



October 29, 2021

RE: Request for Bids

North Topsail Beach Reach 5 North End Truck Haul

Potential Bidders:

The Town of North Topsail Beach is seeking proposals from qualified contractors for construction of the North Topsail Beach Reach 5 North End Truck Haul. The project includes placing 289,000 cy (+/- 15 %) of beach compatible material along ~12,175 feet of shoreline. The sand source is an upland sand mine. Two upland mines are included in the proposal and other potential beach compatible sand mines can also be used (subject to engineer and permitting approval). Hauling and work on the beach will be necessary to perform the project. This project will generally place material on the upper beach and intertidal area (and not the dune). Plans are available digitally by contacting Fran Way, PE and will also be available on the Town's website: ntbnc.org.

Sealed proposals will be received by the Town of North Topsail Beach at the temporary Town Hall: 1000 NC HWY 210, Sneads Ferry, NC 28460. Sealed proposals are due by Thursday, December 2, 2021, at 2pm local time. Proposals will be publicly opened and read immediately thereafter.

Owner: Town of North Topsail Beach

1000 NC HWY 210

Sneads Ferry, NC 28460

Contact: Alice Derian, Town Manager

Townmanager@ntbnc.org

Engineer: Applied Technology & Management

941 Houston Northcutt Blvd., Suite 201

Mount Pleasant, SC 29464

(843) 414-1040 phone; Contact: Fran Way, P.E.

fway@appliedtm.com



**Town of North Topsail Beach
Onslow County, North Carolina**

**Invitation
For Bid**

**North Topsail Beach Reach 5
North End Truck Haul Project**

October 29, 2021

Bids Due: December 2, 2021

NORTH TOPSAIL BEACH REACH 5 NORTH END TRUCK HAUL

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NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Section A – Invitation to Bidders

INVITATION TO BID:

NORTH TOPSAIL BEACH REACH 5 NORTH END TRUCK HAUL

Sealed bids will be received by the Town of North Topsail Beach, 1000 NC HWY 210 Sneads Ferry, NC 28460, for the North Topsail Beach Reach 5 North End Truck Haul Project, until Thursday, December 2, 2021 at 2:00 PM when they will be opened publicly and read.

The OWNER for the project is the Town of North Topsail Beach.

The work consists of a project requiring at least the following activities:

1. Excavation, truck haul, and placement of +/- 289,000 cubic yards of beach quality sediment from an upland sand mine.
2. Grading of the beach fill to the specified lines and grades along the ~12,175-foot project length.
3. Environmental compliance monitoring, as described in the project specifications and state and federal construction permits.

The project is slated to begin on or around mid-January 2022 where sand placement will occur until April 30, 2022 (with potential permit extensions into May). It is assumed that all 289,000 cy cannot be placed during this window and that the project will be completed during the next permitting window (November 16, 2022 to April 30, 2023).

Bid Documents are available from the OWNER's ENGINEER for an electronic pdf download. Interested parties should contact Monica Stevens at ATM (843/414-1040 phone; 843/414-0155 fax) for additional information and to obtain copies of the Contract Documents.

Bids must be accompanied by a Bid Security in the form of a certified or bank cashier's check made payable to the OWNER, or a Bid Bond. The amount of the security shall not be less than 5 percent of the Bidder's total price indicated on the Bid Form.

A pre-bid conference will be held on Thursday, November 11, 2021 at 1 PM. Any questions shall be directed in writing to ATM per the Instructions to Bidders (Section C, Item 7). The last day to submit questions that require a response will be Monday, November 22, 2021. The bid closing date is Thursday, December 2, 2021, at 2:00 pm.

No Bid may be withdrawn for a period of sixty (60) days after the scheduled closing for receipt of bids.

The OWNER reserves the right to reject any or all Bids, to waive informalities, and to re-advertise.

The OWNER encourages minority businesses to submit Bids for this project.

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

**Section B – Agreement Between Owner and Contractor for
Construction Contract**

ARTICLE 1 – AGREEMENT – THE MAJORITY OF THIS AGREEMENT WILL BE FILLED OUT FOLLOWING BIDDING PROCESS.

**AGREEMENT BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between _____ (“Owner”) and
_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 2 – WORK

2.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: Excavation, transport, placement, and grading of approximately 289,000 cubic yards of beach quality sand material on North Topsail Beach.

ARTICLE 3 – THE PROJECT

3.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: North Topsail Beach Reach 5 North End Truck Haul.

ARTICLE 4 – ENGINEER

4.01 The part of the Project that pertains to the Work has been designed by Applied Technology & Management (ATM of NC).

4.02 The Owner has retained Applied Technology & Management (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 5 – CONTRACT TIMES

5.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

5.02 *Contract Times: Dates*

A. The Work will be substantially completed on or before _____, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before _____.

5.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 5.01 above and that Owner will suffer financial and other losses if the Work is not completed within the times specified in Paragraph 5.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered

by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner \$ 1,000 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 5.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$ 1,000 for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

5.04 *Special Damages*

- A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 5.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 5.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 6 – CONTRACT PRICE

6.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Work other than Unit Price Work, a lump sum of: \$ N/A (see Unit Price Work).

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

- B. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

Unit Price Work					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Extended Price
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)					\$

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

- C. Total of Lump Sum Amount and Unit Price Work (subject to final Unit Price adjustment) \$_____.
- D. For all Work, at the prices stated in Contractor’s Bid, attached hereto as an exhibit.

ARTICLE 7 – PAYMENT PROCEDURES

7.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

7.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor’s Applications for Payment on or about the 1st day of each month during performance of the Work as provided in Paragraph 7.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. 95 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

7.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 8 – INTEREST

- 8.01 *All amounts not paid when due shall bear interest at the rate based on North Carolina General Statute 143-134.1.*

ARTICLE 9 – CONTRACTOR'S REPRESENTATIONS

- 9.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
 - E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
 - F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 10 – CONTRACT DOCUMENTS

10.01 Contents

A. The Contract Documents consist of the following:

- 1. This Agreement (pages 1 to █, inclusive).
- 2. Performance bond (pages █ to █, inclusive).
- 3. Payment bond (pages █ to █, inclusive).
- 4. Other bonds.
 - a. █ (pages █ to █, inclusive).

NOTE(S) TO USER:

Such other bonds might include maintenance or warranty bonds intended to manage risk after completion of the Work.

- 5. General Conditions (pages █ to █, inclusive).
- 6. Supplementary Conditions (pages █ to █, inclusive).
- 7. Specifications as listed in the table of contents of the Project Manual.
- 8. Drawings (not attached but incorporated by reference) consisting of █ sheets with each sheet bearing the following general title: █ [or] the Drawings listed on the attached sheet index.
- 9. Addenda (numbers █ to █, inclusive).
- 10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages █ to █, inclusive).
- 11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.

- B. The documents listed in Paragraph 10.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 10.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 11 – MISCELLANEOUS

11.01 Terms

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

11.02 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

11.03 Successors and Assigns

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

11.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

11.05 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 11.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

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

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

2.

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

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

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____

(where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Section C – Instructions to Bidders

BID INFORMATION: INSTRUCTIONS TO BIDDERS

1.0 DESCRIPTION OF WORK

1.1 The Work includes furnishing all materials, equipment, and labor to construct the following items as specified in the plans and permits:

- Excavation, transport, and placement of approximately 289,000 cy (+/- 15%) of beach fill at North Topsail Beach for a project length of approximately 12,175 feet,

1.2 The method of construction, equipment to be used, safety plans, environmental protection plans, and work plans shall meet all specifications, and requirements detailed in the contract documents, and be approved in writing by the ENGINEER *prior to* initiation of any construction.

1.3 The timeline for the bidding process and construction activity will generally follow the schedule below:

October 29, 2021 – Bid documents will be made available

November 11, 2021 – Non-mandatory Pre-bid meeting at 1pm at the Gray Street beach access.

November 22, 2021 – Questions submitted after this date do not require a response

December 2, 2021 – Bids due date and opening by Town of North Topsail Beach

December 10, 2021 – Contingent Notice of Award anticipated issuance. Note that the formal Notice of Award will be issued following state Local Government Commission (LGC) funding finalization in mid January, 2022.

Final contracting to occur based on negotiations and coordination with winning bidder.

November 16, 2021 to April 30, 2022 – Permitted fill placement window

November 16, 2022 to April 30, 2023 – Permitted fill placement window

1.4 The State (NCDEQ/NCDENR) and USACE permits are in processing and will be provided when available. It is anticipated that permits will be issued in December.

2.0 DEFINED TERMS

2.1 Bidder: one who submits a bid directly to the OWNER.

2.2 Successful Bidder (CONTRACTOR): the reasonably priced, responsible, and responsive Bidder to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award and with whom the OWNER executes an Agreement for the Work. The OWNER may reject any or all bids or portions of bids.

2.3 Bidding Documents: Includes the Invitation to Bidders, Standard Form of Agreement Between Owner and Contractor on the Basis of a Stipulated Price, Instructions to Bidders, General Conditions of the Agreement Between Owner and Contractor, EJCDC Contract Forms (including Construction Payment Bond, Construction Performance Bond, etc.), Bid Forms (including Bid Proposal Form, etc.), Standard General Conditions, Supplemental Conditions, Addenda, and Contract Drawings and Specifications.

2.4 OWNER:

Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, NC 28460
Contact: Alice Derian, Town Manager

2.5 ENGINEER

Applied Technology & Management
941 Houston Northcutt Blvd., Suite 201
Mount Pleasant, SC 29464
(843) 414-1040 phone
(843) 414-0155 fax
Contact: Fran Way, P.E.

3.0 COPIES OF BIDDING DOCUMENTS

3.1 Complete sets of the Bidding Documents may be obtained by contacting the ENGINEER or North Topsail Beach.

3.2 Complete sets of Bidding Documents must be used in preparing Bids; OWNER and ENGINEER assume no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.3 OWNER and ENGINEER, in making copies of Bidding 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.

4.0 QUALIFICATIONS OF BIDDERS

4.1 Bidders must submit with the Bid Proposal evidence of capabilities to complete the North Topsail Beach Reach 5 North End Truck Haul project. This will include a list of similar projects (scope and size) successfully completed in the past, a reference list, an equipment list, a list of subcontractors, and other information requested by the ENGINEER or OWNER. Failure to submit qualifications information with the Bid Proposal may result in rejection of a Bid. Successful Bidder is required to have a Contractor's License with the State of North Carolina.

4.2 Each Bidder must be prepared to submit within ten (10) days after Bid opening and upon OWNER's request, detailed written evidence such as financial data, present commitments and other such information as may be called for by the OWNER to fully evaluate all Bids. Failure to submit additional qualifications information requested by the OWNER may result in rejection of a Bid.

5.0 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

5.1 It is the responsibility of each Bidder before submitting a Bid:

5.1.1 To satisfy themselves by personal examination of the regional, local and site conditions of the proposed Work;

5.1.2 To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents;

5.1.3 To examine thoroughly the requirements of the Work and the accuracy of the estimate of the quantities of the Work to be done;

5.1.4 To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work;

5.1.5 To review and consider the conditions placed upon the construction of the Project by State and Federal agencies in the Project permits;

5.1.6 To study and carefully correlate Bidder's knowledge and observations with the Contract Documents and such other related data; and

5.1.7 To promptly notify OWNER of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between the Contract Documents and such other related documents.

5.1.8 To determine that the Bidding and Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

5.2 Before submitting a Bid, each Bidder will be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and underground utilities) 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 or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or 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.

5.3 On request, the OWNER will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. Bidder must restore the site to its equal or better condition upon completion of such explorations, investigations, test and studies.

5.4 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 5, "Examination of Contract Documents and Site", that without exception the Bid is premised upon performing and furnishing all Work required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures of construction that may be shown or indicated or expressly required by the Contract Documents, that Bidder has given OWNER written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Contract Documents and the written resolutions thereof by OWNER is acceptable

to Bidder, and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

5.5 The provisions of 5.1 through 5.4, inclusive, do not apply to Asbestos, Polychlorinated Biphenyls (PCBs), Hazardous Waste or Radioactive Material.

6.0 AVAILABILITY OF LANDS FOR WORK, ETC.

6.1 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 shown on the Contract Drawings and/or will be agreed upon with the OWNER prior to construction. All additional lands and access thereto required for temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by the CONTRACTOR.

7.0 INTERPRETATIONS AND ADDENDA

7.1 All questions about the meaning or intent of the Bidding Documents are to be directed to the ENGINEER in writing. Interpretations or clarifications considered necessary by OWNER and ENGINEER will be issued by Addenda mailed, faxed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Questions received after July 28, 2020 may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.2 Addenda may also be issued to modify the Bidding Documents as deemed advisable by OWNER, and, if issued, will become part of the Bidding Documents.

8.0 BID SECURITY

8.1 Each Bid must be accompanied by Bid security made payable to the OWNER in an amount of five percent (5%) of Bidder's maximum total bid price (inclusive of all phases and complete in place), in the form of a certified check, cashier's check, or a Bid Bond (included in Bid Forms section) issued by a surety meeting the requirements of Article 6 of the Standard General Conditions. All checks must be made payable to the Town of North Topsail Beach.

8.2 The Bid security of apparent Successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the apparent Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within fifteen (15) calendar days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of the Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of the seventh calendar day after the Effective Date of the Agreement or the thirty-sixth calendar day after the Bid opening whereupon Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within seven (7) days after the Bid opening.

9.0 CONTRACT TIMES AND START DATE

9.1 *Work Plan:* It is the OWNER's desire for Work to begin as soon as possible. The standard permitting nourishment window for this construction season is from November 16, 2021 to April 30, 2022. However funding for this project will not be finalized until mid-January 2022. It anticipated that the project start will begin in February and extend to April 30 (with potential permit extensions into May). Any remaining material not placed during this window will be placed beginning November 16, 2022. Bidders shall submit a detailed Work Plan and Schedule with their bids. The Work Plan must include all anticipated project milestones, including (at a minimum) dates of commencement, substantial completion, and final completion. Dates may be referenced (by days) from the Notice to Proceed (which will be issued following final LGC financing approval anticipated in mid-January 2022). Note that a contingent Notice of Award will be issued immediately following bidding. Final critical dates shall be determined during Contract negotiations between the selected CONTRACTOR and OWNER. Contract Times may be extended, at the discretion of OWNER and permit conditions, to allow for weather delays or other circumstances which hinder the Work.

9.2 *Liquidated Damages:* The OWNER has included Liquidated Damages as part of the Contract. Terms for Liquidated Damages for failure to complete the Work during the Contract Time are set forth in Article 5.0 of the Agreement Between Owner and Contractor for a Construction Contract (Stipulated Price).

10.0 WORKING HOURS

10.1 The OWNER will permit the CONTRACTOR to work on the schedule described in Article 7 of the Standard General Conditions and as amended by the Supplementary Conditions. As portions of the project are adjacent to residences, the CONTRACTOR shall schedule the Work, to the extent possible, to minimize noise and disturbances on Sundays, at night, and during early morning hours.

11.0 CONTRACT QUANTITIES

Contract quantities are as indicated on the Bid Form. Note that contract quantities are estimated and not guaranteed.

12.0 SUBCONTRACTORS, SUPPLIERS AND OTHERS

12.1 Bidders shall submit to OWNER a list of all Subcontractors, Suppliers and Consultants proposed for the Work, which account for more than ten (10) percent of the total Bid Price. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor and Consultant.

12.2 If after due investigation, OWNER has reasonable objection to any proposed Subcontractor, Supplier or Consultant, OWNER may before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute, without an increase in Bid Price. If apparent Successful Bidder declines to make any such substitution, OWNER may award the contract to another responsive and responsible Bidder that proposes to use acceptable Subcontractors, Suppliers and other persons and organizations. Any Subcontractor, Supplier or other party listed and to whom OWNER does not make written objection prior to giving of the Notice of Award, will be deemed acceptable to OWNER.

12.3 No CONTRACTOR shall be required to employ any Subcontractor, Supplier, other person or organization against whom CONTRACTOR has reasonable objection.

13.0 BID FORM

13.1 The Bid Form is included with the Bidding Documents; additional copies may be obtained from ENGINEER.

13.2 All blanks on the Bid Form must be completed by printing in black ink or typed.

13.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

13.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

13.5 All names must be typed or printed in black ink below the signature.

13.6 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

13.7 The address, telephone number, and contact name for communications regarding the Bid must be shown.

13.8 All supporting documentation and/or drawings shall be included as attachments to the Bid Form, including the following:

13.8.1 Qualifications and experience documentation including:

- Experience List
- Reference List
- Equipment List
- Subcontractor List
- Contractor's License

13.8.2 Bid Security;

13.8.3 Work Plan including proposed methods and schedule;

13.8.4 Acknowledgment of Receipt of Addenda.

14.0 SUBMISSION OF BIDS

14.1 Bids shall be submitted to the OWNER on or before December 2, 2021 at 2:00 PM at the address indicated in Item 2.4 above. Bids shall be enclosed in an opaque sealed envelope, marked with the Project title (North Topsail Beach Reach 5 North End Truck Haul), and the name and address of Bidder.

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. OWNER is not responsible for delays caused by the US Mail or any other delivery service. Bids not delivered by the date and time cited above may not be considered and may be returned unopened.

15.0 MODIFICATION AND WITHDRAWAL OF BIDS

15.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the same manner that a Bid must be executed) and delivered to the place where Bids are to be submitted and received at any time prior to the opening of Bids. Modified bid proposals shall be clearly marked, and shall supersede the prior bid proposal and shall be accompanied by all forms required in the Bid.

16.0 OPENING OF BIDS

16.1 Bids will be opened and (unless obviously non-responsive) read *publicly* at the place where Bids are to be submitted. An abstract of the amounts of the Bids will be made available to Bidders within a week after the opening of Bids.

17.0 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

17.1 All Bids will remain subject to acceptance for 60 days after the day of the Bid opening, but OWNER may, in its sole discretion, release and reject any Bid prior to that date.

18.0 AWARD OF CONTRACT

18.1 OWNER reserves the right to reject any or all Bids, including without limitation the rights to reject any or all non-conforming, non-responsive, unbalanced or conditional Bids and to reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the OWNER to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by OWNER.

18.2 OWNER also reserves the right to waive all informalities not involving price, time or changes in the Work and to negotiate contract terms with the Successful Bidder. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

18.3 Upon opening of Bids, ENGINEER shall determine whether or not the bids are responsive to the prescribed requirement of the Contract Documents. Thereafter, in evaluating responsive bids, OWNER will consider the qualifications of Bidders, critical dates, Bid Prices, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

18.4 OWNER may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted. 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.

18.5 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.

18.6 If the Contract is to be awarded, it will be awarded to the responsive and responsible Bidder whose evaluation by OWNER indicates that the award will be in the best interests of the OWNER. It is the intent of the OWNER to award the Contract to one Bidder. However, the OWNER reserves the right to award portions of the Contract to any combination of Bidders that is in the best interest of the OWNER.

19.0 SIGNING OF AGREEMENT

19.1 When OWNER gives a Notice of Award to the apparent Successful Bidder, it will be followed by two unsigned counterparts of the Agreement. Within five (5) business days thereafter CONTRACTOR shall sign and deliver two copies of the Agreement to OWNER with the required Insurance Certificates. Within five (5) business days thereafter OWNER shall deliver one fully signed counterpart to CONTRACTOR. Each counterpart is to be accompanied by a complete set of the Drawings with appropriate identification.

20.0 CONTRACT SECURITY (Performance and Payment Bonds)

20.1 Having satisfied all conditions of award as set forth elsewhere in these documents, the Successful Bidder shall, within 10 days, furnish a surety Bond(s) in a sum not less than the amount of the Contract as awarded, as security of the faithful performance of the Contract, and for the payment of all persons, firms or corporations to whom the CONTRACTOR may become legally indebted for labor, materials, tools, equipment, or services of any nature including utility and transportation services, employed or used by him in performing the work. Such Bond(s) shall be in the same form as that included in the Contract Documents and shall bear the same date as, or a date subsequent to that of the Agreement.

The Bidder shall furnish the required Bond(s), in the form provided herein, covering the faithful performance of the Contract and the payment of all obligations arising thereunder in full amount of the Contract, with such acceptable sureties secured through the Bidders usual sources as may be agreeable to the parties.

20.2 Acceptable Surety Companies: To be responsible to the OWNER as Surety on Bonds, Surety shall comply with the following provisions:

- Surety must be licensed to do business in North Carolina.
- Surety must have been in business and have a record of successful continuous operations for at least three years.
- Surety must have good underwriting, economic management, adequate reserves for undisclosed liabilities, net resources for unusual stock and sound investment.

- Surety shall not have exposed itself to any loss on any one risk in an amount exceeding twenty percent (20%) of its surplus to policyholders.
- Surety must have fulfilled all of its obligations on all other Bonds given to the OWNER.

20.3 No work can commence until the required Bonds and Insurance Certificates have been delivered to the OWNER. Upon receipt of the Bonds the OWNER may issue a "Notice to Proceed".

The Bidder shall require the Attorney-in-Fact who issues the required Bond(s) on behalf of the surety to affix thereto a certified and current copy of his Power of Attorney authorizing his firm to act as agent for the surety in issuing the Bond(s).

20.4 The failure of the Successful Bidder to execute such Agreement and to supply the required Bond(s) within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the OWNER may grant, based upon reasons determined sufficient by the OWNER, shall constitute a default, and the OWNER may either award the Contract to another responsible Bidder or re-advertise for Bids, and may charge against the Bidder the difference between the amount of the Bid and the amount for which a contract for the Work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the Bid Bond. If a more favorable Bid is received by re-advertising the defaulting bidder shall have no claim against the OWNER for a refund.

21.0 PRE-BID SITE VISIT

21.1 There will be a non-mandatory pre-bid conference held on Thursday, November 11, 2021 at 1:00 PM at the Gray Street beach access. This meeting is not mandatory. The meeting will be held at the project site at the Gray Street beach access). Bidders are strongly advised to visit the site prior to submitting a Bid. Failure to do so will not relieve Bidder from completing the requirements of the Contract, and will not be grounds for changes in the Contract Time or Contract Price to allow for conditions unanticipated by the Bidder.

22.0 PAYMENTS TO CONTRACTOR

22.1 OWNER shall approve payment only for work done in accordance with the requirements of these Contract Documents, and in accordance with the schedule of Bid Prices. Upon satisfactory application by CONTRACTOR, the OWNER will make Progress Payments according to the terms set forth in Article 15 of the Standard General Conditions, as amended by Article 15 of the Supplementary Conditions.

22.2 Provisions for retainage are set forth in Article 15 of the Supplementary Conditions and in the Agreement between Owner and Contractor (Section B).

23.0 INSURANCE REQUIREMENTS

23.1 *Insurance:* The CONTRACTOR shall not commence any work until he obtains, at his own expense, all required Insurance. Such Insurance must have the approval of the OWNER as to limit, form, and amount. The CONTRACTOR shall not permit any Subcontractor to commence Work on this project until the same Insurance requirements have been complied with by the Subcontractor. Details of the required insurance are found in Article 6 of the Standard General Conditions, as amended by Article 6 of the Supplementary Conditions.

24.0 ORAL AGREEMENTS

24.1 No oral order, objection, claim or notice by any party to the others shall affect or modify any of the terms or obligations contained in any of the Contract Documents, and none of the provisions of the Contract Documents shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing, and no evidence shall be introduced in any proceeding of any other waiver or modification.

