

March 8, 2019

ADDENDUM NO. 2

ENG19-04 CDBG STREET RECONSTRUCTION

Notice is hereby given that the following additional information and changes shall become part of the specifications of the above referenced contract. You are to acknowledge the addenda on the Proposal Sheet.

- 1) The attached Special Provision for Lighting Control Cabinet, Pole Mounted dated 03-08-19 is added to the proposal.
- 2) The attached Special Provision for Electrical and Lighting dated 03-06-19 is added to the proposal.
- 3) The Special Provision for Control Cabinet dated 02-26-19 is deleted from the proposal.
- 4) The Special Provision for Electrical and Lighting dated 12-17-18 is deleted from the proposal.
- 5) The Bid Sheet included in Addendum 1 is removed and replaced with the attached Revised Bid Sheet.

END OF ADDENDUM

CITY OF JACKSON, MICHIGAN

SPECIAL PROVISION FOR ELECTRICAL AND LIGHTING

COJ

1 of 8

03-06-19

a. Description. This work shall consist of furnishing all labor, equipment and materials in connection with providing fully functioning electrical street lighting and power systems. Materials and work shall be in accordance with the referenced standards and sections of the 2012 Michigan Department of Transportation Standard Specifications for Construction (MDOT Specifications) with the modifications and additions included in this Special Provision and shall meet all National Electric Code requirements.

The Contractor will provide storage and protect from damage during construction the poles, luminaries and lamps and all equipment procured as part of this project.

The Contractor shall provide all other items, articles, materials, operations, or methods mentioned, listed, or scheduled on the Drawings and this Special Provision including all labor, materials, equipment, and all incidentals required for completion and operation of all systems. Items not specifically mentioned in this Special Provision or noted on the Drawings, but which are obviously necessary to make a complete working installation, shall be included. This work shall be considered to be included in contract pay items.

The following abbreviations are used throughout this special provision:

NEC - National Electric Code
ANSI - American National Standards Institute, Inc.
NEMA - National Electrical Manufacturers Association
U.L. - Underwriters Laboratory
THWN - Moisture Resistant Thermoplastic Conductor
A – Amperes
V – Volts
W – Watts
LED – Light Emitting Diode

b. Materials. Electrical materials and equipment shall be new and shall be the standard products of manufacturers regularly engaged in the production of such materials. Material and equipment shall be the manufacturer's latest standard design and shall be free from all defects and imperfections that might affect the serviceability of the finished product. Manufacturer's trade names and equipment specified indicate the quality and description only. Comparable products of other manufacturer of the same quality and equal to that specified may be accepted. Should the cost of alternate or substitute equipment proposed by the Contractor require redesign, all costs incurred shall be borne by the Contractor, and the redesign approved by the Engineer prior to construction. The Contractor shall remain responsible for a complete and functional system.

Submit shop drawings for approval prior to ordering equipment and materials.

1. Poles including bolt pattern and dimensions
2. Luminaires
3. Grounding rods
4. Conduits and conductors
5. Hand holes
6. Wiring Devices

All threads of equipment and materials shall be coated with an approved deoxidization compound.

ANCHOR BOLTS shall be galvanized steel as specified in Section 908.14D of the MDOT Specifications.

CONCRETE shall be Grade D per MDOT Specification Section 701.

RIGID METAL CONDUIT (RMC): Conduit with a diameter of one inch or less shall be galvanized steel conduit with associated couplings and fittings per Section 918 of the MDOT Specifications.

SMOOTH-WALL PVC CONDUIT: Conduit with a diameter greater than one inch that is installed by open trench type construction shall be smooth-wall Schedule 80 PVC conduit and fittings per Section 918 of the MDOT Specifications. All joints shall be cemented with a "Brush-Type" cement. Conduit, fittings, elbows and cement shall be the products of the same manufacturer.

SMOOTH-WALL HDPE CONDUIT: Conduit with a diameter greater than one inch that is installed by directional drill type construction shall be Schedule 40 High Density Polyethylene, Type III, Grade P-33, Category 5, Class C conduit per Section 918 of the MDOT Specifications. Compression type fittings manufactured specifically for use with the selected conduit shall be available for making repairs, splices or jointing to standard PVC conduit. The fittings must not require thermal welding, grooving tool or threading to make joints. Conduit and fittings shall be UL listed.

ELECTRICAL PANELS shall be as shown on the plans, complete with the circuit breakers, spaces and ratings as indicated.

ELECTRICAL WIRE AND CABLE shall be per Section 918.03 of the MDOT Specifications with the following additional requirements: Power cable shall be single conductor stranded copper with NEC type THWN insulation rated 75 degrees C dry or wet, 600 volt. Wire size shall be as indicated on the drawings.

