ADDENDUM No. 1

RFP No. 22-19

South State Street Reconstruction

Due: March 24, 2022 by 10:00 a.m. (local time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any), and is appended thereto. This Addendum includes 21 attached pages, and plan sheets as noted below.

The Proposer is to acknowledge receipt of this Addendum No. 1, including all attachments in its Proposal by so indicating in the proposal that the addendum has been received. Proposals submitted without acknowledgement of receipt of this addendum may be considered non-conforming.

The following forms provided within the RFP Document should be included in submitted proposal:

- Attachment D - Prevailing Wage Declaration of Compliance
- Attachment E - Living Wage Declaration of Compliance
- Attachment G - Vendor Conflict of Interest Disclosure Form
- Attachment H - Non-Discrimination Declaration of Compliance

Proposals that fail to provide these completed forms listed above upon proposal opening may be rejected as non-responsive and may not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the RFP documents which are outlined below are referenced to a page or Section in which they appear conspicuously. Offerors are to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

<table>
<thead>
<tr>
<th>Section/Page(s)</th>
<th>Change</th>
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<tbody>
<tr>
<td>Page 12 Section III.C.4</td>
<td>Remove the following as provided in RFP No. 22-19 Document: Documentation of how the bidder assesses the skills and qualifications of any employees who do not have master or journeyperson certification or status, or are not participants in a Registered Apprenticeship Program.</td>
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</table>

Comment: The intent with this change is to simply remove the 4th criteria for Section III.C – Workforce Development that was erroneously included in the originally published RFP Document.

| Pages 1-6 + Plans | The project is adding an APS system, as outlined on the attached drawings (C5.2, C5.3, C5.4, C8.1, C8.4, C8.5, C8.7, C8.8, and C8.9), detailed specifications, and Bid Form. The change has resulted in minor modifications to the C-5 series of drawings that are include with this addendum. The C-5 series also includes changes to the bikeway along North University. |

Addendum-1-1
This project is adding irrigation facilities, as outlined on the attached drawings (C11.1, C11.2, and C12.1), detailed specifications, and Bid Form.

The water main plans have been amended as outlined on the attached drawings, C6.2, C6.3, and C6.9.

The contractor is to furnish the Regulatory Street Signage to the City of Ann Arbor, as outlined on the attached drawings (C10.1, C10.2, C10.3, and C10.4), detailed specifications, and Bid Form. The City of Ann Arbor will install the signs with their own forces.

The material for pavement symbols has been changed from “OVLY, COLD PLASTIC” to “POLYUREA” for the following pay items:

- Item 259-03: Pavt Mrkg, Polyurea, Bike Arrow and Yield Sym.
- Item 259-04: Pavt Mrkg, Polyurea, Special Sym.
- Item 259-05: Pavt Mrkg, Polyurea, Bike Sym.
- Item 259-06: Pavt Mrkg, Polyurea, Sharrow Sym.

This change is reflected on the attached plans (C10.1, C10.2, C10.3, and C10.4), detailed specifications, and Bid Form.

The Bid Form has been amended to reflect the modifications of this Addendum No. 1

II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the RFP. Respondents are directed to take note in its review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1: Can you direct me to where to find the difference between Concrete Pavement-8” Type 1 & Concrete Pavement-8” Type 2?

Answer 1: The difference between the two road pavement types is the scoring of the concrete surface. Concrete Pavement-8” Type 2 includes additional jointing, per Detail 5 Decorative Joint, on Drawing C9.1.

Question 2: Do the two types of pavement referenced above have a different surface finish?

Answer 2: Both roadway pavement types are to have a broomed finish. For Concrete Pavement-8” Type 1 the direction of the broom finish is to be parallel to the center line of the roadway; for Concrete Pavement-8” Type 2 the broom finish is to be perpendicular to the center line of the roadway.

Question 3: Do you have an engineer’s estimate for the project?

Answer 3: The engineer’s estimate for this project, as amended by this Addendum No. 1 is $6,000,000.00.

Question 4: What is the anticipated start of construction date and when would be the earliest the project could be started?

Answer 4: As noted in the Progress Clause of the Detailed Specifications, “The Contract Award is expected on May 17th, 2022. In no case shall any work be commenced prior to receipt of formal notice to proceed by the City of Ann Arbor.” Work may
commence after the contract is fully executed, preconstruction meeting is conducted, and notice to proceed has been issued.

Question 5: Can you please define pay item ID 268-06 – Handhole Assembly, Remove for Replacement, Any Size? There are 47 each listed on the bid form, and no reference to the item in the plans or the specifications.

Answer 5: The pay item 268-06 – Handhole Assembly, Remove for Replacement, Any Size includes the removal of all handholes for the project, as noted on the plans or as directed by the Engineer.

Question 6: Please confirm who is to provide poles and fixtures for this project. Are they owner furnished, or contractor furnished?

Answer 6: The contractor is to furnish all light poles and fixtures for this project.

Question 7: The manufacturer of the poles for the XL1 and XL2 is not listed, but there is a detail for Spring City poles on page E2.1. Are those the poles being provided for those designation?

Answer 7: The lighting poles for XL1 and XL2 are to be the Spring City Poles as detailed on drawing E2.1, and are to be furnished by the Contractor.

Question 8: Please provide the scoring guidelines and procedures the Selection Committee has been instructed to use for scoring Section A-E of the new RFP system.

Answer 8: The five scoring sections listed in Section III of the RFP shall be equal weighted (20 points each) and shall be evaluated based on the materials submitted with the respondent’s proposal.

Question 9: What individuals will make up the Selection Committee as identified in the RFP?

Answer 9: The selection committee will be comprised of City Public Services staff.

