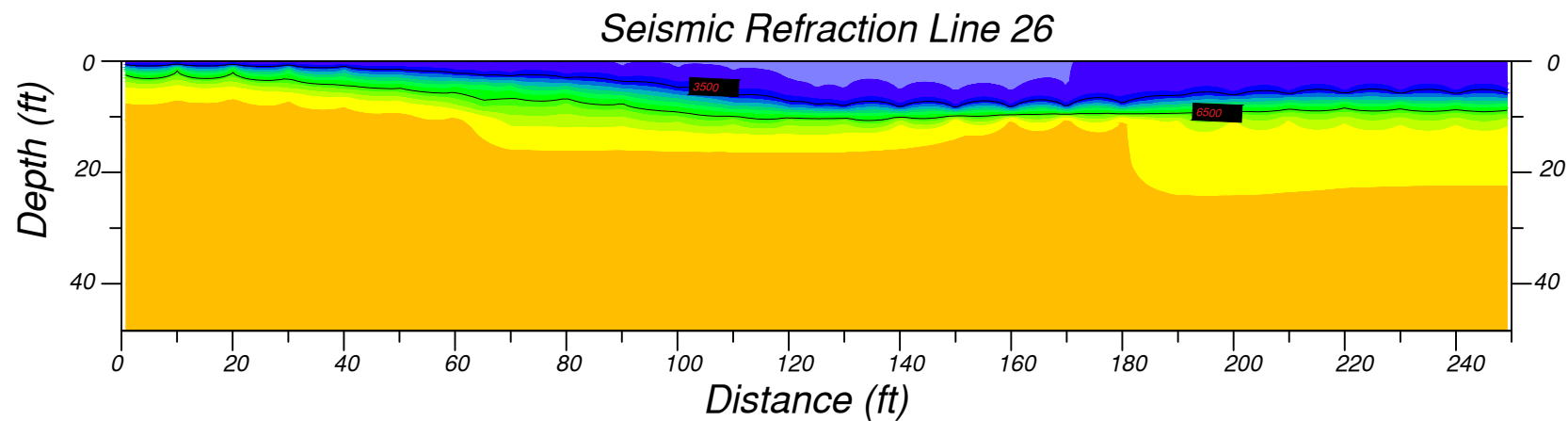
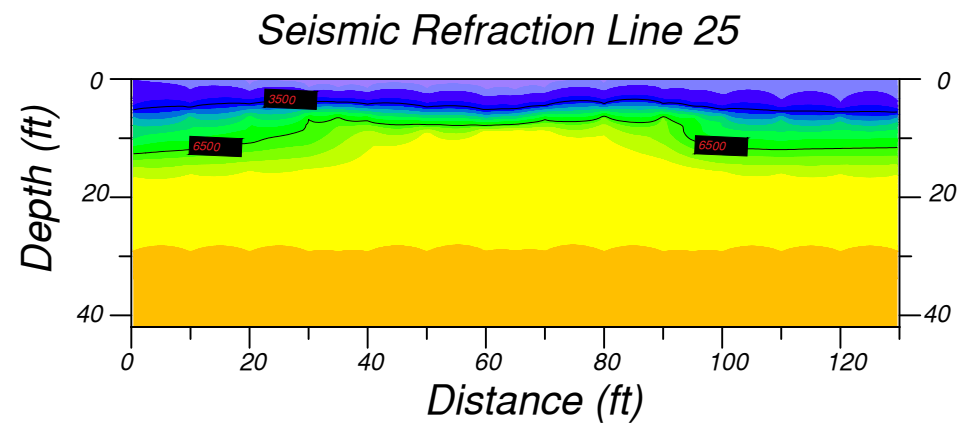
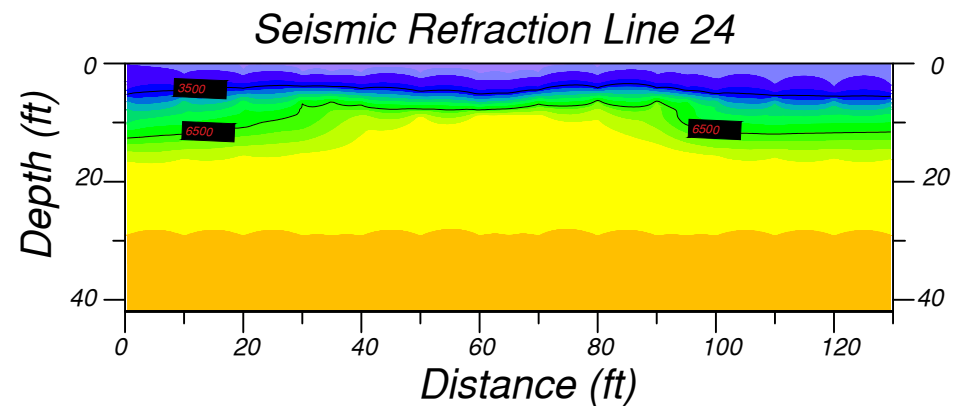
ENGINEER	DRAFTING
MFP	KUH

SCALE  
NTS

PROJECT NO.  
08-14131

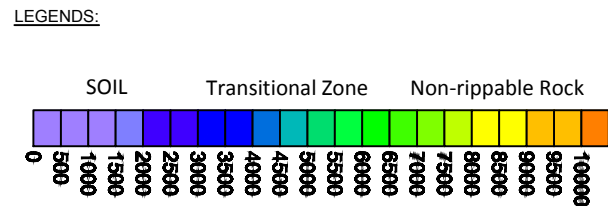
SHEET  
13

DATE  
05-18-2020



NOTES

- 10 Hz GEOPHONES
- 10 FT GEOPHONES SPACING
- ACQUISITION TIME = 0.128 seconds
- SAMPLE INTERVAL = 0.125 milliseconds



ECS SOUTHEAST, LLP  
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NC REGISTERED ENGINEERING  
FIRM # F-1078

"SETTING THE STANDARD FOR SERVICE"