EQUIPMENT GROUNDING CONDUCTOR shall be bare, stranded copper wire or insulated THWN in accordance to articles 251.19, 251.22, 250.62 of the National Electric Code.

GROUND RODS shall be 3/4 inch x 10 foot copper clad steel as specified in Section 918.02 of the MDOT Specifications.

HAND HOLE boxes and covers shall be polymer concrete in accordance with Section 918.05D of the MDOT Specifications with the following exceptions: The hand hole size shall be 12" by 12" or 11" by 18" as indicated. The Hand holes shall have an open bottom and be stackable. Hand hole covers shall have a logo imprint of "ELECTRIC".

MANHOLES shall be constructed of precast concrete per Section 918.06 of the MDOT Specifications and MDOT Standard Plan SIG-021-A for Handhole – Precast, Polymer Concrete (the word "Handhole" in the referenced detail shall be interchangeable and have the same meaning as the word "Manhole").

MANHOLE COVERS shall be grey iron castings manufactured in accordance with section 908 of the MDOT specifications by East Jordan Iron Works (1581Z frame with 1580A cover with "COMMUNICATION" lettering) or approved equal.

LUMINAIRES FOR DECORATIVE TYPE LIGHTS shall be Lumecon Decorative Ring of Fire 54W Standard Post Top LROF-2-1-NW-A-CL-9-X-X-S-B-X-X-L with 740-5001 fitter. No substitutions allowed.

LUMINAIRES FOR SHOEBOX TYPE LIGHTS shall be RAB Lighting LOTBLASTER 110 W Type 3 black Area Light LOT-3T-110/D10/UPA RAL 9011 with 5000K color temperature. No substitutions allowed.

LUMINAIRES FOR STREET TYPE LIGHTS shall be American Electric Lighting Autobahn LED Roadway Series ATBM-D-MVOLT-R3-BK-NR with 4000K color temperature. No substitutions allowed.

POLES FOR DECORATIVE TPE LIGHTS shall be VISCO high gloss black cast iron lamp posts VI-B17-CI-13'1"-3" TENON with a 15A, 120V, GFCI receptacle with a weatherproof cover located in-line with access door at based of pole and three inches from top of pole. No substitutions allowed.

POLES FOR SHOEBOX TYPE LIGHTS shall be Lumecon poles U-SSSS-20-5-7-STD-D1-BK with pole height of 20 feet, 5-inch square shaft of 7 gage steel, black finish, drill mount option D1 and a 15A, 120V, GFCI receptacle with a weather proof cover located opposite of upswing arm and 14 inches from top of pole. No substitutions allowed.

POLES FOR STREET TYPE LIGHTS shall be Cooper Lighting- Eaton poles RTS-8-A-(20 or 30)-Y-S-S-1-8-E of the height specified, 8-inch diameter round shaft with a wall thickness of 0.12 inches, square steel base, black finish, standard upsweep bracket UB1-8-2 for a single 8-foot arm and a 15A, 120V, GFCI receptacle with a weather proof cover (located in-line with access door at base of pole) located 24 inches from top of pole. No substitutions allowed.

REINFORCING STEEL BARS shall be ASTM A615, Grade 60.

TREE RECEPTACLES shall be outdoor rated (weather resistant) WR-GFCI receptacles with cover assemblies that are covered in turn by an in-use outdoor receptacle covers. Receptacles shall be installed in single gang cast steel device boxes.

c. Construction. All electrical work shall comply with referenced sections of the MDOT Specifications, the latest applicable rules of the Construction Code Commission of the State of Michigan, the NEC, and local codes as their jurisdiction applies.

1. The Contractor shall obtain all permits, licenses, and inspections necessary to complete the work in accordance with all Federal, State and local codes. Upon completion of the work, the Contractor shall furnish to the City all certificates of inspection and approval which are customary for the classes of work involved. Work shall be coordinated with Consumers Energy and other Contractors.

All work shall be performed in a workmanlike manner under the supervision of a competent supervisor who shall be designated as an authorized representative of the Contractor. Disputes over the quality and suitability of the workmanship shall be decided by the Engineer and shall be based on the requirement that all work shall be performed in a manner acceptable to the project and standards for the trade. Surfaces damaged or soiled shall be restored to their original condition as determined by the Engineer.

Light pole, hand hole and electrical equipment locations, and general arrangement of the conduit and wiring system are shown on the drawings. Final locations may be modified by the Engineer in the field.

2. Underground direct bury conduit shall be constructed in accordance with MDOT Specification Section 819.03A with the following additions and modifications.

Each pipe shall be inspected for possible defects before being placed in the trench. Joint surfaces shall be free of earth or frozen material. Upon completion of placement of the pipe bedding, the contractor shall place caution tape 4 – 6 inches above all conduit runs, and complete the trench backfill.