Question 10: Is the scoring system / point allocation be “graded on a curve” based on the responsive bids received for the specific RFP, or will the scoring methodology remain consistent from RFP to RFP?

Answer 10: Scoring will be performed on a project-by-project basis relative to the other proposals received. The five sections and the corresponding equal point distributions are established by ordinance and will be the same for all projects.

Offerors are responsible for any conclusions that they may draw from the information contained in the Addendum.
a. **Description.** This work consists of either furnishing and installing an accessible pedestrian signal system and push button station(s), or removing a system and station(s) at locations as shown on the plans.

The following terminology is used in this special provision.

1. Accessible pedestrian signal system, or system hereafter, refers to central control unit (CCU) and multiple push button stations.

2. CCU, refers to the unit installed in an existing traffic signal controller cabinet, frame, and all required mounting hardware and the configurator. The CCU is the power supply and signaling interface, between the intersection traffic signal controller and the push button stations. Configurator refers to a handheld, password secure, infrared device capable of setting and resetting all push button stations on the intersection from a single push button station (global updating). Each CCU will control multiple push button stations. A complete system includes one CCU.

3. Push button station (PBS), refers to a Public Rights of Way Accessibility Guidelines (PROWAG) compliant push button station including signs when specified, installed at crosswalk termini, and all required mounting hardware. A system can include 2 to 12 PBS (maximum of 3 per phase).

b. **Materials.** Provide a Polara Navigator system including CCU and PBS, or approved equal, meeting the requirements of this subsection. Provide all hardware and other appurtenant materials in accordance with sections 918 and 921 of the Standard Specifications for Construction and this special provision.

1. The system must:

   A. Provide various audible features including but not limited to locator tones. All locator tones must emanate from push button stations and be synchronized;

   B. Have multiple language capability, selectable by user, and able to play an emergency preemption message;

   C. Be able to self-test and report any faults to the traffic controller;

   D. Provide the following audible feature, each with a minimum and maximum volume independently settable using the configurator:
(1) One locating tone;

(2) Five walk sound choices (field selectable);

(3) Three pedestrian - clearance sound choices (field selectable) one of which must be an audible countdown;

(4) Direction of travel (as standard feature with extended push); and

(5) Information message (custom feature with extended push).

E. Automatically adjust audible features to ambient noise levels over a 60 decibel (dB) range; and

F. Mute sounds on all crosswalks except the activated crosswalk (selectable feature).

2. The CCU must meet the following requirements:

A. Be compatible with solid-state pre-timed or actuated traffic signal control equipment and cabinet environments;

B. Be capable of controlling up to and including 12 PBSs and controlling up to and including 4 pedestrian phases;

C. Receive timing from the walk and don’t walk signals;

D. Have additional advanced configurations available by using general purpose inputs and outputs;

E. Ensure full optical isolation of all inputs and outputs and include transient voltage protection as follows:

   (1) General Purpose Inputs. 10 to 36 Volts (V) Alternating Current/Direct Current (AC/DC) peak with a 10 milli Ampere (mA) maximum.

   (2) General Purpose Outputs and Pedestrian Outputs. 36V AC/DC peak, 0.3 Ampere (A) solid state fused contact closure.

   (3) Fault Output. Normally open and closed relay contacts, 125V AC/DC, 1A maximum.

   (4) Pedestrian Hand/Walking Person (Walk/Don’t Walk) Inputs. 80-150V AC/DC, 5mA maximum.


   (6) Environment Operation and Storage Range. -30 degrees Fahrenheit (F) to 165 degrees F (-35 degrees Celsius (C) to 74 degrees C), 0 to 100 percent Humidity, Non-condensing.
(7) Line Power. 25 Watt (W) to 75W typical, 120W peak with 8 PBSs.

F. Include a 50-pin connector and cable that plugs into the CCU for termination to the traffic signal controller terminal facilities. Ensure the connector is a Positronic MD50F20ZOX or equivalent, provided with 20-24 gauge wire, which complies with the requirements of UL 1061.

3. The PBS must meet the following requirements:

A. Design each PBS in accordance with the following:

(1) Produce sounds emanating from the back of the unit via an 8 ohms 15W, weather-proof speaker protected by a vandal resistant screen;

(2) Require only two wires coming from the traffic control cabinet for each phase/crosswalk;

(3) Include push buttons which are audibly locatable and equipped with tactile arrows pointing in the same direction as the associated crosswalk;

(4) PROWAG compliant, cast aluminum, nickel plated, powder coated with raised tactile arrow on button;

(5) Include solid-state switch rated to 20 million activations (minimum); and

(6) Include a two inch button with a tactile raised directional arrow on the button that can be changed to one of four directions to coincide with the direction of travel of the associated crosswalk.

B. The PBS must include the following standard features:

(1) The arrow/button must vibrate during the walk period, following a button push;

(2) Confirm a button push via a “vibratactile” bounce and a red light emitting diode (LED), clearly visible in direct sunlight, which latches ON when the button is pushed;

(3) Indicate the direction of travel with extended button push;

(4) Transmit a standard locating tone, custom sound, or verbal countdown during pedestrian clearance;

(5) Ensure sounds automatically adjust to ambient over 60 dB range;

(6) Allow sounds to have minimum and maximum volume set independently;

(7) Synchronize all sounds;

(8) Extended button push can turn on, boost volumes, and/or mute all sounds except those on activated crosswalk; and

(9) Include message to clear the intersection when preemption is activated.
C. Ensure the PBS is capable of custom message and sound options for the following features:

(1) Custom locating tone;

(2) Custom clearance sound;

(3) Custom walk sounds/message;

(4) Informational message;

(5) Multiple languages (up to three, selected by user); and

(6) Street name in Braille on the sign.