25.0 SAFETY

25.1 In accordance with generally accepted construction practices, the CONTRACTOR shall be solely and completely responsible for conditions of the job site, including safety of all persons and property affected directly or indirectly by his operations during the performance of the Work. This requirement will apply continuously 24 hours per day until the acceptance of the Work by the OWNER and shall not be limited to normal working hours.

The CONTRACTOR shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

- All employees on the Work and all other persons who may be affected thereby;
- All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the CONTRACTOR or any of his Subcontractors; and
- Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The CONTRACTOR shall comply with all applicable Laws, ordinances, rules, Regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss. The CONTRACTOR shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

The CONTRACTOR shall designate a responsible member of his organization at the site whose duty shall be prevention of accidents. This person shall be the CONTRACTOR's superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER and the ENGINEER.

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

**Section D – Standard General Conditions of the
Construction Contract**

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
 1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor three printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

- O. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or

exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during

or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

- A. *Application for Payment:*
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Section E – Supplementary Conditions

SUPPLEMENTARY CONDITIONS TO THE STANDARD EJCDC CONTRACT IN SECTION D

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SUPPLEMENTARY CONDITIONS

General

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2013 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect. Article 19 is supplemental and in addition to the Standard General Conditions.

All parts of speech (including pronouns, e.g., she, he, his, her) used in these Contract Documents shall be considered neutral with reference to gender.

Article 1 – Definitions and Terminology

Add or amend the Definitions (Article 1) in the Standard General Conditions to these documents as follows.

1.01 A. 18 *Drawings*

Add the following:

Drawings issued after the execution of the Contract to explain further, or to illustrate, or to show changes in work, will be known as “Supplementary Drawings” and shall be binding upon the CONTRACTOR with the same force as the Drawings.

1.01 A. 20 *ENGINEER*

Add the following:

Wherever in these Documents the word “ENGINEER” appears, it shall be understood to mean Applied Technology and Management (ATM), 941 Houston Northcutt Blvd., Suite 201, Mt. Pleasant, SC 29464; 843/414.1040, 843/414.0155 FAX, and their authorized representatives, acting either directly, or indirectly as authorized agents of the OWNER.

1.01 A. 26 *Notice of Award*

Add the following:

If requested by the OWNER, the Notice of Award will be issued by the ENGINEER.

1.01 A. 27 *Notice to Proceed*

Add the following:

If requested by the OWNER, the Notice to Proceed will be issued by the ENGINEER.

1.01 A. 49. *Progress Surveys* – Surveys conducted by the CONTRACTOR to document project progress (i.e. not for payment purposes) shall be at a maximum spacing of 100 feet in the alongshore direction.

1.01 A. 50. *Acceptance/Pay Surveys* – Surveys conducted by the ENGINEER on shoreline lengths of not more than 100 feet. These surveys shall become the basis for payment as per section Article 15.

1.01 A. 51. *Acceptance Sections* – Project shoreline will be segmented into ~500 ft intervals within which the ENGINEER shall conduct acceptance surveys for payment purposes (Article 15).

Article 2 - Preliminary Matters

Add or amend the Definitions (Article 2) in the Standard General Conditions to these documents as follows.

2.01 *Delivery of Bonds and Evidence of Insurance*

Add the following:

D Proof of CONTRACTOR licensing as required shall be provided to the OWNER along with such Bonds.

Article 4 – Commencement and Progress of the Work

Add or amend the Definitions (Article 4) in the Standard General Conditions to these documents as follows.

Delete paragraph 4.01 in its entirety and add the following:

The date of commencement of the Contract is the date established in the Notice to Proceed. The placement of sand on the beach shall adhere to permitting environmental windows unless special authorization is obtained from the permitting agencies by the ENGINEER.

Article 2 – 2.03 *Before Starting Construction*

Add the following:

A. 4. The CONTRACTOR shall perform no portion of the Work at any time without Contract Documents or, where required, without Drawings which have been reviewed by the ENGINEER.

Add the following:

A. 5. An “Application for Payment” form [EJCDC No. 1910-8-E (1990 Edition)] is provided as an attachment to the Contract Documents for the CONTRACTOR’s use. The CONTRACTOR shall submit all Applications for Payment on this form sequentially numbered and properly dated. The form may be photocopied as needed. AIA or similar Payment Application forms may be used at the ENGINEER’s discretion and approval.

add the following:

A. 6. When the CONTRACTOR delivers the executed counterparts of the Agreement to the OWNER, CONTRACTOR shall also deliver to OWNER with a copy to ENGINEER certificates and other evidence of insurance requested by the OWNER which CONTRACTOR is required to

purchase and maintain in accordance with Article 5 of the Standard General Conditions and these Supplementary Conditions.

The CONTRACTOR is required to have a Contractor's License with the State of North Carolina. Proof of such licensing shall be submitted to the OWNER within fifteen (15) calendar days of the notice of Award and prior to construction.

Article 5. Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions

Add or amend the Definitions (Article 5) in the Standard General Conditions to these documents as follows.

5.01 *Availability of Lands*

Add the following:

D. Potential upland staging area(s) can be provided if needed. Public beach access parking areas may also be available. Beach accesses for large construction equipment are shown on project drawings. Additional areas, if requested by the CONTRACTOR, are subject to OWNER approval.

5.03 *Reports and Drawings*

Add the following:

4. Reports of explorations or tests of subsurface or physical conditions as described in the GENERAL and TECHNICAL SPECIFICATIONS were prepared by or for the ENGINEER. These reports and data are provided for the CONTRACTOR's information only. The OWNER and ENGINEER shall not be responsible for any interpretation or conclusion drawn from the data or information by the CONTRACTOR.

Article 6. Bonds and Insurance

Add or amend the Definitions (Article 6) in the Standard General Conditions to these documents as follows.

6.01 *Performance, Payment, and Other Bonds*

Add the following sentence after the second sentence of this section:

Said Bonds shall be substantially in the same form as those provided within these Contract Documents. No work shall commence until the required Bonds have been delivered to the OWNER. Upon receipt of the Bonds and other contract documents, the OWNER will issue a "Notice to Proceed."

6 Replace paragraphs 6.02 through 6.07 in their entirety with the following:

6.02 The CONTRACTOR shall not commence any work until he obtains, at his own expense, all required Insurance. Such Insurance must have the approval of the OWNER as to limit, form, and

amount. The CONTRACTOR shall not permit any Subcontractor to commence Work on this project until the same Insurance requirements have been complied with by the Subcontractor.

The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after thirty (30) days notice in writing and delivered by registered mail to the OWNER." Should any policy be canceled before final payment by the OWNER to the CONTRACTOR and the CONTRACTOR fails immediately to procure other insurance as specified, the OWNER reserves the right to procure such insurance and deduct the cost thereof from any sum due the CONTRACTOR under this Contract.

Nothing contained in these Insurance requirements is to be construed as limiting the extent of the CONTRACTOR's responsibility for payment of damages resulting from his operations under this Contract.

The CONTRACTOR is required to obtain and maintain for the full period of the Contract the following types of Insurance with limits not less than stated below:

6.03 *Worker's Compensation*

- a) Statutory Compliance with the Compensation Law of the State of North Carolina.
- b) Compliance with the Federal Longshoreman's and Harborworker's Compensation Act and other applicable Federal statutes.

6.04 *Commercial General Liability Insurance* with a minimum limit of liability, \$1,000,000 per occurrence; bodily injury, and property damage, \$1,000,000 in the aggregate; \$1,000,000 umbrella. The OWNER and ENGINEER shall be listed as additional insured on this policy. This insurance shall indicate on the certificate of insurance the following coverages:

- a) Premises-Operations (Contractual)
- b) Independent Contractor and Subcontractors
- c) Products and Completed Operations
- d) Broad Form Property Damage

6.05 *Automobile Liability Insurance* -- Minimum limits of liability, \$1,000,000 per occurrence; bodily injury and property damage, \$2,000,000 in the aggregate. This insurance shall include for bodily injury and property damage the following coverages:

- a) Owned Automobiles
- b) Hired Automobiles
- c) Non-Owned Automobiles

6.06 Additional insurance may be required on an individual basis for extra hazardous contract.

6.07 If any of the property or casualty insurance requirements are not complied with at their renewal dates, payments to the CONTRACTOR shall be withheld until those requirements have been met or at the option of the OWNER, the OWNER may pay the renewal premium and withhold such payments for any monies due the CONTRACTOR.

6.08 All policies and certificates of insurance shall be approved by the OWNER prior to the inception of the Work.

6.09 If at any time, any of the foregoing policies change in form or substance from the original accepted policies and certificates of insurance, the CONTRACTOR shall upon notice to that effect from the OWNER, promptly obtain a new policy, submit same for approval to the OWNER, and submit the certificate thereof as herein above provided. Upon failure of the CONTRACTOR to furnish, deliver, and maintain such insurance as above provided, this Contract may be declared suspended, discontinued, or terminated. Failure of the CONTRACTOR to take out and/or maintain, or the taking out and/or maintenance of any required insurance, shall not relieve the CONTRACTOR from any liability under the Contract nor shall the insurance requirements be construed to conflict with or otherwise limit the obligations of the CONTRACTOR concerning indemnification.

6.10 All policies and certificates of insurance of the CONTRACTOR shall contain the following clauses:

a) Insurers shall have no right of recovery or subrogation against the OWNER, including its agents, officers, and employees. It, being the intention of the parties, the insurance policy in effect shall protect both parties and be the primary coverage for any and all losses covered by the above described insurance.

b) The clause "other insurance provisions" in a policy in which the OWNER is named as an insured shall not apply to the OWNER, its agents, officials, and employees, if these provisions conflict with or otherwise limit the obligations of the CONTRACTOR under the terms of this agreement.

c) Insurance companies issuing the policy or policies shall have no recourse against the OWNER, including its agents, officials, and employees, for payment of any premiums or assessments under form of policy.

d) Any and all deductibles in the above-described insurance policy shall be assumed by and be for the account of and at the sole risk of the CONTRACTOR. The amount of the deductible must be accepted by the OWNER.

e) The OWNER and ENGINEER shall be named as "additional insured" on all policies of insurance pertaining to this Contract and described in the standard insurance requirements. A minimum of thirty (30) days shall be provided to the OWNER prior to cancellation.

Article 7 - CONTRACTOR's Responsibilities

Add or amend the Definitions (Article 7) in the Standard General Conditions to these documents as follows.

7.01 *Supervision and Superintendence*

Add the following to the end of Paragraph B.:

The CONTRACTOR's superintendent shall be present at the site of the work at all times while work is in progress and shall be available by phone for emergencies. Failure to observe this requirement shall be considered suspension of the work by the CONTRACTOR until such time that said superintendent is again present at the site.

7.02 *Labor; Working Hours*

Add the following

- A. All work at the beach shall be conducted during normal business hours (7:00 AM to 7:00 PM), unless written permission is obtained from the OWNER. It is noted that the contractor may need to work outside of these times to accommodate for tides.

7.06 *Concerning Subcontractors*

Add the following after paragraph 7.06:

CONTRACTOR understands and agrees that the OWNER is an intended third-party beneficiary of all subcontracts, purchase orders and other agreements between the CONTRACTOR and third parties. The CONTRACTOR shall incorporate the obligations of this contract into its respective subcontracts, supply agreements and purchase orders.

7.08 *Permits*

Add the following:

- B. The OWNER will be responsible for obtaining and paying all fees for permits from the following agencies:
- North Carolina Department of Environmental Quality
 - United States Army Corps of Engineers

The CONTRACTOR is required to abide by all permit conditions. The CONTRACTOR shall obtain and pay for all other construction permits and licenses from the agencies having jurisdiction, including the furnishing of insurance and bonds if required by all agencies. The enforcement of such requirements under this contract shall not be made the basis for claims for additional compensation.

The CONTRACTOR is required to have a Contractors License with the State of North Carolina.

7.11 *Record Documents*

Add the following after the end of A.:

Record Documents may be requested following project completion.

7.16 *Shop Drawings, Samples, and Other Submittals*

Add the following

- A. 1. e.: The CONTRACTOR shall maintain on the project site a set of Contract Drawings for the duration of the Work. The Drawings shall depict the as-built condition of the beach as the Work progresses, and be available for ENGINEER review at any time.

Article 10 - Engineer's Status during Construction

Add or amend the Definitions (Article 10) in the Standard General Conditions to these documents as follows.

10.03 *Project Representative*

Add the following B.

Authority and Duties of Resident Project Representative: A Resident Project Representative employed by the ENGINEER shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the Work and to the preparation, fabrication, or manufacture of the materials to be used. A Resident Project Representative is not authorized to revoke, alter, or waive any provision of the Contract. The Resident Project Representative is not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the CONTRACTOR.

Article 11 – Amending the Contract Documents: Changes in the Work

Add or amend the Definitions (Article 11) in the Standard General Conditions to these documents as follows.

11.05 Change of Contract Times

Add the following at the end of A.:

An increase in Contract Times does not mean that the CONTRACTOR is due an increase in Contract Price. Only compensable time extensions will result in an increase in Contract Price.

Add the following new paragraph immediately after B.:

- C. ENGINEER shall approve and grant reasonable Contract Time extensions for delays resulting from weather conditions which, in the CONTRACTOR's opinion, may make operations hazardous or may make violations of the environmental conditions specified in the construction permits probable, provided that in the judgment of the ENGINEER, the time extension is justified. Contract Time extensions shall be granted for the presence of endangered species as specified in the construction permits. The CONTRACTOR shall notify the ENGINEER immediately upon suspension of any or all work that may result in a delay, for which the CONTRACTOR may request a time extension. Upon written receipt of an extension request of Contract Time, the ENGINEER shall ascertain the facts and make an adjustment for extending the completion date as, in the judgment of the ENGINEER, is justified. Contract Time extensions shall not be granted for CONTRACTOR's failure to abide by the requirements of the construction permits or the requirements of these Contract Documents.

Article 14 Tests and Inspections; Correction, Removal or Acceptance of *Defective Work*

Add or amend the Definitions (Article 14) in the Standard General Conditions to these documents as follows.

14.02 *Tests, Inspections, and Approvals*

A. Change “timely” to “not less than 24 hours”

Article 15 Payments to CONTRACTOR and Completion

Add or amend the Definitions (Article 15) in the Standard General Conditions to these documents as follows.

15.01 *Progress Payments*

15.01.E. *Payment for Mobilization and Demobilization:* All costs connected with the mobilization and demobilization of all of the CONTRACTOR's plant and equipment shall be paid for at the lump sum price for this item. Sixty percent (60%) of the lump sum price shall be paid to the CONTRACTOR upon completion of the CONTRACTOR's mobilization at the Work site. Completion of mobilization shall require that the CONTRACTOR place a minimum quantity of 2,500 cubic yards of material onto the beach. The remaining forty percent (40%) shall be paid to the CONTRACTOR upon completion of demobilization.

15.01.F. In the event the ENGINEER considers that the amount in this item, sixty percent (60%) which represents mobilization and forty percent (40%) which represents demobilization, does not bear a reasonable relation to the cost of the Work in this Contract, the ENGINEER may require the CONTRACTOR to produce data to justify the cost. Failure to justify such cost to the satisfaction of the ENGINEER shall result in payment of actual mobilization costs, as determined by the ENGINEER at the completion of mobilization, and actual demobilization costs, as determined by the ENGINEER at the completion of demobilization, and payment of the remainder of this item in the final payment under this Contract.

15.01.F. *Payment for Excavation, Transport, and Placement of Beachfill:* Progress payment to the CONTRACTOR shall be based upon the results of measurements of final, one hundred percent (100%) complete and confirmed acceptance of surveys for construction acceptance sections (based on five hundred [500] foot lengths of shoreline).

15.01.G. Five percent (5%) of each approved progress payment shall be withheld by the OWNER, pending satisfactory completion of all work tasks described in these Contract Documents.

15.01.H. The basis for payment shall be the pre-construction surveys and the post-construction acceptance surveys. Upon completion of each five hundred (500) foot acceptance section, the CONTRACTOR may conduct acceptance surveys. CONTRACTOR shall give the ENGINEER 24 hours advance notice to allow the ENGINEER time to schedule its surveyor.

Articled 16. Suspension of Work and Termination

Add or amend the Definitions (Article 16) in the Standard General Conditions to these documents as follows.

16.02 *Owner May Terminate for Cause*

Add the following to E.

“In the event the OWNER terminates the employment of the CONTRACTOR as set forth in this article, claims, costs, losses and damages incurred by OWNER shall include, but not be limited to reasonable ENGINEER’s attorneys’ fees.”

Article 17 - Final Resolution of Disputes

Add or amend the Definitions (Article 17) in the Standard General Conditions to these documents as follows.

Delete paragraphs under Article 17 in their entirety and replace with the following:

17.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision before such decision becomes final and binding. The mediation will be governed by the construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer’s action or a denial shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
2. agrees with the other party to submit the Claim to another dispute resolution process;
or
3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

17.02 *Mediation, Dispute, Resolution*

OWNER and CONTRACTOR agree that they shall first make a good faith effort to resolve any issues which may arise between the parties during regarding this Agreement and the business relationship created thereby and to submit any and all unsettled claims, counterclaims, disputes and other matters in question between them arising out of or relating to this Agreement or the breach thereof ("disputes"), to mediation prior to either of them seeking recourse by legal process. The above notwithstanding, nothing shall limit the right of any party to this Agreement: (1) to seek judicial equitable relief, or other equitable relief available to it under applicable statutory and/or case law including, but not limited to, injunctive relief and the appointment of a receiver; or (2) to exercise any self-help rights or any other rights or remedies available to it by contract or applicable statutory or case law (including but not limited to the filing of an involuntary petition in bankruptcy, the right

of set off, attachment, recoupment, foreclosure, or repossession) with respect to its extension of credit, the protection and preservation of collateral, the liquidation and realization of collateral, the protection, continuation and preservation of lien rights and priorities, the collection of indebtedness, and the processing and payment or return of checks, whether such occurs before, during or after the pendency of any negotiation or mediation proceeding. The institution and maintenance of an action for judicial relief or pursuit of provisional or ancillary rights or remedies or exercise of self-help remedies, all as provided herein, and the pursuit of any such rights or remedies, shall not constitute a waiver of the right or obligation of any Party, including the plaintiff seeking judicial relief or remedies, to submit a dispute to negotiation and mediation, including disputes that may arise from the exercise of such rights. The costs of the mediation, including the fees and expenses of the mediator, shall be borne by the parties to the mediation in equal shares, each party to this agreement bearing the expense of its own counsel, experts, witnesses, and preparation and presentations at the mediation. The mediation process is non-binding and shall conform with the following rules and procedures:

A. Request for Mediation

When a dispute between the parties is not resolved by informal negotiations, any party shall serve upon the other(s) a request for mediation which shall contain a brief statement of the nature of the dispute and the names, addresses, and telephone numbers of all parties to the dispute and those who will represent them, if any, in the mediation. Upon service of the request for mediation, the parties shall have ten (10) days to select a mediator.

B. The Mediator

The parties shall select a certified Mediator as licensed with the State of North Carolina. The mediator must remain neutral and impartial in all aspects of the mediation. The mediator will control the procedural aspects of the mediation. The parties agree to cooperate fully with the mediator throughout the proceeding. During the mediation, the mediator is free to meet and communicate separately with each party or groupings of parties. The mediator will not transmit information which has been disclosed to him or her in confidence by any party to another party without the former party's express authorization. The mediator may freely express his or her views to the parties on the legal issues of the dispute, however, each party, shall rely exclusively on its own counsel for legal representation and advice. The mediator shall be compensated by payment of a one-time administrative fee and an hourly rate which represents the mediator's standard rates for such services and as agreed upon by the parties with the mediator. Each party shall bear an equal share of the mediator's compensation.

C. Pre Mediation Submissions

Prior to the date that mediation is scheduled to begin, each party shall cooperate with each other in exchanging all documents that are relevant to the dispute and in permitting reasonable review of each other's contract files. Not later than ten (10) days prior to mediation, each party will send to the mediator with copies to each other, the following documents:

- a) all documents that are relevant to the dispute (parties will cooperate in selecting documents to avoid duplication between the submissions of each party);
- b) a list of the issues to be determined (the parties will make every effort to submit a joint list of issues in the order that is most logical for presentation);

c) a list of witnesses and participants in the mediation proceeding.

Within the same time frame, any party may submit to the mediator a written brief of not more than 15 typewritten pages (Times New Roman, 12 pitch), outlining the nature of and basis for its claims and its principal defenses to the claims of others. Each brief will include an analysis by each party of the cause or causes of the damages or other harm based on evidence presently available to it, including the opinions of its own personnel and any independent experts. Each party must send copies of its brief to all other participants in the mediation simultaneously with its submission to the mediator. The mediator may request any party to provide clarification and additional information prior to and during the mediation and may request any party's attorney to brief legal issues.

D. Mediation Conference

Once the mediator has familiarized himself or herself with the case, the mediator will mediate settlement discussions between and among the representatives of the parties. In addition to party counsel (if any), each party must be represented at the mediation by a person authorized to conclude a settlement of the dispute on behalf of that party, or in the case of a governmental entity, by a person who has authority to negotiate for and make recommendations to the governing board subject to such board's approval. Each representative must participate in the mediation process in good faith toward the settlement of all issues. Each party will notify the mediator of its designated representatives prior to the mediation. The mediation will be conducted at any location selected by the mediator which will facilitate the joint and individual meetings involved in the mediation and otherwise accommodate the needs of the representatives of the parties and the mediator. The mediation process will be conducted expeditiously and privately. Each representative (and counsel, if any) will be available for meetings throughout the entire time period set aside for the mediation. Other persons may attend only with the permission of the parties and with the consent of the mediator. The mediator will decide when to meet or confer separately with each party or parties and when to hold joint meetings. There shall be no stenographic record of the mediation process. The mediator will fix the time and place of each session and the agenda in consultation with the parties. The mediator may assist the parties in arriving at a settlement in such ways as he or she deems advisable and proper under the circumstances.

Efforts to reach a settlement will continue until a settlement is reached or when the mediator concludes and informs the parties that further effort would not be useful. Continuation will be on terms and conditions to which the parties agree. The mediation proceeding will begin with each party making an opening statement of no longer than fifteen minutes. The first statement will be made by the proponent of the major elements of the dispute. Following opening statements, each issue will be discussed using a round table discussion technique. Each party will make its relevant key employees and consultants available to participate in this discussion. In the discussion, the proponent of the issue will make a brief presentation of its position on the issue. The other party will then make a brief presentation of its defense. The neutral advisor will then moderate a discussion--calling on participants from each side as they request to address the issues in question. There will be no side discussions and no participant will speak until called on by the neutral advisor. The goal of this discussion is to fully develop all information relevant to the determination of the facts of the dispute and the precise position of each party.

All participants will refrain from statements that are unduly argumentative or contentious. The proceedings will not be recorded and witnesses will not be sworn. However, all participants will be

expected to be forthright in their statements and to be fully open and honest in their dealings with each other. Attorneys may participate in the discussion and may call on other personnel when necessary to ensure that they contribute their knowledge to the discussion. Attorneys will not cross-examine witnesses of the other party.

Following the round table discussions, each party may summarize its position in a statement no longer than one-half hour. The parties may, by mutual agreement, waive these statements. Following the summarizations, if any, the parties and mediator will meet to negotiate a settlement that is fair to both parties. The parties may conduct these discussions with or without the mediator.

The mediator may present his views on any issues or propose resolution of one or more of the issues in dispute. Either party or the mediator may request a private, confidential meeting with the mediator to discuss possible settlement positions, and the mediator will not reveal any confidential information to the other party, unless authorized to do so. Either party may adjourn the meeting at any time to caucus with his team, but all parties will endeavor to keep the negotiations active until a settlement has been reached.