Underground conduits shall have 24 inches minimum bury. It is intended that conduits use direct routes, long sweep elbows and offsets. Changes in grade or direction shall be sufficient length to allow a gradual change. The use of 90 degree elbows or offset will not be allowed in straight runs of conduit. A conduit run between access points shall contain not more than the equivalent of four (4) quarter bends.

3. Conductors. All wiring shall be installed in conduit. Conductors shall be continuous with splices made only within hand holes. When necessary to use a lubricant for pulling wires, it shall be UL listed and leave no obstruction or tackiness that would hinder future wire pulling. Conductors shall be carefully handled to avoid injury to the insulation. Provide 12 inches minimum of slack at each pole and at each hand hole.

The conductors shall terminate in correctly sized wire nuts wrapped with Scotch 130C and covered with Scotch 88 electrical tapes. The minimum radius of bends for the conductors shall comply with the NEC. The conductors shall have sufficient overlap at the ends to provide undamaged insulation for splicing or terminations. Conductors to be spliced shall have their ends overlap the proposed splice by at least 24 inches. Termination of the wire shall be done in such a manner as to maintain the insulation level and current carrying capacity of the wire. All terminations shall be coated with an approved deoxidization compound. Splices or taps in hand holes must meet the minimum requirements for splices in wet locations according to the NEC and approval of the local authority.

Where a number of wires are trained through a box, manhole or hand hole, they shall be grouped by circuit where applicable and bundled using appropriate cable ties and supported to minimize pressure or strain on cable insulation. All lighting wiring shall be identified at each termination with numerical tags, or a combination of numerical and alphabetical tags. All conductors shall have colored phase identification including neutral and grounding conductors. The A phase shall be black, B phase shall be red and receptacle wiring shall be blue in color.

After installation backfilling operations, the cable shall be field tested for continuity, shorts and grounds. Wire failing to pass the field test shall be replaced with new wire at no additional cost to the City.

4. Directional drilling is a method of trenchless construction using a surface launched steerable drilling tool controlled from a mobile drilling frame, and includes a field power unit, mud mixing system and mobile spoils extraction system. The drilling frame is set back from an access pit that has been dug at the location of the proposed utility and a high-pressure fluidjet toolhead that uses a drilling mixture is launched and guided to the correct invert elevation and line required. Using a guidance system attached behind or within the toolhead, and which measures Inclination the toolhead is guided through the soil to create a pilot tunnel. Upon reaching the pit dug at the section location, the toolhead is removed and a reamer with the product pipe attached is joined to a swivel connected to the pulling head and pulled back through the tunnel. A vacuum spoils extraction system may be necessary to remove spoils generated during the installation or as directed by the Engineer.

The drilling procedures and equipment shall provide for the protection of workers particularly against electrical shock. The drilling equipment will have an alarm system capable of detecting electrical current.

The Contractor is responsible for locating all existing utilities prior to any underground activities. Utilities shall be pot holed to determine the depth. The costs of any pot holing shall be included in the project.

The directional drilling machine shall consist of a hydraulically powered system to rotate, push and pull hollow drill pipe into the ground at a variable angle while delivering a pressurized fluid mixture to a guidable bore head. The hydraulic power system shall be self-contained with sufficient pressure and volume to directional boring operations. Hydraulic system shall be free of leaks. Rig shall have a system to monitor and record maximum pull-back pressure during pull-back operations.

The drilling equipment must be capable of placing the pipe within the planned line and grade.

Drilling Fluid. Drilling fluid consists of bentonite clay, potable water and appropriate additives. No hazardous additives may be used. Water and additives shall be mixed thoroughly and be absent of any clumps or clods. Drilling fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of the bore hole.

The drilling equipment must have a minimum pullback rating of 25,000 lbs., torque rating of 1,500 lbs., and mud flow of 18 gallons per minute.

Environmental protection. The contractor shall place silt fence between all drilling operations and any drainage, wetland, waterway or other area designated for such protection by contract documents, state, federal and local regulations. Additional environmental protection necessary to contain any hydraulic or drilling fluid spills shall be put in place, including berms, liners, turbidity curtains and other measures. The contractor shall adhere to all applicable environmental regulations.

Safety. The Contractor shall adhere to all applicable state, federal and local safety regulations and all operations shall be conducted in a safe manner.

The guidance system must have the capability of measuring the inclination. The guidance system must have an independent means to ensure the accuracy of the installation. The guidance system requirements may need to be capable of generating a plot of the borehole survey for the purpose of as-built drawings, as determined by the field engineer.

If rocky soil is encountered, a rock drilling bit will be used with a PSJ rating of up to 12000. If rock is encountered that cannot be drilled at this rating contact the Engineer.