D. Ensure the PBS is fabricated in accordance with the following:

(1) Available in three standard colors: Black, Green, and Yellow. The default color is yellow unless specified otherwise;

(2) Have an operational temperature range of -40 degrees F to 165 degrees F (-40 degrees C to 60 degrees C);

(3) Ensure the housing material is cast aluminum;

(4) Chemically filmed and powder coated;

(5) Face plate constructed of powder coated aluminum with ink marking; and

(6) Have pre-drilled mounting holes to hold a 9 inch by 12 inch, R10-3b, 3d, or 3e pedestrian sign.

E. PBS LED display operational requirements:

(1) Light when the button is pushed and remain lit until the next walk phase.

(2) Luminous intensity greater than 1200 maximum continuous discharge (mcd), sunlight visible, ultra bright red, with a 160 degree viewing angle.

F. PBS audio operational requirements:

(1) Audio amplifier power output of 10W Root Mean Square (RMS) into 8 ohms.

(2) Volume control automatic adjustment range of 28dB (maximum).

(3) Microphone ambient noise frequency range of approximately 170 Hertz (Hz) to 2.3 Kilo Hertz (kHz).

(4) Button tone provides a brief “tick” to confirm each button push.
(5) Audible locating tone operates during the pedestrian-clearance and don’t walk interval at an 880Hz plus harmonic, 0.1 second duration, 1 second interval.

(6) Audible “chirp” operates only during walk intervals at 2700Hz to 1700Hz, 0.2 second duration, 1 second interval.

(7) Audible “cuckoo” operates only during walk intervals at 1250Hz to 1000Hz, 0.6 second duration, 1.8 second interval.

4. Ensure the configurator meets the following requirements:

   A. Be a handheld, password protected, remote that configures the CCU or an individual PBS;

   B. Communicate via infrared technology with the CCU and the PBS with an interactive operation to select various configuration options at the intersection(s), by standing adjacent to either the CCU or a PBS;

   C. Feature a liquid crystal display (LCD) display, with two 16-character lines, with backlight and adjustable contrast;

   D. Be powered by four AA 1.5V cell batteries, include a low battery warning, and have an auto or manual shut-off switch; and

   E. Have an operating temperature range of 32 degrees F to 122 degrees F (0 degrees C to 50 degrees C).

5. Warranty. Provide a manufacturer’s warranty, transferable to the MDOT, that the supplied materials will be free from all defects in materials and workmanship for a 2-year period from the date of shipment. Furnish the warranty and other applicable documents from the manufacturer, and a copy of the invoice showing date of shipment, to the Engineer at the time of delivery.

  c. Construction. Complete this work in accordance with sections 819 and 820 of the Standard Specifications for Construction, typical signal construction details, and this special provision.

   1. Furnish and Install. Furnish and install a system at an intersection as shown on the plans and in accordance with the MMUTCD. Ensure that the arrow on the PBS button(s) point in the direction of pedestrian travel for the associated crosswalk.

   2. Remove. Remove an accessible pedestrian signal system or a push button station and store, as directed by the Engineer, or dispose of all removed materials.

      A. Where removal of an accessible pedestrian signal system is specified on the plans, remove the CCU, hardware, cable, connectors, and other appurtenant material required to complete the work.

      B. Where removal of a PBS is specified on the plans, remove the PBS, sign, associated assembly, hardware, cable, connectors, and other appurtenant material required to complete the work.
d. **Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>Pedestrian Signal System, Accessible</td>
<td>Each</td>
</tr>
<tr>
<td>Push Button Station</td>
<td>Each</td>
</tr>
<tr>
<td>Push Button Station and Sign</td>
<td>Each</td>
</tr>
<tr>
<td>Pedestrian Signal System, Accessible, Rem</td>
<td>Each</td>
</tr>
<tr>
<td>Push Button Station, Rem</td>
<td>Each</td>
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1. **Pedestrian Signal System, Accessible** includes installing the accessible pedestrian signal system at an intersection, including a CCU, configurator, hardware, fittings, conduit(s), wiring, grounding and ground rod(s), and all appurtenant material required to complete the work.

2. **Push Button Station** and **Push Button Station and Sign** includes installing the push button station, sign (when specified), associated assembly, brackets, hardwire, fittings, conduit(s), cable to controller, wiring, grounding, ground rod(s), and all other appurtenant material required to complete the work.

3. **Pedestrian Signal System, Accessible, Rem** includes removing an accessible pedestrian signal system at an intersection including a CCU, configurator, hardware, fittings, hardware, cable, connectors, conduit(s), grounding, and other material required to complete the work. **Pedestrian Signal System, Accessible, Rem** also includes storage or disposal of removed material.

4. **Push Button Station, Rem** includes removing a push button station, sign, associated assembly, brackets, hardware, fittings, cable, connectors, conduit(s), ground, and other material required to complete the work. **Push Button Station, Rem** also includes storage or disposal of removed material.
A. DESCRIPTION

Furnish, Install, and Test: Irrigation system using the backflow preventor, quick coupling valves, piping, fittings, etc., of sizes and types as shown and as specified. All work shall conform to the building codes of the City of Ann Arbor.

The irrigation system shall be constructed to grades and conform to areas and locations as shown. Layout shown is essentially diagrammatic and may require adjustment to meet site constraints. Layout of system shown shall be exceeded only with the permission of the Engineer.

Unless otherwise specified or indicated, the construction of the irrigation system shall include furnishing, installing and testing of all mains backflow preventors, laterals, risers and fittings, control valves, and other necessary specialties, the removal and restoration of existing improvements, excavating and backfill, and all other work in accordance with the Contract Documents as required for a complete system.

