

Wisconsin Department of Transportation

December 7, 2016

Division of Transportation Systems Development

Bureau of Project Development
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NOTICE TO ALL CONTRACTORS:

Proposal #40: 7040-01-73, WISC 2016 500
C Loyal, South and Main Streets
Helm Street to Elm Drive
STH 98
Clark County

Letting of December 13, 2016

This is Addendum No. 01, which provides for the following:

Special Provisions

Added Special Provisions	
Article No.	Description
39	Wall Modular Block Mechanically Stabilized Earth LRFD/QMP, Item SPV.0165.03
40	Concrete Curb and Gutter HES 30-Inch Type A, Item SPV.0090.16
41	Concrete Curb and Gutter HES 30-Inch Type D, Item SPV.0090.17

Deleted Special Provisions	
Article No.	Description
35	Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP Pilot, Item SPV.0165.01

Schedule of Items

Revised Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
204.0100	Removing Pavement	SY	20,185	-685	19,500

Added Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
416.0260	Concrete Driveway HES 6-Inch	SY	0	300	300
SPV.0090.16	Concrete Curb and Gutter HES 30-Inch Type A	LF	0	500	500
SPV.0090.17	Concrete Curb and Gutter HES 30-Inch Type D	LF	0	130	130
SPV.0165.03	Wall Modular Block Mechanically Stabilized Earth LRFD/QMP	SF	0	1,865	1,865

Deleted Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
SPV.0165.01	Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP Pilot	SF	1,865	-1,865	0

Plan Sheets

Revised Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of changes to sheet)
24	Retaining Wall switched from "Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP pilot" to "Wall Modular Block Mechanically Stabilized Earth LRFD/QMP"
25	Retaining Wall switched from "Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP pilot" to "Wall Modular Block Mechanically Stabilized Earth LRFD/QMP"
164	Bid item Quantity change for 204.0100
168	Bid Item name change on SPV.0165.01
169	Bid Items added (SPV.0090.16, SPV.0090.17, 416.0260)

Other

High Early Strength (HES) concrete items shall be used to expedite the amount of time high volume driveways need to be closed. Engineer on site shall determine the appropriate locations to use these items during construction.

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

Proposal Development Specialist
Proposal Management Section

ADDENDUM NO. 01

7040-01-73

December 7, 2016

Special Provisions

35. DELETED.

39. Wall Modular Block Mechanically Stabilized Earth LRFD/QMP, Item SPV.0165.03

A Description

This special provision describes designing, furnishing materials and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the wall and all wall components shall be 75 years minimum.

This special provision describes the quality management program (QMP) for Mechanically Stabilized Earth (MSE) walls. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process that are related to the construction of the MSE wall, which meets all the requirements of this provision.

This special provision describes contractor quality control (QC) sampling and testing for backfill density testing, documenting those results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>

B Materials

B.1 Proprietary Wall Systems

The supplied wall system must be from the department's approved list of Modular Block Mechanically Stabilized Earth Wall systems (Modular Block MSE Walls). Proprietary wall systems must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures. The name of the pre-approved proprietary wall system selected shall be furnished to the engineer within 25 days after the award of contract. The location of the plant manufacturing the facing units shall be furnished to the engineer at least 14 days prior to the project delivery.

The department maintains a list of pre-approved Modular Block MSE Wall systems. To be eligible for use on this project, a system must have been pre-approved by the department's Bureau of Structures and added to that list prior to the bid opening date. To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision and be prepared in accordance to the requirements of Chapter 14 of the department's LRFD Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Bureau of Structures, Structures Maintenance Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to submit a design and supporting documentation as required by this special provision, for review and acceptance by the department, to show the proposed wall

design is in compliance with the design specifications. The submittal shall include the following items for review: detailed plans and shop drawings, complete design calculations, explanatory notes, supporting materials, and specifications. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls. Submit electronically to the engineer and Bureau of Structures for review and acceptance. Submit no later than 60 days from the date of notification to proceed with the project and a minimum of 30 days prior to the date proposed to begin wall construction.

The plans and shop drawings shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans, shop drawings, and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Modular Block MSE Wall shall be in compliance with the *AASHTO LRFD Bridge Design Specifications 6th Edition 2012*, (AASHTO LRFD) with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current *Standard Specifications for Highway and Structure Construction* (standard spec), Chapter 14 of the WisDOT LRFD Bridge Manual and standard engineering design procedures as determined by the Department. Loads, load combinations, load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined in accordance with Table 11.5.7-1 LRFD.

Design and construct the walls in accordance to the lines, grades, heights and dimensions shown on the plans, as herein specified, and as directed by the engineer.

Walls parallel to supporting highway traffic shall be designed for the effects of highway surcharge loading equivalent of 2 feet soil surcharge weight or 240 psf. The design shall also consider the traffic barrier impact where applicable. Walls that do not carry highway traffic shall be designed for a live load surcharge of 100 psf in accordance with Chapter 14 of the WisDOT LRFD Bridge Manual or as stated on the plans.

A maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

An external stability check at critical wall stations showing Capacity Demand Ratio (CDR) for sliding, eccentricity, and bearing checks is provided by the department and are provided on the wall plans.

The design of the Modular Block MSE Wall by the Contractor shall consider the internal and compound stability of the wall mass in accordance with AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil reinforcement rupture, and wall facing-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. Compound stability shall be computed for the applicable strength limits. Sample analyses and hand calculations shall be submitted to verify the output of any software program used. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal and external stabilities as defined in AASHTO LRFD.

Facing units shall be designed in accordance with AASHTO LRFD 11.10.2.3.

The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 of the wall height, or as shown on the plan. In no case shall this length be less than 6.0 feet. The

soil reinforcement length shall be the same from the bottom to the top of the wall. All soil reinforcement layers shall be connected to facings. The soil reinforcement shall extend a minimum of 3.0 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be two times the block depth (front face to back face) or 32 inches, whichever is less. The first (bottom) layer of reinforcement shall be placed no further than 12 inches above the top of the leveling pad or the height of the block, but at least one block height above the leveling pad. The last (top) layer of soil reinforcement shall be no further than 21 inches below the top of the uppermost block.

All soil reinforcement required for the reinforced soil zone shall be connected to the wall facing.

Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Unless approved by the Bureau of Structures cutting or altering of the basic structural section of either the strip or grid at the site is prohibited, a minimum clearance of 3" shall be maintained between any obstruction and reinforcement, and splicing reinforcement is not allowed.

The minimum embedment of the MSE wall shall be 1 foot 6 inches, or as given on the contract plan. Step the leveling pad to follow the general slope of the ground line. Frost depth shall not be considered in designing the wall for depth of leveling pad. Additional embedment may be detailed by the contractor, but will not be measured for payment.

Wall facing units shall be installed on concrete leveling pads. The leveling pad shall be as wide as the proposed blocks or a minimum of 12 inches, whichever is greater. The minimum thickness of the leveling pad shall be 6-inches. The bottom row of blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad.

For walls that are less than or equal to 5 feet in height and do not have a wall number assigned to them, a compacted 1 foot deep by 2 foot wide leveling pad made from base aggregate dense 1¼-inch in conformance with standard spec 305 may be used.

B.3 Wall System Components

Materials furnished for wall system components under this contract shall conform to the requirements of this specification. All certifications related to material and components of the wall systems specified in this subsection shall be submitted to the engineer.

B.3.1 Wall Facing

Wall facing shall consist of precast modular concrete blocks. All units shall incorporate a mechanism or devices that develop a mechanical connection between vertical block layers. Units that are cracked, chipped, or have other imperfections in accordance with ASTM C1372, or have excessive efflorescence shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall match the existing modular block wall located adjacent to the City of Loyal's City Hall building at 301 North Main Street. The City of Loyal shall review and approve the color and surface texture.

The top course of facing units shall be a solid precast concrete unit designed to be compatible with the remainder of the wall unless a cast-in-place concrete cap is shown on the plans. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material. A formed cast-in-place concrete cap must also be used to finish the wall. A cap of this type shall be designed to have texture, color, and appearance that complement the remainder of the wall. The vertical dimension of the cap shall not be less than 6 inches. Expansion joints shall be placed in the cap to correspond with each 24 inch change in vertical wall height and at maximum spacing of 12 feet. Concrete for all cast-in-place caps shall be Grade A and shall conform to the requirements of standard spec 501.

Block dimensions may vary no more than $\pm 1/8$ inch from the standard values published by the manufacturer in accordance with ASTM C1372. Blocks must have a minimum depth (front face to

back face) of 12 inches. The minimum front face thickness of blocks shall be 4 inches measured perpendicular from the front face to inside voids greater than 4 square inches. The minimum allowed thickness of any other portions of the block is 1¾ inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

Cementitious materials and aggregates for modular blocks shall conform to the requirements of ASTM C1372 Section 4.1 and 4.2. Modular blocks shall meet the following requirements.

Test	Method	Requirement
Compressive Strength (psi)	ASTM C140	5000 min.
Water Absorption (%)	ASTM C140	6 max.
Freeze-Thaw Loss (%) 40 cycles, 5 of 5 samples 50 cycles, 4 of 5 samples	ASTM C1262 ^[1]	1.0 max. ^[2] 1.5 max. ^[2]

[1] Test shall be run using a 3% saline solution.