After successfully reaming bore hole, the contractor will install a swivel to the reamer and commence pullback operations. Pre-reaming of the tunnel may be necessary and is at the option of the Contractor. Once pull-back operations have commenced, operations must continue without interruption until pipe is completely pulled into bore hole. During pull-back operations contractor will not apply more than the manufacturer's maximum safe pipe pull pressure at any time. The amount of force applied to pipe during pull-back shall be controlled and limited by a device such as hydraulic regulators or load sensors between pulling equipment and pipe.

Reaming diameter will not exceed 1.5 times the diameter of the product pipe being installed.

5. Hand holes shall be provided at each light pole and other connection points as indicated on the plans and in accordance with MDOT Specification Section 819.03E. The main electrical distribution wiring including splicing is in the hand holes. Only the wiring for the individual

street light and receptacle go to the pole. A ground rod shall be provided in every hand hole. The frame and cover shall be installed flush with the top of the hand hole and both shall be flush with the pavement or sidewalk.

6. Light Pole Concrete Base shall be constructed in accordance with the details on the plans and MDOT Specification Section 819.03F. Foundations shall be properly protected and guarded to prevent injury to persons until lights are installed.
7. Lights shall be installed so that the hand hole in the light base is on the side away from oncoming traffic. The wiring joints and splices with the fuses will be permitted only at access points such as the hand hole at the base. Lights shall be grounded according to NEC for grounding of equipment.
8. Equipment Grounding: Bond non-current carrying parts of all lights installed under this contract by means of bare copper cable to the grounding system as shown on the drawings. All circuits shall have a separate, insulated ground conductor sized per NEC and as shown on the drawings.
9. Cleanup: Contractor shall be responsible for continuous cleanup as the work progresses and shall keep the site free from construction and material debris resulting from the work.
10. Tree receptacle installations shall include the placement of one-inch rigid conduit from the nearest hand hole from which receptacle will be fed to the base of the tree the receptacle will service, installation of a 90-degree bend and a riser of one-inch rigid conduit that extends to twelve inches above finished grade to a single gang steel device box. The receptacle shall be fed by #12 conductors colored black, white and green.
11. Existing receptacles scheduled for removal shall be demolished by removing existing receptacle and conduit from the nearest hand hole from which it is fed after the branch circuit wiring has been disconnected in that hand hole.

d. Measurement and Payment. The completed work as measured for Electrical and Lighting will be paid for at the contract unit price for the following contract items (pay items):

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Concrete Base for Light Pole, ___ inch	Each
Conductor, THWN, in Conduit, 600V, 1C, # ____ AWG	Foot
Conduit, ____ inch, RMC (Empty)	Foot
Conduit, ____ inch, Sch 80/PVC (Empty)	Foot
Conduit, ____ inch, Sch 40/HDPE (Empty)	Foot
Equipment Grounding Conductor, in Conduit, 1C, # ____ AWG	Foot
Hand Hole, Polymer Conc, ____ inch x ____ inch	Each
Light, (<u>Type – Decorative, Shoebox or Street</u>), Furnish	Each
Light, (<u>Type – Decorative, Shoebox or Street</u>), Install	Each
Light, (<u>Type – Decorative, Shoebox or Street</u>), Salvage	Each
Receptacle, Demolish	Each
Receptacle, Tree	Each

Concrete Base for Light Pole includes payment for furnishing the labor, materials and equipment including excavation, backfilling, concrete, reinforcing steel, anchor bolts, conduit to the associated hand hole and all miscellaneous hardware required to complete the construction of the foundation as detailed on the plans and of the depth specified.

Conductor, THWN, in Conduit, 600V, 1C, # __ AWG will be measured in place for the total length of the specified single conductor. Measurements shall be taken at grade between centers of hand holes and electrical service locations. No additional allowance will be made for looping, sag, splicing, slack length, vertical length at hand holes and equipment, or length inside equipment. Payment includes furnishing all conductor, labor, equipment and materials; and for making all splices and connections. Payment includes removal of any existing conductors and cleaning of existing conduit prior to installation of new conductors. Payment for conductors between hand hole and light base will be included with those pay items.

Conduit, ____ inch, RMC (Empty) includes payment for furnishing the labor, materials and equipment, including excavation, granular material Class II backfill, backfilling, disposing of excess materials, and installing the conduit complete. Measurements shall be taken at grade between centers of hand holes and service locations. No additional allowance will be made for vertical length at hand holes and equipment. Payment includes furnishing all conduit and fittings.

Conduit, ____ inch, Sch 80/PVC (Empty) includes payment for furnishing the labor, materials and equipment, including excavation, Granular Material Class II backfill, backfilling, disposing of excess materials, and installing the conduit complete. Measurements shall be taken at grade between centers of hand holes and service locations. No additional allowance will be made for vertical length at hand holes and equipment. Payment includes furnishing all conduit and fittings. Payment for conduit between hand hole and light base will be included with those pay items.