The entire mediation process is confidential. No record of the proceedings, electronic or otherwise, will be made. The parties and the mediator will not disclose information regarding the process, including settlement terms, to third parties, unless otherwise agreed. The process will be treated as a compromise and settlement negotiation purposes of federal and state Rules of Evidence, and in no case may any conversation or communication originating during the mediation process, whether written or oral, be used as evidence in a court of law. The mediator is disqualified as a witness, consultant, or expert in any pending or future action relating to the subject matter of the mediation, including those between persons not parties to the mediation.

E. Settlement

If a settlement is reached, the mediator, or counsel for one of the parties at the mediator's request, will draft a written settlement document incorporating all settlement terms. This draft will be circulated among the parties, edited as necessary, and, if acceptable, formally executed. A consent judgment or one or more voluntary dismissals shall be filed with the Court in which any proceedings have been brought before or during mediation as stipulated in the settlement agreement reached by the parties.

Article 19. Conflicts

Add or amend the Definitions (Article 19) in the Standard General Conditions to these documents as follows.

19.01 To the extent that there is an express conflict between the Supplemental Conditions of the Standard General Conditions and the remainder of the Contract Documents, the Supplemental Conditions of the Standard General Conditions hereto shall prevail. Otherwise, the Supplemental Conditions of the Standard General Conditions are supplementary to the other Contract Documents.

END OF SECTION

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Section F – Forms

BIDDER QUALIFICATION STATEMENT

Organization: _____

Address: _____

Owners/Officers: _____

How many years has your organization been in business? _____

Has your organization ever failed to complete a similar project? If yes, describe circumstances:

Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization?

List at least two other similar jobs of comparable size and cost. Provide the information requested below for each job.

Project: _____ Location: _____

Owner: _____ Contact: _____

Telephone: _____

Project Description (brief project description; type of material and quantity; production rate; time to complete; cost):

Project: _____ Location: _____

Owner: _____ Contact: _____

Telephone: _____

Project Description (brief project description; type of material and quantity; fabricated and installed; time to complete; cost):

PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: None See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

 Contractor's Name and Corporate Seal *(seal)*

 Surety's Name and Corporate Seal *(seal)*

By: _____
 Signature

By: _____
 Signature *(attach power of attorney)*

 Print Name

 Print Name

 Title

 Title

Attest: _____
 Signature

Attest: _____
 Signature

 Title

 Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence,

to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims

for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*:

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:

Modifications to this Bond Form: None See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

_____ *(seal)*

Contractor's Name and Corporate Seal

_____ *(seal)*

Surety's Name and Corporate Seal

By: _____

Signature

By: _____

Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____

Signature

Attest: _____

Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
 - 16.1 **Claim:** A written statement by the Claimant including at a minimum:
 1. The name of the Claimant;
 2. The name of the person for whom the labor was done, or materials or equipment furnished;
 3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 4. A brief description of the labor, materials, or equipment furnished;
 5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 7. The total amount of previous payments received by the Claimant; and
 - 16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
 - 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
 - 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:



Contractor's Application for Payment No.

	Application Period:	Application Date:
To (Owner):	From (Contractor):	Via (Engineer):
Project:	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

Application For Payment Change Order Summary

Approved Change Orders				
Number	Additions	Deductions		
TOTALS				
NET CHANGE BY				
CHANGE ORDERS				

1. ORIGINAL CONTRACT PRICE.....		\$ _____
2. Net change by Change Orders.....		\$ _____
3. Current Contract Price (Line 1 ± 2).....		\$ _____
4. TOTAL COMPLETED AND STORED TO DATE (Column F total on Progress Estimates).....		\$ _____
5. RETAINAGE:		
a. X _____ Work Completed.....		\$ _____
b. X _____ Stored Material.....		\$ _____
c. Total Retainage (Line 5.a + Line 5.b).....		\$ _____
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5.c).....		\$ _____
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application).....		\$ _____
8. AMOUNT DUE THIS APPLICATION.....		\$ _____
9. BALANCE TO FINISH, PLUS RETAINAGE (Column G total on Progress Estimates + Line 5.c above).....		\$ _____

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor Signature

By: _____	Date: _____
-----------	-------------

Payment of:	\$ _____	
		(Line 8 or other - attach explanation of the other amount)
is recommended by:	_____	_____
	(Engineer)	(Date)
Payment of:	\$ _____	
		(Line 8 or other - attach explanation of the other amount)
is approved by:	_____	_____
	(Owner)	(Date)
Approved by:	_____	_____
	Funding or Financing Entity (if applicable)	(Date)

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Section G – Bid Form

BID FORM

North Topsail Beach Reach 5 North End Truck Haul

October 26, 2021

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

**Town of North Topsail Beach
Attn: Alice Derian
2008 Loggerhead Court
North Topsail Beach, NC 28460**

*Note that temporary town hall is located at:
1000 NC HWY 210
Sneads Ferry, NC 28460*

It is anticipated that the permanent Town Hall will be open for bid submittals.

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

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2)

the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- E. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- I. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
001	Mobilization & Demobilization	1	L.S.	\$ _____	\$ _____
002	Haul & Placement of Beach Fill	289,000	C.Y.	\$ _____	\$ _____
003	Payment & Performance Bonds	1	L.S.	\$ _____	\$ _____

TOTAL PROJECT COST (Base Bid)	\$ _____
--------------------------------------	----------

Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor’s overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents. See Paragraph 5.02 for additional quantity information.

The total of Item Nos. 1 through 3 (Base Bid) inclusive is:

_____ dollars and cents (in words).

Estimated Production Rate:

Bidder estimates a daily production rate of _____ cy/day.

5.02 Pending questions and information from potential Bidders, Owner reserves the right to provide Bid Addendum.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with the Agreement on or before the dates or within the number of calendar days indicated in the Agreement.

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

ARTICLE 7 – ATTACHMENTS TO THIS BID

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

- A. Required Bid security;
- B. List of Proposed Subcontractors;
- C. List of Proposed Suppliers;
- D. Evidence of authority to do business in the state; or a written covenant to obtain such license within the time for acceptance of Bids;
- E. Contractor's License Number or Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- F. Required Bidder Qualification Statement with supporting data (see Section F);
- G. List of Equipment; and
- H. Work Plan, including proposed methods and schedule.
- I. Current copy of IRS Form W9
- J. Current certificate of insurance

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the Agreement, and any associated Conditions.

(REMAINDER OF PAGE INTENTIONALLY LEFT BLANK)

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:
[Signature] _____

[Printed name] _____
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:
[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____
(where applicable)

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Section H – General Specifications

**NORTH TOPSAIL BEACH REACH 5
NORTH END TRUCK HAUL PROJECT**

SECTION H

GENERAL SPECIFICATIONS

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GENERAL SPECIFICATIONS

1.0 SCOPE

1.1 General. The work covered by the descriptions found in this section is detailed throughout the Contract Documents and Specification Sections. The work consists of: (i) furnishing all plant, labor, equipment, supplies and material; and (ii) of performing all operations in connection with excavating, conveying and placing beach fill material onto the North Topsail Beach shoreline of Onslow County, North Carolina within the lines, grades, and cross-sections specified in these Documents and on the Drawings.

2.0 ORDER OF WORK

2.1 Work Plan. The CONTRACTOR shall propose the plan of work, the proposed beach access corridor(s), and the staging areas to the ENGINEER and OWNER within sixty (60) days of the contingent Notice of Award. The final work plan and staging areas shall be negotiated with the ENGINEER and OWNER. Locations of the project limits are shown on the Drawings. Potential staging areas are provided in the drawings.

3.0 REPORTING REQUIREMENTS

3.1 Daily Reports. The CONTRACTOR shall be required to prepare and submit daily one (1) copy of a Daily Quality Control Report on a standard form approved before the initiation of construction activities by the ENGINEER.

3.2 Quality Control Report. Construction progress, delays, communications, environmental site conditions, testing performed, and change directives shall be summarized on the Daily Quality Control Report (or a similar form subject to ENGINEER approval). In addition to the daily report, one copy of all updates to the critical path schedule covered in the GENERAL SPECIFICATIONS, paragraph 4.1, shall be submitted to the ENGINEER on or before progress meetings. This action shall commence at the beginning of the first week of construction and continue through project completion.

3.4 Pre-Construction Submittals. Within sixty (60) calendar days after the date of the contingent Notice of Award and prior to construction (whichever comes first), the CONTRACTOR shall submit, in completed form, the following items in either completed or draft form for review by the OWNER prior to the pre-construction conference:

- Certificate of Insurance
- Critical Path Schedule and Work Plan (see Section 4.1 herein)
- Letter Appointing Superintendent
- Power of Attorney and Certified Copy of Resolution for Local Representative (if local representative will be allowed to sign Contract Documents)
- Contractor Quality Control Plan
- Environmental Protection Plan
- Accident Prevention Plan

- Hurricane and Severe Storm Plan
- List of Subcontractors
- Payment and Performance Bond
- Other Items as may be specified elsewhere

4.0 PROJECT SCHEDULE AND COMPLETION DATE

4.1 Critical Path Schedule and Completion Date. The work shall be completed in the most effective manner according to project timing and critical path management. The Critical Path Schedule shall be consistent with timing indicated within the Work Plan and shall indicate all major milestones of construction progress, completion projection dates, and labor requirements in order to complete construction. An updated schedule shall be prepared and delivered to the ENGINEER on a biweekly (every two weeks) basis to describe in detail any deviation from the Drawings or approved Critical Path Schedule. The CONTRACTOR must demonstrate sufficient labor and equipment availability to ensure project completion within the period specified in these Documents.

4.2 Required Meetings. The ENGINEER will notify the CONTRACTOR of the date and site for the pre-construction conference. A schedule of all submittals required during project construction will be discussed at the pre-construction conference meeting and the CONTRACTOR will be informed of all procedures and lines of authority and contractual and administrative matters pertaining to the Contract.

The CONTRACTOR will be notified by the ENGINEER of the date and site for Progress Meetings that will be scheduled on a biweekly (every two weeks) basis. The CONTRACTOR's Superintendent, major Subcontractors, OWNER and ENGINEER shall be required to attend such meetings.

4.3 Project Completion Sequence. Upon completion of beach fill construction, the CONTRACTOR shall notify the OWNER and ENGINEER in writing. The ENGINEER shall perform a complete site inspection and indicate in writing to the CONTRACTOR all items requiring further attention for either completion or correction. The CONTRACTOR shall then take steps necessary to correct and/or complete each item and notify the OWNER in writing of project completion. The ENGINEER shall then perform the final inspection and inform the OWNER as to the status or need for final acceptance. Final submittals from the CONTRACTOR will then be made concerning the CONTRACTOR's waiver of liens, special guarantees and bonds, subcontractors and suppliers, lien waivers against property of the OWNER, and final payment estimate. The OWNER will retain five percent of the contract price until final acceptance is complete.

5.1 MEASUREMENT OF QUANTITIES

5.1 General.

Quantity surveys will be performed in accordance with this section and "Layout of Work" (Section 7.0).

If acceptability is not acquired after performing one resurvey of an Acceptance Section, a meeting shall be held between the CONTRACTOR and the engineer to expeditiously resolve the issue causing rejection of the surveyed quantity. CONTRACTOR equipment and personnel standby time to resolve acceptability of the survey shall be at the CONTRACTOR's expense.

Quantity surveys shall be conducted by the ENGINEER, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place. Quantity surveys include:

- Pre-Fill Survey – Topographic survey conducted by the ENGINEER of the beach within the fill area as indicated on the plans. This survey is to be completed a minimum of 48 hours prior to fill placement.
- Compliance Surveys of Borrow Area – The ENGINEER shall conduct compliance surveys of the borrow area pit as required by permit conditions.
- Progress Surveys – Surveys conducted by the ENGINEER on a daily basis and will be provided to the CONTRACTOR within 24 hours.
- Post-Fill Survey – Topographic survey conducted by the ENGINEER of the beach within the fill area as indicated on the plans.

5.1. Pre-Fill Surveys. The CONTRACTOR shall give a minimum of 48 hours advance notice, in writing, to the ENGINEER of the need for a pre-fill survey. The surveys are required for payment and for final acceptance of the project. Pre-Construction survey will be completed by the Owner's Surveyor.

5.2. Post-Fill Surveys. The basis of measurement of quantities for *payment* shall be the comparison of the Pre-Construction Surveys and the Post-Construction Acceptance Surveys. Final calculations of quantities shall be conducted by the ENGINEER. The CONTRACTOR shall conduct Post-Construction Acceptance Surveys on shoreline sections of approximately five hundred (500) feet. CONTRACTOR shall give 24 hours advanced notice, in writing, to the Engineer of the need for a Post-Construction survey. The surveys are required for payment for final acceptance of the project.

5.3. Erosion During Contract. The CONTRACTOR shall not be held responsible for erosion caused by significant waves (such as those caused by storms) after the beach fill has been satisfactorily placed and accepted by the ENGINEER, except that the CONTRACTOR will be required to perform the dressing specified in the Technical Specifications.

6.0 FINAL CLEAN-UP

6.1 General. The CONTRACTOR shall remove all temporary construction facilities such as stockpiles of excess or waste materials, temporary equipment, staking and markers and equipment; or, other debris removed or created as a result of the execution of this Contract.

7.0 LAYOUT OF WORK

7.1 Control Points. The ENGINEER has specified control points on the baseline along the North Topsail Beach shoreline within and adjacent to the project area. The control point coordinates are referenced to the North Carolina State Plane system, NAD83, U.S. Survey feet. Each point is indicated on the Drawings and a table of the State Plane Coordinates (NAD83) for each are shown in the Drawings. The CONTRACTOR shall establish intermediate benchmarks and vertical control as well as set a construction baseline prior to the commencement of placing fill material as needed. The CONTRACTOR shall coordinate with the ENGINEER to establish the intermediate benchmarks.

7.1.1 Control Point Modifications. From the benchmarks, control data, and elevations established by the ENGINEER (and CONTRACTOR's intermediate points), the CONTRACTOR shall complete the layout of work and shall be responsible for all measurements that may be required for the execution of the work, subject to modifications that the ENGINEER may require to meet changes in conditions at the work site.

7.1.2 Temporary Benchmarks. The CONTRACTOR shall furnish, at his own expense, such stakes, templates, platforms, equipment, tools and material, and all labor as may be required in laying out any part of the work from the benchmarks, control data, and elevations established by the ENGINEER. All grade stakes shall be removed intact after filling. It shall be the responsibility of the CONTRACTOR to protect and maintain all permanent and temporary benchmarks, stakes and other markers established by the ENGINEER throughout the construction of the project unless authorized to remove them by the ENGINEER. If the benchmarks or temporary markers are destroyed or damaged by the CONTRACTOR prior to their authorized removal, at the ENGINEER's discretion the benchmarks or temporary markers shall be replaced and the cost deducted from any amounts due or to become due to the CONTRACTOR. All temporary markers and stakes placed by the CONTRACTOR must be removed upon completion of the project.

7.1.3 Profile Acceptance/Payment Surveys. Profile acceptance surveys will be conducted by the ENGINEER at intervals not to exceed 100' along the beach template and shall be used as means for determining in-place material. The pre-construction surveys conducted by the ENGINEER shall be used with the post construction surveys by the ENGINEER to determine in-place material using the end area method.

8.0 PHYSICAL DATA

8.1 General. Data and information furnished or referred to below are for the CONTRACTOR's information. The OWNER shall not be responsible for any interpretation of or conclusion drawn from the data or information by the CONTRACTOR.

8.2 Geotechnical Data. The indications of physical conditions on the Drawings and in the TECHNICAL SPECIFICATIONS are the result of site investigations by surveys. Appendix C presents the upland sand mine information and summary geotechnical analysis.

8.3 Project Site. The project site is located on the southern coast of North Carolina in Onslow County. Project Work is on North Topsail Beach between Stations 640+00 and 770+00. The project site is accessible by road, and construction access location are indicated on the Drawings.

8.4 Water Levels. Water levels in the project area are mainly affected by tidal fluctuations of the Atlantic Ocean. Tidal predictions and historical water levels in the project vicinity are available from NOAA on the web at <http://co-ops.nos.noaa.gov/>. The project area is also subject to storm surges due to hurricanes, tropical storms, and extratropical storms. Elevations of tidal datums referred to mean lower low water (NAVD) are as follows:

MEAN HIGH WATER (MHW)	= +1.1 FEET
NORTH AMERICAN VERTICAL DATUM – NAVD88	= 0.0 FEET
MEAN LOW WATER (MLW)	= -1.7 FEET

8.5 Climatological and Meteorological Conditions. The project area is subject to tropical storms and hurricanes from June through November, and to windy and rainy weather, including severe lightning storms and other sudden and locally severe meteorological occurrences that approach hurricane conditions, during any time of the year. The CONTRACTOR shall maintain full-time monitoring of the NOAA marine weather broadcasts, and avail themselves of such other local commercial weather forecasting services as may be available. It shall be the CONTRACTOR's responsibility to obtain information concerning rain, wind, and wave conditions that could influence operations. References are made to the following publications which contain climatological and meteorological observations and data.

8.5.1 Local Climatological Data. Monthly Summary, published by NOAA, Asheville, North Carolina. Subscription price and ordering information available from the National Climatic Data Center, Federal Building, Asheville, NC 28801. This publication gives hourly wind speed and direction observations. The annual summary gives a summary of the observations for the period of record.

8.5.2 Summary of Synoptic Meteorological Observations. North American Coastal Marine Areas Atlantic and Gulf Coasts. Produced by Naval Weather Service, US Department of Commerce. Distributed by National Technical Information Service, US Department of Commerce.

8.5.3 Wave Information. Wave hindcast data is available through Wave Information Studies (WIS) conducted by the US Army Corps of Engineers and is accessible to the public online at <http://www.frf.usace.army.mil/wis/>.

8.5.4 Tide Predictions. NOAA tide prediction tables are available online and software is available based on the NOS tide tables that predicts the tides and tidal currents in the project vicinity at discrete time intervals during the day.

8.5.5 Weather Forecasts. Services exist that will telefax weather forecasts of sea conditions on a daily basis. One such service is "Ocean Weather, Inc." at: <http://www.oceanweather.com/>.

9.0 HURRICANE AND SEVERE STORM PLAN

9.1 Plan Submittals. Within thirty (30) calendar days after the Notice of Award, the CONTRACTOR shall submit as an attachment to his Accident Prevention Plan, a Hurricane and Severe Storm Plan to the ENGINEER and OWNER for review and acceptance. This plan shall include but not be limited to the following:

- List of the equipment to be used on the job and its ability to handle adverse weather.
- Methods of securing equipment not moved.
- Plan of evacuation to include interim measures, i.e., immediate reaction plans to be taken for all storm occurrences, particularly sudden/flash storms.

10.0 PRESERVATION OF HISTORICAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

10.1 Discovery. If any artifact or other objects of antiquity that may have scientific or historical value, or may be of interest to the public are discovered, located and/or recovered, the CONTRACTOR shall immediately notify the ENGINEER. The CONTRACTOR shall cease all

activities that may result in the destruction of these resources and shall prevent employees from trespassing on, removing, or otherwise damaging such resources.

11.0 SITE OBSERVATION

11.1 General. The ENGINEER shall observe the establishment of horizontal control work (survey layout, ranges, station flags, shore-based control for GPS, etc.) and vertical control work, upland cross sections, construction elevations top/invert, maximum/minimum elevations, etc.), but the presence of the ENGINEER's representative shall not relieve the CONTRACTOR of his responsibility for proper execution of work in accordance with the specifications. The CONTRACTOR will be required:

- To furnish, on the request of the ENGINEER, suitable transportation from all points on shore designated by the ENGINEER, and to and from the beach placement areas.

11.2 Compliance. Should the CONTRACTOR refuse, neglect, or delay compliance with these requirements, the specific facilities may be furnished and maintained by the ENGINEER and the cost thereof will be deducted from any amounts due or to become due the CONTRACTOR.

END OF SECTION

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Section I – Environmental Specifications

Section I

ENVIRONMENTAL PROTECTION

1.0 SCOPE

1.1 The Work specified in this section consists of providing all equipment, materials, and labor and performing all work required to prevent environmental pollution and damage as a result of construction operations under this Contract. For the purpose of this specification, environmental pollution and damage are defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic, cultural and/or historical purposes. The control of environmental pollution requires consideration of air, water, and land resources. Management of visual aesthetics, solid and liquid waste, and noise are associated issues within environmental protection steps.

1.2 The CONTRACTOR shall establish and maintain quality control for environmental protection of all items set forth herein. The CONTRACTOR shall conform to all specifications listed in this section as well as to federal, state, and local laws and regulations.

1.3 The CONTRACTOR shall comply with all requirements anticipated of the state and federal jurisdictional permits held by the OWNER.

1.4 The CONTRACTOR shall employ best management practices at all times during construction to minimize turbidity, sedimentation, and erosion at the borrow areas and fill sites.

1.5 If historical or archaeological artifacts are discovered at any time within the Project site, the CONTRACTOR shall immediately notify OWNER and ENGINEER.

1.6 Assurance of compliance with this section by any Subcontractors on the Project shall be the responsibility of the CONTRACTOR.

1.7 The ENGINEER shall notify the CONTRACTOR and OWNER in writing of any observed noncompliance with the aforementioned federal, state, or local laws, regulations, permits, and any elements of this section of these specifications. The CONTRACTOR shall be required to take immediate corrective action. If the CONTRACTOR fails or refuses to comply promptly, the ENGINEER or OWNER may issue an order stopping all or part of the Work until satisfactory corrective action has been taken.

2.0 TURBIDITY CONTROL

The CONTRACTOR shall conduct excavation, transport, and beach fill placement operations in a manner to minimize turbidity and shall conform to all water quality standards as prescribed by North Carolina Administrative Code.

3.0 PROTECTION OF ENVIRONMENTAL RESOURCES

3.1 All environmental resources within the Project boundaries and those affected outside the limits of permanent work under this Contract shall be protected throughout Project duration and shall be the CONTRACTOR's responsibility until notice of final Project acceptance. The CONTRACTOR shall confine their activities to areas defined by the Drawings and Specifications.

3.2 Prior to any construction, the OWNER shall identify all land resources to be preserved within the CONTRACTOR's work area as shown on the Drawings. Contractor shall replace damaged or destroyed vegetation at his own expense.

3.3 The CONTRACTOR shall limit all beach activity within the alongshore limits of the Project to areas defined by the Drawings and Specifications. The CONTRACTOR shall not remove, cut, deface, injure, or destroy any land resource without special permission by the OWNER. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during dawn and dusk, the marks shall be visible. The CONTRACTOR shall convey to his/her personnel and Subcontractors the purpose for marking and/or protection for all necessary objects. The location of the CONTRACTOR's field offices, staging areas, stockpile storage, and any temporary buildings shall be placed in areas approved by the OWNER.

3.4 Runoff from the construction site shall be controlled to retard and divert runoff to protected drainage courses, and any measures required by area-wide plans pre-approved by NCDEQ.

3.5 Solid wastes (including clearing debris) shall be handled in environmentally sound manners, placed in containers, and discarded on regular schedules. It shall be the CONTRACTOR's responsibility to maintain all work areas to acceptable standards and to transport all solid waste off the properties and dispose of according to federal, state, and local requirements for solid waste. Chemical waste shall be stored in corrosion resistant containers, removed from the Work area and disposed of in accordance with federal, state, and local regulations. Discarded materials other than those which can be included in the solid waste category shall be handled as directed by the OWNER.