[2] Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable.

All blocks shall be certified as to strength, absorption, and freeze-thaw requirements unless, due to contract changes after letting, certified blocks are not available when required. At the time of delivery of certified blocks, furnish the engineer a certified test report from a department-approved independent testing laboratory for each lot of modular blocks. The certified test report shall clearly identify the firm conducting the sampling and testing, the type of block, the date sampled, the name of the person who conducted the sampling, the represented lot, the number of blocks in the lot, and the specific test results for each of the stated requirements of this specification. The tests should have been conducted not more than 18 months prior to delivery. A lot shall not exceed 5000 blocks or fraction thereof produced in day. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at no expense to the department. A department-approved independent testing laboratory shall control and conduct all modular block sampling and testing for certification. Prior to sampling, the manufacturer's representative shall identify all pallets of modular blocks contained in each lot. All pallets of blocks within the lot shall be numbered and marked to facilitate random sample selection.

The representative of the independent testing laboratory shall identify five pallets of blocks by random numbers and shall then select one block from each of these pallets. Solid blocks used as a finishing or top course shall not be selected. The selected blocks shall remain under the control of the person who conducted the sampling until shipped or delivered to the testing laboratory. All pallets of blocks within a lot shall be strapped or wrapped to secure the contents and tagged or marked for identification. The engineer will reject any pallet of blocks delivered to the project without intact security measures. At no expense to the department, the contractor shall remove all rejected blocks from the project.

The department may conduct testing of certified or non-certified modular blocks lots delivered to the project. The department will not conduct freeze-thaw testing on blocks less than 45 days old. If a random sample of five blocks of any lot tested by the department fails to meet any of the requirements of this specification (nonconforming), the contractor shall remove from the project site all blocks from the failed lot not installed in the finished work at no cost to the department, unless the engineer allows otherwise. Nonconforming blocks installed in the finished work will be considered approved by the department as stated in standard spec 106.5(2) and any adjustment to the contract price will not exceed the price of the blocks charged by the supplier.

Wall facing units may consist of precast modular concrete blocks produced by a wet cast process. The concrete blocks shall have a minimum strength of 4000 psi at 28 days. The concrete for the

blocks shall be air entrained, with an air content of 6% +/- 1.5%. All materials for the concrete mixture for the blocks shall meet the requirements standard spec 501. Wall facing units produced by a wet cast process need not be certified as to absorption and freeze-thaw requirements.

B.3.2 Backfill

Furnish and place backfill for Modular Block MSE Walls as shown on the plans and as hereinafter provided.

Wall Backfill, Type A, shall comply with the requirements for Coarse Aggregate No. 1 as given in standard spec 501.2.5.4.4. All backfill placed within a zone from the top of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

Wall Backfill, Type B, shall be placed in a zone extending horizontally from 1 foot behind the back face of the wall to 1 foot beyond the end of the reinforcement and extending vertically from the top of the leveling pad to a minimum of 3 inches above the final reinforcement layer.

Use natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. Do not use foundry sand, bottom ash, blast furnace slag, crushed/recycled concrete, crushed/milled asphaltic concrete or other potentially corrosive material.

Provide material conforming to the following gradation requirements as per AASHTO T27.

Sieve Size	% by Weight Passing
1 inch	100
No. 40	0 - 60
No. 200	0 - 15

The material shall have a liquid limit not greater than 25, as per AASHTO T89, and a plasticity index not greater than 6, as per AASHTO T90. Provide the percent by weight, passing the #4 sieve.

In addition, backfill material Type A and Type B shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	4.5-9.0
Sulfate content ^[1]	AASHTO T-290	200 ppm max.
Chloride content ^[1]	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm-cm min.
Organic Content ^[1]	AASHTO T-267	1.0% max.
Angle of Internal Friction	AASHTO T-236*	30 degrees min. (At 95.0% of maximum density and optimum moisture, per AASHTO T99, or as modified by C.1)

[1] Requirement does not apply to walls with non-metallic reinforcement.

*If the amount of P-4 material is greater than 60%, use AASHTO 236 with a standard-size shear box. Test results of this method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.
 If the amount of P-4 material is less than or equal to 60%, two options are available to determine the angle of internal friction. The first method is to perform a fractured faces count, per ASTM 5821, on the R-4 material. If more than 90% of the material is fractured on one face and more than 50% is fractured on two faces, the material meets the specifications and the angle of internal friction can be assumed to be 30 degrees. The second method allows testing all P-1" material, as per AASHTO T-236, with a large shear box. Test results

of this second method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results that the backfill material complies with the requirements of this specification. Specify the method used to determine the angle of internal friction. This certified report of test shall be less than 6 months old. Tests will be performed by a certified independent laboratory. In addition, when backfill characteristics and/or sources change, provide a certified report of tests for the new backfill material. Additional certified report of tests (except Angle of Internal Friction test), are also required. These additional backfill tests may be completed at the time of material production or material placement, with concurrence of the engineer. If this additional testing is completed at the time of material production, complete testing for every 2000 cubic yards of backfill or portion thereof. If this additional testing is completed at the time of material placement, complete testing for every 2000 cubic yards of backfill, or portion thereof, used per wall. All certified report of test results shall be less than 6 months old and performed by a certified independent laboratory.

B.3.3 Soil Reinforcement

B.3.3.1 Geogrids

Geogrid supplied as reinforcing members shall be manufactured from long chain polymers limited to polypropylene, high-density polyethylene, polyaramid, and polyester. Geogrids shall form a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The minimum grid aperture shall be 0.5 inch. The geogrid shall maintain dimension stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. The geogrid shall be furnished in a protective wrapping that shall prevent exposure to ultraviolet radiation and damage from shipping or handling. The geogrid shall be kept dry until installed. Each roll shall be clearly marked to identify the material contained.

The wall supplier shall provide the nominal long-term design strength (T_{al}) and nominal long-term connection strength, T_{alc} as discussed below.

Nominal Long-Term Design Strength (T_{al})

The wall supplier shall supply the nominal long-term design strength (T_{al}) used in the design for each reinforcement layer and shall be determined by dividing the Ultimate Tensile Strength (T_{ult}) by the factors RF_{ID} , RF_{CR} , RF_D .

Hence,

$$T_{al} = \frac{T_{ult}}{RF_{ID} \times RF_{CR} \times RF_D}$$

where:

- | | |
|-------------|---|
| T_{ult} = | Ultimate tensile strength of the reinforcement determined from wide width tensile tests (ASTM D6637) for geogrids based on the minimum average roll value (MARV) for the product. |
| RF_{ID} = | Strength reduction factor to account for installation damage to the reinforcement. In no case shall RF_{ID} be less than 1.1. |
| RF_{CR} = | Strength reduction factor to prevent long-term creep rupture of the reinforcement. In no case shall RF_{CR} be less than 1.2. |
| RF_D = | Strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation. In no case shall RF_D be less than 1.1. |

Values for RF_{ID} , RF_{CR} , and RF_D shall be determined from product specific test results. Guidelines for determining RF_{ID} , RF_{CR} , and RF_D from product specific data are provided in FHWA Publication No. FHWA-NHI-10-024 and FHWA-NHI-10-025 "Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes".

Nominal Long-term Connection Strength T_{ac}

The nominal long term connection strength, T_{ac} , shall be based on laboratory geogrid connection tests between wall facing and geogrids. T_{ac} shall be as given below

$$T_{ac} = \frac{T_{ult} * CR_{cr}}{RF_D}$$

where:

- T_{ac} = Nominal long-term reinforcement facing connection strength per unit reinforcement width at a specified confining pressure.
- T_{ult} = Ultimate tensile strength of the reinforcement for geogrids defined as the minimum average roll value (MARV) for the product.
- CR_{cr} = Long term connection strength reduction factor to account for reduced ultimate strength resulting from connection.
- RF_D = Strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation.

T_{ac} shall be developed from the tests conducted by an independent laboratory on the same facing blocks and geogrids as proposed for the wall and shall cover a range of overburden pressures comparable to those anticipated in the proposed wall. The connection strength reduction factor CR_{cr} shall be determined in accordance with long-term connection test as described in Appendix B of FHWA Publication No. FHWA-NHI 10-025 "Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes". CR_{cr} may also be obtained from the short term connection test meeting the requirements of NCMA test method SRWU-1 in Simac et al 1993 or ASTM D4884.

The contractor shall provide a manufacturer's certificate that the T_{ult} (MARV) of the supplied geogrid has been determined in accordance with ASTM D4595 or ASTM D6637 as appropriate. Contractor shall also provide block to block and block to reinforcement connection test reports prepared and certified by an independent laboratory. Also provide calculations in accordance with AASHTO LRFD, and using the results of laboratory tests, that the block-geogrid connections shall be capable of resisting 100% of the maximum tension load in the soil reinforcements at any level within the wall, for the design life of the wall system.