Conduit, ____ inch, Sch 40/HDPE (Empty) includes all labor, equipment, and materials necessary to provide and install the specified conduit by the directional drill method as specified herein and detailed on the plans. Measurements shall be taken at grade and shall be paid for per foot as measured HORIZONTALLY between the centers of hand holes with no allowance for curvature of the pipe. This item includes all utility location, excavation, granular material Class II backfill, backfilling, drilling/boring, connection to other conduits at the ends of the bore, cleanup and all other miscellaneous items of work necessary to complete the bore and install the conduit.

Equipment Grounding Conductor, in Conduit, 1C, #__ AWG will be measured in place for the total length of the specified grounding conductor. Measurements shall be taken at grade between centers of hand holes and electrical service locations. No additional allowance will be made for looping, sag, splicing, slack length, vertical length at hand holes and equipment, or length inside equipment. Payment includes furnishing all conductor, labor, equipment and materials; and for making all splices and connections. Payment includes removal of existing conductors and cleaning of existing conduit prior to installation of new conductors. Payment for conductors between hand hole and light base will be included with those pay items.

Hand Hole, Polymer Conc, __ inch x __ inch (Open Bottom) includes payment for furnishing the labor, materials and equipment, including covers, fittings and ground rods, excavation, backfilling, disposing of surplus materials required for the construction and installation of the hand hole.

Light, (Type – Decorative, Shoebox or Street), Furnish includes payment for all labor, materials and equipment required to furnish a light assembly (pole, luminaire and, where applicable, upsweep bracket) of the type and dimensions specified.

Light, (Type – Decorative, Shoebox or Street), Install includes payment for all labor, materials and equipment required to install a furnished light assembly (pole, luminaire and, where applicable, upsweep bracket) of the type and dimension specified. Installation of the street light shall include furnishing and installing wiring to the associated hand hole, fuses and miscellaneous hardware as indicated on the plans.

Light, (Type – Decorative, Shoebox or Street), Salvage includes payment for all labor and equipment to remove an existing light assembly (pole, luminaire and, where applicable, upsweep bracket) of the type specified and delivering it to the Department of Public Works yard at 521 Water Street for safe storage until reinstallation on a new base.

Receptacle, Demolish includes payment for all labor, materials and equipment necessary to remove an existing tree receptacle.

Receptacle, Tree includes all labor, materials, equipment, wire and splices to the nearest hand hole or light pole, and all miscellaneous hardware required to install the receptacle at the base of a tree.

CITY OF JACKSON, MICHIGAN
SPECIAL PROVISION
FOR
LIGHTING CONTROL CABINET, POLE MOUNTED

COJ

1 of 2

03-08-19

a. Description. This work shall consist of all materials, equipment and labor to install a new lighting control cabinet as shown on the plans and as specified herein.

b. Materials.

1. Service Rated Enclosure / Combination Lighting Contactor. Provide a Square D Night-Master Combination Lighting Contactor 8903SQC64V03G101 manufactured by Schneider Electric.

2. Panelboard. Provide a non-controlled panelboard for continuous loads and a contactor controlled panelboard for switched loads. Panelboards will include a main circuit breaker and be rated for 120/240V single phase. The contractor controlled panelboard shall be Square D Load Center QO612L100S (QO MLO 240V 100A 1PH 6SP N1) manufactured by Schneider Electric.

Circuit breakers shall be bolt-on type one-, two- or three-pole with thermal-magnetic trip. Provide breaker handle positions that indicate "On" and "Off" conditions. Ensure voltage between any two conductors does not exceed the voltage rating of the circuit breaker.

3. Photoelectric Control. Provide a photoelectric control to properly operate the street light control switch. Include a time delay to prevent operation by short time lighting such as lighting flashes and provide fail-safe operation so that upon failure by any part of the control to function lights will turn on and stay on. Select and adjust the entire system so that there is no cycling due to the photoelectric control being turned off by the street lighting.

4. Transient Voltage Surge Suppressors (TVSS). Provide TVSS unit rated for 160 kiloampere (kA) at 120/140V single phase, connected to the mains for the control panel via a 2-pole breaker.

5. Terminal Block. Provide terminal blocks to accommodate conductor sizes up to #2/0 American Wire Gauge (AWG). Install the terminal blocks under the lighting control panels.

6. Electrical Grounding System. Ground rods and grounding cable and appurtenances shall meet the requirements of subsection 918.02 of the Standard Specifications for Construction.

