

ADDENDUM NO. 2

DATED

JULY 28, 2020

NATICK, MASSACHUSETTS
BOARD OF SELECTMEN

CONTRACT NO. S-162

3 YEAR SEWER REHABILITATION PROJECT

TO ALL BIDDERS OF RECORD:

This Addendum shall be part of the Contract Documents as provided in the Instructions to Bidders of Contract No. S-162. Acknowledgment of receipt of the Addendum shall be made by inserting its number on Page 00300-1 of the Bid Form. Failure to do so may subject the bidder to disqualification.

TABLE OF CONTENTS

INSERT "02221 Trenching, Backfilling, and Compacting" into the Division 2 contents list, and **INSERT** the attached Section 02221 (7 pages total) prior to Section 02513 in Division 2.

Section 00300 – Bid, page 00300-15

DELETE the quantity "150" in Item 59 and **INSERT** "50" in its place. A new page 00300-15 is NOT being provided. Please make this change on the page 00300-15 that was provided in Addendum No. 1.

02774 Cured-in-Place Lateral Rehabilitation, page 02774-4

DELETE "pre-approved" from the first line of paragraph 2.1(D)(a) and **INSERT** "approved" in its place.

02777 Sewer Main Pipe Point Repair, page 02777-4

DELETE paragraph 3.4(B)(4) in its entirety and **INSERT** the following in its place:

4. At all repairs located on W. Central St., Washington Ave., and N. Main St. the remainder of trench backfill shall be controlled density fill as specified in Section 02221.
5. Unless otherwise ordered by the Owner, at all other locations the remainder of trench backfill shall be ordinary borrow backfill, as specified in Section 02221, from 8-inches over the pipe to beneath the process gravel or loam in shoulders, placed in 12-inch layers, graded and compacted.

SECTION 02221

TRENCHING, BACKFILLING AND COMPACTING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included: The Contractor shall conduct all excavation and backfilling required for the Work, including site mobilization and demobilization, roadway trenching, furnishing lighted caution horses, fences and/or barriers, barrels, barricades, temporary bridging, cutting, removal, and proper disposal of pavement, providing and maintaining basic traffic control devices, excavation in earth and rock for all structures and pipelines, removal and disposal of all unsuitable material, provide controlled density fill (flowable fill- CDF), disposal of surplus material, shoring, bracing, and sheeting, dewatering systems, protection of existing above and below ground facilities, removal and replacement of signs, protection of existing pavements, repairing of broken or disturbed water, sewer, or storm drain piping and structures caused by the Contractor's operations, and all other incidental work necessary to provide the space for the construction of the Work of this Contract, in accordance with the Contract Documents.
- B. Related Work:
 - 1. Documents affecting work of this Section include, but are not limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Section 02513 Asphaltic Concrete Paving

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the Work of this Section.
- B. Use equipment appropriate in size, capacity, and numbers to accomplish the Work of this Section in a timely manner.
- C. Comply with all the requirements of the Local and State regulatory agencies which pertain to this Section.
- D. The Contractor shall conduct all work in a first-class workmanlike manner, and he/she shall use reasonable and appropriate care and skill in the performance of the Work under this Section.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01610.

1.5 COORDINATION

- A. Coordinate the Work of this Section in a manner to minimize the impact upon the local businesses and residents.
- B. Coordinate the Work of this Section with suppliers, trades, and any public agencies which may affect or be affected by the Work of this Section to insure the uninterrupted completion of this Work including, but not limited to, the Fire and Police Departments, School Bus Company, US Postal Service, Highway Department, Rubbish Disposal Service, etc.

1.6 PERMITS

- A. The Contractor shall obtain a roadway opening permit and trench permit for all work and notify the responsible Public Works Department at least 7 days before any excavation takes place within the roadway.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Fill and Trench Backfill Materials:
 - 1. Ordinary Borrow: Shall be a friable material consisting of a nature of stone, sand and silt with no objects larger than 7-inches in diameter and no more than 30 percent by weight finer than No. 200 sieve, and be free of pavement, trash, loam, ice, snow, tree stumps and roots. This material must be conducive to proper compaction by the methods to be utilized under this Contract. Excavated trench material from on-site sources which meets these specifications in the Owner's opinion shall be used for Ordinary Borrow trench refill.
 - 2. Select Borrow: Shall be a friable material consisting of a nature of stone, sand and silt with no objects larger than 3 inches in diameter and no more than 30 percent by weight finer than No. 200 sieve, and be free of pavement, trash, loam, ice, snow, tree stumps and roots. This material must be conducive to proper compaction by the methods to be utilized under this Contract. Excavated trench material from on-site sources which meets these specifications in the Owner's opinion shall be used for Select Borrow trench refill.
 - 3. Process Gravel: Shall consist of hard durable sand and gravel, free from ice and snow, roots, sods, rubbish and other deleterious or organic matter. Maximum stone size shall be 3" (greatest dimension). In addition, it shall conform to the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing</u>	
	<u>Maximum</u>	<u>Minimum</u>
3"	-	100
1 1/2"	100	70
1/4"	85	50
No. 4	60	30
No. 200	12	-