B.3.3.2 Galvanized Metal Reinforcement

In lieu of polymeric geogrid earth reinforcement, galvanized metal reinforcement may be used. Design and materials shall be in accordance to Section 11.10.6.4.2 of the current AASHTO LRFD Specifications. The design life of steel soil reinforcements shall also comply with AASHTO LRFD. Steel soil reinforcement shall be prefabricated into single or multiple elements before galvanizing.

B.3.4 Miscellaneous

For cast in place concrete cap or coping, use poured concrete Grade A, A-FA, A-S, A-T, A-IS, A-IP or A-IT concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for cast in place cap and coping concrete as specified in standard spec 716, Class II Concrete.

Use a wall leveling pad that consists of poured concrete, Grade A, A-FA, A-S, A-T, A-IS, A-IP, or A-IT concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for leveling pad concrete as specified in standard spec 716, Class III Concrete.

If pins are used to align modular block facing units, they shall consist of a non-degrading polymer, or hot dipping galvanized steel and be made for the express use with the modular block units supplied, to develop mechanical interlock between facing unit block layers. Connecting pins shall be capable of holding the geogrid in the proper position during backfilling. Furnish documentation that establishes and substantiates the design life of such devices.

C Construction

C.1 Excavation and Backfill

Excavation and preparation of the foundation for the MSE wall and the leveling pad shall be in accordance to standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the depth of the leveling pad unless shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back of the wall.

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth. Backfilling shall closely follow erection of each course of wall facing units.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units, soil reinforcement, or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to the contractor and the engineer.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

Do not operate tracked or wheeled equipment on the backfill within 3 feet from the back face of modular blocks. The engineer may order the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

C.2 Compaction

Compact wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to the engineer.

Compact all backfill Type B as specified in standard spec 207.3.6. Compact the backfill Type B to 95.0% of maximum dry density as determined by AASHTO T-99 (modified to compute densities to the nearest 0.1 pcf), or as modified as follows. If the gradation of the granular backfill is such that the P-200 material is less than 7% and the P-40 is less than 30%, a one-point Proctor test can be conducted in place of the 5-point Proctor. To complete this one-point test, compact the sample at a moisture content of 6%, then compute the actual (as-tested) sample moisture after completion of the test. Use Method B or D, and perform this test without removing oversize particles and without correction for coarse particles, as per AASHTO T224. The one-point as-tested moisture content represents the optimum moisture, and the measured one-point density represents the maximum wet density of the material. From these values, the maximum dry density can be computed.

Ensure adequate moisture is present in the backfill during placement and compaction to prevent segregation and to help achieve compaction.

Compaction of backfill within 3 feet of the back face of the wall should be accomplished using lightweight compaction devices. Use of heavy compaction equipment or vehicles should be avoided within 3 feet of the modular blocks.

A minimum of 6 inches of backfill shall be placed over the MSE reinforcement prior to working above the reinforcement.

C.3 Wall Components

C.3.1 General

Erect wall facing units and other associated elements according to the wall manufacturer's construction guide and to the lines, elevations, batter, and tolerances as shown on the plans. Center the initial layer of facing units on the leveling pad; then level them and properly align them. Fill formed voids or openings in the facing units with wall backfill, Type A. Remove all debris on the top of each layer of facing units, before placing the next layer of facing units.

Install all pins, rods, clips, or other devices used to develop mechanical interlock between facing unit layers in accordance with the manufacturer's directions.

The MSE reinforcement shall lay horizontally on the top of the most recently placed and compacted layer of MSE backfill. Bending of MSE reinforcement that result in a kink in the reinforcement shall not be allowed. If skewing of the reinforcement is required due to obstructions in the reinforced fill, the maximum skew angle shall not exceed 15 degrees from the normal position unless a greater angle is shown on the plans. The adequacy of the skewed reinforcement in such a case shall be addressed by supporting calculations.

C.3.2 Soil Reinforcement

C.3.2.1 Geogrid Layers

Place soil reinforcement at the positions and to the lengths as indicated on the accepted shop drawings. Take care that backfill placement over the positioned soil reinforcement elements does not cause damage or misalignment of these elements. Correct any such damage or misalignment as directed by the engineer. Do not operate wheeled or tracked equipment directly on the soil reinforcement. A minimum cover of 6 inches is required before such operation is allowed.

Place and anchor geogrid material between wall unit layers in the same manner as used to determine the Geogrid Block-to-Connection Strength. Place the grid material so that the machine direction of the grid is perpendicular to the wall face. Each grid layer shall be continuous throughout the lengths indicated on the plans. Join grid strips with straps, rings, hooks or other mechanical devices to prevent movement during backfilling operations. Prior to placing backfill on the grid, pull the grid taut and hold in position with pins, stakes or other methods approved by the engineer.

C.3.2.2 Steel Layers

Place the steel reinforcement full width in one piece as shown on the plans. No splicing will be allowed. Maintain elements in position during backfilling.

C.4 Quality Management Program

C.4.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform MSE wall construction work before the engineer reviews and accepts the plan. Construct the project as the plan provides.

Do not change the quality control plan without the engineer's review and acceptance. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in the contractor's laboratory as changes are adopted. Insure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Descriptions of stockpiling and hauling methods.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory, retained sample storage, and other documentation.
7. A summary of the locations and calculated quantities to be tested under this provision.
8. A proposed sequencing plan of wall construction operations and random test locations.

C.4.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Grading Technician I (GRADINGTEC-I); or Assistant Certified Technician, Grading (ACT-GRADING); or Aggregate Technician I (AGGTEC-I); or Assistant Certified Technician, Aggregate (ACT-AGG) present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Nuclear Density Technician I (NUCDENSITYTEC-I) or Assistant Certified Technician, Nuclear Density (ACT-NUC) perform field density and field moisture content testing.

If an Assistant Certified Technician (ACT) is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician insure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

C.4.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Insure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at <http://www.atwoodsystems.com/materials>. Insure that the gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to ASTM D 6938 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department

C.4.4 Documentation

- (1) Document all observations, inspection records, and process adjustments daily. Submit test results to the department's project materials coordinator on the same day they become available.
- (2) Use forms provided in CMM chapter 8. Note other information in a permanent field record and as a part of process control documentation enumerated in the contractor's quality control plan. Enter data into the applicable materials reporting system (MRS) software within 5 business days after results are available.

- (3) Submit final testing records and other documentation to the engineer electronically within 10 business days after all contract-required information becomes available. The engineer may allow submission of scanned copies of hand-written documentation.

C.4.5 Quality Control (QC) Testing

Perform compaction testing on the backfill. Conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 150 cubic yards of backfill, or major portion thereof in each lift. A minimum of one test for every lift is required. Deliver documentation of all compaction testing results to the engineer at the time of testing.

Perform 1 gradation test every 750 cubic yards of fill and one 5-point Proctor test (or as modified in C.2) every 2,250 cubic yards of fill. Provide the region split samples of both within 72 hours of sampling, at the region laboratory. Test sites shall be selected using ASTM Method D3665. Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.

C.4.6 Department Testing

C.4.6.1 General

- (1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

C.4.6.2 Quality Verification (QV) Testing

- (1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in C.4.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.
- (2) The department will conduct QV tests at the minimum frequency of 30% of the required contractor density, Proctor and gradation tests.
- (3) The department will locate density tests and gradation samples randomly, at locations independent of the contractor's QC work. The department will split each Proctor and gradation QV sample, testing half for QV, and retaining the remaining half for 10 business days.
- (4) The department will conduct QV Proctor and gradation tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.
- (5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If density QV test results are nonconforming, the area shall be reworked until the density requirements of this special provision are met. If the gradation test results are nonconforming, standard spec 106.5 will apply. Differing QC and QV nuclear density values of more than 1.5 pcf will be investigated and resolved. QV density tests will be based on the appropriate QC Proctor test results, unless the QV and QC Proctor result difference is greater than 3.0 pcf. Differing QC and QV Proctor values of more than 3.0 pcf will be investigated and resolved.

C.4.6.3 Independent Assurance (IA)

- (1) Independent assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing, including personnel

qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
 2. Proficiency sample testing.
 3. Witnessing sampling and testing.
 4. Test equipment calibration checks.
 5. Reviewing required worksheets and control charts.
 6. Requesting that testing personnel perform additional sampling and testing.
- (2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in C.4.6.4.

C.4.6.4 Dispute Resolution

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.
- (2) Production test results, and results from other process control testing, may be considered when resolving a dispute.
- (3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product or work, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C.5 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. After completing wall excavation of the entire reinforced soil zone, notify the department and allow the Regional Soils Engineer two working days to review the foundation.

D Measurement

The department will measure Wall Modular Block Mechanically Stabilized Earth LRFD/QMP by the square foot acceptably completed, measured as the vertical area within the pay limits the contract plans show. No other measurement of quantities shall be made in the field. Unless the Engineer directs in writing, a change to the limits indicated on the contract plan, wall area constructed above or below these limits will not be measured for payment.

E Payment

The department will pay for accepted measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.01	Wall Modular Block Mechanically Stabilized Earth LRFD/QMP	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of materials; supplying all necessary wall components to produce a functional wall system including cap, copings and leveling pad; constructing the retaining system including drainage system; providing backfill, backfilling, compacting, developing/completing/documenting the quality management program, performing compaction testing; and for furnishing all tools, labor, equipment, and incidentals necessary to complete the contract work.