7. Meter socket. Provide a meter socket that meets the requirements of Consumers Energy.

c. Construction. Install the lighting control cabinet as shown on the plans and wire in accordance with the current NEC and any applicable Consumers Energy specifications. Coordinate and arrange final connection of the electrical service to the lighting control cabinet with Consumers Energy. All electrical work must be done by a license electrician and in accordance with the NEC.

d. Measurement and Payment. The complete work, as described, will be measured and paid for at the contract unit price for the following pay item:

<u>Contract Item (Pay Item)</u>	<u>Pay Unit</u>
Lighting Control Cabinet, Pole Mounted	Each

Lighting Control Cabinet, Pole Mounted includes furnishing all labor, materials and equipment as specified herein and/or as shown on the plans to install a new lighting control cabinet to make complete operating unit to control the operation of the lighting units.

The work includes all incidental items required for a finished and complete installation even through incidental items may not be indicated on the plans or specified herein. The work includes, but is not limited to, furnishing and installing the following items:

- Service Rated Enclosure / Combination Lighting Contactor
- Panelboard and circuit breakers
- Lighting contactor
- Photoelectric cell
- TVSS unit
- Terminal blocks
- Electrical grounding system
- Meter socket
- Weather head service cap
- All conduits and conductors between the top of the pole and the bottom of the cabinet.

BID SHEET

DATE:

PROPOSAL FOR: ENG19-04 CDBG STREET RECONSTRUCTION

TO: The Mayor and the City Council
 City of Jackson, Michigan

Ladies and Gentlemen:

The Undersigned has examined the plans, specifications, and the location of the above described work, and is fully informed as to the conditions relating to its performance, and understands the quantities shown in the estimate and on the plans are accurate to the best belief and knowledge of the Engineer, but are not guaranteed.

The undersigned hereby proposes to furnish all equipment, materials, supplies, labor, and services necessary to commence and complete the project as described in the Contract Documents; and in strict conformity with the requirements of the Specifications and such other special provisions and supplemental specifications as may be a part of this proposal for the above described project at the following unit prices all labor, equipment and materials necessary for completion of the work, but not specifically listed as a pay item, will be deemed to be included in one or more of the pay items listed in the bid sheet.

Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged (list addenda by Addendum Number and Date):

Addendum No.	Date
_____	_____
_____	_____
_____	_____

SCHEDULE OF BID PRICES
NOTE: UNIT PRICES MUST BE LISTED AND SHALL GOVERN.

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
1	1500001	Mobilization, Max \$120,000.00	LSUM	1.00		
2	2020002	Tree, Rem, 19 inch to 36 inch	Ea	2.00		
3	2020004	Tree, Rem, 6 inch to 18 inch	Ea	2.00		

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
4	2020006	Stump, Rem, 19 inch to 36 inch	Ea	2.00		
5	2020008	Stump, Rem, 6 inch to 18 inch	Ea	3.00		
6	2030011	Dr Structure, Rem	Ea	5.00		
7	2030015	Sewer, Rem, Less than 24 inch	Ft	40.00		
8	2040020	Curb and Gutter, Rem	Ft	2,441.00		
9	2040045	Masonry and Conc Structure, Rem	Cyd	6.00		
10	2040055	Sidewalk, Rem	Syd	928.00		
11	2040080	Exploratory Investigation, Vertical	Ft	12.00		
12	2047001	Pavt Sawcut	Ft	1,428.00		
13	2047011	Driveway, Rem	Syd	567.00		
14	2047011	HMA Surface, Rem, Modified	Syd	486.00		
15	2047011	Pavt, Rem, Modified	Syd	2,138.00		
16	2050018	Excavation, Rock	Cyd	8.00		
17	2050031	Non Haz Contaminated Material Handling and Disposal, LM	Cyd	20.00		
18	2050041	Subgrade Undercutting, Type II	Cyd	90.00		
19	2057001	Earth Sawcut	Ft	200.00		
20	2057002	Roadway Grading, Special	Sta	9.00		
21	2057021	Flowable Fill, Non-Structural	Cyd	5.00		

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
22	2057051	Tree Preservation	LSUM	1.00		
23	2080016	Erosion Control, Gravel Access Approach	Ea	4.00		
24	2080036	Erosion Control, Silt Fence	Ft	200.00		
25	2087050	Erosion Control, Inlet Protection, Grate Filter, Rectangular	Ea	25.00		
26	2087050	Erosion Control, Inlet Protection, Grate Filter, Round	Ea	3.00		
27	2087050	Erosion Control, Inlet Protection, Sediment Trap, Rectangular	Ea	3.00		
28	2090001	Project Cleanup	LSUM	1.00		
29	3020020	Aggregate Base, 8 inch	Syd	2,413.00		
30	3060020	Maintenance Gravel	Ton	25.00		
31	4021260	Trench Undercut and Backfill	Cyd	43.00		
32	4027001	Sanitary Sewer Backfill, Class II	Ft	488.00		
33	4027001	Sanitary Sewer, SDR 26 PVC, 12 inch	Ft	488.00		
34	4027001	Sanitary Sewer, Service Connection beyond 10 feet	Ft	9.00		
35	4027001	Sewer Backfill, Class II	Ft	36.00		
36	4027001	Sewer, CI E, 12 inch	Ft	36.00		
37	4027001	Sewer, DI, 8 inch	Ft	18.00		
38	4027050	Sanitary Manhole, 48 inch dia	Ea	5.00		
39	4027050	Sanitary Sewer, Service Connection with 12 inch x 6 inch Wye	Ea	9.00		