GROUND'S AT CONCORD SEWER ALIGNMENT  
AT CONCORD  
CABARRUS COUNTY, NORTH CAROLINA

Seismic Refraction Line 24 & 25


ECS REVISIONS	
ENGINEER MFP	DRAFTING KUH
SCALE NTS	
PROJECT NO. 08-14131	
SHEET 14	
DATE 05-18-2020	















CLIENT				Job #:	BORING #	SHEET	
PROJECT NAME				ARCHITECT-ENGINEER		B-3 1 OF 1	
SITE LOCATION							○ CALIBRATED PENETROMETER TONS/FT <sup>2</sup>  ROCK QUALITY DESIGNATION & RECOVERY RQD% - - - REC% _____  PLASTIC LIMIT%      WATER CONTENT%      LIQUID LIMIT% ✕                                  ●                                  △  ⊗ STANDARD PENETRATION BLOWS/FT
2321 Concord Pkwy S, Concord, Cabarrus County, NC NORTHING      EASTING      STATION							
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS
					BOTTOM OF CASING SURFACE ELEVATION      633 LOSS OF CIRCULATION  100%		ELEVATION (FT)
0					Topsoil Thickness [5.00"] (CL FILL) SANDY CLAY, brown, firm		4 3 4
	S-1	SS	18	18			630
	S-2	SS	7	7	(PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY FINE TO MEDIUM SAND dark brown AUGER REFUSAL @ 4.1'		38 50/1
5							625
10							620
15							615
20							610
25							605
30							
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.							
WL GNE      WS <input type="checkbox"/> WD <input checked="" type="checkbox"/>		BORING STARTED      03/28/19		CAVE IN DEPTH      2.9			
WL(SHW)       WL(ACR) GNE		BORING COMPLETED      03/28/19		HAMMER TYPE      Manual			
WL		RIG      SIMCO 2400      FOREMAN      Cody Presley		DRILLING METHOD      HSA 2.25			

[illegible]

CLIENT				Job #:	BORING #	SHEET	
PROJECT NAME				ARCHITECT-ENGINEER		B-7 1 OF 1	
SITE LOCATION							○ CALIBRATED PENETROMETER TONS/FT <sup>2</sup>  ROCK QUALITY DESIGNATION & RECOVERY RQD% - - - REC% _____  PLASTIC LIMIT%      WATER CONTENT%      LIQUID LIMIT% ✕                                  ●                                  △  ⊗ STANDARD PENETRATION BLOWS/FT
2321 Concord Pkwy S, Concord, Cabarrus County, NC NORTHING      EASTING      STATION							
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS
					BOTTOM OF CASING	LOSS OF CIRCULATION >100%	
					SURFACE ELEVATION	618	
0					Topsoil Thickness [3.00"]		
	S-1	SS	18	18	(CL FILL) SANDY CLAY, brown, firm		
					(ML RESIDUAL) SANDY SILT, brown and tan, moist, hard		
5	S-2	SS	18	18			
	S-3	SS	18	18			
	S-4	SS	18	18	(SM) SILTY FINE TO MEDIUM SAND, dark brown, moist, medium dense		
10							
	S-5	SS	0	0	(PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY FINE TO MEDIUM SAND, dark brown		
15					AUGER REFUSAL @ 13.5'		
20							
25							
30							
							3 3 4  6 10 23  6 15 18  28 20 12  50/0
							7   33  33  32  100+
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.							
WL GNE      WS <input type="checkbox"/> WD <input checked="" type="checkbox"/>		BORING STARTED		03/28/19		CAVE IN DEPTH 8.9	
WL(SHW)      WL(ACR) GNE		BORING COMPLETED		03/28/19		HAMMER TYPE Manual	
WL		RIG SIMCO 2400		FOREMAN Cody Presley		DRILLING METHOD HSA 2.25	

CLIENT			Job #:		BORING #		SHEET																																																																																																																	
PROJECT NAME			ARCHITECT-ENGINEER																																																																																																																					
SITE LOCATION										<div>○ CALIBRATED PENETROMETER TONS/FT<sup>2</sup></div> <div>ROCK QUALITY DESIGNATION &amp; RECOVERY</div> <div>RQD% - - - REC% - - -</div> <div>PLASTIC LIMIT%      WATER CONTENT%      LIQUID LIMIT%</div> <div>⊗ STANDARD PENETRATION BLOWS/FT</div>																																																																																																														
2321 Concord Pkwy S, Concord, Cabarrus County, NC																																																																																																																								
NORTHING			EASTING			STATION																																																																																																																		
<table><thead><tr><th>DEPTH (FT)</th><th>SAMPLE NO.</th><th>SAMPLE TYPE</th><th>SAMPLE DIST. (IN)</th><th>RECOVERY (IN)</th><th>DESCRIPTION OF MATERIAL</th><th>ENGLISH UNITS</th><th>WATER LEVELS ELEVATION (FT)</th><th>BLOWS/6"</th><th></th></tr></thead><tbody><tr><td>0</td><td></td><td></td><td></td><td></td><td>BOTTOM OF CASING</td><td>LOSS OF CIRCULATION &gt;100%</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td colspan="2">SURFACE ELEVATION      620</td><td></td><td></td><td></td></tr><tr><td></td><td>S-1</td><td>SS</td><td>1</td><td>1</td><td colspan="2">Topsoil Thickness [3.00"] (PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, gray</td><td></td><td>50/1</td><td>100+⊗</td></tr><tr><td></td><td>S-2</td><td>SS</td><td>1</td><td>1</td><td colspan="2"></td><td></td><td>50/1</td><td>100+⊗</td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td colspan="2">AUGER REFUSAL @ 4.0'</td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td><td></td><td></td></tr><tr><td>15</td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td><td></td><td></td></tr><tr><td>20</td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td><td></td><td></td></tr><tr><td>25</td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td><td></td><td></td></tr><tr><td>30</td><td></td><td></td><td></td><td></td><td colspan="2"></td><td></td><td></td><td></td></tr></tbody></table>										DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	BLOWS/6"		0					BOTTOM OF CASING	LOSS OF CIRCULATION >100%									SURFACE ELEVATION      620						S-1	SS	1	1	Topsoil Thickness [3.00"] (PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, gray			50/1	100+⊗		S-2	SS	1	1				50/1	100+⊗	5					AUGER REFUSAL @ 4.0'					10										15										20										25										30										
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	BLOWS/6"																																																																																																																
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					SURFACE ELEVATION      620																																																																																																																			
	S-1	SS	1	1	Topsoil Thickness [3.00"] (PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, gray			50/1	100+⊗																																																																																																															
	S-2	SS	1	1				50/1	100+⊗																																																																																																															
5					AUGER REFUSAL @ 4.0'																																																																																																																			
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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.																																																																																																																								
WL GNE      WS <input type="checkbox"/> WD <input checked="" type="checkbox"/>			BORING STARTED      06/28/19				CAVE IN DEPTH   2.4																																																																																																																	
WL(SHW)      WL(ACR) GNE			BORING COMPLETED      06/28/19				HAMMER TYPE   Auto																																																																																																																	
WL			RIG D-50 ATV      FOREMAN Brian Boyce				DRILLING METHOD   2.25 HSA																																																																																																																	