3.6 No storage or transfer of petroleum products shall take place on the beach. The CONTRACTOR must:

- Prevent oil or other hazardous substances from entering the ground, drainage or local bodies of water.
- Provide containment, diversionary structures or equipment to prevent discharge oil or other hazardous substances from reaching a watercourse or entering the ground.
- Take immediate action to contain and clean up any spill of oily substances, petroleum products and hazardous substances.
- Immediately report such spills to the OWNER. Absorbent materials capable of absorbing the contents of the largest single tank shall be kept on site.

3.7 The CONTRACTOR shall protect all coastal wetland resources during all phases of the Project. At no time shall the CONTRACTOR be permitted to excavate, stage equipment, or operate equipment over any coastal wetland resources. The CONTRACTOR shall use all means necessary to prevent impacts to the coastal wetland resources outside the approved and designated limits of the Work. The CONTRACTOR shall note that the State of North Carolina has levied fines on those who damage coastal wetland resources.

4.0 DUST AND NOISE CONTROL

5.1 The CONTRACTOR shall be required to maintain all access roads, ingress routes, egress routes, and all other work areas within or without the Project boundaries free from dust which would cause a hazard or nuisance to others.

5.2 All excavation, hauling, and beach fill placement equipment used for this Work shall be equipped with satisfactory mufflers or other noise abatement devices to be approved by the OWNER. The use of horns and whistle signals shall be held to the minimum necessary in order to assure as safe and as quiet an operation as possible. The CONTRACTOR shall conduct their operations so as to comply with all federal, state, and local laws pertaining to noise and follow any additional OWNER guidelines.

5.0 POST-CONSTRUCTION CLEAN-UP

The CONTRACTOR shall remove all evidence of temporary construction facilities at the Project sites, staging areas, and borrow sites including but not limited to: haul roads, work areas, structures, foundations of temporary structures, and waste or excess material stockpiles. The CONTRACTOR shall

restore all landscape features damaged or destroyed during construction operations outside the limits of the proposed work area. This Work shall be accomplished at the CONTRACTOR's expense and subject to the approval of the OWNER. Essentially, the CONTRACTOR shall return all areas to as near pre-construction as possible and agreed to by the OWNER.

6.0 PAYMENT

The cost of the work covered under this section and all costs in connection therewith shall be included in the contract lump sum or unit prices for mining, stockpiling, transport, and placement on North Topsail Beach.

END OF SECTION

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Section J – Technical Specifications

Section J

TECHNICAL SPECIFICATIONS

1.0 GENERAL

The Work consists of: (i) furnishing all plant, labor, equipment, supplies and material; (ii) performing all operations in connection with excavating, transporting, placing, and tilling 289,000 cubic yards of beach fill material along North Topsail Beach in the locations shown on the Drawings. All transport and placement of sand shall be accomplished using land-based equipment.

There are necessary measures for the protection of the environment. Environmental protection requirements under this contract are as important to overall completion of work as other technical aspects. Failure to meet the requirements of these specifications for environmental protection may result in work stoppages, or termination for default. No part of the time lost due to any such work stoppages shall be made the subject of claims for extension of time or for excess costs or damages by the Contractor. If the Contractor fails or refuses to promptly repair any damage caused by violation of the provisions of these specifications, the Owner may have the necessary work performed and charge the cost thereof to the Contractor.

1.1 Critical Path Schedule and Completion Date. The Work shall be completed in the most effective manner according to Project timing and critical path management. The CONTRACTOR shall submit a detailed Project plan and critical path schedule to the ENGINEER and the OWNER for Approval prior to commencement of Construction. The critical path schedule shall be consistent with the timing indicated within these documents and shall indicate all major milestones of construction progress, completion projection dates, and labor requirements to complete construction according to Article 4 of the Agreement (Section B) and Contract Documents. An updated schedule shall be prepared and delivered to the OWNER and ENGINEER on a biweekly basis to describe in detail any deviation from the construction plan or approved critical path schedule. All construction activities shall be complete by April 30, 2021 (unless permit time extensions are granted).

1.2 Required Meetings. The ENGINEER will notify the CONTRACTOR of the date and site for the pre-construction conference. A schedule of all submittals required during Project construction shall be discussed at the pre-construction conference meeting, and the CONTRACTOR shall be informed of all procedures and lines of authority and contractual and administrative matters pertaining to the Contract.

The CONTRACTOR shall be notified by the ENGINEER of the date and site for Progress Meetings that will be scheduled on a biweekly basis. The CONTRACTOR's Superintendent, major SUBCONTRACTORS, the OWNER's site representative, and ENGINEER shall be required to attend such meetings. ENGINEER may participate via teleconference.

1.3 Equipment. The CONTRACTOR shall keep on the Project equipment which shall meet the requirements of the Work. All equipment for use during beach fill transport and placement shall be capable of operating in the conditions of the project area located on the Atlantic Ocean shoreline of North Topsail Beach. All equipment used on this project must follow existing OSHA and State requirements for safety and proper working condition. The equipment shall be subject to inspection by

the OWNER or ENGINEER at all times. No reduction in the capacity of the equipment employed on the Work shall be made except by written permission of the ENGINEER. It is the CONTRACTOR's responsibility for safekeeping of all equipment at the beach and upland areas for the duration of the Project.

2.0 EXCAVATION

2.1 General Plan. All excavation of material shall be performed in accordance with the approved work plans and requirements specified herein. Excavation must be from an approved borrow area(s). Stockpiling and screening at the mine site is also required prior to hauling.

2.2 Borrow Areas. Both the ST Wooten sand mine and the 421 Sand mine are currently being permitted for the project. Permit conditions require strict monitoring of sediment quality and compatibility. It shall be the CONTRACTOR's responsibility to negotiate with the borrow areas the cost of the material and responsibility for all excavation, screening, and loading. Other sand mines can be included in the bid however they must be reviewed by permitting agencies prior to acceptance (see 2.3).

2.2.1 Sand, silt, shell, stumps, debris and other obstacles may be encountered. Sieve analysis has been performed at both permitted sites and grain size information is provided in Appendix C. Permit conditions require screening at the borrow site occurs. Material excavated from the borrow area shall be screened for debris larger than $\frac{3}{4}$ inches prior to hauling.

2.2.2 Non-beach compatible material will not be accepted for beach fill. If rock, rubble, debris or undesirable sediment (based on color, texture, grain size or fines content) is encountered in the areas of excavation, the CONTRACTOR shall immediately coordinate with the OWNER'S REPRESENTATIVE. Adjustments to the excavation shall be made at the discretion of the OWNER'S REPRESENTATIVE or ENGINEER. Stock piling or relocating to another section of the borrow area as dictated by the OWNER'S REPRESENTATIVE shall not be construed as a change of conditions and this relocation shall be executed at no additional cost to the OWNER.

2.3 Alternate Borrow Areas: The OWNER encourages the use of alternative borrow area(s) which contain high quality beach compatible material. If Bidder proposes alternative borrow source(s), the Bidder must provide documentation of existing, valid mining permit(s) and sufficient geotechnical information indicating that the site contains a sufficient volume of beach compatible material to complete the beach fill project. Supporting documentation must be submitted with the Bid proposal. Any proposed alternate borrow area(s) is subject to the approval of the OWNER and ENGINEER.

2.4 CONTRACTOR acknowledges that the ENGINEER and OWNER'S REPRESENTATIVE retain the authority to reject sediment, excavated from within the approved limits, for placement within the fill area. Samples of the fill may be collected and tested by the OWNER periodically throughout the construction project at OWNER'S expense. In the event that unsuitable material is detected as part of these procedures, the CONTRACTOR shall immediately stop furnishing such material and shall be responsible for immediately removing the unsuitable material prior to any further construction. Any unsuitable material shall be removed at the expense of the CONTRACTOR in a manner approved by the OWNER. Verification surveys shall be conducted by the OWNER after the CONTRACTOR has removed unacceptable materials and replaced it with beach compatible material to the template designed by the ENGINEER.

3.0 EXCAVATED MATERIAL TRANSPORT

3.1 General. The CONTRACTOR shall transport excavated material from the borrow area to the fill area by truck hauling. Placement at the fill site shall be by either truck dumping or pan equipment.

3.2 Haul Routes. The most efficient, permissible route from the borrow area to North Topsail Beach fill placement areas shall be utilized. CONTRACTOR shall submit his proposed haul route to the OWNER prior to construction. Final haul routes are subject to OWNER approval. The CONTRACTOR is responsible for complying with all NCDOT, County and other local regulations regarding weight limits for roads and bridges utilized for transport of the fill material. The CONTRACTOR is likewise responsible for complying with all applicable traffic, safety and speed laws.

3.3 Spillage. CONTRACTOR shall cover truck beds and shall not spill borrow materials in transit. All dump trucks shall be kept in good condition at all times and any leaks shall be promptly and properly repaired. Failure to repair leaks satisfactorily which results in spillage may result in suspension of construction without additional compensation. No payment will be made for misplaced or spilled borrow materials. The CONTRACTOR will be responsible for clean up of any misplaced or spilled borrow materials.

3.4 Traffic Control. The CONTRACTOR shall be responsible for providing and maintaining public safety and traffic control (vehicular and pedestrian) along the approved haul route(s), access points, and all work areas according to local, county, state (including NCDOT), or federal regulations and as directed by the OWNER.

3.5 Beach Access. OWNER has a designated beach ingress/egress point from Island Drive as shown on the Drawings. Entry and exit from construction areas shall be only through those points specifically approved by the OWNER. Additional access and staging areas, if required by the CONTRACTOR, shall be negotiated with the OWNER prior to commencement of the Work. The CONTRACTOR may, at their expense, negotiate with private landowners to secure separate or additional laydown and access points. These shall be subject to approval from the OWNER and ENGINEER as well as permitting agencies.

3.5.1 Initial improvement and maintenance of the ingress and egress routes is the responsibility of the CONTRACTOR. Caution shall be used when accessing the beach since the area beaches are frequented by tourists and residents. Existing beach/dune topography, vegetation, and upland improvements shall be disturbed only to the minimum extent necessary for construction and construction access and other authorized activities. To the maximum extent feasible, the CONTRACTOR shall limit clearing for the access (from the existing pavement to the beach). The CONTRACTOR shall avoid disturbing native vegetation wherever possible; any disturbance of existing native vegetation by the CONTRACTOR shall be restored by the CONTRACTOR at no additional cost to the OWNER.

3.6 Damage to Roads and Property. The CONTRACTOR shall be responsible for any damages caused to infrastructure, property, landscaping, or natural resources that occur during the course of excavation, transport, and placement of the borrow materials. It is strongly recommended that the CONTRACTOR properly photo-document the pre-construction condition of the fill and borrow area, and transport route(s) before commencing the Work. The CONTRACTOR shall be responsible for maintenance of the haul route for the duration of the project.

4.0 PLACEMENT OF BEACH FILL

4.1 General. Placement of the beach fill material shall be within the assigned reaches as shown on the Drawings. The Reach is defined as just south of Gray Street Beach Access (Station 650+00) off Island Drive to 3690 Island Drive (Station 770+00) as shown on the Drawings. Preliminary cross-sections shown on the Drawings are based on the placement of approximately 289,000 CY of fill material. CONTRACTOR is notified that the OWNER or ENGINEER may exclude portions of these reaches for construction or alter the construction sequencing, based on available sediment quantities and the construction time limits established in the applicable State and Federal regulatory permits.

4.2 Construction Sequence. The OWNER's intended sequence for beach fill placement can proceed from south to north, or north to south. Timing constraints and final project sequencing may require CONTRACTOR to place beach fill simultaneously in a combination of alongshore reaches.

4.3 Beach Debris. The CONTRACTOR shall remove all driftwood and similar debris lying within the construction limits of the beach fill sections prior to commencement of any construction activity. All materials removed shall be disposed of at sites approved by the OWNER.

4.4 Beach Fill Template. Design cross-sections call for a beach elevation of +6.0 ft NAVD as shown on the Drawings, with corresponding unit fill volumes between 18.6 and 32.5 cubic yards per linear foot of shoreline. Fill templates include a seaward slope of one vertical on three horizontal (1V:15H) from the seaward berm extension to the existing beach profile. CONTRACTOR is not required to perform grading seaward of the mean high water (MHW) line (+1.1 ft NAVD), however, CONTRACTOR shall conduct grading of the lower profile during times of low tide to the extent practical. No troughs or gaps should occur between the existing dune and the placed fill. Some additional fill may be required (outside of the design template) to accomplish this and this material will be valid for payment based on ENGINEER approval.

4.5 Beach Surveys and Layout. The ENGINEER will perform pre- and post- fill verification surveys of the fill areas. CONTRACTOR shall be responsible for maintaining dimensional staking throughout the Project. The CONTRACTOR shall furnish at his own expense any such additional stakes, templates, platforms, equipment, tools and material, and all labor as may be required to layout and execute the work. It shall be the responsibility of the CONTRACTOR to maintain and preserve all stakes.

4.6 Template Adjustments and Completion. The ENGINEER reserves the right to alter the cross-section dimensions from the lines and grades shown on the plans in order to adjust to changing site conditions and to establish a relatively uniform beach for the entire length of the shoreline. Completion of reach construction includes final dressing to prescribed cross-sections and uniformity along reach extension.

4.7 Tolerances. Following CONTRACTOR's notification to OWNER that beach sections of not less than 500 ft have been completed, the Engineer will conduct post fill surveys at not greater than 500 ft intervals to verify that CONTRACTOR's beach fill is in accordance with lines and grades described in the Drawings and these Specifications. Vertical tolerance on the horizontal beach berm shall be +/- 6 inches. Contractor must provide 24 hours' notice to the OWNER when requesting surveys. Post-Fill Surveys will be used to confirm conformance with design template. Final retainage for progress payments will not be released unless beach fill templates are accepted by OWNER based on OWNER's surveys. For sand

placed seaward of the MHW line, the contractor will be held to volume requirements while vertical template tolerance will not apply.

4.7.1 Volume Control. The CONTRACTOR must place at least ninety-five (95%) of the required fill schedule volume within each Acceptance Section unless otherwise directed by the ENGINEER.

4.7.2 Construction Template Control. The constructed beach contour lines between acceptance profiles shall be approximately straight and parallel, indicating that the CONTRACTOR attempted to construct a uniform (non-cuspate) beach. If the ENGINEER or OWNER observes any attempt to underfill the beach between pay profile lines, a survey will be conducted by the ENGINEER or OWNER to quantify the amount of underfilling. The CONTRACTOR will place additional fill until the beach is uniform in dimensions between progress survey profiles and which meets the 95% minimum design fill volume criteria.

4.7.3 Compensating Slope Adjustment. It is recognized that it may be difficult to control fill below MHW (+1.1 feet NAVD88). Payment by application of compensating slope will be allowed for beach fill placed below MHW. A seaward extension of the constructed berm can be used to offset deficiencies in filling the template below +1.1 feet NAVD88. Compensating volume will only be paid up to the volume contained within the template shown in the Plans. Under filling of the template above +1.1 feet NAVD88 will not be compensated for by the placement of additional fill below +1.1 feet NAVD88. Payment will only be based on fill that can be measured within the limits of the pre-construction and as-built surveys. The CONTRACTOR is responsible for any additional costs incurred (such as, but not limited to, expanded surveys or calculations) required to satisfy compensating slope measurements. Regardless of the compensating slope amendment, the CONTRACTOR is required to make a best effort to meet the slopes shown in the construction Plans.

4.7.4 Post-placement Erosion. If significant erosion of the slope occurs after dressing of the beach and prior to surveying of the acceptance sections, the ENGINEER may grant acceptance for minor deficiencies in the slope if the surveys document that the material exists further seaward, and if the ENGINEER determines that the CONTRACTOR has made a good faith effort to place the fill properly.

4.8 Grading and Dressing. Upon completion of all filling operations within a complete section, the CONTRACTOR shall remove any large or unsightly debris (e.g., tires, large stone, large metal objects, large pieces of wood) and shall grade and dress the fill. Consecutive grading and filling should be timed for efficient equipment usage and tide stage. Any pockets, bumps, or depressions in the beach fill surface shall be graded to provide a uniform surface between adjacent sections of beach.

4.9 Beachfront Structures. CONTRACTOR shall avoid dune overwalks, or other shorefront structures encountered during beach fill construction to prevent damage by the CONTRACTOR's equipment. Backfilling around such structures shall be performed by appropriate construction equipment, or by hand if required. Construction equipment shall not be permitted outside the construction limits of the Project reaches except for the specific ingress and egress areas approved by the OWNER. Following construction, the beach in the area of any temporary access ramps shall be leveled and dressed.

5.0 Final Examination and Acceptance

5.1 As soon as practicable and no later than two weeks after the completion of the entire work or any section thereof (if work is divided into sections) as in the opinion of the ENGINEER will not be

subject to damage by further operations under the contract, such work will be thoroughly examined at the cost and expense of the OWNER by survey, as determined by the ENGINEER. Should any valleys, trenches, or other lack of contract grade be disclosed by this examination, the CONTRACTOR will be required to fill same with additional material. The CONTRACTOR or its authorized representative will be notified when surveys are to be made and will be permitted to accompany the survey effort. When the area is found to be in a satisfactory condition, it will be accepted finally.

5.2 Prior to final acceptance, each of the following requirements shall be satisfied:

- All punch-list items are to be corrected or completed.
- As-Built redlined, submitted and approved by the ENGINEER.
- All other submittals specified in the Contract.
- All clean-up and demobilization completed.

6.0 SAFETY PLAN

The CONTRACTOR shall devise and discuss a safety plan acceptable to the OWNER at least two (2) weeks prior to project start. At a minimum, the safety plan shall contain provisions for: 1) Fencing/barricades to exclude the public from the construction area, 2) Restrictions on vehicle speed, 3) Means of protection of existing vegetation, and 4) Construction site "No Trespassing" and other safety signage. The CONTRACTOR will be responsible for implementing the safety plan for the safety of the people in and adjacent to the Project area during construction.

7.0 PROTECTION OF EXISTING STRUCTURES

7.1 General. The CONTRACTOR shall be responsible for locating and avoiding damage to all overhead and underground utilities within the limits of the Project activity. Any damages to public or private property, including but not limited to, seawalls, utilities, fencing, overwalks, vegetation, lifeguard stands, mailboxes, signs, vehicles, etc., resulting from the CONTRACTOR's operations shall be repaired or replaced to original condition by the CONTRACTOR at his/her expense. The OWNER shall determine if repairs are required and the OWNER shall determine if the property has been repaired to its previous condition, before the CONTRACTOR receives approval of repairs.

7.2 Documentation. The CONTRACTOR shall be responsible for determining and documenting the pre-construction condition of existing structures; taking appropriate measures to prevent damage to any structures during construction; and, performing a post-construction verification inspection of those structures previously inspected. The CONTRACTOR shall assume all responsibility for damages to existing structures within and bordering the Project boundaries as a result of construction activities. This includes, but is not limited to, damages as a result of equipment impact due to operation of equipment close to existing structures.

8.0 MISPLACED MATERIALS

Should the CONTRACTOR, during the progress of the Work dump or misplace any material, machinery, or appliance which in the opinion of the ENGINEER may be dangerous to or obstruct pedestrian, bicycle, or vehicular traffic, the CONTRACTOR shall recover and remove the same with the utmost dispatch. The CONTRACTOR shall give immediate notice, with description and location of such obstructions, to the OWNER, and when required shall mark such obstructions until the same are removed. Should the CONTRACTOR refuse, neglect, or delay compliance with the above requirements, such obstructions may

be removed by the OWNER, and the cost of such removal may be deducted from any money due or to become due to the CONTRACTOR, or may be recovered under his/her bond.

Prior to final acceptance, all areas occupied by the CONTRACTOR in connection with the Work shall be cleaned of all rubbish, excess materials and equipment; and all parts of the Work shall be left in a condition acceptable to the OWNER.

9.0 PHYSICAL DATA

Data and information furnished or referred to below shall be for the CONTRACTOR's information. The OWNER and ENGINEER shall not be responsible for any interpretation of or conclusion drawn from the data or information by the CONTRACTOR.

9.1 Physical Surveys. The indications of physical conditions on the Drawings and in the Specifications are the result of site investigations by surveys. Sediment grain size data is provided for the CONTRACTOR's information only. ENGINEER and OWNER do not guarantee the quality of sand mine material.

9.2 Severe Weather. The Project area is subject to tropical storms and hurricanes from June through November, and to windy and/or rainy weather, including severe electrical storms and other sudden and locally severe meteorological occurrences that approach hurricane conditions, during any time of the year. It shall be the CONTRACTOR's responsibility to obtain information concerning rain, wind, and wave conditions that could influence his construction operations. The CONTRACTOR shall monitor NOAA weather broadcasts, and avail themselves of such other local commercial weather forecasting services as may be available. These information broadcasts shall be the CONTRACTOR's primary source in the decision process to implement action under the CONTRACTOR's severe weather plan.

10.0 PRESERVATION OF HISTORICAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

Consultations with the North Carolina State Historical Preservation Office indicated that no known items of historical or archeological value are located within the project area. Caution should still be exercised during excavation and filling operations. If any shipwreck, artifact, or other objects of antiquity that may have scientific, historical value, or may be of interest to the public are discovered, located and/or recovered during construction, the CONTRACTOR shall immediately notify the OWNER. The CONTRACTOR shall cease all activities that may result in the destruction of these resources and shall prevent employees from trespassing on, removing, or otherwise damaging such resources.

11.0 CONTRACT QUANTITIES

Payment shall be based on the quantity of material placed within tolerance as determined by progress surveys. The CONTRACTOR is advised that the excavation and beach fill quantities for the purposes of payment may be adjusted by +/-15 percent by the OWNER without renegotiation of unit price or terms.