- a. Excavated trench gravel borrow from on-site sources which meets the specifications for Process Gravel in the Owner's opinion, shall be used in place of Process Gravel trench refill.
4. Crushed Stone: Shall consist of durable crushed stone or durable crushed gravel stone, washed, free from ice and snow, stone dust, sand, clay, loam, or other deleterious material. The crushed stone shall be uniformly blended and conform to the following:

<u>Sieve Size</u>	<u>Percent Passing</u>
5/8"	100
1/2"	85 - 100
3/8"	15 - 45
No. 4	0 - 15
No. 8	0 - 5

5. Controlled Density Fill (where shown or ordered): Shall consist of Portland cement, fly ash, sand and water. Shall be of Type 2E mix in accordance with Massachusetts Highway Department Specification M4.08.0. The ingredients shall comply with the following:

Portland Cement	AASHTO M85
Fly Ash	AASHTO M295, Class F
Sand	M4.02.02
Air Entraining Admixtures	M4.02.05

- a. Controlled Density Fill shall fill the excavated trench to a depth of four (4) inches below the top of the existing bituminous concrete.

PART 3 - EXECUTION

3.1 TRENCH EXCAVATION

- A. The Contractor shall make all excavation , necessary or incidental to the proposed construction under the terms of this Contract and as herein specified or indicated on the Contract Drawings.

1. All excavation shall be made in such manner and to such widths as will give ample room for properly installing, constructing, and inspecting pipelines they are to contain.
2. The Contractor shall be responsible for notifying Dig Safe and the Natick Department of Public Works, for field markouts of all utilities.
3. TV inspection of the pipe section by the Contractor will be required to locate the point repair limits.
4. The width of trenches shall be sufficient to allow thorough compacting of the crushed stone envelope around the pipe.
5. Bottom of trenches in earth shall be excavated reasonably flat and to a depth sufficient to allow the bottom of the water main pipe barrel to rest on relatively undisturbed earth.
6. Bracing and support of all trench excavation shall meet all requirements of local and State ordinances and OSHA regulations. Sheeting and bracing, or the use of steel support box, shall be used where required to maintain a safe working condition and provide protection from collapse of the trench walls, undermining of existing pavement, damage to the pipe line appurtenances installed under this Contract, and existing Underground Facilities.
7. Excavation in close proximity to the edge of existing pavements and curbs shall be controlled to minimize damage or disturbance to the pavement and curbing system.

3.2 TRENCH EXCAVATION IN PAVED ROADWAYS

- A. In excavating trenches, the Contractor shall cut pavement twice; once prior to excavation, and again prior to permanent trench resurfacing. The first cut may be made using a water-cooled abrasive saw, pneumatic chisel, pavement grinding equipment, or a wheel cutter attached to a front-end loader, conditions permitting. The second and final cut for existing Type I asphaltic concrete shall be made with a water-cooled abrasive saw or pavement grinding equipment. In all cases, a trial section shall be cut to indicate the performance of the equipment to be utilized. Prior to pavement installation Contractor shall cut back edges of broken trenches to remove under-mined trench edges and cracked pavement.

3.3 UNSUITABLE MATERIAL

- A. All pipes and structures are to be laid on stable foundation. If material at grade is determined to be unsuitable by the Engineer, the Contractor shall excavate a further depth and/or width, and refill with an approved material. Refill material shall be process gravel or crushed stone as determined by the Owner. Payment width limits shall be the same as specified for trench excavation, unless an additional width of trench is ordered by the Engineer.
 1. Any excavation in excess of the amount ordered by the Engineer shall be backfilled and compacted with an approved granular material, at the Contractors expense.