Parapets, railings, and other items above the wall cap or coping will be paid for separately. Vehicle barrier and its support will be paid separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.

40. Concrete Curb and Gutter HES 30-Inch Type A, Item SPV.0090.16.

A Description

This special provision describes constructing concrete curb and concrete curb & gutter according to the requirements of standard spec 601.

B Materials.

Provide concrete that conforms to the requirements for high early strength concrete according to standard spec 501.

C Construction

Replace standard spec 601.3.4 (5) with the following:

Form contraction joints by sawing an induced plane of weakness at least 2 inches deep in the curb, gutter, or curb & gutter directly opposite all construction or contraction joints in adjoining concrete pavement and at the required spacing in curb, gutter, or curb & gutter adjoining asphaltic pavement. Space all joints between 6 feet and approximately 20 feet apart, as the engineer directs.

Saw the joints to a minimum depth of one-third (D/3) of the depth of the curb and gutter at the flag line.

D Measurement

The department will measure Concrete Curb and Gutter HES 30-Inch Type A in length by the linear foot acceptably completed in accordance with standard spec 601.4.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item(s):

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.16	Concrete Curb and Gutter HES 30-Inch Type A	LF

Payment will be made according to standard spec 601.5.

41. Concrete Curb and Gutter HES 30-Inch Type D, Item SPV.0090.17.

A Description

This special provision describes constructing concrete curb and concrete curb & gutter according to the requirements of standard spec 601.

B Materials.

Provide concrete that conforms to the requirements for high early strength concrete according to standard spec 501.

C Construction

Replace standard spec 601.3.4 (5) with the following:

Form contraction joints by sawing an induced plane of weakness at least 2 inches deep in the curb, gutter, or curb & gutter directly opposite all construction or contraction joints in adjoining concrete pavement and at the required spacing in curb, gutter, or curb & gutter adjoining asphaltic pavement. Space all joints between 6 feet and approximately 20 feet apart, as the engineer directs.

Saw the joints to a minimum depth of one-third (D/3) of the depth of the curb and gutter at the flag line.

D Measurement

The department will measure Concrete Curb and Gutter HES 30-Inch Type D in length by the linear foot acceptably completed in accordance with standard spec 601.4.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item(s):

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.17	Concrete Curb and Gutter HES 30-Inch Type D	LF

Payment will be made according to standard spec 601.5.

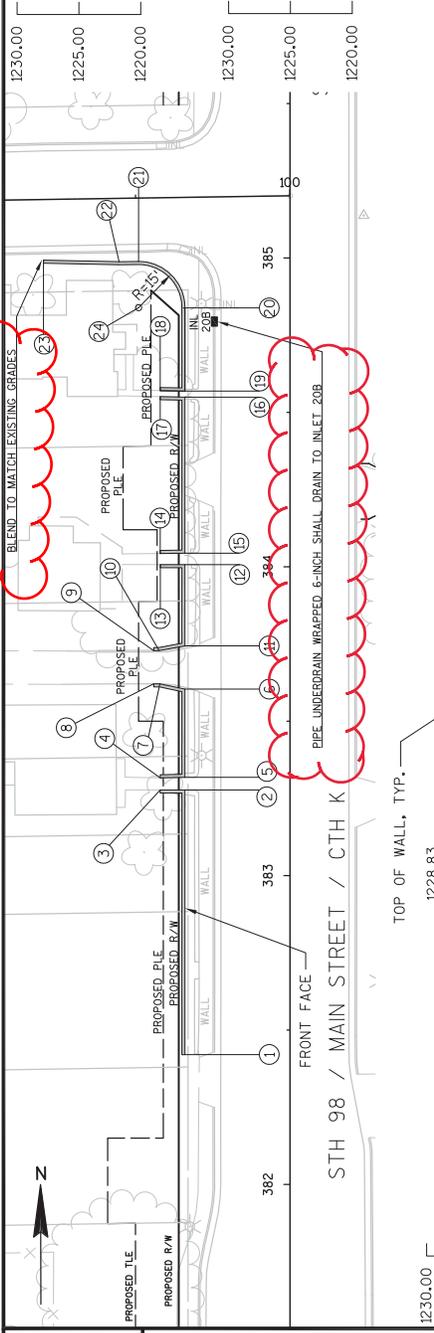
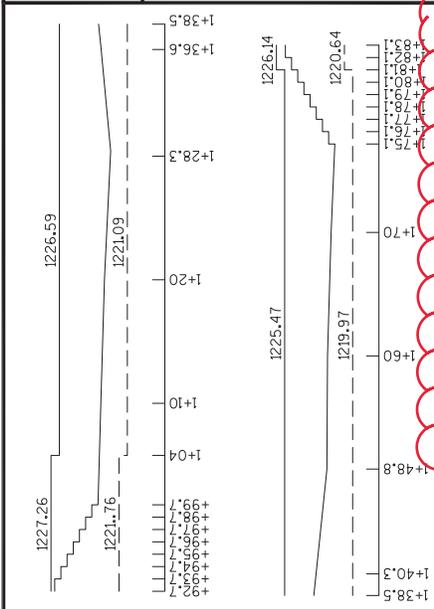
Schedule of Items

Attached, dated December 7, 2016, are the revised Schedule of Items Pages. All pages of the Schedule of Items are being replaced.

Plan Sheets

The following 8.5 x 11-inch sheets are attached and made part of the plans for this proposal:
Revised: Pages 24, 25, 164, 168 and 169.