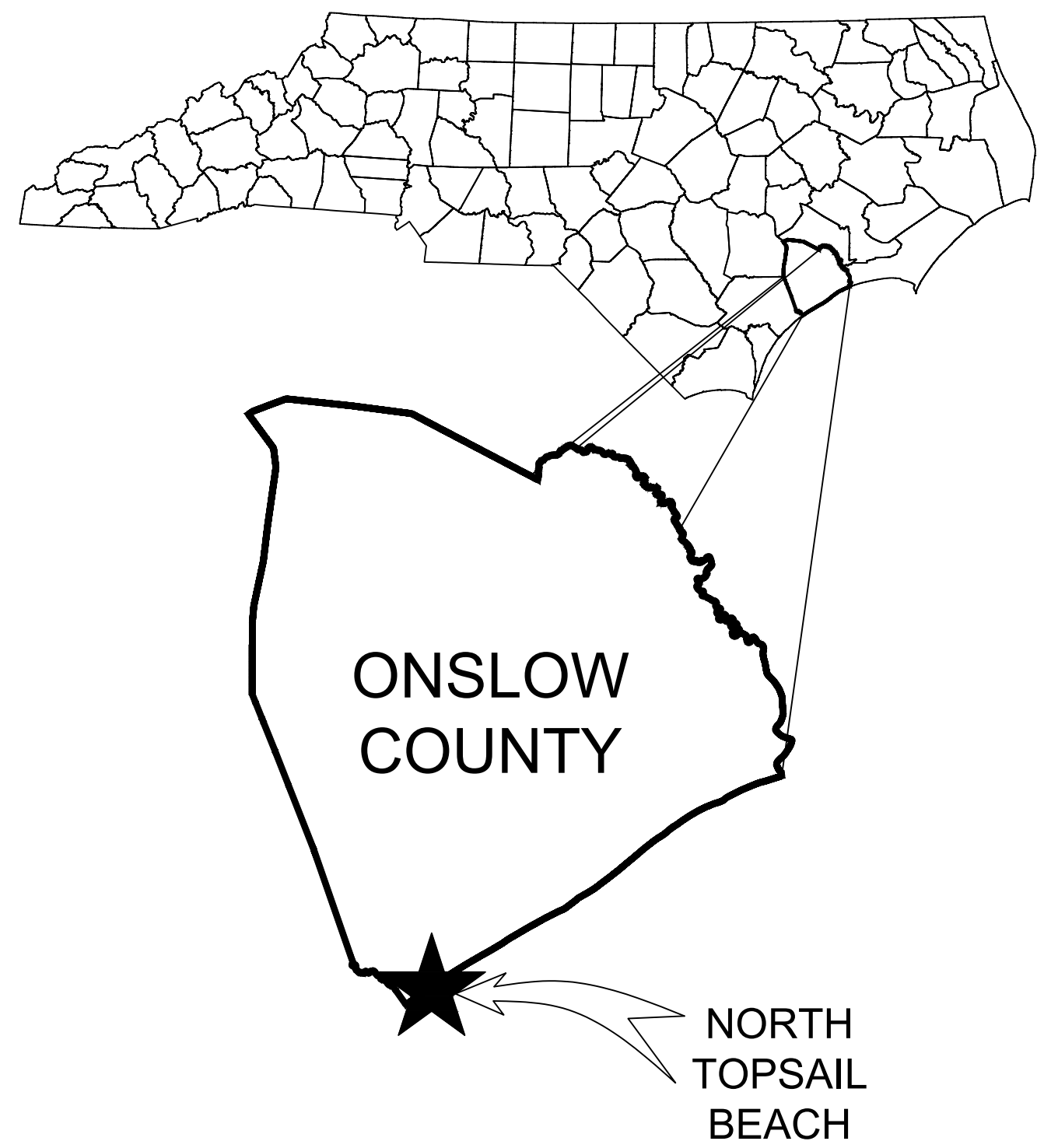
END OF SECTION

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Appendix A – Bid Drawings

NORTH TOPSAIL BEACH REACH 5 NORTH END TRUCK HAUL OCTOBER 2021

NORTH CAROLINA



SHEET INDEX	
SHEET	DESCRIPTION
G-001	LOCATION MAP & COVER PAGE
C-100	PROPOSED REACH 5 NORTH END BEACH FILL TEMPLATE
C-101	REACH 5 NORTH END SITE PLAN STATIONS
C-102	REACH 5 NORTH END PROFILES & VOLUMES
C-200	UPLAND SAND MINES

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Date _____

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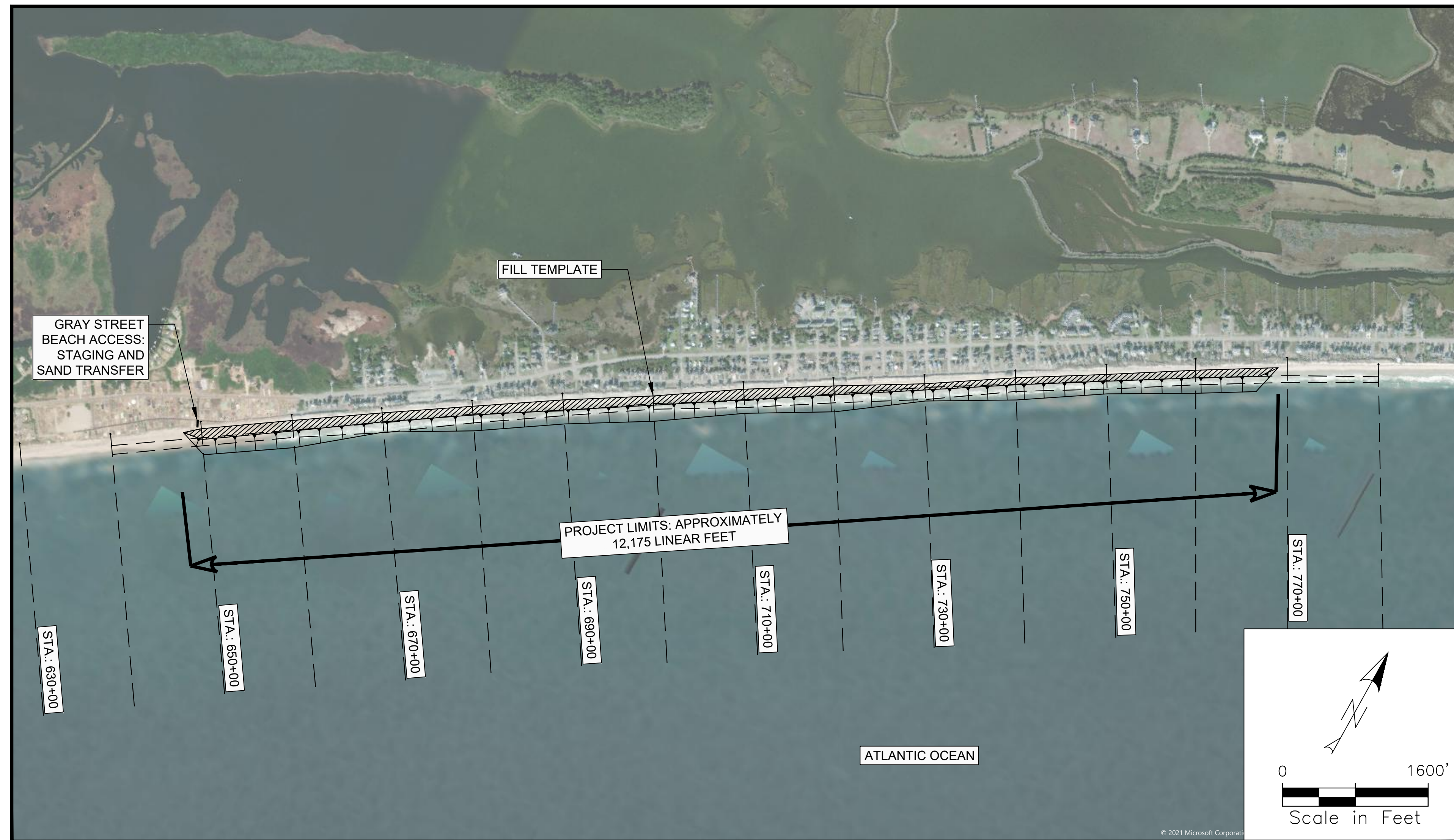
COVER SHEET & LOCATION MAP
NORTH TOPSAIL BEACH
REACH 5 NORTH END
TRUCK HAUL

Applied Technology & Management
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Mt Pleasant SC, SC 29464
(843) 414-1040
ATM
A Geosyntec Company

DRAWING NUMBER
G-001

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 NOTE: THESE DRAWINGS AND DESIGNATIONS ARE STRICTLY CONFIDENTIAL AND NOT BE DISCLOSED, REPRODUCED OR COMMUNICATED TO A 3rd PARTY IN ANY FORM OR MANNER WITHOUT THE PRIOR WRITTEN APPROVAL OF APPLIED TECHNOLOGY & MANAGEMENT.

REACH 5 NORTH END TRUCK HAUL



Datum	Abbreviation	Elev.
		(ft-NAVD88)
Mean Higher-High Water	MHHW	1.4
Mean High Water	MHW	1.1
North American Vertical Datum of 1988	NAVD88	0
Mean Low Water	MLW	-1.7
Mean Lower-Low Water	MLLW	-1.8

Station	X	Y
	Feet	Feet
630+00	2,453,001.90	259,475.30
640+00	2,453,815.70	260,062.80
650+00	2,454,605.60	260,676.00
660+00	2,455,433.20	261,240.60
670+00	2,456,252.90	261,798.60
680+00	2,457,069.70	262,366.40
690+00	2,457,892.20	262,930.90
700+00	2,458,731.30	263,459.10
710+00	2,459,548.10	264,033.40
720+00	2,460,385.70	264,567.20
730+00	2,461,233.70	265,096.00
740+00	2,462,071.80	265,637.90
750+00	2,462,907.30	266,190.00
760+00	2,463,726.20	266,736.80
770+00	2,464,589.40	267,251.20
780+00	2,465,490.70	267,689.90

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Date _____

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 DATE: 21-October-2021
 JOB NO: 18-3309
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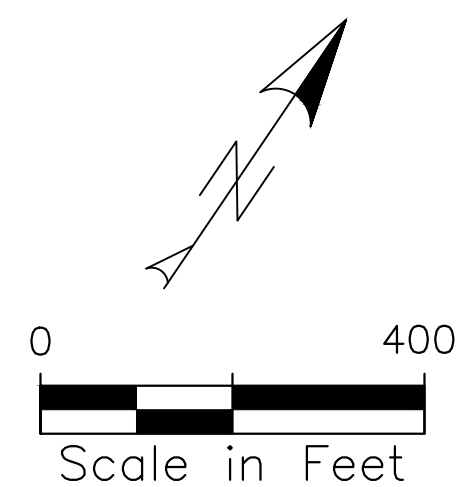
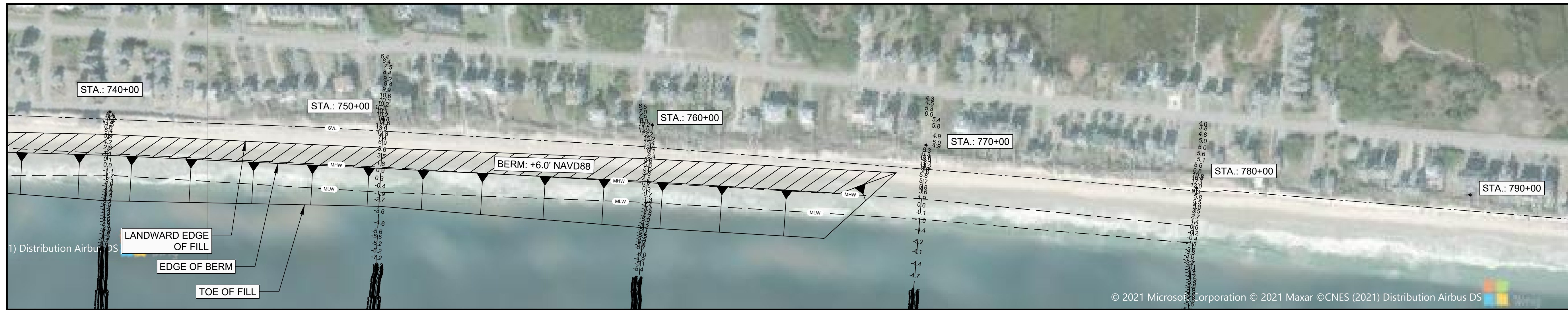
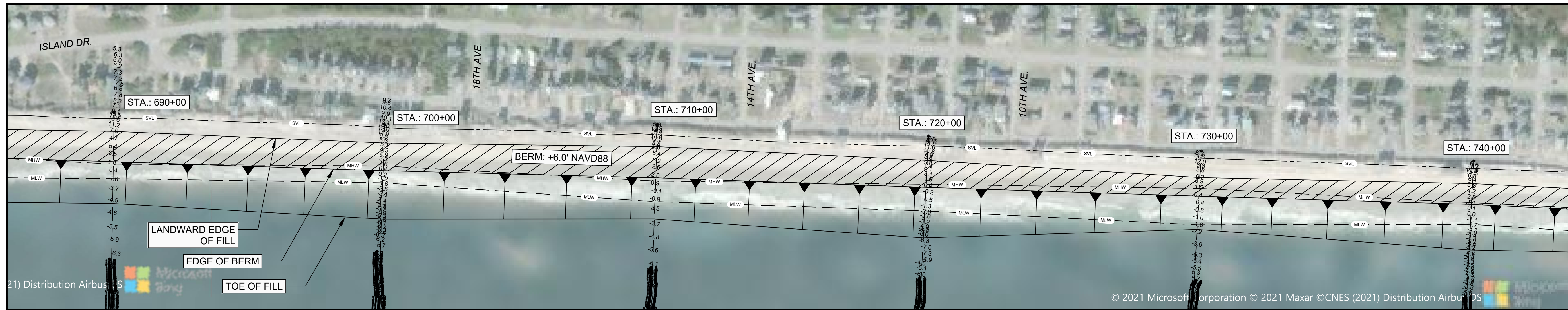
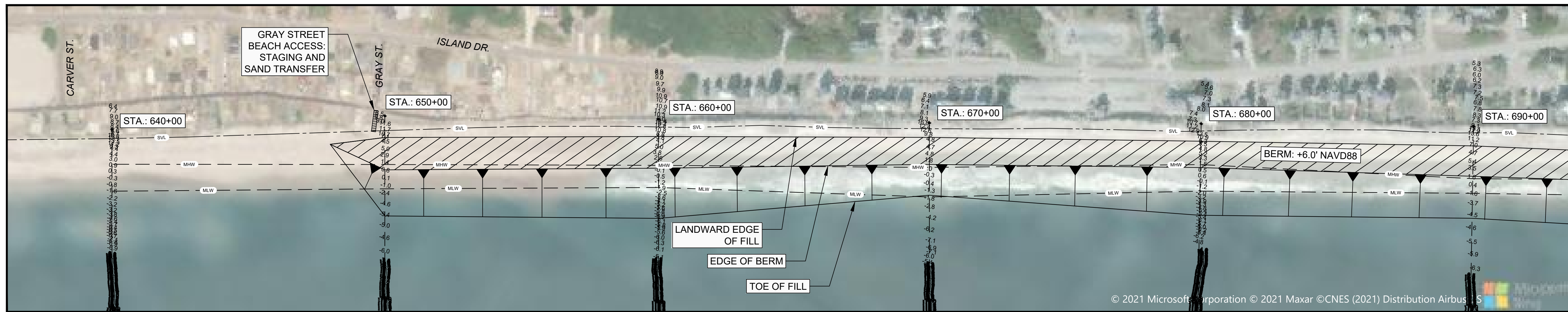
SITE PLAN OVERVIEW
 NORTH TOPSAIL BEACH
 REACH 5 NORTH END
 TRUCK HAUL

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- NOTES:**
- ELEVATIONS ARE IN FEET AND REFERENCE THE VERTICAL DATUM NAVD88. THE SURVEY DATA IS BASED ON TI COASTAL SURVEY DATA JULY 2021
 - AERIAL PHOTOGRAPH DOWNLOADED FROM NOAA DIGITAL COAST AND IS BASED ON FEMA IMAGERY TAKEN IN 2020 POST HURRICANE ISAIAS.
 - ALL EQUIPMENT STORAGE WILL BE ABOVE MEAN HIGH WATER ALONG THE DUNE OR UPLAND OF THE DUNE IN THE EXISTING PARKING/ROADWAY AREA.
 - NO EXISTING ESTABLISHED VEGETATION WILL BE COVERED DURING THIS PROJECT
 - SAND SHALL BE PUSHED UP TO AND UNDER TIMBER STRUCTURES AS MUCH AS PRACTICAL WITHOUT DAMAGING THE STRUCTURE.
 - SVL-STATIC VEGETATION LINE; MHW-MEAN HIGH WATER; MLW' MEAN LOW WATER
 - DESIGN FILL TEMPLATE TOLERANCE HAS A MAXIMUM AND MINIMUM TOLERANCE OF 0.5 FEET.