1. References.

American Society of Mechanical Engineers (ASME)


American Society for Testing and Materials (ASTM)

A. D1557 - Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
C. D1785 - Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
D. D2241 - Specification for Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR-Series).

Samples

A. Submit 12 samples of each shape and color of paver for approval showing extreme range of color and texture.

Michigan Department of Transportation (MDOT)


National Fire Protection Association (NFPA)

A. 70 - National Electrical Code. Test Reports

2. Submittals:

Shop Drawings and Equipment Product Information: Submit product information on all sprinklers, controllers, moisture sensors, hydrometers, enclosures, nozzles, swing joints, quick coupling valves, isolation valves, sleeving, control valves, wire conduit, PVC and polyethylene pipe, all pipe fittings, backflow preventer, copper pipe and fittings, wire, two-wire cable, decoders, surge arrestors, rain sensors, grounding rod, grounding plate, wire connectors, solvent and primer for PVC pipe, stainless steel clamps, and valve boxes to be used on the project.

Record Drawings and Instructions: Furnish record drawings showing actual location of all valves, drains, pipe, wiring and controls to scale with dimensions. In addition, submit two bound copies of an owner's manual, each containing operational sheets and parts lists covering all system components.

B. MATERIALS.

1. Pipe, Sleeving, and Fittings:

Pipe sizes and type shall conform to those shown on the drawings. No substitutions of smaller pipe sizes will be permitted, but substitutions of larger size may be approved. All pipe damaged or rejected because of defects shall be removed from the site at the time of said rejection.

Provide PVC pipe continuously and permanently marked with manufacturer's name or trademark, size schedule and type of pipe working pressure at 73 degrees F. and National Sanitation Foundation (NSF) approval.

Saddle and cross fittings are not permitted. Use male adapters for plastic to metal connections. Hand-tighten male adapters plus one turn with a strap wrench.

Refer to plans for PVC mainline and sleeving size and pipe type.
PVC pipe fittings shall be solvent weld, schedule 80 PVC.

All above grade pipe shall be hard copper. Fittings shall be cast brass or wrought copper.

2. Quick Coupling Valves:

Quick coupler valves shall be as noted in the irrigation legend.

Quick couplers shall have one piece body and stabilizer and 36” re-rod to stabilize quick coupler and prevent movement during quick coupler activation.

Furnish to the City, four (4) valve keys with hose swivels.

Prior to initiating work, obtain Owner approval of all valve locations to prevent conflicts with plant material and planting bed cultivation methods.

3. Valve Boxes:

Valve access boxes shall be manufactured by Carson, Pentek, NDS, or Rainbird and be of locking type including locking bolt.

Valve Access Boxes to be tapered enclosure of rigid plastic material comprised of fibrous components chemically inert and unaffected by moisture corrosion and temperature changes.

Valve box sizes shall be as indicated in the irrigation details for the specific valve.

Provide locking lid of same material black in color.

Provide and install bolt on all boxes to facilitate locking the valve box lid.

Boxes to be of minimum size required to permit access to the valve. Side walls to extend at least 2” below the bottom of valve body; use extension as necessary.

Valve access boxes shall have rot proof landscape filter fabric liner 3/4” washed crushed stone sump.

4. Accessories:

Drainage fill: 3/4” crushed stone to 6” below bottom of box.

Fill shall be clean soil free of stones larger than 2” diameter, foreign matter, organic material and debris.

Provide imported fill material as required to complete the work. Obtain rights and pay all costs for imported materials.
Suitable excavated materials removed to accommodate the irrigation system work may be used as fill material subject to the Owner’s review and acceptance.

5. **Backflow Prevention Device:**

Provide and install the backflow prevention device as noted on plans, including the device enclosure and all accessories and piping.

**PART 2 - CONSTRUCTION.**

1. **Quality Assurance**

A competent superintendent satisfactory to the Engineer, with authority to act in all matters pertaining to the Work, shall be present on the project site during all installation.

2. **Job Conditions**

Submission of a proposal shall be considered evidence that the site, Drawings and Specifications have been examined and accepted.

Report to the Engineer any deviations between Drawings, Specifications and the site. Failure to do so prior to the installation of equipment and which results in the replacement or relocation of equipment shall be at the Contractor's expense.

The exact location of existing utilities, structures and underground utilities are not indicated; their locations shall be field verified prior to starting work, and installation of work shall proceed so as to prevent interruption of service or damage to them. Protect existing structures and utility services, and replace at Contractor's cost if damaged. Where conflicts occur, notify Engineer of relocations required to complete the Work.

3. **Acceptance**

Installation will be accepted only when the Contract is completed to the satisfaction of the Engineer.

Prior to requesting inspections, adjust sprinkler heads, and automatic equipment to provide optimum performance. Submit accurate record drawings and operating instructions to the Engineer as a condition of final payment.

After completion, testing and Provisional Acceptance of the system, instruct the Engineer's personnel in the operation and maintenance of the system.

Inspections for Acceptance of Work
Inspections for acceptance of the Work will occur at the time of Contract Substantial and Final Completion. Note that Substantial Completion constitutes start of the warranty period for the portion of the Work accepted, unless otherwise specified.

1. Examination

Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.

The contractor shall energize all existing irrigation systems on the site prior to initiating any work. Contractor shall inventory all defects in the existing systems. Any defects found which will not be replaced with new irrigation shall be noted and brought to the attention of the Owner’s representative.

2. Preparation:

Coordinate all work with building trades, electricians, landscapers, paving contractors and all other contractors on the site.

