

PROJECT SPECIFICATIONS

For

City of Medina Job No. 1006: Public Square Audible Pedestrian Signals

General Notes:

1. The items included herein are the unit price items referred to within the Project Bid Form as "MEDINA". These items shall be completed in strict accordance with the specifications included herein.
2. All unit price items not included herein this section or within the Special Conditions section of the bid documents shall be completed in strict accordance with the State of Ohio, Department of Transportation, Construction and Material Specifications, dated January 1, 2002 (herein referred to as the ODOT Manual). These Items are referred to within the Project Bid Form as "ODOT".
3. Unit price items referred to within the Project Bid Form as "SC" are items that shall be completed in accordance with the details included within the Special Conditions section of the bid documents. These items may be either "MEDINA" or "ODOT" items that have been slightly modified specifically for this project.
4. The contractor will be required to attend a pre-construction meeting with the City Engineer. The Project Manager and the Project Field Superintendent shall be in attendance at the meeting. The cost for attending the pre-construction meeting shall be inherent to the project in general; no additional payment will be made for the contractor's attendance.
5. It is the contractor's responsibility to contact the Ohio Utilities Protection Service (1-800-362-2764) a minimum of two days prior to any digging. Contractor shall retain OUPS ticket numbers for future reference by the City of Medina.
6. The contractor shall so plan and conduct his operations to avoid all possible inconveniences to the abutting property owners during the construction operations.
7. Any pavement, water mains, or storm sewer and appurtenances included within this project shall be installed in accordance with the City of Medina Construction Standard Drawings (CS-PVMT-01; CS-WAT-01 and -02; CS-STM-01). Any sanitary sewer work required in this contract shall be governed by and constructed in accordance with Medina County Sanitary Engineering Department standards.
8. **NO TRACK EQUIPMENT (BACKHOES, FRONT END LOADERS, ETC.) WILL BE ALLOWED ON ANY CITY PAVEMENT THAT IS TO REMAIN IN SERVICE; ONLY RUBBER TIRED EQUIPMENT WILL BE ALLOWED ON PAVEMENTS THAT ARE NOT INTENDED TO BE REPLACED AND OR REPAIRED. TRACK EQUIPMENT WILL ONLY BE ALLOWED ON PAVEMENT THAT IS INTENDED TO BE REPAIRED AND/OR REPLACED.**
9. The unit prices and lump sum prices bid on the following items of work shall constitute full compensation for all labor, tools, materials, equipment and supervision necessary to complete the various items of work in accordance with the plans and specifications therefore.
10. Please be advised that after existing concrete has been removed from an area, the new concrete **MUST BE PLACED WITHIN 24 HOURS**, no open excavation will be allowed to sit over a weekend.

ITEM NO. 1: SIGNALIZATION, MISC.: SIGHT IMPAIRED DETECTION EQUIPMENT

Furnish and install sight impaired person detection equipment at the following existing signalized intersections in the City of Medina:

1. S. Court Street and Washington Street (8 total)
2. E. Liberty Street and Broadway Street (8 total)

Furnish detection equipment which consists of a tactile pedestrian indicator. Provide units with a raised vibrating tactile arrow and audible sounds during the walk interval. Ensure the audible sound consists of a special voice message indicating the names and direction of the roadway to cross and status of the walk cycle.

Provide units which consist of 2" ADA compliant pushbuttons, mounting hardware and control units with locating tone and audible instructions during walk cycle. Ensure that the volume of the locating tone and audible sounds will automatically adjust in relation to ambient noise levels.

Provide units with a black background with standard white international symbol message, and with a thermostatically controlled heater for cooler temperatures.

Furnish and install hookup cable between the pushbutton and the pedestrian signals as necessary as part of this item. Furnish cable which is of the size and as the number of conductors that are recommended by the manufacturer.

If needed, furnish and install as part of this item any additional hookup cable other than the two conductors required to operate a standard pushbutton switch between the pushbutton and the controller. Furnish cable which is of the size and has the number of conductors that are recommended by the manufacturer.

The City will pay for "Item #1- Signalization, Misc.: Sight Impaired Detection Equipment" at the contract price per each for all equipment in place and fully operational, including pushbutton, tactile indicator, speaker, control unit, and heater, as described in this note.