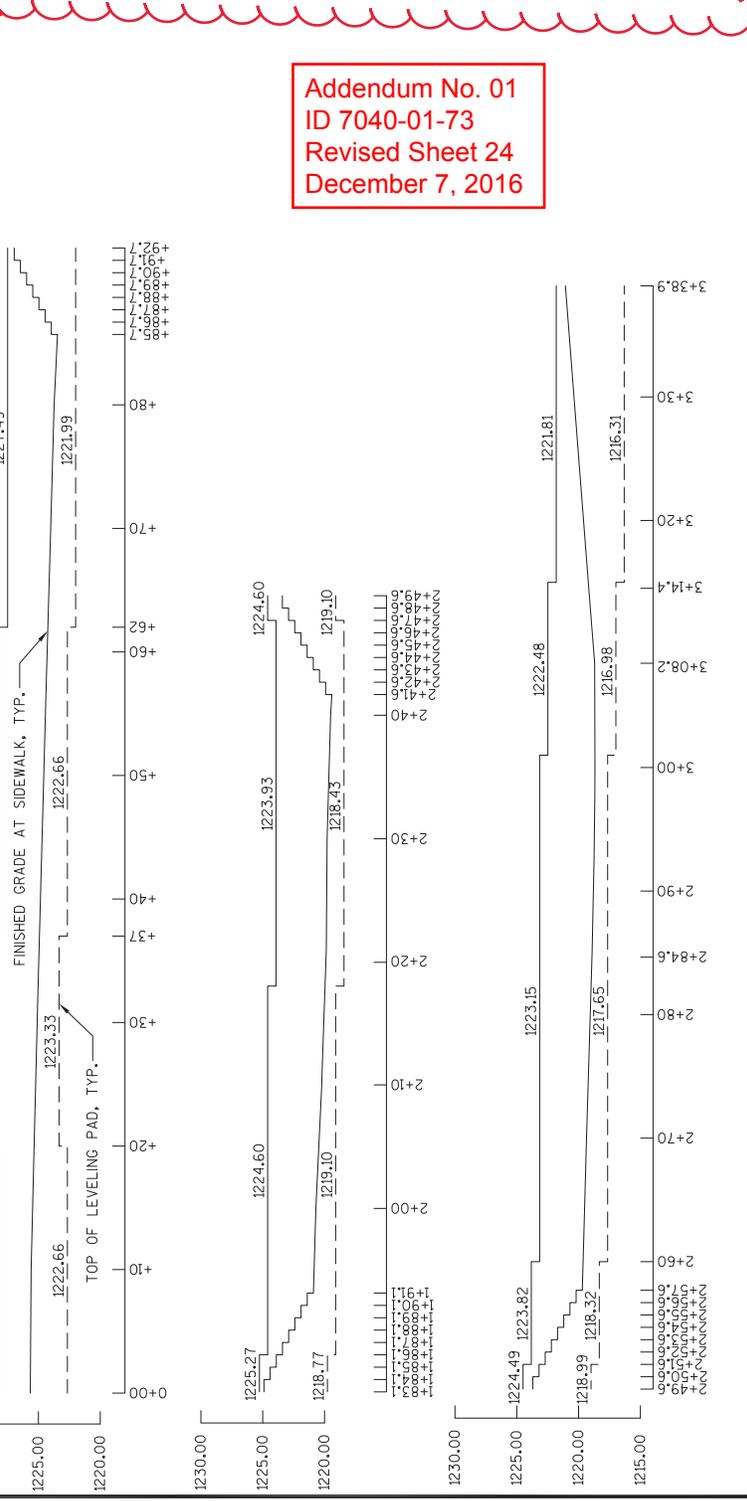
END OF ADDENDUM

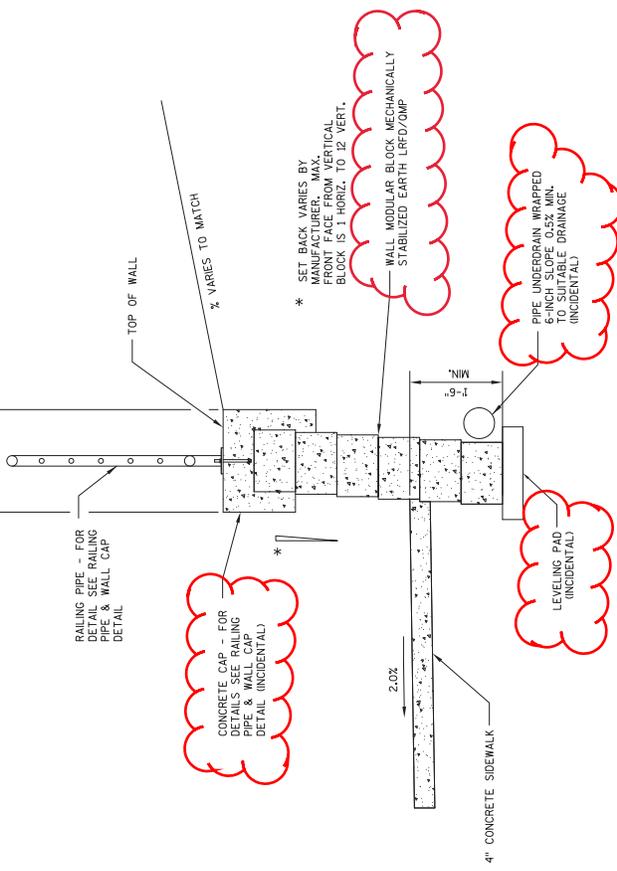


LAYOUT POINT	RETAINING WALL	ROADWAY STATION	OFFSET
1	0+00.00	382+42.0	34.0' LT
2	0+85.70	383+27.7	34.0' LT
3	0+92.70	383+27.7	41.0' LT
4	0+92.70	383+31.8	41.0' LT
5	0+99.70	383+31.8	34.0' LT
6	1+28.26	383+60.4	34.0' LT
7	1+36.55	383+62.1	42.1' LT
8	1+38.53	383+62.1	44.1' LT
9	1+38.53	383+72.8	44.1' LT
10	1+40.28	383+72.8	42.3' LT
11	1+48.76	383+74.9	34.0' LT
12	1+75.08	384+00.7	34.0' LT
13	1+83.06	384+00.7	42.0' LT
14	1+83.06	384+04.5	42.0' LT
15	1+91.06	384+04.4	34.0' LT
16	2+41.56	384+54.9	34.0' LT
17	2+49.60	384+55.1	42.0' LT
18	2+49.60	384+57.1	42.0' LT
19	2+57.6	384+56.9	34.0' LT
20	2+84.6	384+83.9	34.0' LT
21	3+08.18	99+50.6	20.5' RT
22	3+14.43	99+44.4	20.5' RT
23	3+38.91	99+19.9	19.6' RT
24	--	384+83.9	41.0' LT

GENERAL NOTES
 WALL PROFILE SHOWS MINIMUM ELEVATION FOR THE TOP OF WALL. THE AREA CALCULATED FOR ESTIMATED QUANTITIES IS FROM THE MINIMUM TOP OF WALL ELEVATION TO THE TOP OF LEVELING PAD.
 DRAWINGS SHALL NOT BE SCALED.

Addendum No. 01
 ID 7040-01-73
 Revised Sheet 24
 December 7, 2016





GENERAL NOTES:
 WALL PROFILE SHOWS MINIMUM ELEVATION FOR THE TOP OF WALL. THE AREA CALCULATED FOR ESTIMATED QUANTITIES IS FROM THE MINIMUM TOP OF WALL ELEVATION TO THE TOP OF LEVELING PAD.
 DRAWINGS SHALL NOT BE SCALED
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OTHERWISE

DESIGN DATA:
 THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN PLANS, DETAILS, SPECIFICATIONS AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE FOR THE DESIGN OF THE WALL SYSTEM. FINISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD/OMP".
 NAME, ELEVATION AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS AND DETAILS COMMON TO ANY WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.
 THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON ELEVATION SHEET.
 BLOCKS SHALL BE STRAIGHT FACE. COLOR SHALL BE SELECTED BY THE CITY OF LOYAL.
 DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.
 CONCRETE MASONRY ----- Fc = 3,500 p.s.i.
 HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) ----- Fy = 60,000 p.s.i.

SOIL PARAMETERS:
 ALLOWABLE BEARING CAPACITY = 1.0 TONS/SF
 ALLOWABLE SLIDING FRICTION = 30 DEGREES
 COHESION = 0.8 TONS/SF
 COEFFICIENT OF SLIDING FRICTION = 0.4

SAFETY FACTORS:
 SLIDING (FS) > 1.5
 OVERTURNING (FS) > 2.0
 GLOBAL STABILITY (FS) > 1.3
 MINIMUM WALL EMBEDMENT = 16"

TOTAL ESTIMATED QUANTITIES:
 WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD/OMP ----- 1865 SF
 PIPE UNDERDRAIN ----- 340 LF
 RAILING PIPE ----- 340 LF

NOTE: COST OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT IN WALL CAP CONSIDERED INCIDENTAL TO THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH LRFD/OMP".

Addendum No. 01
 ID 7040-01-73
 Revised Sheet 25
 December 7, 2016

RETAINING WALL DETAIL

Addendum No. 01
 ID 7040-01-73
 Revised Sheet 165
 December 7, 2016

REMOVING PAVEMENT				
STATION - STATION	LOCATION	LOCATION	REMOVING PAVEMENT SY	COMMENTS
CATEGORY CODE 0010				
239+25 - 265+30	LT & RT	LT & RT	5,788	
362+13 - 366+00	LT & RT	LT & RT	946	
366+00 - 381+00	LT & RT	LT & RT	8,667	
381+00 - 389+75	LT & RT	LT & RT	2,139	
UNDISTRIBUTED	LT & RT	LT & RT	1,960	INTERSECTIONS
TOTALS			19,500	

REMOVING GUARDRAIL				
STATION - STATION	LOCATION	LOCATION	REMOVING GUARDRAIL LF	COMMENTS
CATEGORY CODE 0010				
288+75 - 289+39	LT	LT	69	
289+06 - 289+39	RT	RT	34	
TOTALS			103	

REMOVING CURB AND GUTTER				
STATION - STATION	LOCATION	LOCATION	REMOVING CURB AND GUTTER LF	COMMENTS
CATEGORY CODE 0010				
241+97 - 242+30	RT	RT	112	INCLUDES SIDEROAD RADI
241+36 - 246+45	LT	LT	583	INCLUDES SIDEROAD RADI
242+60 - 251+35	RT	RT	1,059	INCLUDES SIDEROAD RADI
246+75 - 251+83	LT	LT	639	INCLUDES SIDEROAD RADI
252+15 - 255+05	RT	RT	399	INCLUDES SIDEROAD RADI
252+15 - 255+05	LT	LT	400	INCLUDES SIDEROAD RADI
255+38 - 258+35	RT	RT	417	INCLUDES SIDEROAD RADI
255+38 - 258+35	LT	LT	415	INCLUDES SIDEROAD RADI
258+68 - 261+65	RT	RT	406	INCLUDES SIDEROAD RADI
258+68 - 261+66	LT	LT	420	INCLUDES SIDEROAD RADI
261+88 - 265+08	RT	RT	400	INCLUDES SIDEROAD RADI
261+88 - 265+09	LT	LT	409	INCLUDES SIDEROAD RADI
361+40 - 266+55	RT	RT	149	INCLUDES SIDEROAD RADI
362+32 - 365+90	RT	RT	523	INCLUDES SIDEROAD RADI
362+32 - 365+90	LT	LT	358	INCLUDES SIDEROAD RADI
366+27 - 371+45	LT	LT	645	INCLUDES SIDEROAD RADI
366+27 - 371+45	RT	RT	676	INCLUDES SIDEROAD RADI
371+83 - 380+35	LT	LT	954	INCLUDES SIDEROAD RADI
371+70 - 380+70	RT	RT	1,039	INCLUDES SIDEROAD RADI
380+77 - 385+05	LT	LT	532	INCLUDES SIDEROAD RADI
381+08 - 388+32	RT	RT	813	INCLUDES SIDEROAD RADI
385+38 - 388+32	LT	LT	414	INCLUDES SIDEROAD RADI
388+65 - 389+39	LT	LT	111	INCLUDES SIDEROAD RADI
388+65 - 389+39	RT	RT	100	INCLUDES SIDEROAD RADI
TOTALS			11,973	