Have all utilities accurately marked by the utility provider and Owner prior to initiating any work.

Layout and stake the location of each pipe and two-wire cable runs, sleeve locations, and all sprinkler heads and sprinkler valves. Obtain Landscape Architect's acceptance of layout prior to excavating, unless specifically waived by the Architect.

3. Excavating and Backfilling:

Excavating shall be considered unclassified and shall include all materials encountered, except materials that cannot be excavated by normal mechanical means. Excavate trenches of sufficient depth and width to permit proper handling and installation of pipe and fittings. Excavate to depths required to provide 2" depth of earth fill or sand bedding for piping when rock or other unsuitable bearing material is encountered.

Install sleeves for irrigation piping installed beneath paving. Minimum depth of bury for sleeves beneath roadways and drives to be 24" and 24" beneath walks.

Extend ends of all sleeves 12" beyond back of curbs or walk edges.

Fill to match adjacent grade elevation with approved earth fill material. Place and compact fill in layers not greater than 8" depth.

Provide approved fine-grained earth fill or sand to point 4" above the top of pipe, where soil conditions are rocky or otherwise objectionable.

Fill to within 6" of final grade with approved excavated or borrow fill materials free of lumps or rocks larger than 2" in any dimension.
The top 6” of backfill shall be topsoil, free of rocks, subsoil or trash. Any special soil mixture shall be replaced to the original condition it was prior to irrigation installation.

Except as indicated, install irrigation mainline with a minimum cover of 24” based on finished grades. Install irrigation laterals with a minimum cover of 12” based on finished grades.

Excavate trenches and install piping and backfill during the same working day. Do not leave open trenches or partially filled trenches open overnight.

4. Plastic Underground Pipe:

Install all plastic pipe in accordance with manufacturer's installation instructions as ASTM D-2274. Provide for thermal expansion and contraction

Saw cut plastic pipe. Use a square-in-sawing vice, to ensure a square cut. Remove burrs and shavings at cut ends prior to installation.

Make PVC plastic-to-plastic joints with solvent weld joints. Use only primer and solvent recommended by the pipe manufacturer. Install plastic fittings in accordance with pipe manufacturer's instructions and ASTM D-2855. Contractor shall make arrangements with pipe manufacturer for all necessary field assistance.

Allow joints to set at least 24 hours before pressure is applied to the system.

Maintain pipe interiors free of dirt and debris. Close open ends of pipe by capping, taping or other acceptable method when pipe installation is not in progress.

5. Valve Installation:

All quick coupler valves shall be enclosed in a valve box.

Valve box size shall be installed with 10” valve box for quick couplers. Add extensions as required to prevent soil settlement around the valve. Set box flush with finish grade and aligned with adjacent boxes and/or adjoining site-work and at right angles to walks and drives.

All valve boxes shall have locking bolt-down cover. Include locking bolt with all valve box installations.

Install filter fabric inside valve box and install valve boxes on a suitable base of gravel to provide a level foundation at proper grade and to provide drainage of the access box. Support box with block or notch box to protect pipe under box.

Provide all quick coupler valves with pre-fabricated three elbow swing joint, schedule 80 PVC.
Fittings and pre-fabricated swing joint manufacturers shall be Spears, Lasco, or Dura.

6. Flushing and Testing:

After all new quick couplers are in place and connected for a given section and all necessary division work has been completed, quick couplers shall be opened and a full head of water used to flush out the system.

Sprinkler mains shall be tested under normal water pressure for a period of 12 hours. If leaks occur, repair and repeat the test. Give Owner 24 hours notice prior to testing.

Testing of the system shall be performed after completion of each section or completion of the entire installation; and any necessary repairs shall be made, at the Contractor’s expense, to put the system in good working order before final payment by the Owner.

Adjustment of the equipment will be done by the Contractor upon completion of installation to provide optimum performance. Minor adjustments during the guarantee period will be made by the Owner.

7. Clean Up:

Contractor shall keep the premises free from rubbish and debris at all times and shall arrange his material storage so as not to interfere with the Owner’s operation of the job. Contractor shall remove and legally dispose of all unused material, rubbish and debris, including unsuitable excavated material from the site.

4. MEASUREMENT AND PAYMENT.

The plans show a conduit sleeve for the irrigation piping, which shall be paid for separately as “3 Inch Schedule 80 PVC Electrical Conduit”.

The meter pits and meters, water main taps, and piping to the meter pit associated with the Irrigation System will be provided and installed by the City of Ann Arbor.

Irrigation system shall be paid for at the contract unit price on a lump sum basis. Contract unit price shall consist of supplying and installing all irrigation components specified herein and shown on the drawings, including all submittals, permits, excavation and properly compacted backfill, and other work incidental to complete installation of a fully operational system. The pay quantity will be a lump sum based on acceptance of the completed installation.

The work as described will be paid for at the contract unit price or lump sum for the following contract items (pay items):

| PAY ITEM | PAY UNIT |
Irrigation System shall include all work required to furnish, install, and test the irrigation system described in this special provision.
a. **Description.** This work shall consist of fabricating and shipping Regulatory Signs to the City of Ann Arbor.

b. **Materials.** The contractor will furnish “Regulatory Signs” to the Owner. Signs are to be fabricated in accordance with Section 919.02 Traffic Signs of the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction Standard Specifications and the 2011 Michigan Manual of Uniform Traffic Control Devices (MMUTCD).

The plans indicate the signs to be fabricated. The engineer will provide a detailed list of the signs to be fabricated prior to the contractor ordering the signs.

The Contractor will provide the name and a qualifications summary of the proposed fabricator for approval by the Engineer prior to ordering the work.

