

# BID Addendum No. 1

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March 1, 2021

**Bedford Fire Headquarters  
550 Old Post Road  
Bedford, NY 10506**

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***Note:** This addendum forms a part of the Contract Documents for the above project and modifies it with amendments and additions noted below.*

*Acknowledge receipt of this addenda in the space provided in the bid form. Failure to do so may disqualify the Bidder.*

## **REVISIONS TO THE PROJECT SPECIFICATIONS:**

### **Division 00**

1. Section 00 01 10 – Table of Contents. Revise Section “01 45 33 - Code Required Special Inspections and Procedures” to “01 45 33 – Special Inspections and Structural Testing”.

### **Division 01**

1. Section 01 10 00 – Summary of Work – Multiple Prime Contracts - 1.4 Contract #2 General Work Contractor. Division 31, Add: Section 31 00 00 - Building Earthwork to the General Work Contractor’s scope of work.
2. Section 01 50 00 – Temporary Facilities and Controls. The last page of this section is a staging plan which is part of the Sitework Contractors responsibility as per 01 10 00 – Summary of Work – Multiple Prime Contracts - 1.4 Contract # 1 Sitework Contractor Special note #9.

### **Division 31**

1. Add the attached “Section 31 00 00 - Building Earthwork” to the specification manual.

**END OF ADDENDA NO. 1**

## **SECTION 31 00 00 – BUILDING EARTHWORK**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This section specifies the requirements for furnishing all equipment, materials, labor, tools, and techniques for earthwork including but not limited to, the following:
  - 1. Excavating and backfilling for buildings.
  - 2. Drainage course for concrete slabs-on-grade.
  - 3. Sheeting and bracing
  - 4. Importing of classified fill material required to construct the building.
- B. Related Requirements:
  - 1. Geotechnical Report prepared by Carlin Simpson & Associates, Sayreville, New Jersey dated 10 September 2019.
  - 2. Section 311000 - Site Clearing
  - 3. Section 312000 – Earth Moving (Site/Civil)
  - 4. Section 312319 - Dewatering
  - 5. Section 315000 – Excavation Support and Protection

#### **1.4 DEFINITIONS**

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
- B. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- C. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
  - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Geotechnical Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions.
  - 2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
  - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Construction Manager. Unauthorized excavation, as well as remedial work directed by Geotechnical Engineer or the qualified testing agency, shall be without additional compensation.

- E. Fill: Satisfactory soil materials used to raise existing grades. In the Construction Documents, the term "fill" means fill or backfill as appropriate.
- F. Structures: Buildings or other man-made stationary features constructed above or below the ground surface.
- G. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

#### 1.5 PRE-INSTALLATION MEETING

- A. Pre-installation Conference: Conduct pre-excavation conference at the project site.
  - 1. Review methods and procedures related to earthwork, including, but not limited to, the following:
    - a. Personnel and equipment needed to make progress and avoid delays.
    - b. Coordination of work with utility locator service.
    - c. Coordination of work and equipment movement with the locations of tree- and plant-protection zones.
    - d. Extent of trenching by hand or with air spade.
    - e. Field quality control.

#### 1.6 ACTION SUBMITTALS

- A. Product Data: For each type of the following manufactured products required:
  - 1. Geotextiles.
- B. Samples for Verification: For the following products, in sizes indicated below:
  - 1. Geotextile: 12 by 12 inches.
- C. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
  - 1. Name of supplier and source.
  - 2. Classification according to ASTM D2487.
  - 3. Laboratory compaction curve according to ASTM D1557.
  - 4. Chemical tests, if required.
- D. Borrow Material
  - 1. Thirty (30) pound samples in airtight containers or gradation and certification of aggregate material for each material source to be used as fill shall be submitted to the Construction Manager or Geotechnical Engineer ten (10) working days prior to commencing filling operations. This material shall not be used as a fill until approved by the Owner and/or Geotechnical Engineer.
  - 2. Submit name of each material supplier and specify type and source of material. For sources pre-approved by NYSDOT, submit proof of NYSDOT certification