REMOVING CONCRETE SIDEWALK				
STATION - STATION	LOCATION	LOCATION	REMOVING CONCRETE SIDEWALK SY	COMMENTS
CATEGORY CODE 0010				
246+00 - 251+80	LT	LT	298	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
242+20 - 251+75	RT	RT	56	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
252+15 - 255+02	RT	RT	167	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
255+38 - 258+35	LT	LT	139	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
255+38 - 258+35	RT	RT	181	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
258+70 - 261+65	LT	LT	234	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
258+70 - 261+65	RT	RT	165	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
262+00 - 265+00	LT	LT	227	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
262+00 - 265+00	RT	RT	179	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
265+65 - 266+22	LT	LT	81	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
265+65 - 266+22	RT	RT	69	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
362+80 - 365+86	LT	LT	211	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
362+80 - 365+86	RT	RT	258	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
366+27 - 371+42	LT	LT	393	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
366+27 - 371+42	RT	RT	431	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
371+90 - 380+35	LT	LT	783	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
371+75 - 380+56	RT	RT	630	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
380+65 - 385+00	LT	LT	286	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
381+15 - 386+40	RT	RT	403	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
385+40 - 387+23	LT	LT	131	INCLUDES SIDEROADS, DRIVES, SERVICE WALKS/STEPS
TOTALS			5,322	

CLEARING AND GRUBBING ITEMS				
STATION - STATION	LOCATION	LOCATION	CLEARING GRUBBING D	COMMENTS
CATEGORY CODE 0010				
245+78	RT	RT	10	
246+08	RT	RT	10	
250+07	RT	RT	8	
251+69	RT	RT	8	
255+74	LT	LT	4	
255+97	LT	LT	4	
256+20	RT	RT	--	
40+48	RT	RT	8	
260+43	RT	RT	10	
260+64	RT	RT	10	
261+17	RT	RT	8	
262+47	LT	LT	12	
263+98	LT	LT	3	
264+23	LT	LT	10	
264+44	LT	LT	6	
264+72	LT	LT	8	
262+83	LT	LT	8	
364+54	RT	RT	4	
UNDISTRIBUTED	--	--	32	
TOTALS			92	100

REMOVING SMALL PIPE CULVERTS				
STATION - STATION	LOCATION	LOCATION	REMOVING SMALL PIPE CULVERTS EACH	COMMENTS
CATEGORY CODE 0010				
238+75	RT	RT	1	
496+65	LT	LT	1	
490+00	LT	LT	1	
TOTALS			3	

REMOVING OLD STRUCTURE				
STATION - STATION	LOCATION	LOCATION	REMOVING OLD STRUCTURE EACH	COMMENTS
CATEGORY CODE 0010				
368+40	LT/RT	LT/RT	1	4X2 BOX CULVERT
TOTALS			1	

CONCRETE CURB AND GUTTER ITEMS CONTINUED									
STATION - LOCATION	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D	650.5500 CONSTRUCTION STAKING CURB & GUTTER	SPV.0090.15 CONCRETE CURB & GUTTER CURE AND SEAL TREATMENT	COMMENTS				
261+07 - 265+09	354	RT	354	354					
161+40 - 161+56	16	LT	16	16					
161+40 - 161+56	16	RT	16	16					
261+07 - 264+55	277	LT	277	277					
565+49 - 566+45	98	RT	98	98					
566+22 - 566+45	23	RT	23	23					
566+22 - 566+55	33	LT	33	33					
565+75 - 566+22	47	LT	47	47					
362+32 - 365+90	407	LT	407	407					
59+05 - 59+42	37	RT	37	37					
59+05 - 59+42	37	LT	37	37					
362+32 - 365+90	387	RT	387	387					
60+55 - 60+95	40	RT	40	40					
60+55 - 60+95	40	LT	40	40					
366+28 - 371+46	555	LT	555	555					
69+05 - 69+41	36	RT	36	36					
69+05 - 69+41	36	LT	36	36					
366+28 - 371+27	536	RT	536	536					
70+56 - 71+41	86	RT	86	86					
70+56 - 71+37	86	LT	86	86					
371+70 - 380+71	940	RT	940	940					
90+64 - 90+75	11	RT	11	11					
90+63 - 90+74	11	LT	11	11					
371+84 - 380+33	885	LT	885	885					
88+45 - 89+46	103	RT	103	103					
89+15 - 89+46	31	LT	31	31					
380+75 - 385+04	466	LT	466	466					
99+20 - 99+44	24	RT	24	24					
99+20 - 99+44	24	LT	24	24					
381+09 - 389+33	786	RT	786	786					
385+36 - 389+32	332	LT	332	332					
109+05 - 109+50	45	RT	45	45					
109+05 - 109+50	45	LT	45	45					
488+64 - 489+31	90	LT	90	90					
488+67 - 489+31	110	RT	110	110					
PAGE 2 SUBTOTALS					782				
TOTALS					1,434				

CONCRETE CURB ITEMS				
STATION - LOCATION	601.0110 CONCRETE CURB TYPED	COMMENTS		
378+58 - 378+68	29			
TOTALS			29	

PROJECT NO: 7040-01-73
 COUNTY: CLARK
 HWY: STH 98
 PLOT DATE: _____

CONCRETE SIDEWALK ITEMS											
STATION - LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH	1 1/4-INCH TON	602.0405 CONCRETE SIDEWALK 4-INCH	602.0415 CONCRETE SIDEWALK 6-INCH	602.0515 CURB RAMP DIETTABLE WARNING FIELD NATURAL PATINA	602.1500 CONCRETE STEPS	COMMENTS				
242+68 - 251+79	296	LT	4,197	116	20	50					
251+67 - 251+80	11	RT	104	58	10	--					
252+20 - 255+01	91	LT	1,211	116	20	--					
252+20 - 255+01	96	RT	1,282	116	20	--					
255+42 - 258+31	101	LT	1,371	116	20	--					
255+42 - 258+31	111	RT	1,511	116	20	--					
258+71 - 261+60	104	LT	1,394	116	20	13					
258+71 - 261+60	116	RT	1,569	116	20	15					
262+02 - 264+35	77	LT	1,040	58	10	--					
262+02 - 265+04	119	RT	1,617	116	20	13					
565+67 - 566+45	20	LT	281	--	--	--					
565+63 - 566+22	33	RT	431	58	10	--					
362+34 - 365+86	291	LT	3,232	120	20	44					
362+37 - 365+87	195	RT	2,240	116	20	--					
366+31 - 371+44	417	LT	4,768	148	30	34					
366+31 - 371+34	395	RT	4,493	114	20	--					
371+72 - 380+59	722	LT	8,345	222	40	--					
371+87 - 380+30	732	RT	9,013	148	30	--					
380+77 - 384+99	308	LT	3,786	140	30	124					
381+13 - 388+00	445	RT	5,201	99	20	--					
385+40 - 388+00	132	LT	1,555	91	20	--					
TOTALS					1,175	3,505	58,641	2,300	420	310	

RIPRAP AND GEOTEXTILE FABRIC ITEMS									
STATION - LOCATION	606.0100 RIPRAP LIGHT	606.0200 RIPRAP MEDIUM	606.0300 RIPRAP HEAVY	645.0120 GEOTEXTILE FABRIC TYPE HR	COMMENTS				
239+31	RT	2	--	2					
247+77	RT	1	--	1					
250+34	RT	1	--	1					
491+00	LT	9	12	56					
TOTALS					60				

PROJECT NO: 7040-01-73
 COUNTY: CLARK
 HWY: STH 98
 PLOT DATE: _____

Addendum No. 01
 ID 7040-01-73
 Revised Sheet 169
 December 7, 2016



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0010	201.0120 Clearing	92.000 ID	_____.	_____.
0020	201.0220 Grubbing	100.000 ID	_____.	_____.
0030	203.0100 Removing Small Pipe Culverts	3.000 EACH	_____.	_____.
0040	203.0200 Removing Old Structure (station) 01. 368+40	LS	LUMP SUM	_____.
0050	204.0100 Removing Pavement	19,500.000 SY	_____.	_____.
0060	204.0150 Removing Curb & Gutter	11,973.000 LF	_____.	_____.
0070	204.0155 Removing Concrete Sidewalk	5,322.000 SY	_____.	_____.
0080	204.0165 Removing Guardrail	103.000 LF	_____.	_____.
0090	204.0195 Removing Concrete Bases	34.000 EACH	_____.	_____.
0100	204.0210 Removing Manholes	12.000 EACH	_____.	_____.
0110	204.0220 Removing Inlets	34.000 EACH	_____.	_____.
0120	204.0245 Removing Storm Sewer (size) 01. 12-Inch	252.000 LF	_____.	_____.
0130	204.0245 Removing Storm Sewer (size) 02. 15-Inch	490.000 LF	_____.	_____.
0140	204.0245 Removing Storm Sewer (size) 03. 18-Inch	2,206.000 LF	_____.	_____.
0150	204.0245 Removing Storm Sewer (size) 04. 24-Inch	495.000 LF	_____.	_____.
0160	205.0100 Excavation Common	30,481.000 CY	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0170	205.0501.S Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	700.000 TON	_____	_____
0180	213.0100 Finishing Roadway (project) 01. 7040-01-73	1.000 EACH	_____	_____
0190	305.0110 Base Aggregate Dense 3/4-Inch	2,290.000 TON	_____	_____
0200	305.0120 Base Aggregate Dense 1 1/4-Inch	23,625.000 TON	_____	_____
0210	312.0110 Select Crushed Material	24,670.000 TON	_____	_____
0220	416.0160 Concrete Driveway 6-Inch	1,770.000 SY	_____	_____
0230	455.0605 Tack Coat	195.000 GAL	_____	_____
0240	460.2000 Incentive Density HMA Pavement	510.000 DOL	1.00000	510.00
0250	460.5223 HMA Pavement 3 LT 58-28 S	475.000 TON	_____	_____
0260	460.5244 HMA Pavement 4 LT 58-34 S	270.000 TON	_____	_____
0270	460.6223 HMA Pavement 3 MT 58-28 S	30.000 TON	_____	_____
0280	460.6244 HMA Pavement 4 MT 58-34 S	12.000 TON	_____	_____
0290	465.0120 Asphaltic Surface Driveways and Field Entrances	135.000 TON	_____	_____
0300	465.0315 Asphaltic Flumes	32.000 SY	_____	_____
0310	513.2050.S Railing Pipe	390.000 LF	_____	_____
0320	520.8000 Concrete Collars for Pipe	13.000 EACH	_____	_____