CLIENT		Job #:	BORING #	SHEET					
PROJECT NAME		ARCHITECT-ENGINEER		1 OF 1					
SITE LOCATION									
2321 Concord Pkwy S, Concord, Cabarrus County, NC									
NORTHING		EASTING		STATION					
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	BLOWS/6"	 CALIBRATED PENETROMETER TONS/FT <sup>2</sup>
					BOTTOM OF CASING 	LOSS OF CIRCULATION 			
					SURFACE ELEVATION	643			ROCK QUALITY DESIGNATION & RECOVERY RQD% - - - REC% - - -
0					Topsoil Thickness [4.00"] (SC FILL) CLAYEY FINE TO MEDIUM SAND, brown, moist, medium dense				PLASTIC LIMIT%  WATER CONTENT%  LIQUID LIMIT% 
	S-1	SS	18	17			640		 STANDARD PENETRATION BLOWS/FT
	S-2	SS	4	2	(PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, gray		50/4		
5	S-3	SS	2	1			50/2		
	S-4	SS	0	0	AUGER REFUSAL @ 8.5'		50/0		
10							635		
							630		
15							625		
20							620		
25							615		
30									
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.									
 WL GNE		WS <input type="checkbox"/> WD <input checked="" type="checkbox"/>		BORING STARTED 06/28/19		CAVE IN DEPTH 6.5			
 WL(SHW)		 WL(ACR) GNE		BORING COMPLETED 06/28/19		HAMMER TYPE Auto			
 WL				RIG D-50 ATV FOREMAN Brian Boyce		DRILLING METHOD 2.25 HSA			

CLIENT				Job #:	BORING #	SHEET	
PROJECT NAME				ARCHITECT-ENGINEER		B-132 1 OF 1	
SITE LOCATION							○ CALIBRATED PENETROMETER TONS/FT <sup>2</sup>  ROCK QUALITY DESIGNATION & RECOVERY RQD% - - - REC% _____  PLASTIC LIMIT%      WATER CONTENT%      LIQUID LIMIT% ✕                                  ●                                  △  ⊗ STANDARD PENETRATION BLOWS/FT
2321 Concord Pkwy S, Concord, Cabarrus County, NC							
NORTHING		EASTING		STATION			
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	
					BOTTOM OF CASING	LOSS OF CIRCULATION	
					SURFACE ELEVATION	612	
0					Topsoil Thickness [4.00"]		
	S-1	SS	18	18	(SM RESIDUAL) SILTY FINE TO MEDIUM SAND, brown, moist, loose to medium dense		
	S-2	SS	18	18			
5							
	S-3	SS	18	18			
					(ML) SANDY SILT, brown, moist, hard		
10	S-4	SS	18	18			
					END OF BORING @ 11.2'		
15							
20							
25							
30							
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.							
WL GNE      WS <input type="checkbox"/> WD <input checked="" type="checkbox"/>		BORING STARTED		07/12/19		CAVE IN DEPTH 8.6	
WL(SHW)       WL(ACR) GNE		BORING COMPLETED		07/12/19		HAMMER TYPE Auto	
WL		RIG D-50 ATV		FOREMAN Brian Boyce		DRILLING METHOD 2.25 HSA	

CLIENT				Job #:	BORING #	SHEET	
PROJECT NAME				ARCHITECT-ENGINEER		B-133	
SITE LOCATION							○ CALIBRATED PENETROMETER TONS/FT <sup>2</sup>  ROCK QUALITY DESIGNATION & RECOVERY RQD% - - - REC% _____  PLASTIC LIMIT%      WATER CONTENT%      LIQUID LIMIT% ✕                                  ●                                  △  ⊗ STANDARD PENETRATION BLOWS/FT
2321 Concord Pkwy S, Concord, Cabarrus County, NC							
NORTHING		EASTING		STATION			
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ENGLISH UNITS	
					BOTTOM OF CASING	LOSS OF CIRCULATION >100%	
					SURFACE ELEVATION	612	
0					Topsoil Thickness [4.00"]		
	S-1	SS	18	14	(SM RESIDUAL) SILTY FINE TO MEDIUM SAND, brown, moist, loose to medium dense		
	S-2	SS	18	17			
5							
	S-3	SS	18	15			
	S-4	SS	18	18			
10							
	S-5	SS	2	1	(PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, gray		
15							
	S-6	SS	1	1			
20					END OF BORING @ 18.6'		
25							
30							

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.			
WL GNE      WS <input type="checkbox"/> WD <input checked="" type="checkbox"/>	BORING STARTED	07/12/19	CAVE IN DEPTH 13.3
WL(SHW)       WL(ACR) GNE	BORING COMPLETED	07/12/19	HAMMER TYPE Auto
WL	RIG D-50 ATV	FOREMAN Brian Boyce	DRILLING METHOD 2.25 HSA

## **APPENDIX B**

### **401 WATER QUALITY CERTIFICATION & 404 PERMIT SAW-2021-01147**



ROY COOPER

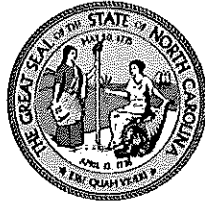
Governor

ELIZABETH S. BISER

Secretary

RICHARD E. ROGERS, JR.

Director



NORTH CAROLINA  
Environmental Quality

August 29, 2022

DWR # 22-0966

Cabarrus County

City of Concord  
Attn: Sue Hyde  
P. O. Box 308  
Concord, NC 28026

sent via email to: [hydes@concordnc.gov](mailto:hydes@concordnc.gov)

**Subject: Approval of Individual 401 Water Quality Certification**  
City of Concord Capital Improvement Project

Dear Ms. Hyde:

Attached hereto is a copy of Certification No. WQC005123 issued to Sue Hyde and City of Concord, dated August 29, 2022. This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)].

This Water Quality Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

This Water Quality Certification neither grants nor affirms any property right, license, or privilege in any lands or waters, or any right of use in any waters. This Water Quality Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This Water Quality Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Water Quality Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.

Upon the presentation of proper credentials, the Division may inspect the property.

This Water Quality Certification shall expire on the same day as the expiration date of the corresponding Section 404 Permit. The conditions shall remain in effect for the life of the project, regardless of the expiration date of this Water Quality Certification.



North Carolina Department of Environmental Quality | Division of Water Resources  
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617  
919.707.9000

Non-compliance with or violation of the conditions herein set forth may result in revocation of this Water Quality Certification for the project and may also result in criminal and/or civil penalties.

If you are unable to comply with any of the conditions of this Water Quality Certification you must notify the Mooresville Regional Office within 24 hours (or the next business day if a weekend or holiday) from the time the permittee becomes aware of the circumstances.

The permittee shall report to the Mooresville Regional Office any noncompliance with, and/or any violation of, stream or wetland standards [15A NCAC 02B .0200] including but not limited to sediment impacts to streams or wetlands. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the permittee became aware of the non-compliance circumstances.

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) **within sixty (60) calendar days**. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at <http://www.ncogh.com/> or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:

William F. Lane, General Counsel  
Department of Environmental Quality  
1601 Mail Service Center  
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This letter completes the Division's review under section 401 of the Clean Water Act and 15A NCAC 02H .0500. Please contact Doug Perez at 704-743-6872 or [doug.perez@ncdenr.gov](mailto:doug.perez@ncdenr.gov) if you have any questions or concerns.