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
40	4027050	Sewer Lateral Repair	Ea	11.00		
41	4030005	Dr Structure Cover, Adj, Case 1	Ea	28.00		
42	4030312	Dr Structure, Tap, 12 inch	Ea	1.00		
43	4037050	Catch Basin, 24 inch dia	Ea	1.00		
44	4037050	Catch Basin, 48 inch dia	Ea	2.00		
45	4037050	Dr Structure, Temp Lowering, Modified	Ea	26.00		
46	4037050	Mh Cover, Std	Ea	25.00		
47	5010002	Cold Milling HMA Surface	Syd	3,054.00		
48	5010025	Hand Patching	Ton	157.00		
49	5010033	HMA, 13A	Ton	944.00		
50	6030005	Cement	Ton	5.00		
51	8010005	Driveway, Nonreinf Conc, 6 inch	Syd	418.00		
52	8010007	Driveway, Nonreinf Conc, 8 inch	Syd	81.00		
53	8020004	Curb, Conc, Det E4	Ft	90.00		
54	8020038	Curb and Gutter, Conc, Det F4	Ft	1,322.00		
55	8020050	Driveway Opening, Conc, Det M	Ft	117.00		
56	8027001	Curb and Gutter, Conc, Det F1, Modified	Ft	924.00		
57	8030010	Detectable Warning Surface	Ft	33.00		

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
58	8030030	Curb Ramp Opening, Conc	Ft	45.00		
59	8030036	Sidewalk Ramp, Conc, 6 inch	Sft	461.00		
60	8030044	Sidewalk, Conc, 4 inch	Sft	6,202.00		
61	8030046	Sidewalk, Conc, 6 inch	Sft	2,385.00		
62	8100371	Post, Steel, 3 lb	Ft	435.00		
63	8100402	Sign, Type III, Erect, Salv	Ea	2.00		
64	8100403	Sign, Type III, Rem	Ea	42.00		
65	8100404	Sign, Type IIIA	Sft	112.00		
66	8100405	Sign, Type IIIB	Sft	31.00		
67	8100425	Sign, Type VB	Sft	5.00		
68	8110045	Pavt Mrkg, Ovly Cold Plastic, 24 inch, Stop Bar	Ft	33.00		
69	8110047	Pavt Mrkg, Ovly Cold Plastic, Xing	Ea	1.00		
70	8110069	Pavt Mrkg, Ovly Cold Plastic, Railroad Sym	Ea	2.00		
71	8110232	Pavt Mrkg, Waterborne, 4 inch, Yellow	Ft	2,696.00		
72	8110252	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow	Ft	2,696.00		
73	8120012	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	23.00		
74	8120013	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	23.00		
75	8120026	Pedestrian Type II Barricade, Temp	Ea	18.00		

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
76	8120100	Dust Palliative, Applied	Ton	3.00		
77	8120170	Minor Traf Devices	LSUM	1.00		
78	8120250	Plastic Drum, High Intensity, Furn	Ea	110.00		
79	8120251	Plastic Drum, High Intensity, Oper	Ea	110.00		
80	8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	457.00		
81	8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	457.00		
82	8120352	Sign, Type B, Temp, Prismatic, Special, Furn	Sft	21.00		
83	8120353	Sign, Type B, Temp, Prismatic, Special, Oper	Sft	21.00		
84	8120370	Traf Regulator Control	LSUM	1.00		
85	8150001	Site Preparation, Max \$800.00	LSUM	1.00		
86	8150002	Watering and Cultivating, First Season, Min \$800.00	LSUM	1.00		
87	8150003	Watering and Cultivating, Second Season, Min \$800.00	LSUM	1.00		
88	8157050	Acer rubrum 'Red Sunset', 2-1/2 inch	Ea	2.00		
89	8157050	Gleditsia Triacanthos Inermis 'Skyline', 2-1/2 inch	Ea	2.00		
90	8157050	Pyras Calleryana 'Cleveland Select', 2-1/2 inch	Ea	3.00		
91	8167011	Hydromulch	Syd	2,028.00		
92	8167011	Topsoil Surface, 4 inch	Syd	2,028.00		
93	8167030	Fertilizer, Chemical Nutrient, CI A, Modified	Lb	118.00		