Signs are to be delivered to the City of Ann Arbor at a location designed by the Engineer in an undamaged condition.

c. **Construction.** Installation of the Regulatory Signs will be completed by the City of Ann Arbor.

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

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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</thead>
<tbody>
<tr>
<td>Item 257: Regulatory Signs</td>
<td>Square Foot</td>
</tr>
</tbody>
</table>
DETAILED SPECIFICATION
FOR
ITEM #259-01 - PAVT MRKG, POLYUREA, 4 INCH, YELLOW
ITEM # 259-02 - PAVT MRKG, POLYUREA, 4 INCH, WHITE
ITEM #259-03 - PAVT MRKG, POLYUREA, BIKE ARROW AND YIELD SYM.
ITEM #259-04 - PAVT MRKG, POLYUREA, SPECIAL SYM.
ITEM #259-05 - PAVT MRKG, POLYUREA, BIKE SYM.
ITEM #259-06 - PAVT MRKG, POLYUREA, SHARROW SYM.
ITEM #259-07 - PAVT MRKG, POLYUREA, 12 INCH, STOP BAR OR CROSSWALK
ITEM #259-08 - PAVT MRKG, POLYUREA, 24 INCH, STOP BAR OR CROSSWALK
ITEM #259-09 - PAVT MRKG, ENDURABLEND, BIKE LANE GREEN
ITEM #259-10 - PAVT MRKG, ENDURABLEND, 18 INCH X 18 INCH BIKEWAY MARKS
ITEM #259-11 PAVT MRKG, SHARED PATH SPECIAL SYM.

DESCRIPTION

This work consists of furnishing and installing wet night retroreflective (WR) beads and/or elements, liquid applied pavement marking materials, and Endurablend Polymer Cement Surfacing bike lane pavement markings.

All work shall be consistent with the City of Ann Arbor Standard Specifications and the 2020 MDOT Standard Specifications for Construction, except as specified herein.

MATERIALS

Wet Night Retroreflective Beads and/or Elements. Select WR beads and/or elements from one of the following Manufacturers or a Department approved alternative that meets the requirements in Table 1:

- 3M Corporation
- Potter’s Industries
- Swarco
- Flex-o-Lite

<table>
<thead>
<tr>
<th>Table 1: WR Markings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Initial Retroreflectivity at 30 meter geometry in mcd/lux/m²</td>
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<tr>
<td>Test Method</td>
</tr>
<tr>
<td>Dry (ASTM E 1710)</td>
</tr>
<tr>
<td>Wet Recovery (ASTM E 2177)</td>
</tr>
</tbody>
</table>

Ship the material to the job site in sturdy containers marked in accordance with subsection 920.01.A of the Standard Specifications for Construction.

Submit to the Engineer prior to the start of work:

a. The Manufacturer’s recommended application rate of the beads/elements and the liquid...
applied pavement marking binder to be used on the project. If the Manufacturer’s recommended application rate differs from the specified rate in Table 811-1 of the Standard Specifications for Construction, the Manufacturer’s recommended rate supersedes the table values.

b. Certification from the Manufacturer that when applied according to their application recommendations the beads and/or elements meet the requirements shown in Table 1 above.

Binder. Provide a liquid pavement marking product of the binder type specified in the contract documents from section 811 of the Qualified Products List or as specified by special provision, or use an alternative binder as approved by the Engineer.

The Endurablend bike lane pavement marking material must be comprised with green pigment and anti-skid abilities. The polymer cement surfacing shall be manufactured by Pavement Surface Coatings of Hanover New Jersey, and no material substitutions will be allowed.

1. Pigmented Resin. Transpo Color-Safe Bike Lane Green must be used as the pigment or approved equal. The approved color pigmented resin shall comply with FHWA green color guidelines for bike lanes.

2. Anti-Skid Aggregate. Anti-skid aggregates shall be provided by the pavement marking supplier. Aggregate shall have a minimum Hardness of 7.0 per MohsScale.

CONSTRUCTION

Place the binder and beads and polymer surface coatings in accordance with the Manufacturers’ recommendations and sections 811 and 920 of the Standard Specifications for Construction except as noted above.

Construction of bike lane pavement markings shall be in accordance with manufacturer application and installation procedures, MDOT 2020 Standard Specifications for Construction, and Engineer.

All pavement marking areas shall be laid out by the contractor and then reviewed by the Engineer. Marking layout shall be approved by the Engineer prior to placement of material.

Surface preparation shall include cleaning of the pavement surface using high pressure water, compressed air or sandblasting and shall conform to ASTM D4263. All surface damage shall be corrected by the Contractor at the Contractor’s expense, as directed by the Engineer. Manufacturer recommended pavement and air temperatures must be followed.

All markings on concrete surfaces shall receive a base coat application and shall be included in the pay item. Marking layout, material mixing, base coat application, and pigmented coat application shall comply with the manufacturer’s installation procedures.