Signature _____
Date _____

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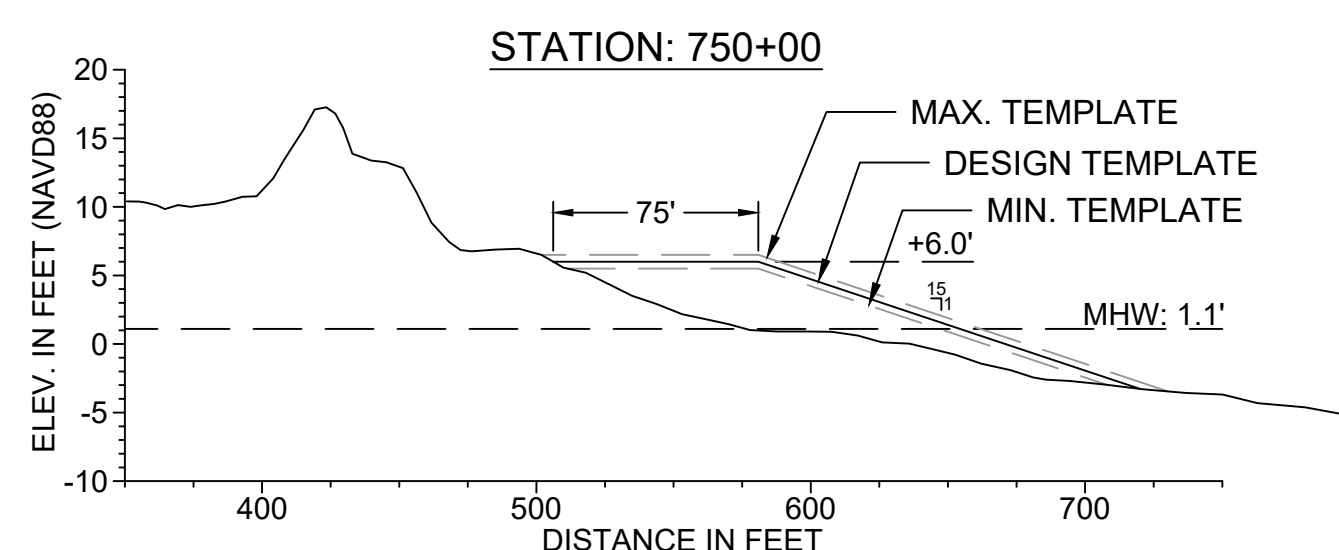
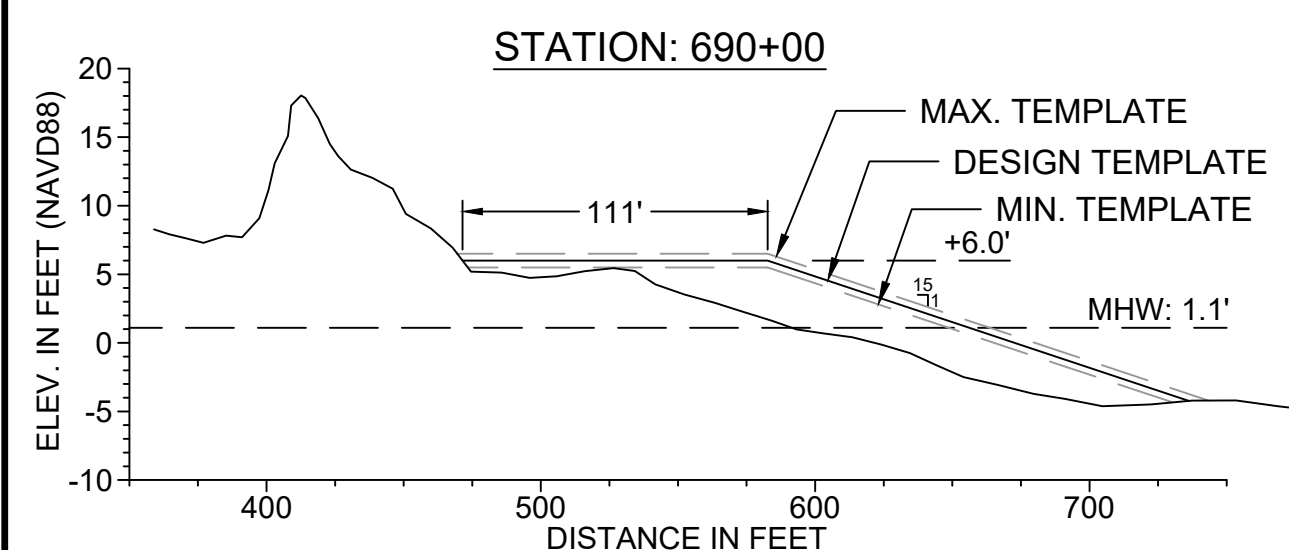
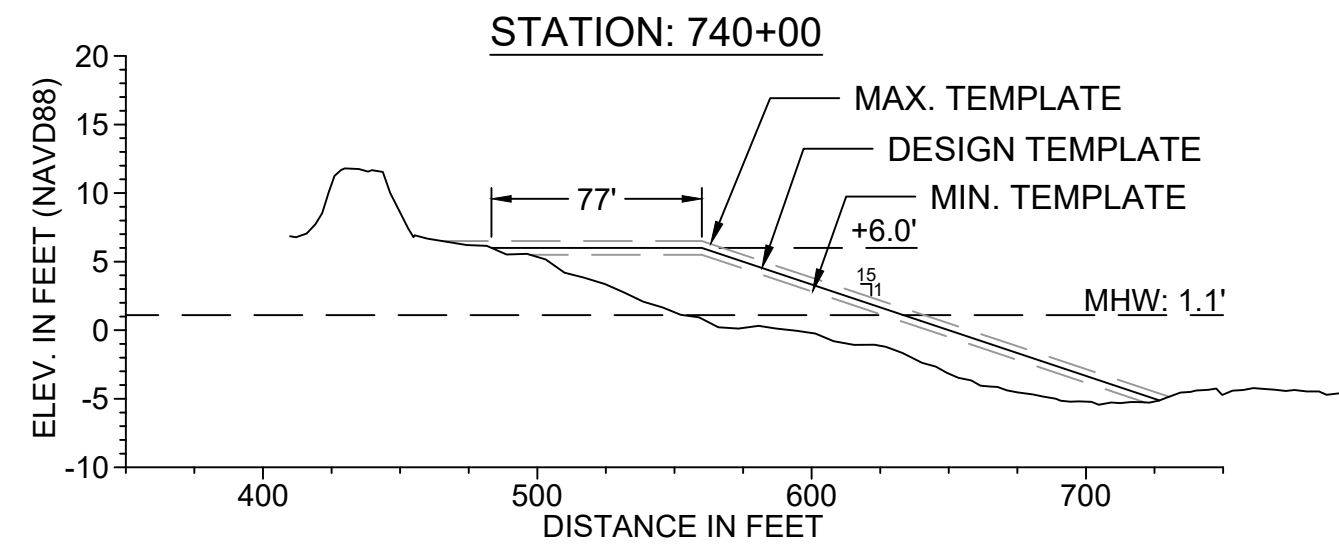
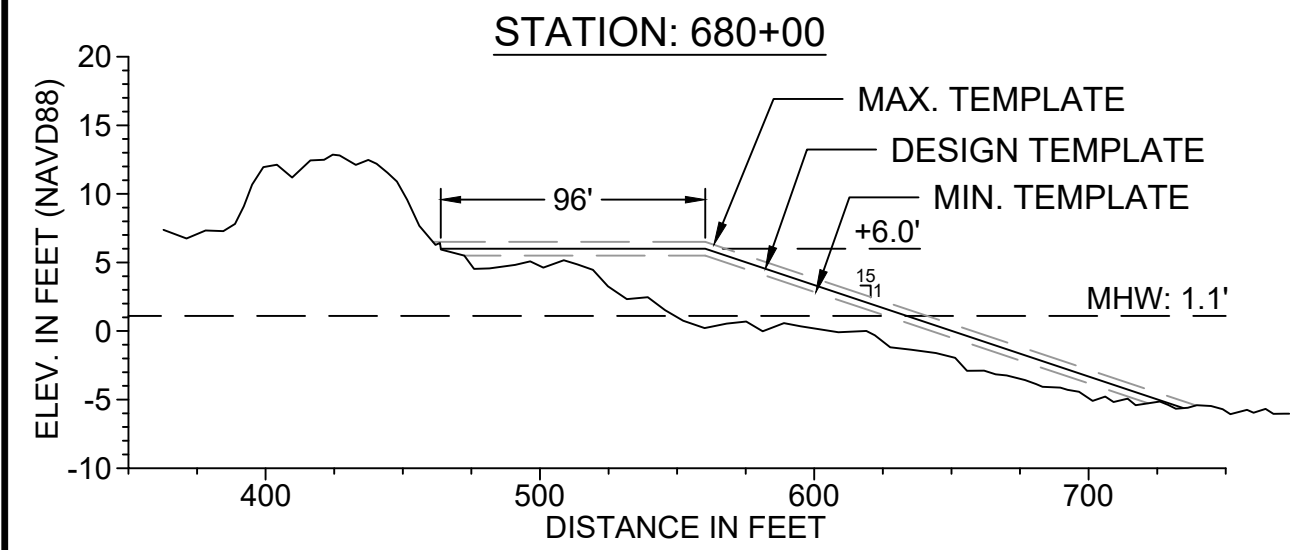
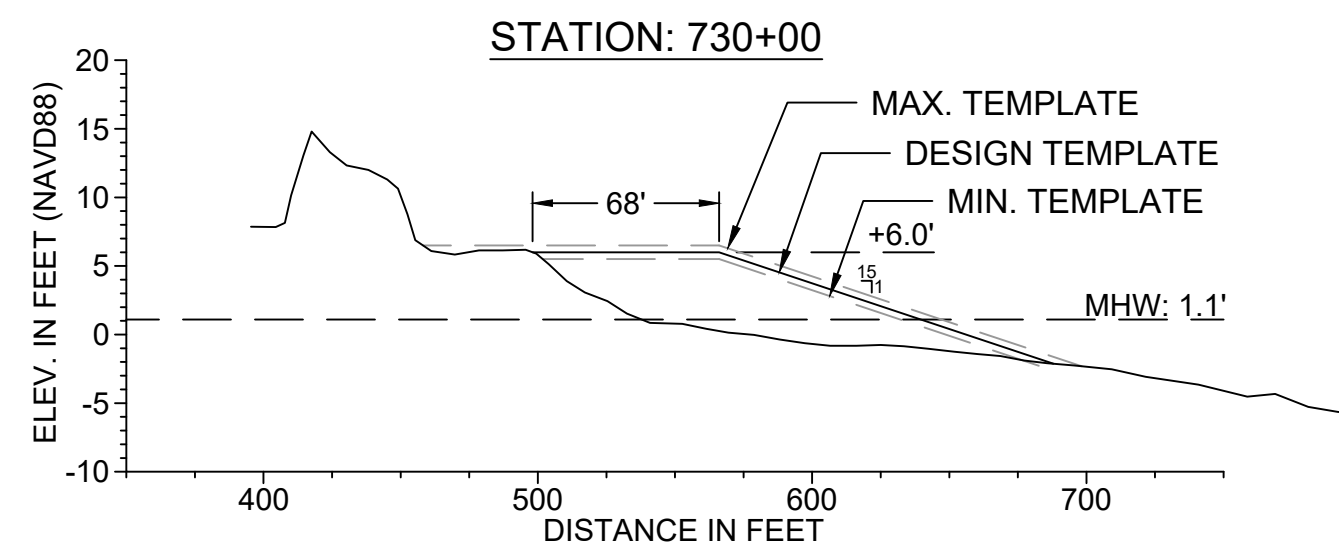
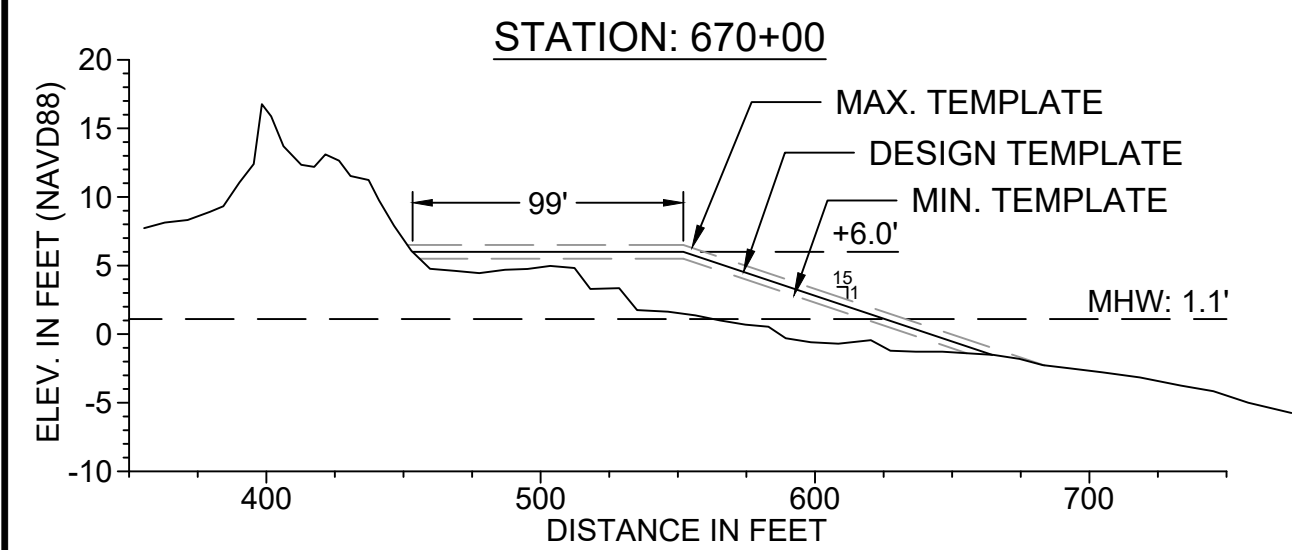
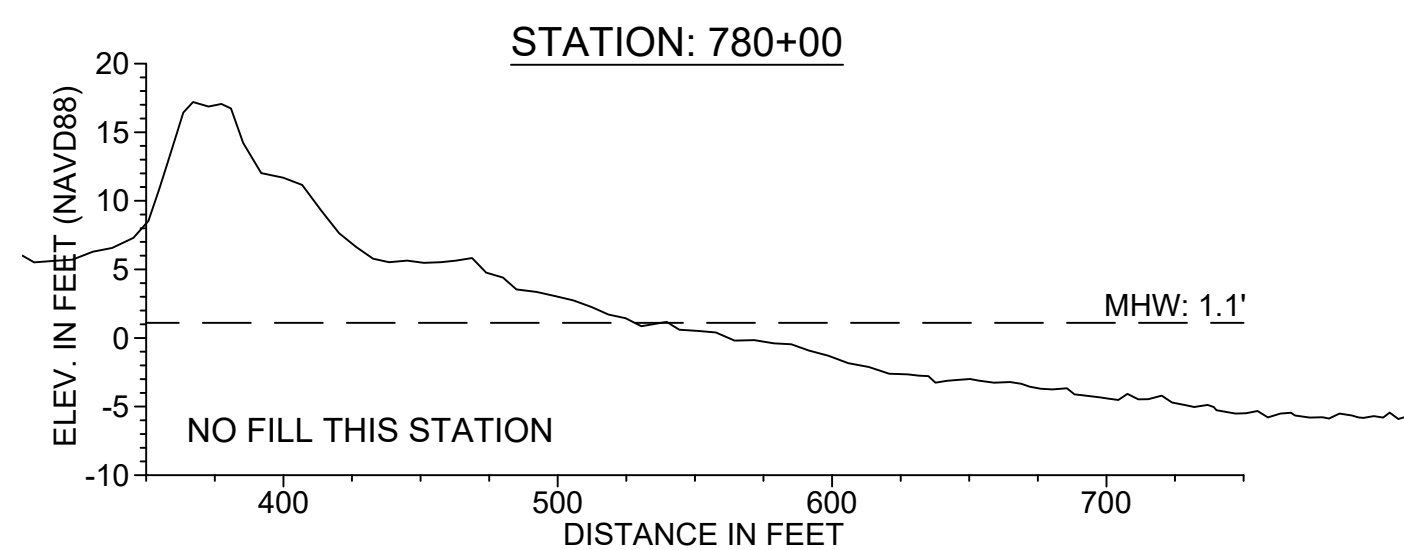
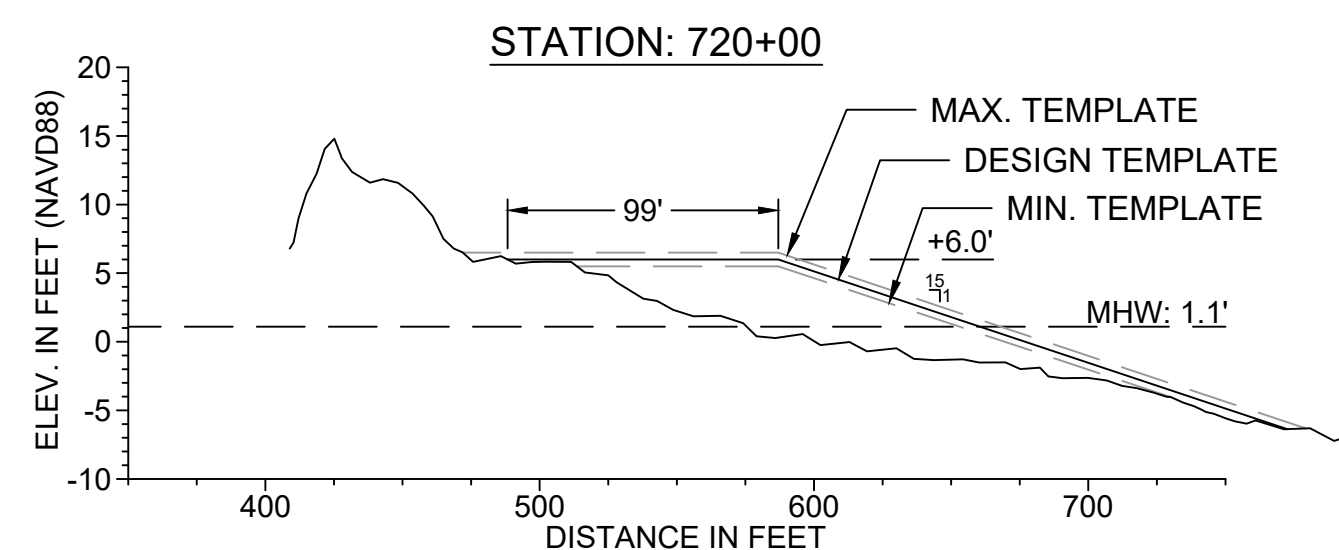
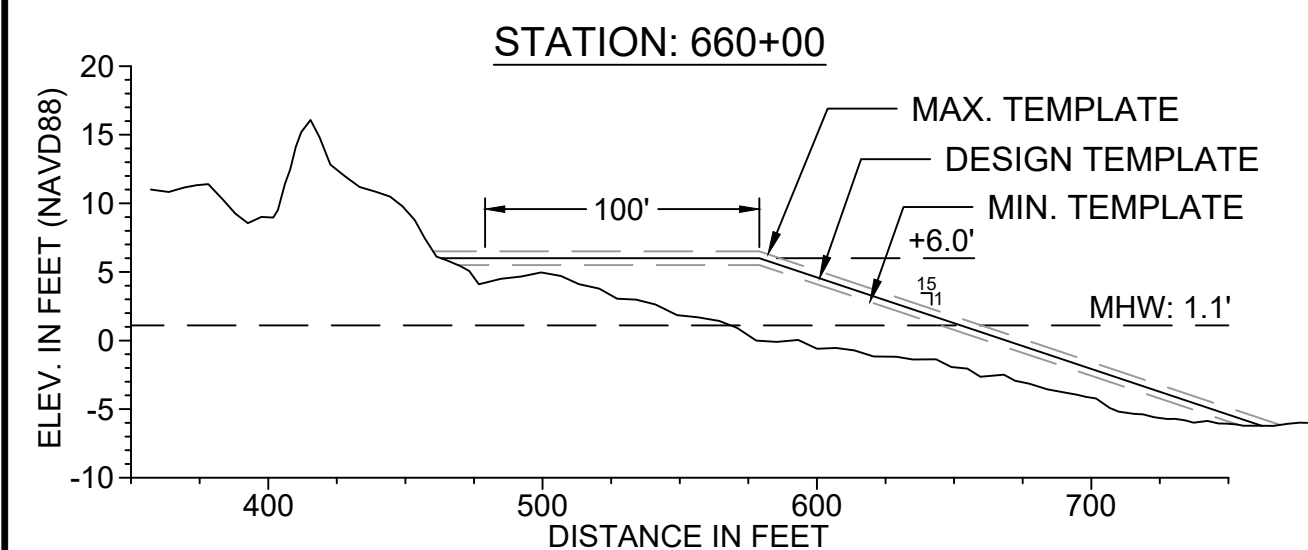
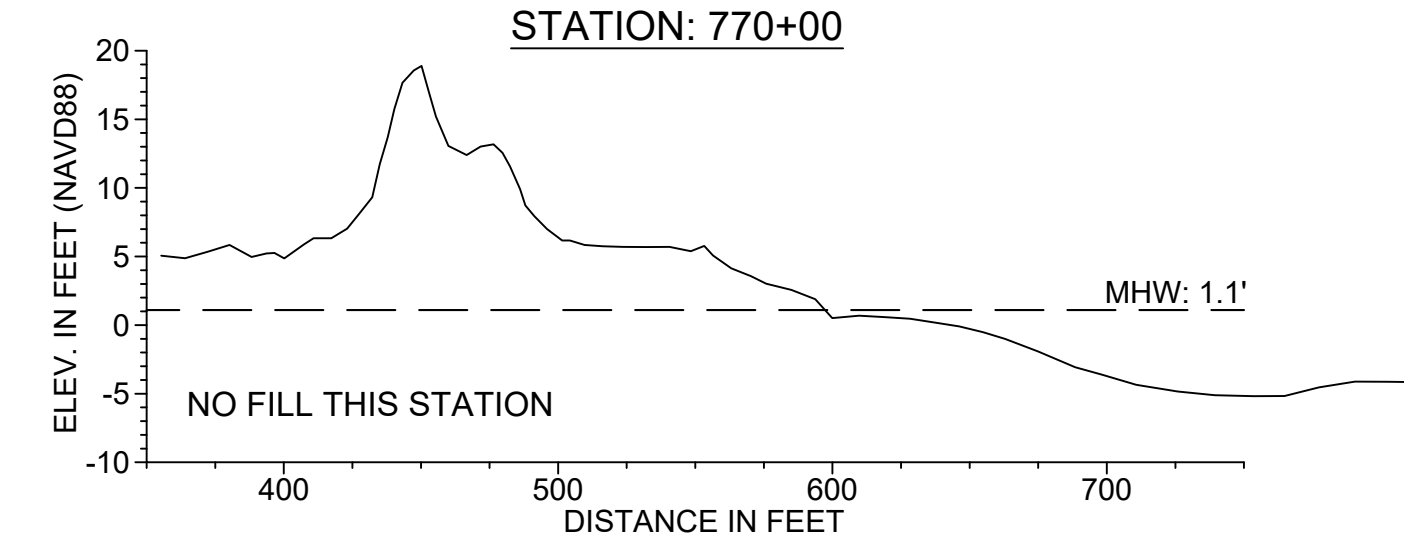
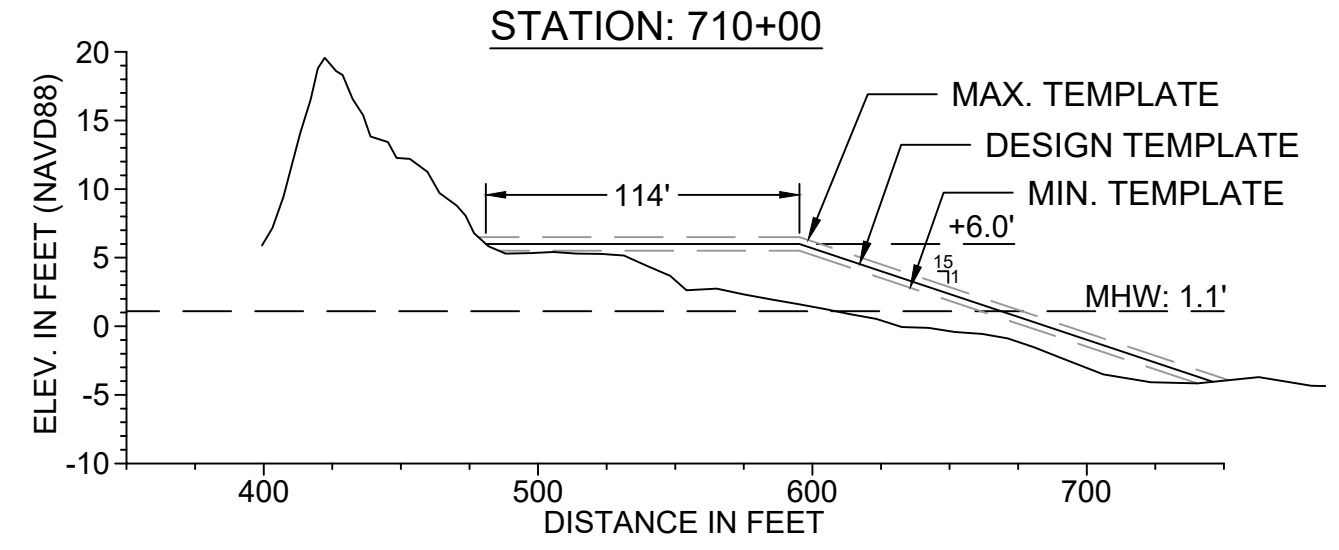
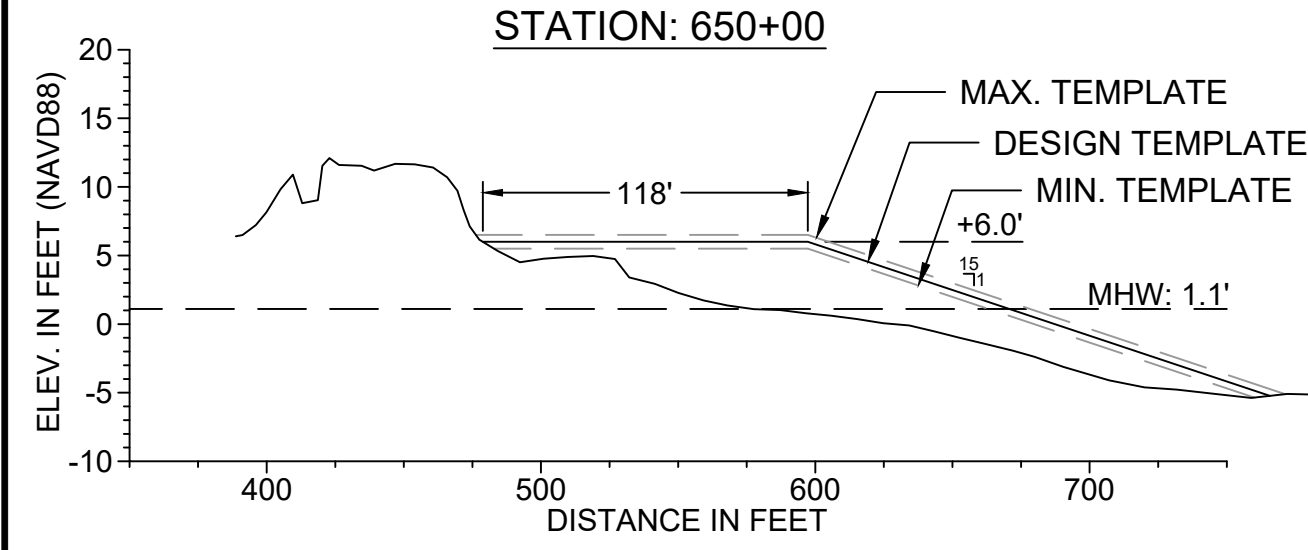
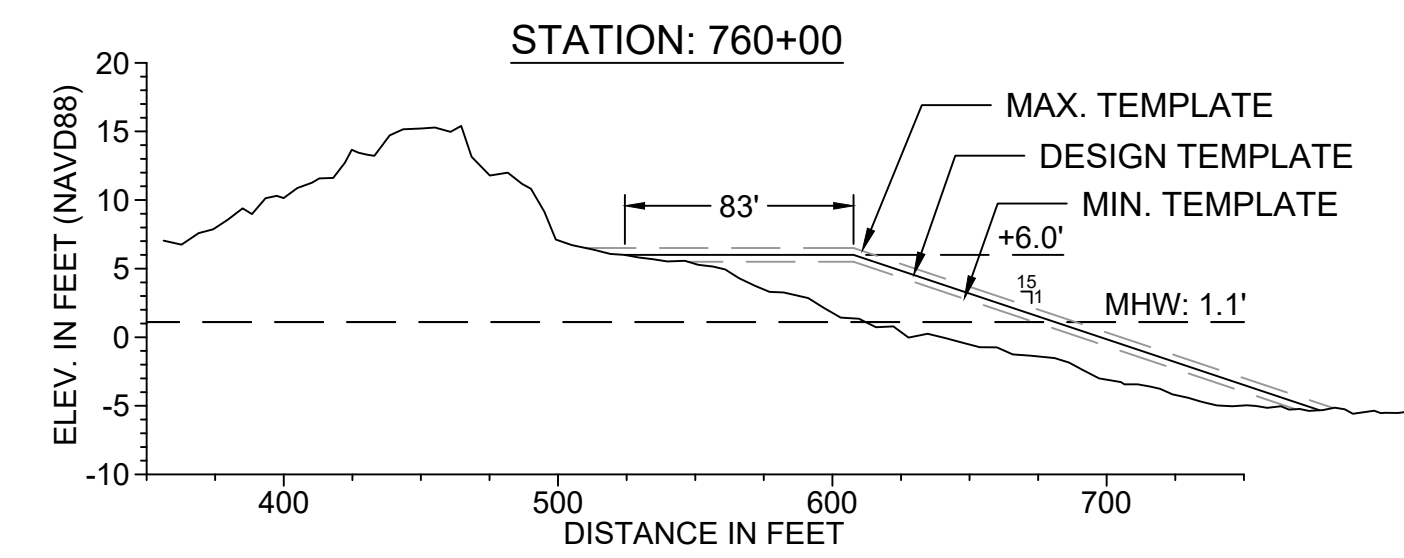
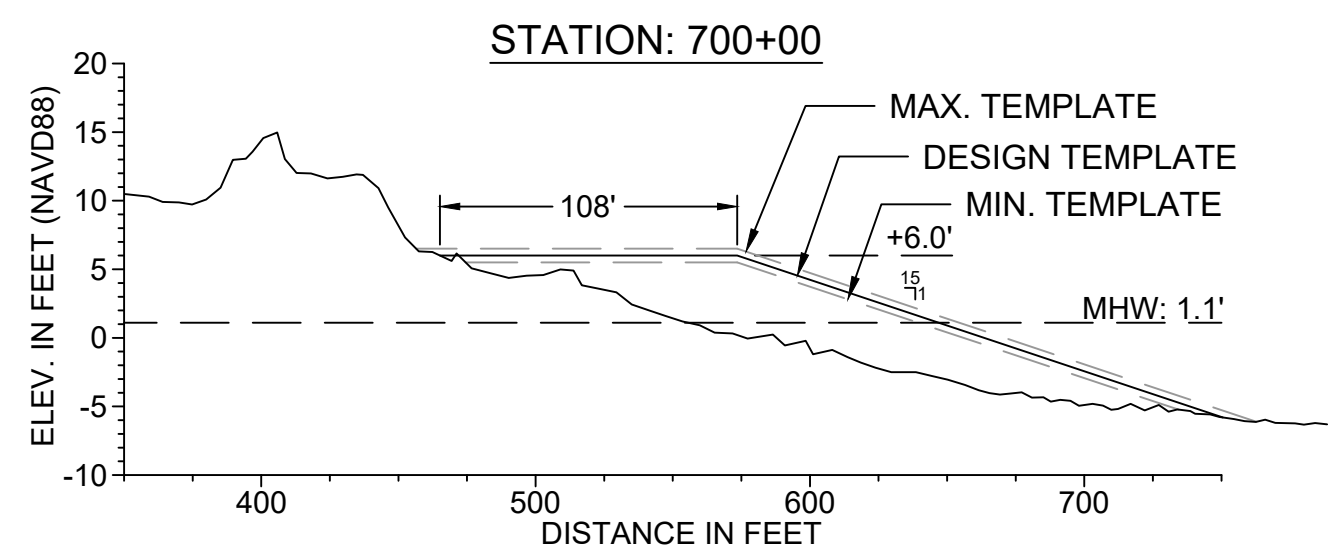
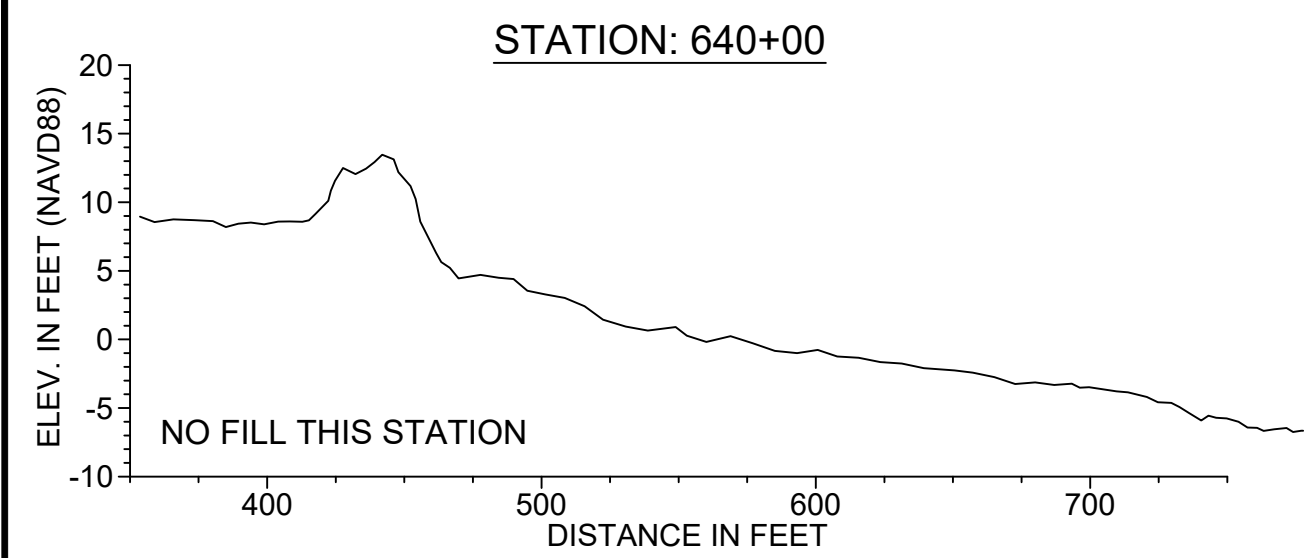
REACH 5 NORTH END
SITE PLAN
 NORTH TOPSAIL BEACH
 REACH 5 NORTH END
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- NOTES:
1. PROFILE ELEVATIONS REFERENCE THE VERTICAL DATUM NAVD88. THE SURVEY DATA IS BASED ON TI COASTAL SURVEY DATA JULY 2021.
 2. NO EXISTING ESTABLISHED VEGETATION WILL BE COVERED DURING THIS PROJECT
 3. DESIGN FILL TEMPLATE TOLERANCE HAS A MAXIMUM AND MINIMUM TOLERANCE OF 0.5 FEET.