3. All imported material shall comply with the Town of Bedford permitting requirements.

#### 1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.

#### 1.8 JOB CONDITIONS

- A. Prevent water from accumulating in the excavation.
- B. For all excavation deeper than 5 feet and where required for performance of the construction involved, secure the sides of excavations against movement in accordance with the following:
  1. Install sheet piling or sheeting held in place by waling and bracing members.
  2. Do not excavate below the bottom of sheet piling or sheeting except as necessary to install piling or sheeting.
  3. Fill voids behind piling or sheeting immediately with approved material.
  4. Comply with all other provisions of specifications that may impose additional or stricter requirements.
  5. Dewater excavation as necessary to obtain an excavation free of water.
- C. Do not place, spread, roll or compact frozen and thawing fill.
- D. The Contractor shall inform the Engineer of all excavation activities at least forty-eight (48) hours in advance.
- E. Subsurface Information
  1. Subsurface investigations have been performed at the site. The location of each exploration and the boring logs are included in the Geotechnical Report.
  2. Bidders shall examine the site as well as all available information and then decide for themselves the character of materials to be encountered. Attention is directed to the fact that subsurface conditions at other than the boring, probe and test pit locations may include different soils, hard or soft strata, obstructions that may be either natural or manmade, or other conditions different from those shown in the borings, probes and test pits. The boring logs make no representations or warranties either as to the presence or absence of such different conditions or as to their nature and extent. The Bid should include the influence of such features, and it shall be deemed to include all consideration for the risks involved.
- F. The groundwater levels shown in the borings and test pits were measured during or shortly after drilling. The groundwater may rise during wet weather or fall during dry weather. The Bidder is hereby advised that varying groundwater levels are to be expected and that this may affect any construction operations involving earthwork. The cost of groundwater mitigation shall be borne by the bidder inclusive of any additional equipment needed.
- G. Site Conditions Not Guaranteed

1. The Construction Manager, Engineer or the Owner do not guarantee that materials disclosed by the borings, probes and test pits will actually be encountered. The data is supplied only for general information and is not guaranteed.
2. The subsurface information referred to herein is made available to the Bidders in good faith and so that they may have access to the same information utilized for design and estimating purposes, and is not intended as a substitute for personal investigation, interpretations and judgment of the Bidder.
3. Submission of a Proposal binds the Bidder thereto to accept the actual site conditions and to provide a completed condition at no additional cost to the Owner, except as specifically provided herein.
4. Should uncharted or incorrectly charted piping or other utilities, contaminated soil, industrial wastes, wastes piles, etc. be encountered during excavation, consult the Professional immediately for directions. Cooperate with the utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner. Do not interrupt existing utilities serving others, except when permitted in writing by the Professional, and then only after acceptable temporary utility services have been provided.

## **PART 2 - PRODUCTS**

### **2.1 SOIL MATERIALS**

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, SM, and ML according to ASTM D2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. The on-site soils may be suitable for use as compacted fill in the building areas provided that any debris and organic material (i.e. topsoil, roots, etc.) have been removed prior to its reuse and that the material remains relatively dry for optimum compaction. Large cobbles and boulders shall not be used as new compacted fill in the proposed building area.
- D. The suitability of the on-site soil for use as compacted fill shall be evaluated by the Geotechnical Engineer or qualified testing agency during excavation and prior to its re-use. Potentially usable fill should be stockpiled and covered with tarps or plastic sheeting for protection from excess moisture. Any fill material that is or becomes wet must be dried prior to its re-use.
- E. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, OL, CH, MH, OH, and PT according to ASTM D2487, or a combination of these groups.
  1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- F. All off-site soil materials to be used as fill or backfill will be evaluated, based on information submitted by the Contractor to the Geotechnical Engineer or qualified testing agency, in accordance with current environmental practice in the State of

New York. The evaluation will be based on site characterization data and/or chemical test results submitted by the Contractor to the Geotechnical Engineer or qualified testing agency. Materials may be rejected for use based on the results of the evaluation. Off-site materials which are rejected for use, if brought to the site, shall be removed by the Contractor at his own expense.

- G. Imported Structural Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940; with at 100 percent passing a 3-inch sieve and not more than 20 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of clean crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and zero to 5 percent passing a No. 8 sieve.

## 2.2 GEOTEXTILES

- A. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  - 1. Survivability: Class 2; AASHTO M 288.
  - 2. Grab Tensile Strength: 247 lbf (1100 N); ASTM D 4632.
  - 3. Sewn Seam Strength: 222 lbf (990 N); ASTM D 4632.
  - 4. Tear Strength: 90 lbf (400 N); ASTM D 4533.
  - 5. Puncture Strength: 90 lbf (400 N); ASTM D 4833.
  - 6. Apparent Opening Size: No. 60 (0.250-mm) sieve, maximum; ASTM D 4751.
  - 7. Permittivity: 0.02 per second, minimum; ASTM D 4491.
  - 8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect structures and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations
- B. Identify required lines, levels, contours and datum.
- C. Employ equipment and methods appropriate to the work site.
- D. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- E. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

### 3.2 SITE PREPARATION

- A. The topsoil shall be removed and used in areas that will be used for landscape, non-structural purposes, or off-site for proper disposal. All shrubs and trees shall be completely uprooted and relocated to other parts of the site planned to be landscaped or off-site for proper disposal. The exposed subgrade resulting from the above site preparation task shall be scarified to a depth of 8 inches below bottom excavation, moisture-conditioned (to within 2 percent optimum) and compacted to a minimum of 95 percent of the maximum dry density, according to ASTM D-1557.