Sincerely,

DocuSigned by:  
*Andrew H Pitner*  
F161FB69A2D84A3...

Andrew H. Pitner, P.G., Acting Regional Supervisor  
Water Quality Regional Operations Section  
Mooresville Regional Office

Electronic cc: Amber Lipsky, Wetlands & EPG, [amber.lipsky@wetlands-epg.com](mailto:amber.lipsky@wetlands-epg.com)  
Krysta Stygar, USACE Regulatory Field Office, [krystynka.b.stygar@usace.army.mil](mailto:krystynka.b.stygar@usace.army.mil)  
Todd Bowers, EPA, [Bowers.todd@Epa.gov](mailto:Bowers.todd@Epa.gov)  
DWR 401 & Buffer Permitting Branch Electronic file



#### NORTH CAROLINA 401 WATER QUALITY CERTIFICATION

**CERTIFICATION** #WQC005123 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to North Carolina's Regulations in 15 NCAC 02H .0500 and 15A NCAC 02B .0200, to Sue Hyde and City of Concord, who have authorization for the impacts listed below, as described within your application received by the N.C. Division of Water Resources (Division) on July 16, 2022, and by Public Notice issued by the U. S. Army Corps of Engineers on July 20, 2022.

The State of North Carolina certifies that this activity will comply with water quality requirements and the applicable portions of Sections 301, 302, 303, 306, 307 of the Public Laws 92-500 and PL 95-217 if conducted in accordance with the application, the supporting documentation, and conditions hereinafter set forth.

The following impacts are hereby approved. No other impacts are approved, including incidental impacts. [15A NCAC 02H .0506(b)]

Type of Impact	Amount Approved (units) Permanent	Amount Approved (units) Temporary
Stream - Perennial		
Culvert	20 (linear feet)	0 (linear feet)
Stream - Intermittent		
Culvert	40 (linear feet)	0 (linear feet)
404/401 Wetlands - BHF		
Conversion/Construction	0 (acres)	2.234 (acres)

This approval requires you to follow the conditions listed in the certification below.

**CONDITIONS OF CERTIFICATION [15A NCAC 02H .0507(c)]:**

1. **Stormwater Management:** The applicant may provide documentation that the project will not impair water quality to the receiving stream(s) from stormwater runoff or provide an approved stormwater management plan. Any high density project and/or project that exceeds density thresholds must provide a stormwater management plan for the entire project, for review and approval including all forms and pertinent items that complies with the high density development requirements. Low density development shall meet all condition for stormwater management required by the state and be reviewed if required. The plan may be approved by the Division, State Stormwater Program or a local delegated authority. The plan shall consider the impact of the volume and velocity of discharge and runoff to the receiving stream and adjacent riparian areas to prevent scouring and erosions of the features.

*Citation: 15A NCAC 02U .1017, 15A NAC 02H .1003 (2)(a), 15 NCAC 02B .0614 (8), 15A NCAC 02B .0607(h)*

*Justification: In order to protect against impairment of water quality standards and best usage of receiving and downstream waters, water quality based management practices must be*



*employed to protect against direct or indirect discharge of waste or other sources of water pollution. Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity, wildlife, secondary contact recreation, agriculture) and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. In determining that the proposed activity will comply with state water quality standards (including designated uses, numeric criteria, narrative criteria and the state's antidegradation policy), the Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts*

2. Diversion Ditches and other storm water conveyances as related to the sediment and erosion control measures shall be matted and/or stabilized to reduce sediment loss and turbidity. This includes interior/exterior slopes of sediment basins.

*Citation: 15A NCAC 02H .0506 (b)(3) and (c)(3)*

*Justification: Failure to reduce erosion of runoff conveyances and to provide for maximum reduction of erosion on areas not related to ongoing construction, shortens basin holding times, increases turbidity of discharge and creates a greater potential of bypass discharge.*

3. Bare/fill slopes in excess of 10 feet in height and within 30 feet of surface waters shall be matted.

*Citation: 15A NCAC 02H .0506 (b)(1) and 15A NCAC 02H .502 (c)*

*Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. In determining that the proposed activity will comply with state water quality standards (including designated uses, numeric criteria, narrative criteria and the state's antidegradation policy), the Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards or would result in secondary or cumulative impacts*

4. The construction of the new sewer line in/through undeveloped area may result/encourage development along the construction corridor. Development of these parcels may impact additional waters and cause violations of downstream water quality standards. **The secondary/cumulative impacts** associated with this project must be adequately addressed by the applicant for any development/project defined in 15A NCAC 02H.1003) associated with this sewer system. Any storm water facilities, at minimum, must be designed to meet state guidelines or document that the project will not impact water quality.

*Citation: 15A NCAC 02H .0506(b)(1)*

*Justification: In order to protect against impairment of water quality standards and best usage of receiving and downstream waters, water quality based management practices must be employed to protect against direct or indirect discharge of waste or other sources of water*



*pollution. In determining that the proposed activity will comply with state water quality standards (including designated uses, numeric criteria, narrative criteria and the state's antidegradation policy), the Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards or would result in secondary or cumulative impacts.*

5. The permittee shall report to the DWR Mooresville Regional Office any noncompliance with, and/or any violation of, stream or wetland standards [15A NCAC 02B .0200], including but not limited to sediment impacts to streams or wetlands. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the permittee became aware of the non-compliance circumstances.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)*

*Justification: Timely reporting of non-compliance is important in identifying and minimizing detrimental impacts to water quality and avoiding impacts due to water pollution that precludes any best use on a short-term or long-term basis.*

6. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the approved impacts (including temporary impacts).

*Citation: 15A NCAC 02H .0506; 15A NCAC 02H .0507(c)*

*Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife; secondary contact recreation; agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.*

7. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2B of Title 15A in the North Carolina Administrative Code.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)*

*Justification: The referenced Riparian Buffer rules were adopted to address water quality impairments and further protect existing uses.*

8. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur.

Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *North Carolina Department of Transportation Sediment and Erosion Control Manual*.