The Contractor shall protect the pavement markings from damage and allow them to fully cure prior to allowing traffic to drive over markings. Any damage shall be corrected by the Contractor at the Contractor’s expense.
**MEASUREMENT AND PAYMENT**

The completed work, as described, will be measured and paid for at contract unit prices using the following pay items:

<table>
<thead>
<tr>
<th>PAY ITEM</th>
<th>PAY UNIT</th>
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<tbody>
<tr>
<td>Item 259-01: Pavt Mrkg, Polyurea, 4 inch, Yellow</td>
<td>Linear Foot</td>
</tr>
<tr>
<td>Item 259-02: Pavt Mrkg, Polyurea, 4 inch, White</td>
<td>Linear Foot</td>
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<tr>
<td>Item 259-03: Pavt Mrkg, Polyurea, Bike Arrow and Yield Sym.</td>
<td>Each</td>
</tr>
<tr>
<td>Item 259-04: Pavt Mrkg, Polyurea, Special Sym.</td>
<td>Each</td>
</tr>
<tr>
<td>Item 259-05: Pavt Mrkg, Polyurea, Bike Sym.</td>
<td>Each</td>
</tr>
<tr>
<td>Item 259-06: Pavt Mrkg, Polyurea, Sharrow Sym.</td>
<td>Each</td>
</tr>
<tr>
<td>Item 259-07: Pavt Mrkg, Polyurea, 12 Inch, Stop Bar Or Crosswalk</td>
<td>Linear Foot</td>
</tr>
<tr>
<td>Item 259-08: Pavt Mrkg, Polyurea, 24 Inch, Stop Bar Or Crosswalk</td>
<td>Linear Foot</td>
</tr>
<tr>
<td>Item 259-09: Pavt Mrkg, Endurablend, Bike Lane Green</td>
<td>Square Foot</td>
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<td>Item 259-10: Pavt Mrkg, Endurablend, 18 Inch X 18 Inch Bikeway Marks</td>
<td>Linear Foot</td>
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<tr>
<td>Item 259-11: Pavt Mrkg, Shared Path Special Sym.</td>
<td>Each</td>
</tr>
</tbody>
</table>

The unit price for these items of work shall include all labor, material, and equipment costs to perform all the work.
**E. Schedule of Pricing**

**Company:**

Acknowledgement of Addendum No. 1 (initial)

**Date:**

SOUTH STATE STREET RECONSTRUCTION

<table>
<thead>
<tr>
<th>Pay Item #</th>
<th>Item Description</th>
<th>Original Contract Quantity</th>
<th>Unit</th>
<th>Addendum #1 Contract Quantity</th>
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March 11, 2022

South State Street Reconstruction

ADDENDUM No. 1 ATTACHMENTS
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<td>Water Main Pipe Abandonment</td>
<td>250.00</td>
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<td>Water Main, Abandon w/Flowable Fill</td>
<td>1,500.00</td>
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<td>296-01</td>
<td>Gate Valve-In-Box, Abandon</td>
<td>14.00</td>
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<td>296-02</td>
<td>Gate Valve-In-Box, Remove</td>
<td>1.00</td>
<td>EA</td>
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<td>Gate Valve-In-Well, Abandon</td>
<td>6.00</td>
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<td>Gate Valve-In-Well, Remove</td>
<td>1.00</td>
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<td>298</td>
<td>Fire Hydrant, Rem</td>
<td>3.00</td>
<td>EA</td>
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<td>315</td>
<td>Perforated HDPE Pipe, 30 inch</td>
<td>191.00</td>
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<td>316</td>
<td>Perforated HDPE Pipe, 48 inch</td>
<td>220.00</td>
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<td>320</td>
<td>RCP, Sewer, Cl-IV, 12 inch, Tr Det I</td>
<td>479.00</td>
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<td>321</td>
<td>RCP, Sewer, Cls, Cl-IV, 15 inch, Tr Det I</td>
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<td>322</td>
<td>RCP, Sewer, C7s, Cl-IV, 18 inch, Tr Det I</td>
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<td>360</td>
<td>Type I Manhole (4 ft, Dia) (0-10 ft, Deep)</td>
<td>7.00</td>
<td>EA</td>
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<td>364</td>
<td>Type II Manhole (4 ft, Dia)</td>
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<tr>
<td>366</td>
<td>Inlet Junction Chamber</td>
<td>3.00</td>
<td>EA</td>
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<tr>
<td>367</td>
<td>Single inlet Structure</td>
<td>11.00</td>
<td>EA</td>
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<tr>
<td>368</td>
<td>Double inlet Structure</td>
<td>5.00</td>
<td>EA</td>
<td></td>
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<tr>
<td>Item</td>
<td>Description</td>
<td>Quantity</td>
<td>Unit</td>
<td>Price</td>
</tr>
<tr>
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<td>-------------</td>
<td>----------</td>
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<td>-------</td>
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<tr>
<td>391</td>
<td>Pipe Undercut &amp; Refill</td>
<td>100.00</td>
<td>Cyd</td>
<td>516.00</td>
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</table>
| 563-2 | Structure Cover Barrier Curb Inlet | 1.230.00 | LBS | 563-3 | Structure Covers | 4,800.00 | LBS | 564 | Reconstruct Structure | 2.00 | EA | 566 | Adjust Structure Cover | 31.00 | EA | 567 | Adjust Monument Box or Gate Valve Box | 53.00 | EA | 630-20 | Street Light Foundation, 20 Inch Dia. | 27.00 | EA | 630-24 | Street Light Foundation, 24 Inch Dia | 7.00 | EA | 703 | Silt Fence | 378.00 | FT | 810 | Cercis canadensis | 3.00 | EA | 811 | Jambago biloba 'Autumn Gold' | 7.00 | EA | 812 | Sophora japonica 'Princeton Upright' | 7.00 | EA | 813 | Sediopsis triacanthos 'Skyline' | 5.00 | EA | 820 | Aesculus hippocastanum | 24.00 | EA | 821 | Lilium canadense | 35.00 | EA | 822 | Lysimachia aurea subalpina | 22.00 | EA | 823 | Phlox paniculata | 118.00 | EA | 824 | Rudbeckia fulgida | 92.00 | EA | 825 | Panicum virgatum 'Skyline' | 131.00 | EA | 826 | Penisetum alopecuroides | 89.00 | EA | 827 | Solidago rugosa | 44.00 | EA | 881 | Sod | 353.00 | SFT | 8200020 | Sign, Type III, Rem | 1.00 | EA | 8200150 | Pedestal, Alum | 3.00 | EA | 16 | +13 | 8200151 | Pedestal, Fdn | 3.00 | EA | 16 | +13 | 8200152 | Pedestal Fdn, Rem | 2.00 | EA | 3 | +1 | 8200153 | Pedestal, Rem | 10.00 | EA | 3 | +1 | 8200154 | Pushbutton, Rem | 0.00 | EA | 3 | +1 | 200137 | TS, Mast Arm Mtd, Rem | 2.00 | EA | 8200180 | TS, Pedestrian, Bracket Arm Mtd, Rem | 9.00 | EA | 8200181 | TS, Pedestrian, Pedestal Mtd, Rem | 7.00 | EA | 8200182 | TS, One Way Mast Arm Mtd, Sav | 7.00 | EA | 8200183 | TS, Pedestrian, One Way Bracket Arm Mtd (LED), Countdown | 3.00 | EA | 1 | -2 | 8200184 | TS, Pedestrian, Two Way Bracket Arm Mtd (LED), Countdown | 5.00 | EA | 2 | -3 | 8200185 | TS, Pedestrian, One Way Pedestal Mtd (LED), Countdown | 3.00 | EA | 17 | +14 | 8200186 | TS, Pedestrian, Two Way Pedestal Mtd (LED), Countdown | 5.00 | EA | 2 | -3 | 8200187 | Wireless Vehicle Sensor Node | 7.00 | EA | 8200188 | Wireless Vehicle Sensor Node, Rem | 10.00 | EA | 8200189 | TS Face, Bag | 12.00 | EA | 8200190 | TS Face, Bag, Rem | 12.00 | EA | 8207000 | Pedestrian Signal System, Accessible | 0.00 | EA | 3 | +3 | 200190 | Pushbutton Station and Sign | 0.00 | EA | 3 | +3 | 200900 | ESTIMATED TOTAL | | | | | March 11, 2022