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0330	521.1708 Apron Endwalls for Pipe Arch Sloped Side Drains Steel 35x24-Inch 4 to 1	2.000 EACH	_____	_____
0340	522.0115 Culvert Pipe Reinforced Concrete Class III 15-Inch	40.000 LF	_____	_____
0350	522.1015 Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	2.000 EACH	_____	_____
0360	522.1030 Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	2.000 EACH	_____	_____
0370	529.0335 Pipe Arch Corrugated Steel Aluminum Coated 35x24-Inch	30.000 LF	_____	_____
0380	601.0110 Concrete Curb Type D	29.000 LF	_____	_____
0390	601.0409 Concrete Curb & Gutter 30-Inch Type A	10,587.000 LF	_____	_____
0400	601.0411 Concrete Curb & Gutter 30-Inch Type D	1,434.000 LF	_____	_____
0410	602.0405 Concrete Sidewalk 4-Inch	58,641.000 SF	_____	_____
0420	602.0415 Concrete Sidewalk 6-Inch	2,300.000 SF	_____	_____
0430	602.0515 Curb Ramp Detectable Warning Field Natural Patina	420.000 SF	_____	_____
0440	602.1500 Concrete Steps	310.000 SF	_____	_____
0450	606.0100 Riprap Light	11.000 CY	_____	_____
0460	606.0200 Riprap Medium	14.000 CY	_____	_____
0470	606.0300 Riprap Heavy	5.000 CY	_____	_____



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0480	608.0315 Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	922.000 LF	_____.	_____.
0490	608.0318 Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	402.000 LF	_____.	_____.
0500	608.0324 Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	2,553.000 LF	_____.	_____.
0510	608.0330 Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	457.000 LF	_____.	_____.
0520	608.0415 Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	512.000 LF	_____.	_____.
0530	608.0418 Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	415.000 LF	_____.	_____.
0540	608.0424 Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	63.000 LF	_____.	_____.
0550	608.0430 Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch	776.000 LF	_____.	_____.
0560	608.0436 Storm Sewer Pipe Reinforced Concrete Class IV 36-Inch	271.000 LF	_____.	_____.
0570	611.0530 Manhole Covers Type J	21.000 EACH	_____.	_____.
0580	611.0624 Inlet Covers Type H	28.000 EACH	_____.	_____.
0590	611.0639 Inlet Covers Type H-S	21.000 EACH	_____.	_____.
0600	611.0642 Inlet Covers Type MS	5.000 EACH	_____.	_____.
0610	611.1005 Catch Basins 5-FT Diameter	1.000 EACH	_____.	_____.
0620	611.1006 Catch Basins 6-FT Diameter	2.000 EACH	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0630	611.2004 Manholes 4-FT Diameter	12.000 EACH	_____	_____
0640	611.2005 Manholes 5-FT Diameter	8.000 EACH	_____	_____
0650	611.2006 Manholes 6-FT Diameter	1.000 EACH	_____	_____
0660	611.3230 Inlets 2x3-FT	46.000 EACH	_____	_____
0670	611.3901 Inlets Median 1 Grate	3.000 EACH	_____	_____
0680	611.3902 Inlets Median 2 Grate	1.000 EACH	_____	_____
0690	611.9800.S Pipe Grates	2.000 EACH	_____	_____
0700	612.0406 Pipe Underdrain Wrapped 6-Inch	618.000 LF	_____	_____
0710	614.0305 Steel Plate Beam Guard Class A	12.500 LF	_____	_____
0720	614.0345 Steel Plate Beam Guard Short Radius	50.000 LF	_____	_____
0730	614.0390 Steel Plate Beam Guard Short Radius Terminal	2.000 EACH	_____	_____
0740	618.0100 Maintenance And Repair of Haul Roads (project) 01. 7040-01-73	1.000 EACH	_____	_____
0750	619.1000 Mobilization	1.000 EACH	_____	_____
0760	621.0100 Landmark Reference Monuments	8.000 EACH	_____	_____
0770	624.0100 Water	330.000 MGAL	_____	_____
0780	625.0100 Topsoil	9,926.000 SY	_____	_____
0790	628.1504 Silt Fence	1,086.000 LF	_____	_____



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0800	628.1520 Silt Fence Maintenance	1,644.000 LF	_____.	_____.
0810	628.1905 Mobilizations Erosion Control	10.000 EACH	_____.	_____.
0820	628.1910 Mobilizations Emergency Erosion Control	6.000 EACH	_____.	_____.
0830	628.2004 Erosion Mat Class I Type B	326.000 SY	_____.	_____.
0840	628.2008 Erosion Mat Urban Class I Type B	9,735.000 SY	_____.	_____.
0850	628.7005 Inlet Protection Type A	51.000 EACH	_____.	_____.
0860	628.7010 Inlet Protection Type B	3.000 EACH	_____.	_____.
0870	628.7015 Inlet Protection Type C	51.000 EACH	_____.	_____.
0880	628.7504 Temporary Ditch Checks	60.000 LF	_____.	_____.
0890	628.7555 Culvert Pipe Checks	20.000 EACH	_____.	_____.
0900	628.7560 Tracking Pads	4.000 EACH	_____.	_____.
0910	628.7570 Rock Bags	50.000 EACH	_____.	_____.
0920	629.0210 Fertilizer Type B	6.000 CWT	_____.	_____.
0930	630.0140 Seeding Mixture No. 40	179.000 LB	_____.	_____.
0940	634.0614 Posts Wood 4x6-Inch X 14-FT	42.000 EACH	_____.	_____.
0950	634.0616 Posts Wood 4x6-Inch X 16-FT	33.000 EACH	_____.	_____.
0960	634.0618 Posts Wood 4x6-Inch X 18-FT	6.000 EACH	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0970	634.0818 Posts Tubular Steel 2x2-Inch X 18-FT	2.000 EACH	_____	_____
0980	637.2210 Signs Type II Reflective H	566.660 SF	_____	_____
0990	637.2230 Signs Type II Reflective F	173.000 SF	_____	_____
1000	638.2602 Removing Signs Type II	85.000 EACH	_____	_____
1010	638.3000 Removing Small Sign Supports	61.000 EACH	_____	_____
1020	641.8100 Overhead Sign Support (structure) 01. S-10-012	LS	LUMP SUM	_____
1030	641.8100 Overhead Sign Support (structure) 02. S-10-013	LS	LUMP SUM	_____
1040	641.8100 Overhead Sign Support (structure) 03. S-10-011	LS	LUMP SUM	_____
1050	642.5201 Field Office Type C	1.000 EACH	_____	_____
1060	643.0100 Traffic Control (project) 01. 7040-01-73	1.000 EACH	_____	_____
1070	643.0300 Traffic Control Drums	4,480.000 DAY	_____	_____
1080	643.0420 Traffic Control Barricades Type III	4,884.000 DAY	_____	_____
1090	643.0705 Traffic Control Warning Lights Type A	9,768.000 DAY	_____	_____
1100	643.0900 Traffic Control Signs	3,338.000 DAY	_____	_____
1110	643.0920 Traffic Control Covering Signs Type II	15.000 EACH	_____	_____
1120	643.1050 Traffic Control Signs PCMS	126.000 DAY	_____	_____