All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200; 15A NCAC 02B .0231*

*Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (12) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (21) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. As cited in Wetland Standards: (c)(1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.*

9. Sediment and erosion control measures shall not be installed in wetland or waters except within the footprint of temporary or permanent impacts otherwise authorized by this Certification. If placed within authorized impact areas, then placement of such measures shall not be conducted in a manner that results in dis-equilibrium of any wetlands, streambeds, or streambanks. Any silt fence installed within wetlands shall be removed from wetlands and the natural grade restored within two (2) months of the date that DEMLR or locally delegated program has released the specific area within the project to ensure wetland standards are maintained upon completion of the project.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200; 15A NCAC 02B .0231*

*Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that*



*precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (12) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (21) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. As cited in Wetland Standards: (c)(1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.*

10. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)*

*Justification: A project that affects waters shall not be permitted unless the existing uses (including aquatic life propagation and biological integrity), and the water quality to protect such uses, are protected. Protections are necessary to ensure any remaining surface waters or wetlands, and any surface waters or wetlands downstream, continue to support existing uses during and after project completion. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.*

11. If the project is covered by NPDES Construction Stormwater Permit Number NCG010000 or NPDES Construction Stormwater Permit Number NCG250000, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200; 15A NCAC 02B .0231*

*Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (12) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (21) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. As cited in Wetland Standards: (c)(1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.*





12. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the NC Sediment and Erosion Control Manual, or the NC Department of Transportation Construction and Maintenance Activities Manual, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200*

*Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (12) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses; and (21) turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.*

13. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. If the width of the culvert is wider than the stream channel, the culvert shall include multiple boxes/pipes, baffles, benches and/or sills to maintain the natural width of the stream channel. If multiple culverts/pipes/barrels are used, low flows shall be accommodated in one culvert/pipe and additional culverts/pipes shall be installed such that they receive only flows above bankfull.

Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life. If the culvert outlet is submerged within a pool or scour hole and designed to provide for aquatic passage, then culvert burial into the streambed is not required.

For structures less than 72" in diameter/width, and topographic constraints indicate culvert slopes of greater than 2.5% culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g. rock ladders, cross-vanes, sills, baffles etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 30 calendar days prior to the installation of the culvert.



When bedrock is present in culvert locations, culvert burial is not required, provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 30 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)*

*Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that structures are installed properly in waters will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.*

14. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters.

*Citation: 15A 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200; 15A NCAC 02B .0231*

*Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (12) Oils, deleterious substances, or colored or other wastes; only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses. As cited in Wetland Standards: (c)(1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.*

15. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state.

*Citation: 15A 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200; 15A NCAC 02B .0231*



*Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (12) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses. As cited in Wetland Standards: (c)(1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.*

16. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross-sectional dimensions, planform pattern, and longitudinal bed profile. All temporarily impacted sites shall be restored and stabilized with native vegetation.

*Citation: 15A NCAC 02H.0506(b); 15A NCAC 02H .0507(c)*

*Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Protections are necessary to ensure any remaining surface waters or wetlands, and any surface waters or wetlands downstream, continue to support existing uses after project completion.*

17. All proposed and approved temporary pipes/culverts/rip-rap pads etc. in streams or wetlands shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this Certification.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)*

*Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. Ensuring that structures are installed properly in waters will ensure that surface water quality standards are met and conditions of waters are suitable for all best uses.*

18. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original streambed elevation and streambank contours are restored and maintained and shall consist of clean rock or masonry material free of debris or toxic pollutants. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or be installed in a manner that precludes aquatic life passage.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)*



*Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.*

19. All mechanized equipment operated near surface waters shall be inspected and maintained regularly to prevent contamination of surface waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of equipment to surface waters to the maximum extent practicable. Fueling, lubrication, and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0200; 15A NCAC 02B .0231*

*Justification: A project that affects waters shall not be permitted unless the existing uses, and the water quality to protect such uses, are protected. Activities must not cause water pollution that precludes any best use on a short-term or long-term basis. As cited in Stream Standards: (12) Oils, deleterious substances, or colored or other wastes: only such amounts as shall not render the waters injurious to public health, secondary recreation, or to aquatic life and wildlife, or adversely affect the palatability of fish, aesthetic quality, or impair the waters for any designated uses. As cited in Wetland Standards: (c)(1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses; and (3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses.*

20. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance and compaction.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c); 15A NCAC 02B .0231*

*Justification: Wetland standards require maintenance or enhancement of existing uses of wetlands such that hydrologic conditions necessary to support natural biological and physical characteristics are protected; populations of wetland flora and fauna are maintained to protect biological integrity of the wetland; and materials or substances are not present in amounts that may cause adverse impact on existing wetland uses.*

21. In accordance with 143-215.85(b), the permittee shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.

*Citation: 15A NCAC 02H .0507(c); N.C.G.S 143-215.85(b)*

*Justification: Person(s) owning or having control over oil or other substances upon notice of discharge must immediately notify the Department, or any of its agents or employees, of the nature, location, and time of the discharge and of the measures which are being taken or are proposed to be taken to contain and remove the discharge. This action is required in order to*



*contain or divert the substances to prevent entry into the surface waters. Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule (including, at minimum: aquatic life propagation, survival, and maintenance of biological integrity; wildlife; secondary contact recreation; agriculture); and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis.*

22. The permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)*

*Justification: Surface water quality standards require that conditions of waters be suitable for all best uses provided for in state rule, and that activities must not cause water pollution that precludes any best use on a short-term or long-term basis. The Division must evaluate if the activity has avoided and minimized impacts to waters, would cause or contribute to a violation of standards, or would result in secondary or cumulative impacts.*

23. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this certification in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this Water Quality Certification. A copy of this Water Quality Certification shall be available at the project site during the construction and maintenance of this project.

*Citation: 15A NCAC 02H .0506(b); 15A NCAC 02H .0507(c)*

*Justification: Those actually performing the work should be aware of the requirements of this 401 Water Quality Certification to minimize water quality impacts.*

This approval to proceed with your proposed impacts or to conduct impacts to waters as depicted in your application shall expire upon expiration of the 404 Permit. The conditions in effect on the date of issuance shall remain in effect for the life of the project, regardless of the expiration date of this Certification. [15A NCAC 02H .0507(c)]

This, the 29<sup>th</sup> day of August 2022

DocuSigned by:

*Andrew H Pitner*

F161FB69A2D84A3...

Andrew H. Pitner, P.G., Acting Regional Supervisor  
Water Quality Regional Operations Section  
Mooresville Regional Office



**U.S. ARMY CORPS OF ENGINEERS**  
**WILMINGTON DISTRICT**

Action Id. SAW-2021-01147 County: Cabarrus U.S.G.S. Quad: NC-Harrisburg

**GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION**

Permittee: City of Concord  
Lloyd Payne  
Address: P.O. Box 308  
Concord, NC 28026  
Telephone Number: 704-920-5401  
E-mail: hydes@concordnc.gov

Size (acres)	<u>25.5</u>	Nearest Town	<u>Concord</u>
Nearest Waterway	<u>Coddle Creek</u>	River Basin	<u>Upper Pee Dee</u>
USGS HUC	<u>03040105</u>	Coordinates	Latitude: <u>35.3723</u> Longitude: <u>-80.6359</u>

Location description: Project is a sewer line extension located east of George W. Liles parkway in Concord, Cabarrus County, North Carolina.