### 3.3 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Remove all water, including rain water, encountered during trench and excavation work to an approved location by pumps, drains, and other approved methods.
- C. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
  - 2. All dewatering operations shall discharge to a sediment control facility.

### 3.4 EXCAVATION FOR BUILDINGS

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
  - 1. Excavations for Footings: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

### 3.5 SUBGRADE INSPECTION

- A. The Geotechnical Engineer or qualified testing agency shall be present during the excavation for the proposed building and wall foundations.
- B. If the Geotechnical Engineer or qualified testing agency determines that unsatisfactory soil is present at the subgrade elevation, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade prior to installation of compacted fill and below the building slab and pavement with several passes of large vibratory drum roller to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph (5 km/h).

2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined the Geotechnical Engineer, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for unit prices.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Geotechnical Engineer, without additional compensation.
- F. If soft or wet subgrades are encountered in the site excavations, stabilization by partial excavation, installation of geotextile fabric, and backfill with clean stone/drainage course may be necessary. The Geotechnical Engineer or qualified testing agency shall make this determination at the time of excavation and subgrade preparation.

### 3.6 STORAGE OF SOIL MATERIALS

- A. Stockpile excavated satisfactory soil materials and borrow soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
- B. Stockpile soil materials away from edge of excavations. Do not store within drip line of trees to remain.
- C. Site soils may be rendered unusable due to excess exposure to rain. Protect all material stockpiles from adverse weather.
- D. Dispose of excess soil material and waste materials in accordance with all applicable Town, State and Federal regulations.

### 3.7 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
  1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
  2. Surveying locations of underground utilities for record documents.
  3. Testing and inspecting underground utilities.
  4. Removing concrete formwork.
  5. Removing trash and debris.
  6. Removing temporary shoring, bracing, and sheeting.
  7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.
- C. Building Backfill.
  1. Backfill concrete structures only after those structures have cured.

2. After the footings and exterior walls are completed, backfill of the excavations shall consist of either the suitable on-site soil or imported sand and gravel fill. Imported fill shall contain less than 20 percent by weight passing a No. 200 sieve. The fill shall be placed in layers up to 12 inches in loose thickness and each layer shall be compacted to at least 92 percent of its Maximum Modified Dry Density (ASTM D1557). Fill layers shall be compacted, tested, and approved before placing subsequent layers.
3. Place structural backfill in horizontal, parallel layers not thicker than 12 loose inches across full width of cross-section, where practicable. Maintain uniform thickness in each layer with plate tampers, jumping jacks or other equipment approved by the Engineer.
4. Dry excessively wet material, and moisten dry material with potable water to facilitate compaction.
5. Backfill shall not contain stones and rock in excess of 6-inches and shall be placed in a manner which precludes the forming of voids.

### 3.8 SOIL FILL

- A. Place and compact backfill in excavations promptly.
- B. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- C. Place and compact fill material in layers to required elevations using satisfactory soil material or structural fill.
- D. Place soil fill on subgrades free of mud, frost, snow, or ice.

### 3.9 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content as per ASTM D1557.
  1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.10 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 12 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly to required elevations.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D1557:

1. Under building, foundations, footings, and steps, compact each layer of backfill or fill soil material at 95 percent.
2. Under slabs on grade, walkways, and pavements, compact each layer of backfill or fill soil material at 92 percent.

### 3.11 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
  1. Provide a smooth transition between adjacent existing grades and new grades.
  2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

### 3.12 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
  1. If required, install geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
  2. Place drainage course 8 inches or less in compacted thickness in a single layer.
  3. Place drainage course that exceeds 8 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 8 inches thick or less than 4 inches thick.
  4. Compact each layer of drainage course to required cross sections and thicknesses to not less than 92 percent of Maximum Modified Dry Density according to ASTM D1557.

### 3.20 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified Geotechnical Engineer or testing agency to perform the following special inspections:
  1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
  2. Determine that fill material classification and maximum lift thickness comply with requirements.
  3. Determine, during placement and compaction, that in-place density of compacted fill complies with project requirements.
- B. Testing Agency: Owner will engage Carlin-Simpson & Associates or a qualified testing agency to perform tests and inspections.

- C. Notify Construction Manger not less than 48 hours in advance of Earthwork operations so that a field representative may be scheduled to be on-site during Earthwork operations.
- D. Schedule the testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- E. The Geotechnical Engineer or qualified testing agency representative will test compaction of soils in place according to ASTM D6938, as applicable. Tests will be performed at locations and frequencies determined by the Geotechnical Engineer or qualified testing agency engineer but will include fill placed for below footings, building slab areas, and foundation wall backfills.
- F. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

### 3.21 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by the Geotechnical Engineer or; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

### 3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Transport surplus satisfactory soil to designated storage areas on Owner's property. Stockpile or spread soil as directed by Construction Manager.
- B. Remove waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 310000