Station	Area (Sq ft)	Distance (ft)	Volume (cf)	Volume (cy)	Volume (cy/ft)
650+00	820				30.4
660+00	851	1,002	836,827	30,994	31.5
670+00	501	992	670,281	24,825	18.6
680+00	632	998	563,544	20,872	23.4
690+00	655	992	641,821	23,771	24.3
700+00	878	998	759,938	28,146	32.5
710+00	594	998	734,667	27,210	22.0
720+00	673	993	629,253	23,306	24.9
730+00	608	999	640,182	23,710	22.5
740+00	697	998	651,037	24,112	25.8
750+00	531	1,001	614,782	22,770	19.7
760+00	627	1,005	582,036	21,557	23.2
767+00	576.484	700	421,391	15,607	21.4
769+00	0	200	57,648	2,135	0.0
Total		11,873	7,803,406	289,015	

Signature _____
Date _____

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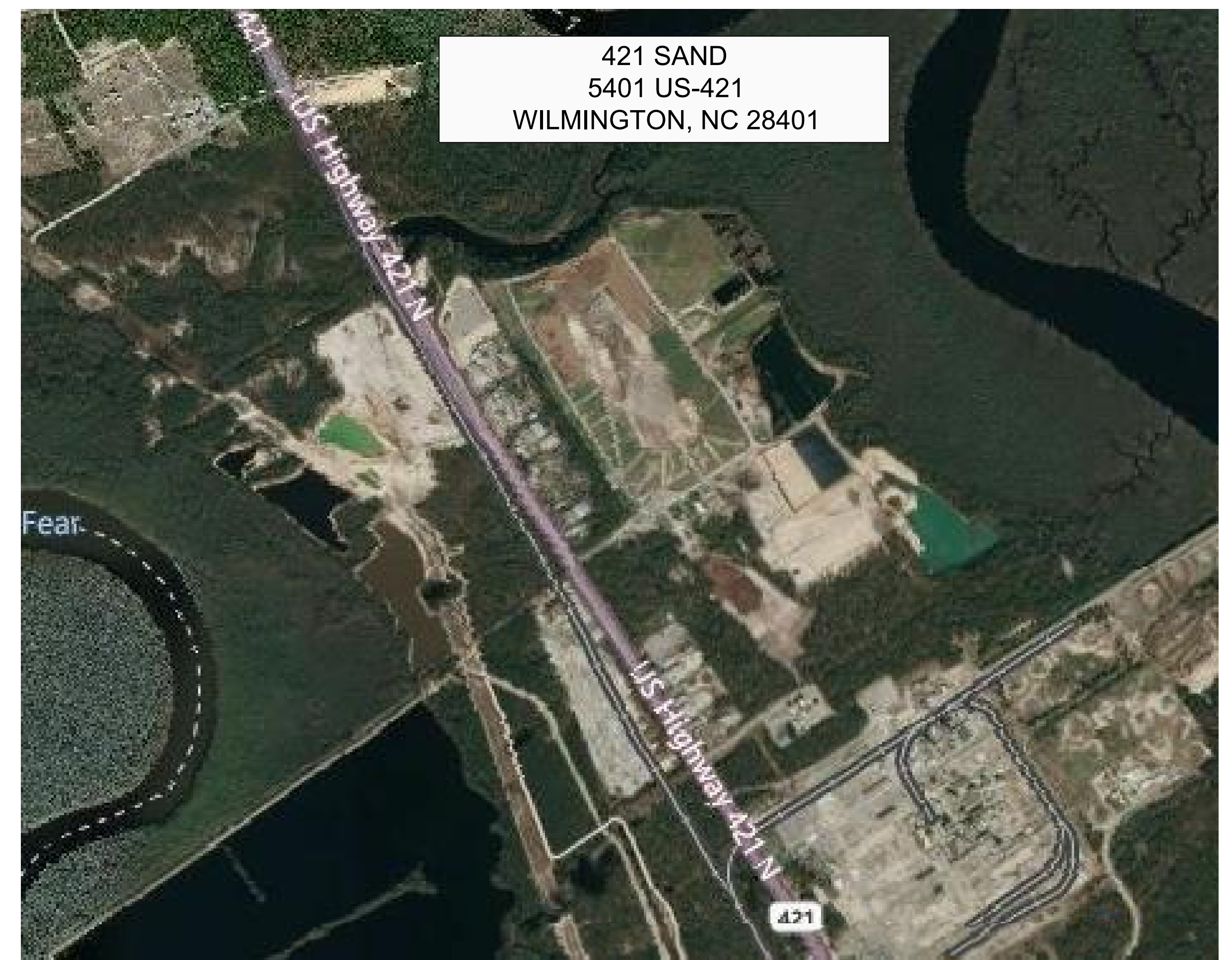
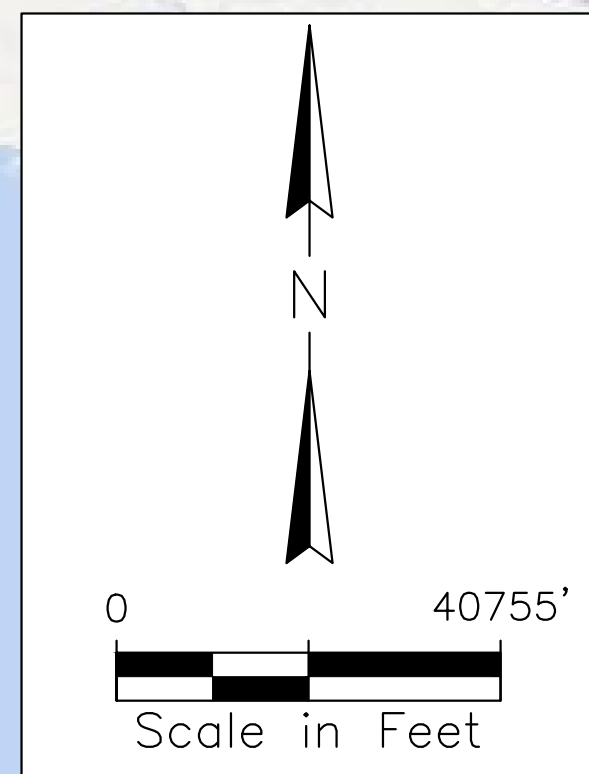
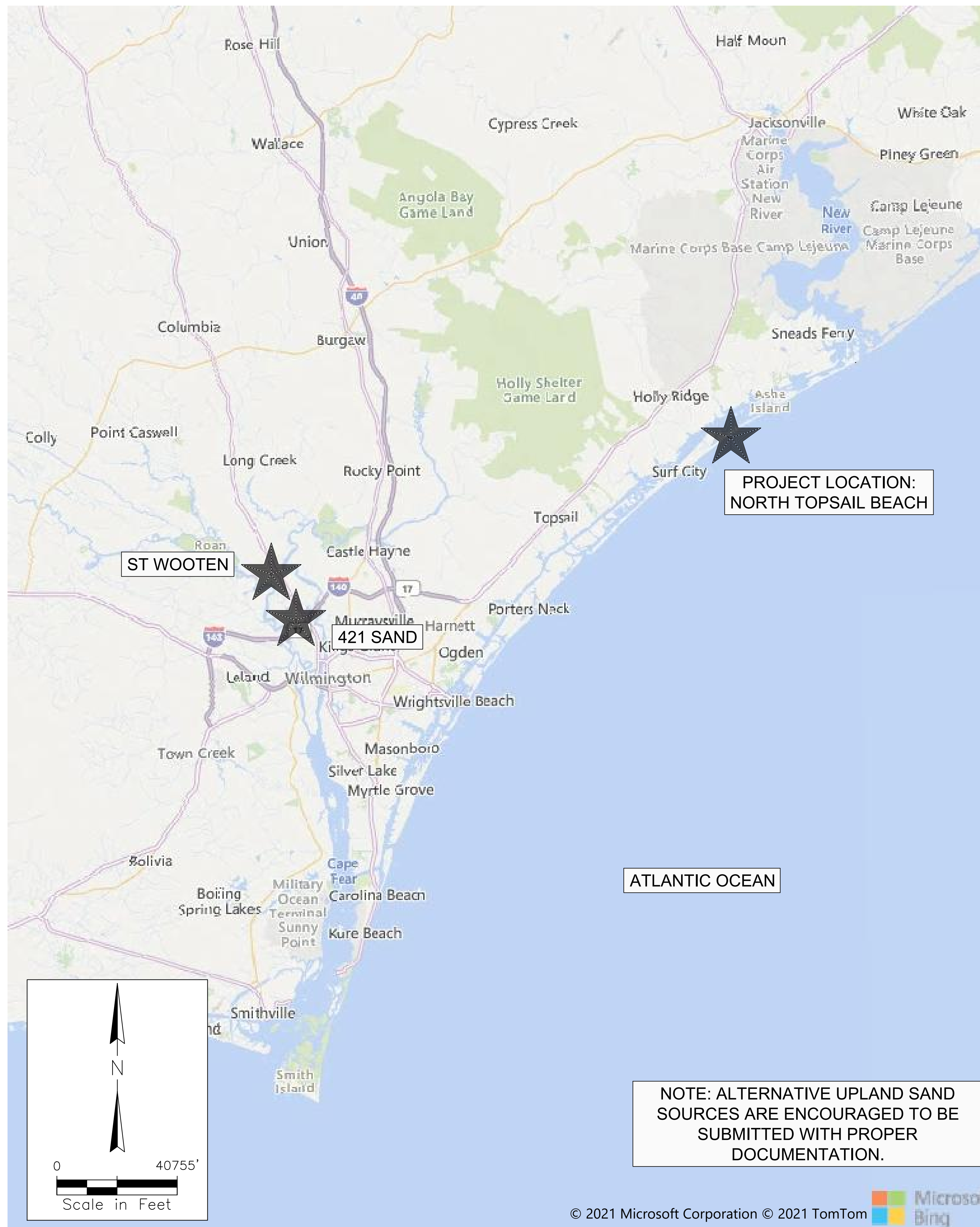
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DATE: 21-October-2021
JOB NO: 18-3309
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REACH 5 NORTH END
PROFILES & VOLUMES
 NORTH TOPSAIL BEACH
 REACH 5 NORTH END
 TRUCK HAUL

Applied Technology & Management
 941 Houston Northcutt Blvd.
 Mt Pleasant SC, SC 29464
 (843) 414-1040

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UPLAND SAND MINES
 NORTH TOPSAIL BEACH
 REACH 5 NORTH END
 TRUCK HAUL

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DRAWING NUMBER
C-200

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Appendix B – Additional CFR Contracting Requirements

APPENDIX B – Additional CFR Contracting Requirements

Additional Contract Provisions Necessary for FEMA Reimbursement of Eligible Expenses:

Where applicable, the provisions found at 2 C.F.R. 200 Appendix II will be included in all contracts executed as a result of this RFQ.

A. REMEDIES:

“Each of the parties hereto acknowledges and agrees that, in the event of any breach of any covenant or agreement contained in this Agreement by the other party, monetary damages may be inadequate with respect to any such breach and the non-breaching party may have no adequate remedy at law. It is accordingly agreed that each of the parties hereto shall be entitled, in addition to any other remedy to which they may be entitled at law or in equity, to seek injunctive relief and/or to compel specific performance to prevent breaches by the other party hereto of any covenant or agreement of such other party contained in this Agreement. Any specific right or remedy provided in this Agreement will not be exclusive but will be cumulative of all other rights and remedies.”

B. TERMINATION FOR CAUSE:

“**Termination for Breach.** If either party shall at any time fail to meet any of its obligations hereunder and shall fail to correct such default within thirty (30) days after the non-breaching party shall have given written notice to it thereof, the non-breaching party shall be entitled to notify the other party that it intends to terminate this Agreement unless such default is corrected, and may so terminate ten (10) days after the end of such thirty (30) day period if such default is continuing; provided that if such default by the breaching party shall be a recurring default and the breaching party does not reasonably satisfy the non-breaching party that such defaults shall cease to occur, the non-breaching party shall be entitled to terminate this Agreement upon the occurrence of such default and the other party shall not be entitled to correct such default.”

C. EQUAL EMPLOYMENT OPPORTUNITY:

“During the performance of this Agreement, the Contractor agrees as follows:

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

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

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

respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

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

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

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

D. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT:

The regulation at 29 C.F.R. § 5.5(b) provides contract clause language concerning compliance with the Contract Work Hours and Safety Standards Act.

Compliance with the Contract Work Hours and Safety Standards Act.

- (1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half

times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

- (2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$26 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.
- (3) Withholding for unpaid wages and liquidated damages. The Town of Holden Beach shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
- (4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section

E. CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT

Clean Air Act

- (1) The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
- (2) The contractor agrees to report each violation to the Town of Holden Beach and understands and agrees that the Town of Holden Beach will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- (3) The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

Federal Water Pollution Control Act

- (1) The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
- (2) The contractor agrees to report each violation to the Town of Holden Beach and understands and agrees that the Town of Holden Beach will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

- (3) The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

F. DEBARMENT AND SUSPENSION

Suspension and Debarment

- (1) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- (2) The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- (3) This certification is a material representation of fact relied upon by Town of Holden Beach. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to Town of Holden Beach, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- (4) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

G. BYRD ANTI-LOBBYING AMENDMENT

Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended) Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

d. Required Certification.

If applicable, contractors must sign and submit to the non-federal entity the following certification. APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

H. PROCUREMENT OF RECOVERED MATERIALS

- (i) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired--
 - Competitively within a timeframe providing for compliance with the contract performance schedule;

- Meeting contract performance requirements; or
 - At a reasonable price.
- (ii) Information about this requirement, along with the list of EPA designated items, is available at EPA's Comprehensive Procurement Guidelines website, <https://www.epa.gov/smm/comprehensiveprocurement-guideline-cpg-program>.
- (iii) The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

Additional FEMA Requirements/Recommendations

I. ACCESS TO RECORDS. The following access to records requirements apply to this contract:

- (1) The Contractor agrees to provide The Town of Holden Beach, the State of North Carolina, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
- (2) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- (3) The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.
- (4) In compliance with the Disaster Recovery Act of 2018, the Town of Holden Beach and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

J. CHANGES

- a. Standard. To be eligible for FEMA assistance under the non-Federal entity's FEMA grant or cooperative agreement, the cost of the change, modification, change order, or constructive change must be allowable, allocable, within the scope of its grant or cooperative agreement, and reasonable for the completion of project scope.
- b. Applicability. FEMA recommends, therefore, that a non-Federal entity include a changes clause in its contract that describes how, if at all, changes can be made by either party to alter the method, price, or schedule of the work without breaching the contract. The language of the clause may differ depending on the nature of the contract and the end-item procured.

K. DHS SEAL, LOGO, AND FLAGS

"The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval."

L. COMPLIANCE WITH FEDERAL LAW, REGULATIONS, AND EXECUTIVE ORDERS

"This is an acknowledgment that FEMA financial assistance will be used to fund all or a portion of the contract. The contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives."

M. NO OBLIGATION BY FEDERAL GOVERNMENT

“The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.”

N. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

“The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor’s actions pertaining to this contract.”

NORTH TOPSAIL BEACH REACH 5 NORTH END
TRUCK HAUL

Appendix C – Geotechnical

APPENDIX C - Upland Sand Source Information

Two upland sand mines have been identified for the proposed project, however other sand mines with beach compatible material can be used (subject to inclusion in NCDCM permit). Both sand mines have successfully been used for Surf City and NTB dune hauls projects and these mines are:

1. ST Wooten
2. 421 Sand

Information on both sites is provided in the following sections. Both upland mines provide processed sand to mix for concrete, asphalt, and mortar. Processed sand is sand that is hydraulically dredged at the mine and run through a classifier. This sand is referred to as “washed and processed” as a result and is very uniform with very few fines and gravel. The clean and well sorted sand is essential for successful large-scale construction projects. This product is also ideal beach sand as a result of the washing and processing.

Sand is dried via stockpiling/air drying at the mine prior to loading and trucking offsite. Similar to the previous permit modification, material will be screened at the borrow area prior to hauling to the project site. All material dredged for use on the beach will be screened with a ¾” screen at the sand mine site.

Both sites have been contacted about the project and both sites have confirmed that they have enough material for the proposed project and that this is the same material that was used for previous Surf City and NTB dune projects.

Sand Compatibility

Table 1 presents summary compatibility for the native beach as well as the two sand mines. This data was sourced from the NTB 2009 EIS (for native beach characteristics) and the NTB and Surf City permit modification requests/projects (for the project sand). Additional sediment data from the recently placed sand haul projects is also available and can be provided upon request (although this data has been previously submitted to DCM during project construction). Both sand mines are compatible with native beach sand based on DCM sediment criteria thresholds. Sediment granulometric data is provided at the end of this document from both mines.

Table 1: Sediment compatibility summary

Site	Mean (mm)	Fine % (<0.0625 mm)	Sand % (0.0625 - 2.00 mm)	Granular% (2.0 to 4.76 mm)	Gravel% (4.76- 76.0 mm)	Calcium Carbonate %
ST Wooten Mine	0.27	1.8	97.8	0.3	0.1	<1
421 Sand	0.41	0.0	98.9	1.1	0.0	0
NTB Native	0.23	1.5	97	1.07	0.43	26
NTB+CRC Threshold	N/A	6.5	N/A	6.07	5.43	41

*N/A=not applicable (not a sediment criterion)

Sand Availability

Both ST Wooten and 421 Sand have significant sand available at their active mines. ATM staff have contacted both mines to ensure that existing mines have adequate material for the proposed project.

Sand Mine Information

Sand mine information for 421 Sand and ST Wooten is provided below.

421 Sand Mine

The 421 Sand mine is located at 5401 Highway 421 in Wilmington, NC just north of the New Hanover County landfill. Mr. Dennis Earp is the plant manager.

Office Phone: 910-409-7545

www.421sand.com

Figure 1 presents the location of the 421 Sand Mine.



Figure 1: 421 Sand mine location

A small Ellicott Dredge sits in the sand pit borrow area excavating material via cutter suction. Sand is initially screened by a 3/8" mesh and any material coarser than 3/8" is kicked out to a discard pile. Any material passing the initial screening is then classified in a tank where it is washed for fines and separated based upon grain size. The plant carries two main, screened

sand sizes, 2S (asphalt and concrete sand) and 4S (mortar sand). CM Mitchell provided TI Coastal with sand samples in September 2019 which were sieved within TI Coastal's geotechnical lab. The average grain size for the 2S sand was 0.5 mm and the 4S sand was 0.33 mm.

The screening process effectively removed all large pebbles and stones as well as vegetative debris. Because the material is dredged and then washed in the sieving process, all fines (passing the 230 sieve or less than 0.0625 mm) have been removed from the final product. The onsite stockpiles consist of a mix of the 2S and 4S graded sands with a combined average grain size of 0.41 mm and 0.0% calcium carbonates. Munsell colors of the 421 Sand were 10YR 7/3 (wet) and 10YR 8/2 (dry) (source, TI Coastal).

ST WOOTEN

The ST Wooten site is located at 226 Sutton Lake Road near Highway 140. Figure 2 presents the location of ST Wooten.



Figure 2: ST Wooten location.