Description of projects area and activity: This verification authorizes:

- 1) Permanent impact of 20 Linear Feet to Stream T for Culvert placement.
- 2) Permanent impact of 20 Linear Feet to Stream X for Culvert placement.
- 3) Permanent impact of 20 Linear Feet to Stream CA for Culvert placement.
- 4) Temporary impacts of 1.03 acres to Wetland B/BB for Conversion.
- 5) Temporary impacts of 1.03 acres to Wetland B/BB for Construction access.
- 6) Temporary impacts of 0.006 acres to Wetland P for Conversion.
- 7) Temporary impacts of 0.002 acres to Wetland P for Construction Access.
- 8) Temporary impacts of 0.001 acres to Wetland Y for Conversion.
- 9) Temporary impacts of 0.005 acres to Wetland Y for Construction Access.
- 10) Temporary impacts of 0.003 acres to Wetland W for Construction access.
- 11) Temporary impacts of 0.09 acres to Wetland U for Conversion.
- 12) Temporary impacts of 0.06 acres to Wetland U for Construction access.
- 13) Temporary impacts of 0.007 acres to Wetland Q for Conversion.

Applicable Law(s): ☒ Section 404 (Clean Water Act, 33 USC 1344)  
☐ Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: **NWP 58: Utility Line Activities for Water and Other Substances**

**SEE ATTACHED NWP GENERAL, REGIONAL, AND/OR SPECIAL CONDITIONS**

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached Conditions, your application signed and dated 7/16/2022, and the enclosed plans City of Concord Capital Improvement Projects dated 7/11/2022. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide and/or regional general permit authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide and/or regional general permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide and/or regional general permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide and/or regional general permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide and/or regional general permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Resources (telephone 919-807-6300) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management Morehead City, NC, at (252) 808-2808.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits. If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact Krystynka B. Stygar at 252-545-0507 or [krystynka.b.stygar@usace.army.mil](mailto:krystynka.b.stygar@usace.army.mil).

Corps Regulatory Official: Krystynka B. Stygar

Date: 8/26/2022

Expiration Date of Verification: 3/14/2026

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4:0](http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0)

Copy furnished:

Agent: Wetlands and Environmental Planning Group  
Daniel Kuefler  
Address: 10612-D Providence Road, PMB 5r50  
Charlotte, NC 28277  
Telephone Number: 336-554-2728  
E-mail: Daniel.kuefler@wetlands-epg.com

Property Owner: City of Concord  
Sue Hyde  
Address: P.O. Box 308  
Concord, NC 28026  
Telephone Number: 704-920-5401  
E-mail: hydes@concordnc.gov



**SAW-2021-01147**

**SPECIAL CONDITIONS**

a. In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

Action ID Number: SAW-2021-01147

County: Cabarrus

Permittee: City of Concord, Lloyd Payne

Project Name: Trunk Sewer Extension- City of Concord

Date Verification Issued: 8/26/2022

Project Manager: Krystynka B Stygar

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS  
WILMINGTON DISTRICT  
Attn: Krystynka B Stygar  
Charlotte Regulatory Office  
U.S Army Corps of Engineers  
8430 University Executive Park Drive, Suite 615  
Charlotte, North Carolina 28262  
or  
krystynka.b.stygar@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Date

**U.S. ARMY CORPS OF ENGINEERS**  
**Wilmington District**  
**Compensatory Mitigation Responsibility Transfer Form**

**Permittee:** City of Concord, Lloyd Payne  
**Project Name:** Trunk Sewer Extension-City of Concord

**Action ID:** SAW-2021-01147  
**County:** Cabarrus

**Instructions to Permittee:** The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Division of Mitigation Services (NCDMS), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that Wilmington District Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one Mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate Mitigation Sponsors.

**Instructions to Sponsor:** The Sponsor verifies that the mitigation requirements (credits) shown below have been released and are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated ledger to the Permittee, the Project Manager who issued the permit, the Bank Project Manager, and the District Mitigation Office (see contact information on page 2). The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

**Permitted Impacts and Compensatory Mitigation Requirements:**

Permitted Impacts Requiring Mitigation*			8-digit HUC and Basin: 03040105, Yadkin River Basin			
Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
			1.217			

\*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements:			8-digit HUC and Basin: 03040105, Yadkin River Basin			
Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
			1.217			

**Mitigation Site Debited:** NCDMS

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCDMS, list NCDMS. If the NCDMS acceptance letter identifies a specific site, also list the specific site to be debited).

***Section to be completed by the Mitigation Sponsor***

**Statement of Mitigation Liability Acceptance:** I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCDMS), as approved by the Wilmington District, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

**Mitigation Sponsor Name:** \_\_\_\_\_

**Name of Sponsor's Authorized Representative:** \_\_\_\_\_

Signature of Sponsor's Authorized Representative

Date of Signature

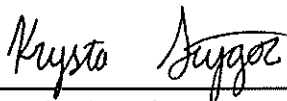
**Conditions for Transfer of Compensatory Mitigation Credit:**

- Once this document has been signed by the Mitigation Sponsor and the District is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the District is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. When NCDMS provides mitigation for authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by NCDMS must be provided to the District within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the District has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the District Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the District, the Sponsor must obtain case-by-case approval from the District Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the District administrative records for both the permit and the Bank/ILF Instrument.

**Comments/Additional Conditions:** A letter from NCDMS, confirming they are willing and able to accept the applicant's compensatory mitigation responsibility, dated 7/15/2022 was included with the preconstruction notification.

This form is not valid unless signed below by the District Project Manager and by the Mitigation Sponsor on Page 1. *Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the District Project Manager at the address below, 3) the Bank Manager listed in RIBITS, and 4) the Wilmington District Mitigation Office, 3331 Heritage Trade Drive, Suite 105, Wake Forest, NC 27587 (or by email to [SAWMIT@usace.army.mil](mailto:SAWMIT@usace.army.mil)).* Questions regarding this form or any of the permit conditions may be directed to the District Mitigation Office.

**USACE Project Manager:** Krystynka B Stygar  
**USACE Field Office:** Charlotte Regulatory Office  
US Army Corps of Engineers  
8430 University Executive Park Drive, Suite 615  
Charlotte, North Carolina 28262  
**Email:** [krystynka.b.stygar@usace.army.mil](mailto:krystynka.b.stygar@usace.army.mil)



USACE Project Manager Signature

8/26/2022

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.

ROY COOPER

Governor

ELIZABETH S. BISER

Secretary

MARC RECKTENWALD

Director



NORTH CAROLINA  
Environmental Quality

## RECEIPT

September 20, 2022

Sue Hyde  
City of Concord  
PO Box 308  
Concord, NC 28026

**Project:** City of Concord Capital Improvement Project  
**County:** Cabarrus  
**401 permit#:** 2022-0966  
**404 permit#:** 2021-01147  
**DMS ID#:** MR-08191  
**Amount Paid:** \$86,332.97  
**Check Number:** 422677

The NCDEQ Division of Mitigation Services (DMS) has received a check as indicated above as payment for the compensatory mitigation requirements of the 401 Water Quality Certification/Section 404 Permit(s) issued for the above-referenced project. This receipt serves as notification that your compensatory mitigation requirements assigned to DMS associated with the authorized activity as specified below have been satisfied. You must also comply with all other conditions of this certification and any other state, federal or local government permits or authorization associated with this activity including G.S. § 143-214.11.