3.4 DEWATERING

- A. Groundwater is not anticipated on this project, however if encountered, the Contractor shall provide an adequate method of groundwater control, such as pumps or a well point system, to maintain the groundwater level below the bottom of the trench or excavation during the construction period, in such manner as not to interfere with the progress of the Work or cause damage to adjacent Underground Facilities or property.
 - 1. Contractor shall take precaution to prevent the pumping of fines, soil erosion, and the damage of adjacent properties and facilities due to his dewatering application.
 - 2. Contractor shall prevent the flotation of any facilities by maintaining a continuous operation of the dewatering system.
 - 3. If material at the bottom of the trench becomes unstable due to an inadequate dewatering system installed by the Contractor, and additional depth of excavation and bedding material is required, this additional work will not be eligible for payment and shall be done at the expense of the Contractor.

3.5 BACKFILLING

- A. Any pavement falling, caving, or entering the trench during backfilling operations shall be removed before backfilling operations are permitted to continue.
- B. At locations being backfilled with CDF the Contractor shall place CDF from 8 inches over the pipe (top of crushed stone envelope) to a level above the proposed pavement depth and protected with steel plates until cured, and to be later excavated to the proper depth of the asphaltic concrete to be placed.
- C. At locations where CDF is not scheduled or ordered to be used by the Owner the Contractor shall place ordinary borrow from 8 inches over the pipe (top of crushed stone envelope) to a point 18 inches below grade. The remaining backfill to the bottom of the asphalt resurfacing shall be process gravel.
- D. Safety at the construction site shall entirely be the responsibility of the Contractor. Prior to the end of each day, the Contractor shall backfill the trench or plate the open area and move all equipment off the road by 4:30 P.M.
- E. All excavated pavements shall be kept separate from the excavated earth and properly disposed of by the Contractor. No excavated pavements shall be used as backfill in the pipe trenches.
- F. If undermining of the roadway occurs during excavation, the overhanging section of the road will be removed. After backfill with controlled density fill is achieved, the remaining edge of road at the trench will be cut back 12 inches to straight lines parallel to the trench before final trench paving is undertaken.

3.6 SURPLUS MATERIAL

- A. Upon completion of the backfilling of the trench, the surplus material shall become the property of the Contractor for disposal at locations of his choice.

3.7 LOAMED AND GRASSED AREAS

- A. Loamed and grassed areas which are disturbed by the Contractor's operation shall be restored to a condition comparable or better than originally found.

3.8 BASIC PROTECTION OF TRAFFIC

- A. The Contractor shall conduct his work so as to interfere as little as possible with public travel, and shall give property owners the opportunity to enter and leave the premises. Free access shall be provided at all times to existing water gates and fire hydrants in the vicinity of the Work.
 - 1. The Contractor must protect all open excavations, both during and beyond working hours, with lighted barricades, horses, and/or reflecting barrels, cones, etc. The Contractor shall be entirely responsible for the safety of the public and work force in the immediate area of construction.
 - 2. All lighted barricades, horses, barrels, cones, signs, and other traffic devices must be highly visible, properly placed, and maintained in that condition and location by the Contractor.
 - 3. Steel plates for trenches shall be a minimum of 1-inch thickness. All edges and corners of steel plates shall be cold patched. If, in the opinion of the Owner, Police or MassDOT, steel plates may cause vehicle damage, Contractor shall secure plates to the existing roadway surface by pinning
 - 4. Pedestrian traffic shall be maintained throughout construction, through alternative walking paths where necessary.
- B. Emergency Equipment
 - 1. The Contractor shall conduct his operations in a manner that insures access to all areas in the vicinity of the construction by emergency vehicles and equipment, and shall immediately assist any emergency vehicles to pass the construction site.

3.9 PROTECTION OF PROPERTY

- A. The Contractor shall exercise extreme caution while working close to existing Underground Facilities, asphaltic concrete pavement, highway guards, utility poles, signs, mailboxes, shrubs, trees, walls, lawns, and other property adjacent to the construction.
 - 1. Contractor shall replace any and all property which was damaged or destroyed as a result of his operations or because of his failure to protect them in a manner which would prevent damage.
 - 2. Property which has been damaged and replaced shall be equal in quality and workmanship to the damaged property and shall be subject to the approval of the property Owner.

3.10 UNIFORMED POLICE OFFICERS

- A. See Section 01570.

3.11 CLEANUP

- A. Cleanup shall be divided into two phases, initial and final.
 - 1. Initial cleanup shall be daily and follow the construction. Initial cleanup shall include, but not be limited to, picking up of all surplus equipment and materials, picking of trash, and dressing up of all roadway trench surfaces prior to replacement of pavement.
 - 2. Final cleanup shall be completed at the time when all permanent resurfacing will be installed. Contractor shall remove all surplus construction materials and temporary structures, and restore all areas disturbed by his operations to a condition at least equal to condition prior to construction and to the satisfaction of the Engineer.

END OF SECTION