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001 Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1130	643.2000 Traffic Control Detour (project) 01. 7040-01-73	1.000 EACH	_____.	_____.
1140	643.3000 Traffic Control Detour Signs	13,578.000 DAY	_____.	_____.
1150	644.1601.S Temporary Curb Ramp	12.000 EACH	_____.	_____.
1160	644.1616.S Temporary Pedestrian Safety Fence	3,000.000 LF	_____.	_____.
1170	645.0120 Geotextile Type HR	60.000 SY	_____.	_____.
1180	646.0106 Pavement Marking Epoxy 4-Inch	18,127.000 LF	_____.	_____.
1190	647.0456 Pavement Marking Curb Epoxy	509.000 LF	_____.	_____.
1200	647.0566 Pavement Marking Stop Line Epoxy 18-Inch	205.000 LF	_____.	_____.
1210	647.0656 Pavement Marking Parking Stall Epoxy	903.000 LF	_____.	_____.
1220	647.0726 Pavement Marking Diagonal Epoxy 12-Inch	416.000 LF	_____.	_____.
1230	647.0766 Pavement Marking Crosswalk Epoxy 6-Inch	3,764.000 LF	_____.	_____.
1240	650.4000 Construction Staking Storm Sewer	76.000 EACH	_____.	_____.
1250	650.4500 Construction Staking Subgrade	6,744.000 LF	_____.	_____.
1260	650.5000 Construction Staking Base	945.000 LF	_____.	_____.
1270	650.5500 Construction Staking Curb Gutter and Curb & Gutter	1,435.000 LF	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1280	650.7000 Construction Staking Concrete Pavement	5,799.000 LF	_____.	_____.
1290	650.8500 Construction Staking Electrical Installations (project) 01. 7040-01-73	LS	LUMP SUM	_____.
1300	650.9910 Construction Staking Supplemental Control (project) 01. 7040-01-73	LS	LUMP SUM	_____.
1310	650.9920 Construction Staking Slope Stakes	6,744.000 LF	_____.	_____.
1320	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	6,040.000 LF	_____.	_____.
1330	652.0615 Conduit Special 3-Inch	235.000 LF	_____.	_____.
1340	654.0102 Concrete Bases Type 2	2.000 EACH	_____.	_____.
1350	654.0230 Concrete Control Cabinet Bases Type L30	1.000 EACH	_____.	_____.
1360	655.0610 Electrical Wire Lighting 12 AWG	2,499.000 LF	_____.	_____.
1370	655.0615 Electrical Wire Lighting 10 AWG	12,712.000 LF	_____.	_____.
1380	655.0620 Electrical Wire Lighting 8 AWG	19,068.000 LF	_____.	_____.
1390	656.0200 Electrical Service Meter Breaker Pedestal (location) 01. 376+62 LT	LS	LUMP SUM	_____.
1400	657.0310 Poles Type 3	2.000 EACH	_____.	_____.
1410	659.2130 Lighting Control Cabinets 120/240 30-Inch	1.000 EACH	_____.	_____.
1420	690.0150 Sawing Asphalt	987.000 LF	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001 Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1430	690.0250 Sawing Concrete	830.000 LF		
1440	715.0415 Incentive Strength Concrete Pavement	8,601.000 DOL	1.00000	8,601.00
1450	ASP.1T0A On-the-Job Training Apprentice at \$5.00/HR	2,400.000 HRS	5.00000	12,000.00
1460	ASP.1T0G On-the-Job Training Graduate at \$5.00/HR	990.000 HRS	5.00000	4,950.00
1470	SPV.0060 Special 01. Remove Existing Lighting Unit	34.000 EACH		
1480	SPV.0060 Special 02. Pull Box Non-Conductive 24X42-Inch	18.000 EACH		
1490	SPV.0060 Special 03. Decorative Light Unit - Furnish And Install	17.000 EACH		
1500	SPV.0060 Special 04. Remove Existing Lighting Control Cabinet	1.000 EACH		
1510	SPV.0060 Special 05. Concrete Sediment Trap	1.000 EACH		
1520	SPV.0060 Special 06. Tracer Wire Terminal Box	124.000 EACH		
1530	SPV.0060 Special 07. Sanitary Sewer Manhole Frame And Cover And Interior Seal	22.000 EACH		
1540	SPV.0060 Special 08. Gate Valve, 10-Inch	1.000 EACH		
1550	SPV.0060 Special 09. Gate Valve, 8-Inch	31.000 EACH		
1560	SPV.0060 Special 10. Gate Valve, 6-Inch	6.000 EACH		
1570	SPV.0060 Special 11. Hydrant Lead W/6-Inch Lead & Valve	17.000 EACH		



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001 Contract Items

Alt Set ID: Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1580	SPV.0060 Special 12. Corporation Stop, 1-Inch	78.000 EACH	_____.	_____.
1590	SPV.0060 Special 13. Curb Stop & Box, 1-Inch	78.000 EACH	_____.	_____.
1600	SPV.0060 Special 14. Connection To Existing Sanitary Sewer	17.000 EACH	_____.	_____.
1610	SPV.0060 Special 15. Connection To Existing Water Main	18.000 EACH	_____.	_____.
1620	SPV.0060 Special 16. Remove Valve Box	34.000 EACH	_____.	_____.
1630	SPV.0060 Special 17. Remove Hydrant	13.000 EACH	_____.	_____.
1640	SPV.0060 Special 18. Removing Sanitary Sewer Manholes	18.000 EACH	_____.	_____.
1650	SPV.0060 Special 19. Decorative Street Light Unit - Furnish Only	1.000 EACH	_____.	_____.
1660	SPV.0090 Special 01. Storm Sewer Pipe PVC 4-Inch	97.000 LF	_____.	_____.
1670	SPV.0090 Special 02. Sanitary Sewer, 15-Inch	152.000 LF	_____.	_____.
1680	SPV.0090 Special 03. Sanitary Sewer, 12-Inch	1,660.000 LF	_____.	_____.
1690	SPV.0090 Special 04. Sanitary Sewer, 10-Inch	140.000 LF	_____.	_____.
1700	SPV.0090 Special 05. Sanitary Sewer, 8-Inch	3,017.000 LF	_____.	_____.
1710	SPV.0090 Special 06. Sanitary Sewer Lateral, 6-Inch	4,141.000 LF	_____.	_____.
1720	SPV.0090 Special 07. Sanitary Sewer Televising	4,969.000 LF	_____.	_____.



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1730	SPV.0090 Special 08. Water Main, 10-Inch	75.000 LF	_____.	_____.
1740	SPV.0090 Special 09. Water Main, 8-Inch	5,959.000 LF	_____.	_____.
1750	SPV.0090 Special 10. Water Main, 6-Inch	341.000 LF	_____.	_____.
1760	SPV.0090 Special 11. Fluorocarbon Gaskets And Polyethelene Encasement Of Water Main, 10-INCH	73.000 LF	_____.	_____.
1770	SPV.0090 Special 12. Fluorocarbon Gaskets And Polyethelene Encasement Of Water Main, 8-Inch	553.000 LF	_____.	_____.
1780	SPV.0090 Special 13. Fluorocarbon Gaskets And Polyethelene Encasement Of Water Main, 6-Inch	55.000 LF	_____.	_____.
1790	SPV.0090 Special 14. Copper Service, 1-Inch	2,342.000 LF	_____.	_____.
1800	SPV.0090 Special 15. Concrete Curb And Gutter Cure And Seal Treatment	11,805.000 LF	_____.	_____.
1810	SPV.0105 Special 01. Flashing Beacon, South Street / Main Street	LS	LUMP SUM	_____.
1820	SPV.0105 Special 02. Construction Staking Concrete Pavement Joint Layout	LS	LUMP SUM	_____.
1830	SPV.0105 Special 03. Project Concrete Crack Mitigation And Repair Special	LS	LUMP SUM	_____.
1840	SPV.0105 Special 04. Concrete Ramp	LS	LUMP SUM	_____.
1850	SPV.0105 Special 05. Flashing Beacon, Main Street / South Street	LS	LUMP SUM	_____.
1860	SPV.0105 Special 06. Flashing Beacon, Main Street / Elm Drive	LS	LUMP SUM	_____.



Proposal Schedule of Items

Proposal ID: 20161213040

Project(s): 7040-01-73

SECTION: 0001

Contract Items

Alt Set ID:

Alt Mbr ID:

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1870	SPV.0105 Special 07. Flashing Beacon, Elm Drive / Main Street	LS	LUMP SUM	_____.
1880	SPV.0105 Special 08. Flashing Beacon, CTH K / Elm Drive	LS	LUMP SUM	_____.
1900	SPV.0165 Special 02. Temporary Pedestrian Hard Surface	15,000.000 SF	_____.	_____.
1910	SPV.0180 Special 01. Concrete Pavement 7 1/2-Inch Special	29,342.000 SY	_____.	_____.
1920	SPV.0200 Special 01. Sanitary Sewer Manhole	244.100 VF	_____.	_____.
1930	SPV.0200 Special 02. Sanitary Sewer Manhole Outside Drop	5.100 VF	_____.	_____.
1940	416.0260 Concrete Driveway HES 6-Inch	300.000 SY	_____.	_____.
1950	SPV.0090 Special 16. Concrete Curb and Gutter HES 30-Inch Type A	500.000 LF	_____.	_____.
1960	SPV.0090 Special 17. Concrete Curb and Gutter HES 30-Inch Type D	130.000 LF	_____.	_____.
1970	SPV.0165 Special 03. Wall Modular Block Mechanically Stabilized Earth LRFD/QMP	1,865.000 SF	_____.	_____.

Section: 0001

Total: _____.

Total Bid: _____.