The DMS, by acceptance of this payment, acknowledges that the Division is responsible for the compensatory mitigation requirements indicated below associated with the project permit and agrees to provide the compensatory mitigation as specified in the permit. Mitigation responsibility assigned to the DMS is nontransferable. The mitigation will be performed in accordance with the In-Lieu Fee Program instrument dated July 28, 2010.

Mitigation Location	Mitigation Type	Credits
Yadkin 03040105	Riparian Wetland	1.217

Refunds of payments made to NCDMS are only approved under certain conditions. All refund requests must be submitted in accordance with the Division's refund policy. If you have any questions or need additional information, please contact Kelly.Williams@ncdenr.gov.

Sincerely,

A handwritten signature in cursive script that reads "Kelly Williams".

Kelly Williams  
ILF Program Coordinator

cc: Todd Tugwell, USACE - Raleigh; Krysta Stygar, USACE  
Amber Lipsky, agent



North Carolina Department of Environmental Quality | Division of Mitigation Services  
217 West Jones Street | 1652 Mail Service Center | Raleigh, North Carolina 27699-1652  
919.707.8976

## **APPENDIX C**

### **NCDEQ CERTIFICATE OF PLAN APPROVAL**

ROY COOPER  
Governor

ELIZABETH S. BISER  
Secretary

DOUGLAS R. ANSEL  
Interim Director



NORTH CAROLINA  
Environmental Quality

January 10, 2023

## LETTER OF APPROVAL WITH MODIFICATIONS

City of Concord  
Attention: Lloyd Payne, City Manager  
PO Box 308  
Concord, North Carolina 28206

RE: Project Name: 12" Public Sewer Extension Phase 2  
Project ID: CABAR-2023-035  
Acres Approved: 9.3  
County: Cabarrus  
City: Concord  
Location: New Town Way  
River Basin: Yadkin-PeeDee  
Stream Classification: Other  
Submitted By: LandDesign  
Date Received by LQS: December 28, 2022  
Plan Type: Revised

Dear Mr. Payne:

This office has reviewed the subject erosion and sedimentation control plan. We find the plan to be acceptable with modifications and hereby issue this letter of Approval with Modifications. The Modifications Required for Approval are listed on the attached page. This plan approval shall expire three (3) years following the date of approval, if no land-disturbing activity has been undertaken, as is required by Title 15A NCAC 4B .0129.

As of April 1, 2019, all new construction activities are required to complete and submit an electronic Notice of Intent (eNOI) form requesting a Certificate of Coverage (COC) under the NCG010000 Construction General Permit. After the form is reviewed and found to be complete, you will receive a link with payment instructions for the \$100 annual permit fee. After the fee is processed, you will receive the COC via email. As the Financially Responsible Party shown on the FRO form submitted for this project, you MUST obtain the COC prior to commencement of any land disturbing activity. The eNOI form may be accessed at [deq.nc.gov/NCG01](http://deq.nc.gov/NCG01). Direct questions about the eNOI form to the Stormwater Program staff in the Raleigh central office. If the owner/operator of this project changes in the future, the new responsible party must obtain a new COC.

Title 15A NCAC 4B .0118(a) and the NCG01 permit require that the following documentation be kept on file at the job site:

1. The approved E&SC plan as well as any approved deviation.



North Carolina Department of Environmental Quality | Division of Energy, Mineral and Land Resources  
Mooresville Regional Office | 610 East Center Avenue, Suite 301 | Mooresville, North Carolina 28115  
704.663.1699

Letter of Approval with Modifications  
City of Concord  
January 10, 2023  
Page 2 of 3

2. The NCG01 permit and the COC, once it is received.
3. Records of inspections made during the previous 30 days.

Also, this letter gives the notice required by G.S. 113A-61.1(a) of our right of periodic inspection to ensure compliance with the approved plan.

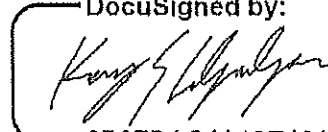
North Carolina's Sedimentation Pollution Control Act is performance-oriented, requiring protection of existing natural resources and adjoining properties. If, following the commencement of this project, it is determined that the erosion and sedimentation control plan is inadequate to meet the requirements of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statute 113A-51 through 66), this office may require revisions to the plan and implementation of the revisions to ensure compliance with the Act.

Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations, and rules. In addition, local city or county ordinances or rules may also apply to this land-disturbing activity. This approval does not supersede any other permit or approval.

Note that this approval is based in part on the accuracy of the information provided in the Financial Responsibility Form, which you provided. You are requested to file an amended form if there is any change in the information included on the form. In addition, it would be helpful if you notify this office of the proposed starting date for this project. Your cooperation is appreciated.

Sincerely,

DocuSigned by:



8B37DAC4A10E49A...

Kenny S. Llywelyn  
Assistant Regional Engineer  
Land Quality Section

Enclosures: Certificate of Approval  
Modifications Required for Approval  
NCG01 Fact Sheet

c: Land Design  
Attn: Rob Keidel  
223 North Graham Street  
Charlotte, NC 28802





Letter of Approval with Modifications  
City of Concord  
January 10, 2023  
Page 3 of 3

### MODIFICATIONS REQUIRED FOR APPROVAL

**Project Name:** 12" Public Sewer Extension Phase 2  
**Project ID:** CABAR-2023-035  
**County:** Cabarrus  
**Reviewed by:** Kenny S. Llywelyn

1. Submitted updated FRO reflecting the added disturbed area for new access areas. If access points disturbed area is greater than .7 acres that will trip the total disturbed area over 10 acres, then a new fee and updated FRO will need to be submitted to our office. This submittal will need to be in our prior to the start of the land disturbing activity.



## **APPENDIX D**

# **NCDEQ FINANCIAL RESPONSIBILITY/OWNERSHIP FORM**

Check if this project is ARPA-funded ☐  
Attach a copy of the Letter of Intent to Fund

## FINANCIAL RESPONSIBILITY/OWNERSHIP FORM SEDIMENTATION POLLUTION CONTROL ACT

No person may initiate any land-disturbing activity on one or more acres as covered by the Act, including any activity under a common plan of development of this size as covered by the NCG01 permit, before this form and an acceptable erosion and sedimentation control plan have been completed and approved by the Land Quality Section, N.C. Department of Environmental Quality. Submit the completed form to the appropriate Regional Office. (Please type or print and, if the question is not applicable or the e-mail address or phone number is unavailable, place N/A in the blank.)