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
94	8167030	Seeding, Mixture THM, Modified	Lb	230.00		
95	8197001	Conductor, THWN, in Conduit, 600 V, 1C, #4, AWG	Ft	8,050.00		
96	8197001	Conductor, THWN, in Conduit, 600 V, 1C, #6, AWG	Ft	5,270.00		
97	8197001	Conduit, 3 inch, Sch 80/PVC (Empty)	Ft	495.00		
98	8197001	Conduit, 3 inch, Sch 40/HDPE (Empty)	Ft	1,975.00		
99	8197001	Equipment Grounding Conductor, in Conduit, 1C, #4 AWG	Ft	1,545.00		
100	8197001	Equipment Grounding Conductor, in Conduit, 1C, #6 AWG	Ft	915.00		
101	8197050	Concrete Base for Light Pole, 66 inch	Ea	34.00		
102	8197050	Hand Hole, Polymer Conc, 11 inch x 18 inch (Open Bottom)	Ea	36.00		
103	8197050	Light, Decorative, Install	Ea	34.00		
104	8197050	Lighting Control Cabinet, Pole Mounted	Ea	2.00		
105	8197060	Consumers Energy Service Fees	Dlr	4,000.00		
106	8230391	Gate Box, Adj, Temp, Case 1	Ea	12.00		
107	8230431	Gate Box, Adj, Case 1	Ea	11.00		
108	8237001	Hydrant Extension	Ft	5.00		
109	8237001	Water Main Backfill, Class II	Ft	1,120.00		
110	8237001	Water Main, 6 inch	Ft	63.00		
111	8237001	Water Main, 8 inch	Ft	977.00		

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
112	8237001	Water Main, Dir Bore, 8 inch	Ft	883.00		
113	8237001	Water Main, Rem	Ft	481.00		
114	8237001	Water Service Pipe, Cu, 1 1/2 inch	Ft	15.00		
115	8237001	Water Service Pipe, Cu, 1 inch	Ft	900.00		
116	8237050	Gate Valve and Box, 6 inch, Modified	Ea	1.00		
117	8237050	Gate Valve and Box, 8 inch, Modified	Ea	5.00		
118	8237050	Grounding Conductor, Temporary Disconnect	Ea	24.00		
119	8237050	Hydrant Assembly	Ea	5.00		
120	8237050	Hydrant, Rem, Modified	Ea	5.00		
121	8237050	Wall Penetration Sleeve, Sch 40 PVC, 1 1/2 inch	Ea	24.00		
122	8237050	Wall Penetration Sleeve, Sch 40 PVC, 2 1/2 inch	Ea	1.00		
123	8237050	Wall Penetration Sleeve, Sch 40 PVC, 2 inch	Ea	1.00		
124	8237050	Water Main, 4 inch, Cut & Plug, Modified	Ea	1.00		
125	8237050	Water Main, 6 inch, Cut and Plug, Modified	Ea	6.00		
126	8237050	Water Main, 8 inch, Cut and Plug, Modified	Ea	1.00		
127	8237050	Water Main, Connect New 6 inch to Existing 4 inch	Ea	1.00		
128	8237050	Water Main, Connect New 6 inch to Existing 6 inch	Ea	2.00		
129	8237050	Water Main, Connect New 8 inch to Existing 6 inch	Ea	2.00		

ITEM NUMBER	PAY ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL COST
130	8237050	Water Main, Connect New 8 inch to Existing 8 inch	Ea	6.00		
131	8237050	Water Meter Connection	Ea	27.00		
132	8237050	Water Serv, 1 3/4 inch	Ea	1.00		
133	8237050	Water Serv, 1 inch	Ea	21.00		
134	8237050	Water Serv, 2 inch	Ea	1.00		
135	8237050	Water Serv, Long, 1 1/2 inch	Ea	1.00		
136	8237050	Water Serv, Long, 1 inch	Ea	6.00		
137	8237050	Water Serv, Retire	Ea	2.00		
138	8237050	Water Service, Abandon, Two-inch Diameter or Less	Ea	26.00		
139	8507030	Water Main Fittings, DI	Lb	800.00		
TOTAL BID						
TOTAL BID WRITTEN OUT:						

Bidders Name:	
Address:	
City, State, Zip:	
Telephone:	
Fax:	

Email Address:	
Federal ID Number:	
Bid Signed By:	Print or Type
Title:	

1. I am the person described in and who executed the foregoing bid and that the several matters stated are in all respects true.
2. That I am an employee of the firm or company described in and I am authorized to submit said bid.

By _____ Its _____