**South State Street Reconstruction**

ADDENDUM No. 1 ATTACHMENTS
NORTH LIMITS OF LOADING ZONE

EQUIPMENT

1" Tap

Meter Pit

Backflow Preventer

Refer To Detail and Enclosure

IRRIGATION LEGEND

3" Schedule 40 PVC Sleeve, 24" Bury

Schedule 40 PVC Irrigation mainline with 14AWG two-wire cable

Quick Coupling Valve

Rainbird 3LRC w/Hose swivel and key

1" SCHEDULE 80 PVC MAINLINE WITH 14 AWG TWO-WIRE CABLE. INSTALL INSIDE 3" SCHEDULE 80 PVC SLEEVE BENEATH PAVING
SCHEMATIC BACKFLOW PREVENTER / QUICK COUPLER INSTALLATION - STATE STREET

Nuevo Tapa
- 10" REDO VALVE BOX WITH LOCKING LID AND BOLT
- FINISH GRADE
- INTERIOR OF BOX TO BE FREE FROM SOIL AND DEBRIS
- QUICK COUPLING VALVE
- 36" LONG RE-ROD TO STABILIZE QUICK COUPLER.
- SECURE TO COUPLER WITH BAND AND SCREW WORM
- GEAR CLAMPS.

FILTER FABRIC WITH 3/4" CRUSHED STONE. FILL VALVE BOX WITH STONE TO 2" BELOW QUICK COUPLER TOP.
- PACK STONE IN 1" LIFTS
- SCHEDULE 80 PRE-FABRICATED SWING JOINT WITH O-RING SEALS AND MINIMUM 12" LAY LENGTH, LASCO, SPEARS, OR DURA MAINLINE PIPE.

SWING JOINT ANGLE TO NOT EXCEED 45 DEGREES AND TO BE NO LESS THAN 22 DEGREES

SIDEWALK GRADE
- METER INSTALLATION WITH GATED CONNECTION AND HOSE THREADS FOR WINTERIZATION AIR COMPRESSOR ATTACHMENT. PER CITY SPECIFICATIONS

EAST JORDAN IRON WORKS 208-595-0333
- BACKFLOW PREVENTER ENCLOSURE - STRONG BOX SB16SSW 18" HIGH X 16" LONG, X 10" WIDE.
- FILTER FABRIC WITH 3/4" CRUSHED STONE.
- FILL VALVE BOX WITH STONE TO 2" BELOW QUICK COUPLER TOP.
- PACK STONE IN 1" LIFTS
- PLANTER GRADE
- 3/4" QUICK COUPLER - SEE DETAIL
- QUICK COUPLER INSTALLATION - SEE DETAIL
- 1" COPPER PIPES INSTALLED IN 3" BLINDS THROUGH CONCRETE BASE

NOTE - CONSULT WITH UTILITY CONTRACTOR, CITY DPW, AND LANDSCAPE ARCHITECT TO DETERMINE EXACT LOCATION AND ORIENTATION OF BACKFLOW PREVENTER AND ENCLOSURE WITHIN PLANTER.

STATE ST STREETSCAPE - CITY OF ANN ARBOR

<table>
<thead>
<tr>
<th>SHEET NO.</th>
<th>12021</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCALE INCH</td>
<td></td>
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</tbody>
</table>
1. SEE SHEET MATCH LINE SHEET

2. ALL LONGITUDINAL, CROSS WALK, STOP BAR, AND ROADWAY PAVING SYMBOLS AND MARKINGS TO BE RECESSED. COORDINATE WITH ENGINEER.

3. TYP.

4. TYP.

5. TYP.

6. TYP.

7. TYP.

8. TYP.

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