### Part A.

1. Project Name \_\_\_\_\_

*\*If this project involves American Rescue Plan Act (ARPA) funds, list the Project Name or Project Number (e.g., SRP-D-ARP-0121) below under which you were approved for funding through the Division of Water Infrastructure (DWI).*

2. Location of land-disturbing activity: County \_\_\_\_\_ City or Township \_\_\_\_\_

Highway/Street \_\_\_\_\_ Latitude (decimal degrees) \_\_\_\_\_ Longitude (decimal degrees) \_\_\_\_\_

3. Approximate date land-disturbing activity will commence: \_\_\_\_\_

4. Purpose of development (residential, commercial, industrial, institutional, etc.): \_\_\_\_\_

5. Total acreage disturbed or uncovered (including off-site borrow and waste areas): \_\_\_\_\_

6. Amount of fee enclosed: \$ \_\_\_\_\_. The application fee of \$100.00 per acre (rounded up to the next acre) is assessed without a ceiling amount (Example: 8.10-acre application fee is \$900). Checks should be addressed to NCDEQ.

7. Has an erosion and sediment control plan been filed? Yes ☐ Enclosed ☐ No ☐

8. Person to contact should erosion and sediment control issues arise during land-disturbing activity:

Name \_\_\_\_\_ E-mail Address \_\_\_\_\_

Phone: Office # \_\_\_\_\_ Mobile # \_\_\_\_\_

9. Landowner(s) of Record (attach accompanied page to list additional owners):

Name \_\_\_\_\_ Phone: Office # \_\_\_\_\_ Mobile # \_\_\_\_\_

Current Mailing Address \_\_\_\_\_ Current Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

10. Deed Book No. \_\_\_\_\_ Page No. \_\_\_\_\_ Provide a copy of the most current deed.

**Part B.**

1. Company(ies) who are financially responsible for the land-disturbing activity (Provide a comprehensive list of all responsible parties on accompanied page.) *If the company is a sole proprietorship or if the landowner(s) is an individual(s), the name(s) of the owner(s) may be listed as the financially responsible party(ies).*

Company Name	E-mail Address
Current Mailing Address	Current Street Address
City State Zip	City State Zip
Phone: Office #	Mobile #

Note: If the Financially Responsible Party is not the owner of the land to be disturbed, include with this form the landowner's signed and dated written consent for the applicant to submit a draft erosion and sedimentation control plan and to conduct the anticipated land disturbing activity.

2. (a) If the Financially Responsible Party is a domestic company registered on the NC Secretary of State business registry, give name and street address of the Registered Agent:

Name of Registered Agent	E-mail Address
Current Mailing Address	Current Street Address
City State Zip	City State Zip
Phone: Office #	Mobile #

Name of Individual to Contact (if Registered Agent is a company)

- (b) If the Financially Responsible Party is not a resident of North Carolina, give name and street address of the designated North Carolina agent who is registered on the NC Secretary of State business registry:

Name of Registered Agent	E-mail Address
Current Mailing Address	Current Street Address
City State Zip	City State Zip
Phone: Office #	Mobile #

Name of Individual to Contact (if Registered Agent is a company)

(c) If the Financially Responsible Party is engaging in business under an assumed name, give name under which the company is Doing Business As. If the Financially Responsible Party is an individual, General Partnership, or other company not registered and doing business under an assumed name, **attach a copy of the Certificate of Assumed Name.**

\_\_\_\_\_  
Company DBA Name

The above information is true and correct to the best of my knowledge and belief and was provided by me under oath. (This form must be signed by the Financially Responsible Person if an individual(s) or his attorney-in-fact, or if not an individual, by an officer, director, partner, or registered agent with the authority to execute instruments for the Financially Responsible Party). I agree to provide corrected information should there be any change in the information provided herein.

\_\_\_\_\_  
Type or print name

\_\_\_\_\_  
Title or Authority

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

-----  
I, \_\_\_\_\_, a Notary Public of the County of \_\_\_\_\_

State of North Carolina, hereby certify that \_\_\_\_\_ appeared personally before me this day and being duly sworn acknowledged that the above form was executed by him/her.

Witness my hand and notarial seal, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

Seal

\_\_\_\_\_  
Notary

My commission expires \_\_\_\_\_

*Continued from Items 9 & 10 in Part A of the Financial Responsibility/Ownership Form for multiple owners. Attach copies of this page as needed to list all landowners.*

Landowner 2 of Record:

_____ Name			_____ Phone: Office #		_____ Mobile #
_____ Current Mailing Address			_____ Current Street Address		
_____ City	_____ State	_____ Zip	_____ City	_____ State	_____ Zip
Deed Book No. _____ Page No. _____ Provide a copy of the most current deed.					

Landowner 3 of Record:

_____ Name			_____ Phone: Office #		_____ Mobile #
_____ Current Mailing Address			_____ Current Street Address		
_____ City	_____ State	_____ Zip	_____ City	_____ State	_____ Zip
Deed Book No. _____ Page No. _____ Provide a copy of the most current deed.					

Landowner 4 of Record:

_____ Name			_____ Phone: Office #		_____ Mobile #
_____ Current Mailing Address			_____ Current Street Address		
_____ City	_____ State	_____ Zip	_____ City	_____ State	_____ Zip
Deed Book No. _____ Page No. _____ Provide a copy of the most current deed.					

Landowner 5 of Record:

_____ Name			_____ Phone: Office #		_____ Mobile #
_____ Current Mailing Address			_____ Current Street Address		
_____ City	_____ State	_____ Zip	_____ City	_____ State	_____ Zip
Deed Book No. _____ Page No. _____ Provide a copy of the most current deed.					

*Continued from Item 1 in Part B of the Financial Responsibility/Ownership Form for multiple parties.  
Attach copies of this page as needed to list all financially responsible parties.*

\_\_\_\_\_  
Company 2 Name

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Current Mailing Address

\_\_\_\_\_  
Current Street Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
City State Zip

Phone: Office # \_\_\_\_\_

Mobile # \_\_\_\_\_

\_\_\_\_\_  
Company 3 Name

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Current Mailing Address

\_\_\_\_\_  
Current Street Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
City State Zip

Phone: Office # \_\_\_\_\_

Mobile # \_\_\_\_\_

\_\_\_\_\_  
Company 4 Name

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Current Mailing Address

\_\_\_\_\_  
Current Street Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
City State Zip

Phone: Office # \_\_\_\_\_

Mobile # \_\_\_\_\_

\_\_\_\_\_  
Company 5 Name

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Current Mailing Address

\_\_\_\_\_  
Current Street Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
City State Zip

Phone: Office # \_\_\_\_\_

Mobile # \_\_\_\_\_