ST WOOTEN CONTACT INFO:

Brian Gurganus, Vice President
S.T. Wooten Corporation
P.O. Box 2408
3801 Black Creek Road
Wilson, N.C. 27894
Phone: 252-291-5165
Brian@stwcorp.com
www.stwcorp.com

The ST Wooten sand processing is very similar to that of the 421 Sand site as both of these mines serve the same clients and industries. Note that extensive geotechnical testing and gradation analyses were conducted to determine the Fineness Modulus (FM) of the material. Of course this geotechnical analysis was for the in-situ material and not the final processed sand used for the dune restoration.

ST WOOTEN

SAND SAMPLE

GRANULARMETRIC DATA

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: NTB Phase 5 FEMA Truck Haul

Sample Name: 2019-NTB-622-DC

Analysis Date: 12-17-19

Analyzed By: PRD

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SW

Munsell:

Wet - 10YR-7/2
Dry - 10YR-8/2

Comments:

Dry Weight (g): 203.90	Wash Weight (g): 203.90	Pan Retained (g): 0.40	Sieve Loss (%): 0.78	Fines (%): #230 - 0.98	Organics (%):	Carbonates (%): 0.50	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3"	-6.25	76.11	0.00	0.00	0.00	0.00
0.75"	-4.25	19.03	0.00	0.00	0.00	0.00
0.375"	-3.25	9.51	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.60	0.29	0.60	0.29
5	-2.00	4.00	0.40	0.20	1.00	0.49
7	-1.50	2.83	0.80	0.39	1.80	0.88
10	-1.00	2.00	2.30	1.13	4.10	2.01
14	-0.50	1.41	4.70	2.31	8.80	4.32
18	0.00	1.00	9.60	4.71	18.40	9.02
25	0.50	0.71	19.00	9.32	37.40	18.34
35	1.00	0.50	30.20	14.81	67.60	33.15
45	1.50	0.35	39.90	19.57	107.50	52.72
60	2.00	0.25	40.30	19.76	147.80	72.49
70	2.25	0.21	17.10	8.39	164.90	80.87
80	2.50	0.18	16.40	8.04	181.30	88.92
100	2.75	0.15	13.10	6.42	194.40	95.34
120	3.00	0.13	3.60	1.77	198.00	97.11
170	3.50	0.09	3.10	1.52	201.10	98.63
200	3.74	0.07	0.50	0.25	201.60	98.87
230	4.00	0.06	0.30	0.15	201.90	99.02

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.74	2.35	2.07	1.43	0.72	0.37	-0.43

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.33	0.40	0.99	-0.64	3.78

GRANULARMETRIC REPORT NTB SAND SAMPLES 2019_2020.GPJ FL DEP ROSS.GDT 12/20/19

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: NTB Phase 5 FEMA Truck Haul

Sample Name: 2019-NTB-622-DT

Analysis Date: 12-17-19

Analyzed By: PRD

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SW

Munsell:

Wet - 10YR-7/2
Dry - 10YR-8/2

Comments:

Dry Weight (g): 206.80	Wash Weight (g): 206.80	Pan Retained (g): 0.30	Sieve Loss (%): 0.82	Fines (%): #230 - 0.97	Organics (%):	Carbonates (%): 0.70	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3"	-6.25	76.11	0.00	0.00	0.00	0.00
0.75"	-4.25	19.03	0.00	0.00	0.00	0.00
0.375"	-3.25	9.51	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.50	0.24	0.50	0.24
5	-2.00	4.00	0.40	0.19	0.90	0.44
7	-1.50	2.83	0.70	0.34	1.60	0.77
10	-1.00	2.00	1.70	0.82	3.30	1.60
14	-0.50	1.41	5.40	2.61	8.70	4.21
18	0.00	1.00	9.20	4.45	17.90	8.66
25	0.50	0.71	20.30	9.82	38.20	18.47
35	1.00	0.50	28.90	13.97	67.10	32.45
45	1.50	0.35	42.50	20.55	109.60	53.00
60	2.00	0.25	45.00	21.76	154.60	74.76
70	2.25	0.21	17.60	8.51	172.20	83.27
80	2.50	0.18	13.90	6.72	186.10	89.99
100	2.75	0.15	11.10	5.37	197.20	95.36
120	3.00	0.13	3.30	1.60	200.50	96.95
170	3.50	0.09	3.40	1.64	203.90	98.60
200	3.74	0.07	0.50	0.24	204.40	98.84
230	4.00	0.06	0.40	0.19	204.80	99.03

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.73	2.28	2.01	1.43	0.73	0.37	-0.41

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.32	0.40	0.96	-0.6	3.82

GRANULARMETRIC REPORT NTB SAND SAMPLES 2019_2020.GPJ FL DEP ROSS.GDT 12/20/19

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: NTB Phase 5 FEMA Truck Haul

Sample Name: 2019-NTB-624-DC

Analysis Date: 12-17-19

Analyzed By: PRD

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SW

Munsell:

Wet - 10YR-7/2
Dry - 10YR-8/2

Comments:

Dry Weight (g): 206.40	Wash Weight (g): 206.40	Pan Retained (g): 0.50	Sieve Loss (%): 0.73	Fines (%): #230 - 0.97	Organics (%):	Carbonates (%): 0.70	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3"	-6.25	76.11	0.00	0.00	0.00	0.00
0.75"	-4.25	19.03	0.00	0.00	0.00	0.00
0.375"	-3.25	9.51	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.70	0.34	0.70	0.34
5	-2.00	4.00	0.00	0.00	0.70	0.34
7	-1.50	2.83	0.80	0.39	1.50	0.73
10	-1.00	2.00	1.70	0.82	3.20	1.55
14	-0.50	1.41	4.90	2.37	8.10	3.92
18	0.00	1.00	10.10	4.89	18.20	8.82
25	0.50	0.71	20.40	9.88	38.60	18.70
35	1.00	0.50	32.60	15.79	71.20	34.50
45	1.50	0.35	41.10	19.91	112.30	54.41
60	2.00	0.25	39.30	19.04	151.60	73.45
70	2.25	0.21	16.90	8.19	168.50	81.64
80	2.50	0.18	17.30	8.38	185.80	90.02
100	2.75	0.15	10.60	5.14	196.40	95.16
120	3.00	0.13	4.20	2.03	200.60	97.19
170	3.50	0.09	2.80	1.36	203.40	98.55
200	3.74	0.07	0.60	0.29	204.00	98.84
230	4.00	0.06	0.40	0.19	204.40	99.03

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.74	2.32	2.05	1.39	0.70	0.36	-0.39

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.31	0.40	0.97	-0.54	3.72

GRANULARMETRIC REPORT NTB SAND SAMPLES 2019_2020.GPJ FL DEP ROSS.GDT 12/20/19

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: NTB Phase 5 FEMA Truck Haul

Sample Name: 2019-NTB-624-DT

Analysis Date: 12-17-19

Analyzed By: PRD

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SW

Munsell:

Wet - 10YR-7/2
Dry - 10YR-8/2

Comments:

Dry Weight (g): 203.60	Wash Weight (g): 203.60	Pan Retained (g): 0.50	Sieve Loss (%): 0.54	Fines (%): #230 - 0.79	Organics (%):	Carbonates (%): 0.60	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3"	-6.25	76.11	0.00	0.00	0.00	0.00
0.75"	-4.25	19.03	0.00	0.00	0.00	0.00
0.375"	-3.25	9.51	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.60	0.29	0.60	0.29
5	-2.00	4.00	0.10	0.05	0.70	0.34
7	-1.50	2.83	0.70	0.34	1.40	0.69
10	-1.00	2.00	2.20	1.08	3.60	1.77
14	-0.50	1.41	5.00	2.46	8.60	4.22
18	0.00	1.00	9.50	4.67	18.10	8.89
25	0.50	0.71	20.20	9.92	38.30	18.81
35	1.00	0.50	31.10	15.28	69.40	34.09
45	1.50	0.35	40.60	19.94	110.00	54.03
60	2.00	0.25	39.80	19.55	149.80	73.58
70	2.25	0.21	17.40	8.55	167.20	82.12
80	2.50	0.18	15.30	7.51	182.50	89.64
100	2.75	0.15	11.30	5.55	193.80	95.19
120	3.00	0.13	4.40	2.16	198.20	97.35
170	3.50	0.09	2.80	1.38	201.00	98.72
200	3.74	0.07	0.60	0.29	201.60	99.02
230	4.00	0.06	0.40	0.20	202.00	99.21

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.74	2.31	2.04	1.40	0.70	0.36	-0.42

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.31	0.40	0.98	-0.55	3.67

GRANULARMETRIC REPORT NTB SAND SAMPLES 2019_2020.GPJ FL DEP ROSS.GDT 12/20/19

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc
387-B N. Green Meadows Dr
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: NTB Phase 5 FEMA Truck Haul

Sample Name: 2020-NTB-820-DC

Analysis Date: 03-04-20

Analyzed By: NGL

Easting (ft): 2,468,934	Northing (ft): 269,713	Coordinate System: North Carolina State Plane	Elevation (ft): 12.0 NAVD88
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USCS: SW	Munsell: Wet - 10YR-8/3 Dry - 10YR-8/2	Comments:
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Dry Weight (g): 207.10	Wash Weight (g): 207.10	Pan Retained (g): 0.20	Sieve Loss (%): 0.82	Fines (%): #230 - 0.92	Organics (%):	Carbonates (%): 0.00	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3"	-6.25	76.11	0.00	0.00	0.00	0.00
0.75"	-4.25	19.03	0.00	0.00	0.00	0.00
0.375"	-3.25	9.51	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.10	0.05	0.10	0.05
5	-2.00	4.00	0.20	0.10	0.30	0.14
7	-1.50	2.83	0.70	0.34	1.00	0.48
10	-1.00	2.00	1.70	0.82	2.70	1.30
14	-0.50	1.41	5.60	2.70	8.30	4.01
18	0.00	1.00	9.70	4.68	18.00	8.69
25	0.50	0.71	21.80	10.53	39.80	19.22
35	1.00	0.50	30.90	14.92	70.70	34.14
45	1.50	0.35	47.60	22.98	118.30	57.12
60	2.00	0.25	47.80	23.08	166.10	80.20
70	2.25	0.21	16.00	7.73	182.10	87.93
80	2.50	0.18	11.10	5.36	193.20	93.29
100	2.75	0.15	8.20	3.96	201.40	97.25
120	3.00	0.13	1.90	0.92	203.30	98.17
170	3.50	0.09	1.70	0.82	205.00	98.99
200	3.74	0.07	0.10	0.05	205.10	99.03
230	4.00	0.06	0.10	0.05	205.20	99.08

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.61	2.12	1.89	1.35	0.69	0.35	-0.39
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.24	0.42	0.89	-0.56	3.48	

GRANULARMETRIC REPORT NTB SAND SAMPLES 2019_2020.GPJ FL DEP ROSS.GDT 3/5/20

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc
387-B N. Green Meadows Dr
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: NTB Phase 5 FEMA Truck Haul

Sample Name: 2020-NTB-820-DT

Analysis Date: 03-04-20

Analyzed By: NGL

Easting (ft): 2,468,943	Northing (ft): 269,697	Coordinate System: North Carolina State Plane	Elevation (ft): 6.0 NAVD88
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USCS: SW	Munsell: Wet - 10YR-7/3 Dry - 10YR-8/2	Comments:
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Dry Weight (g): 205.80	Wash Weight (g): 205.80	Pan Retained (g): 0.10	Sieve Loss (%): 0.05	Fines (%): #230 - 0.10	Organics (%):	Carbonates (%): 0.06	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3"	-6.25	76.11	0.00	0.00	0.00	0.00
0.75"	-4.25	19.03	0.00	0.00	0.00	0.00
0.375"	-3.25	9.51	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.20	0.10	0.20	0.10
5	-2.00	4.00	0.20	0.10	0.40	0.19
7	-1.50	2.83	0.70	0.34	1.10	0.53
10	-1.00	2.00	2.10	1.02	3.20	1.55
14	-0.50	1.41	5.30	2.58	8.50	4.13
18	0.00	1.00	10.10	4.91	18.60	9.04
25	0.50	0.71	20.40	9.91	39.00	18.95
35	1.00	0.50	33.80	16.42	72.80	35.37
45	1.50	0.35	43.90	21.33	116.70	56.71
60	2.00	0.25	45.30	22.01	162.00	78.72
70	2.25	0.21	16.30	7.92	178.30	86.64
80	2.50	0.18	13.60	6.61	191.90	93.25
100	2.75	0.15	9.30	4.52	201.20	97.76
120	3.00	0.13	2.20	1.07	203.40	98.83
170	3.50	0.09	1.80	0.87	205.20	99.71
200	3.74	0.07	0.30	0.15	205.50	99.85
230	4.00	0.06	0.10	0.05	205.60	99.90

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.60	2.17	1.92	1.34	0.68	0.35	-0.41
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	1.26	0.42	0.91	-0.55	3.5	

GRANULARMETRIC REPORT NTB SAND SAMPLES 2019_2020.GPJ FL DEP ROSS.GDT 3/5/20

421 SAND

SAND SAMPLE

GRANULARMETRIC DATA

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: CM Mitchell Sand Samples 2019

Sample Name: 19-421Sand-2S-01

Analysis Date: 09-17-19

Analyzed By: PRD

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SW

Munsell:

Wet - 10YR-7/3
Dry - 10YR-8/2

Comments:

Dry Weight (g):

Wash Weight (g):

Pan Retained (g):

Sieve Loss (%):

Fines (%):

Organics (%):

Carbonates (%):

Shells (%):

228.60

228.60

0.00

0.74

#200 - 0.74
#230 - 0.74

0.00

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3"

-6.25

76.11

0.00

0.00

0.00

0.00

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

3/8"

-3.25

9.51

0.00

0.00

0.00

0.00

4

-2.25

4.76

0.20

0.09

0.20

0.09

5

-2.00

4.00

0.70

0.31

0.90

0.39

7

-1.50

2.83

1.30

0.57

2.20

0.96

10

-1.00

2.00

2.70

1.18

4.90

2.14

14

-0.50

1.41

8.20

3.59

13.10

5.73

18

0.00

1.00

15.10

6.61

28.20

12.34

25

0.50

0.71

32.50

14.22

60.70

26.55

35

1.00

0.50

41.30

18.07

102.00

44.62

45

1.50

0.35

53.20

23.27

155.20

67.89

60

2.00

0.25

41.30

18.07

196.50

85.96

70

2.25

0.21

12.80

5.60

209.30

91.56

80

2.50

0.18

8.70

3.81

218.00

95.36

100

2.75

0.15

6.20

2.71

224.20

98.08

120

3.00

0.13

1.40

0.61

225.60

98.69

170

3.50

0.09

1.20

0.52

226.80

99.21

200

3.75

0.07

0.10

0.04

226.90

99.26

230

4.00

0.06

0.00

0.00

226.90

99.26

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.48

1.95

1.70

1.12

0.45

0.13

-0.60

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.03

0.49

0.91

-0.47

3.42

GRANULARMETRIC REPORT CM MITCHELL SAND MINE SAMPLES 2019.GPJ FL_DEP ROSS.GDT 11/7/19

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: CM Mitchell Sand Samples 2019

Sample Name: 19-421Sand-2S-02

Analysis Date: 09-17-19

Analyzed By: PRD

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SW

Munsell:

Wet - 10YR-7/3
Dry - 10YR-8/3

Comments:

Dry Weight (g):

224.50

Wash Weight (g):

224.50

Pan Retained (g):

0.00

Sieve Loss (%):

0.40

Fines (%):

#200 - 0.40
#230 - 0.40

Organics (%):

Carbonates (%):

0.00

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3"

-6.25

76.11

0.00

0.00

0.00

0.00

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

3/8"

-3.25

9.51

0.00

0.00

0.00

0.00

4

-2.25

4.76

0.00

0.00

0.00

0.00

5

-2.00

4.00

0.30

0.13

0.30

0.13

7

-1.50

2.83

1.60

0.71

1.90

0.85

10

-1.00

2.00

2.90

1.29

4.80

2.14

14

-0.50

1.41

9.00

4.01

13.80

6.15

18

0.00

1.00

16.50

7.35

30.30

13.50

25

0.50

0.71

33.30

14.83

63.60

28.33

35

1.00

0.50

46.20

20.58

109.80

48.91

45

1.50

0.35

47.80

21.29

157.60

70.20

60

2.00

0.25

37.20

16.57

194.80

86.77

70

2.25

0.21

12.40

5.52

207.20

92.29

80

2.50

0.18

9.30

4.14

216.50

96.44

100

2.75

0.15

5.00

2.23

221.50

98.66

120

3.00

0.13

1.50

0.67

223.00

99.33

170

3.50

0.09

0.60

0.27

223.60

99.60

200

3.75

0.07

0.00

0.00

223.60

99.60

230

4.00

0.06

0.00

0.00

223.60

99.60

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.41

1.92

1.64

1.03

0.39

0.08

-0.64

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

0.97

0.51

0.91

-0.36

3.04

GRANULARMETRIC REPORT CM MITCHELL SAND MINE SAMPLES 2019.GPJ FL-DEP ROSS GDT 11/7/19

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
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Project Name: CM Mitchell Sand Samples 2019

Sample Name: 19-421Sand-4S-01

Analysis Date: 09-17-19

Analyzed By: PRD

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SP

Munsell:

Wet - 10YR-7/3
Dry - 10YR-8/2

Comments:

Dry Weight (g):

218.40

Wash Weight (g):

218.40

Pan Retained (g):

0.00

Sieve Loss (%):

0.73

Fines (%):

#200 - 0.73
#230 - 0.73

Organics (%):

0.00

Carbonates (%):

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3"

-6.25

76.11

0.00

0.00

0.00

0.00

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

3/8"

-3.25

9.51

0.00

0.00

0.00

0.00

4

-2.25

4.76

0.00

0.00

0.00

0.00

5

-2.00

4.00

0.00

0.00

0.00

0.00

7

-1.50

2.83

0.00

0.00

0.00

0.00

10

-1.00

2.00

0.50

0.23

0.50

0.23

14

-0.50

1.41

1.60

0.73

2.10

0.96

18

0.00

1.00

3.80

1.74

5.90

2.70

25

0.50

0.71

10.30

4.72

16.20

7.42

35

1.00

0.50

23.10

10.58

39.30

17.99

45

1.50

0.35

44.40

20.33

83.70

38.32

60

2.00

0.25

62.50

28.62

146.20

66.94

70

2.25

0.21

26.80

12.27

173.00

79.21

80

2.50

0.18

24.50

11.22

197.50

90.43

100

2.75

0.15

14.10

6.46

211.60

96.89

120

3.00

0.13

3.00

1.37

214.60

98.26

170

3.50

0.09

2.10

0.96

216.70

99.22

200

3.75

0.07

0.10

0.05

216.80

99.27

230

4.00

0.06

0.00

0.00

216.80

99.27

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.68

2.36

2.16

1.70

1.17

0.91

0.24

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.61

0.33

0.73

-0.65

3.67

GRANULARMETRIC REPORT CM MITCHELL SAND MINE SAMPLES 2019.GPJ FL-DEP ROSS GDT 11/7/19

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
ph 910.821.1358
fax 910.821.1359

Project Name: CM Mitchell Sand Samples 2019

Sample Name: 19-421Sand-4S-02

Analysis Date: 09-17-19

Analyzed By: PRD

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SP

Munsell:

Wet - 10YR-7/3
Dry - 10YR-8/2

Comments:

Dry Weight (g):

219.40

Wash Weight (g):

219.40

Pan Retained (g):

0.00

Sieve Loss (%):

0.27

Fines (%):

#200 - 0.32
#230 - 0.27

Organics (%):

0.00

Carbonates (%):

Shells (%):

Sieve Number

Sieve Size (Phi)

Sieve Size (Millimeters)

Grams Retained

% Weight Retained

Cum. Grams Retained

C. % Weight Retained

3"

-6.25

76.11

0.00

0.00

0.00

0.00

3/4"

-4.25

19.03

0.00

0.00

0.00

0.00

3/8"

-3.25

9.51

0.00

0.00

0.00

0.00

4

-2.25

4.76

0.00

0.00

0.00

0.00

5

-2.00

4.00

0.00

0.00

0.00

0.00

7

-1.50

2.83

0.00

0.00

0.00

0.00

10

-1.00

2.00

0.10

0.05

0.10

0.05

14

-0.50

1.41

1.30

0.59

1.40

0.64

18

0.00

1.00

4.10

1.87

5.50

2.51

25

0.50

0.71

11.80

5.38

17.30

7.89

35

1.00

0.50

27.00

12.31

44.30

20.19

45

1.50

0.35

48.80

22.24

93.10

42.43

60

2.00

0.25

61.50

28.03

154.60

70.46

70

2.25

0.21

26.60

12.12

181.20

82.59

80

2.50

0.18

22.60

10.30

203.80

92.89

100

2.75

0.15

10.70

4.88

214.50

97.77

120

3.00

0.13

2.80

1.28

217.30

99.04

170

3.50

0.09

1.30

0.59

218.60

99.64

200

3.75

0.07

0.10

0.05

218.70

99.68

230

4.00

0.06

0.10

0.05

218.80

99.73

Phi 5

Phi 16

Phi 25

Phi 50

Phi 75

Phi 84

Phi 95

2.61

2.28

2.09

1.64

1.11

0.83

0.23

Moment

Mean Phi

Mean mm

Sorting

Skewness

Kurtosis

Statistics

1.56

0.34

0.71

-0.5

3.26

GRANULARMETRIC REPORT CM MITCHELL SAND MINE SAMPLES 2019.GPJ FL-DEP ROSS GDT 11/7/19

Granularmetric Report

Depths and elevations based on measured values



TI Coastal Services, Inc.
387-B N. Green Meadows Dr.
Wilmington, NC 28405
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Project Name: CM Mitchell Sand Samples 2019

Sample Name: 421 Sand Average

Analysis Date: 11-07-19

Analyzed By: JCP

Easting (ft):

Northing (ft):

Coordinate System:

Elevation (ft):

North Carolina State Plane

USCS:

SW

Munsell:

Wet - 10YR-7/3
Dry - 10YR-8/2

Comments:

Dry Weight (g): 100.00	Wash Weight (g): 100.00	Pan Retained (g): 0.00	Sieve Loss (%): 0.01	Fines (%): #230 - 0.01	Organics (%):	Carbonates (%): 0.00	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3"	-6.25	76.11	0.00	0.00	0.00	0.00
0.75"	-4.25	19.03	0.00	0.00	0.00	0.00
0.375"	-3.25	9.51	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.02	0.02	0.02	0.02
5	-2.00	4.00	0.11	0.11	0.13	0.13
7	-1.50	2.83	0.32	0.32	0.45	0.45
10	-1.00	2.00	0.69	0.69	1.14	1.14
14	-0.50	1.41	2.24	2.24	3.38	3.38
18	0.00	1.00	4.42	4.42	7.80	7.80
25	0.50	0.71	9.84	9.84	17.64	17.64
35	1.00	0.50	15.46	15.46	33.10	33.10
45	1.50	0.35	21.90	21.90	55.00	55.00
60	2.00	0.25	22.94	22.94	77.94	77.94
70	2.25	0.21	8.93	8.93	86.87	86.87
80	2.50	0.18	7.41	7.41	94.28	94.28
100	2.75	0.15	4.09	4.09	98.37	98.37
120	3.00	0.13	0.99	0.99	99.36	99.36
170	3.50	0.09	0.59	0.59	99.95	99.95
200	3.74	0.07	0.03	0.03	99.98	99.98
230	4.00	0.06	0.01	0.01	99.99	99.99

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
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2.54	2.17	1.94	1.39	0.74	0.42	-0.32
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Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.29	0.41	0.87	-0.6	3.42

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