The City will pay for the hookup cable at the contract price per foot for "Item #2, ODOT Item 632 – Loop Detector Lead in Cable." Any additional costs for the hookup cable as described in this note will be considered incidental to, and included in, the cost of the sight impaired detection equipment.

Additional equipment information is as follows:

A. System:

1. Shall meet the intent of the functionality identified and defined in
 - i. "Manual on Uniform Traffic Control Devices", Section 4E part 8-13, Federal Highway Administration 2009 (<http://mutcd.fhwa.dot.gov/html/2009/part4/part4e.htm>)
2. Shall meet The United States Access Board's "Revised Draft Guidelines for Accessible Public Rights-of-Way", Chapter R3: Technical Provisions, Sub section: R306 (<http://www.access-board.gov/prowac/draft.htm#Text>)
3. Shall provide a verbal location information message with an extended (>1 second) button activation (Press). ("Wait to cross "Street Name" at "cross Street Name".)
4. Shall have a standard locating tone during pedestrian clearance phase (with options of countdown and beaconing).
5. Shall provide a verbal walk indication with installations where there is less than ten feet of separation between stations and a rapid percussive tone where there is greater than ten feet of separation between stations.
6. Shall support a variety of voice messages, languages, tones, and sounds downloadable from indications database via USB interface.
7. Shall have all sounds adjust automatically to ambient noise levels with a maximum volume of 100dBA.
8. Shall have min and max levels independently set for locator and non-locator indications.
9. Shall have fail safe operations the mute and inhibit operations in a fault condition.
10. Shall have time of day functionality providing different operating characteristics for identified times of day.

B. Push Button Station:

1. Shall meet The United States Access Board's "Revised Draft Guidelines for Accessible Public Rights-of-Way", Chapter R3: Technical Provisions, Sub section: R306, Dated: November 23, 2005 (<http://www.access-board.gov/prowac/draft.htm#Text>)
2. Shall have a housing of machined aluminum with full gasket matching surfaces.
3. Shall have forward facing speaker.
4. Shall have a raised tactile arrow on the push button.
5. Shall have a #8 Barrier Terminal connection on station allowing pedestrian station to connect to existing wiring.
6. Shall have a cover plate for the Barrier Terminal connections bay that provides a threaded chase nipple to be attached to provide "drip" and sharp edge wire protection.
7. Shall be fully operational between -40° F to +150°F.
8. Shall have a weatherproof speaker.

C. Warranty:

1. Devices must have a 3 year warranty.

ITEM NO. 2, ODOT ITEM 632 – LOOP DETECTOR LEAD IN CABLE

The requirements for this item are as included within the ODOT Manual without modification

ITEM NO. 3: ODOT 624 MOBILIZATION

The requirements for this item are as included within the ODOT Manual without modification

ITEM NO. 4: MAINTENANCE OF TRAFFIC

1. PART 1: GENERAL NOTES:

1.1. Scope:

Under this item of work, the contractor shall furnish all labor, equipment necessary to furnish and maintain all warning lights, signs, barricades and flagmen necessary to protect the traveling public from danger and the work from being damaged.

It is the City of Medina's intention to provide a safe construction work zone for both the traveling public and the construction personnel. This specification is designed to protect vehicular and pedestrian traffic by providing a safe means of ingress and egress through the construction zone. In additions, this specification is designed to provide a sufficient and protected construction zone for the safety of all construction personnel.

1.2. Applicable Documents:

1.2.1. City of Medina Standard Construction Drawing CS-Pav-01 "Pavements"

1.2.2. The project plans and specifications, particularly the Special Conditions section of the contract specifications

1.2.3. The contract

1.2.4. The unit price bid proposal

1.2.5. The Ohio Department of Transportation's (ODOT) Construction and Material Specifications dated January 1, 2002 (specifically section 614)

1.2.6. The ODOT Manual of Traffic Control for Construction, Operations, current revision

1.3. Included within this Item:

Each of the following items are included with and considered to be incidental to this item. Costs and fees necessary to provide the labor, material and equipment necessary to satisfactorily complete all these requirements are to be included within the unit price bid for this item. No additional payment will be made for any of the items listed herein:

1.3.1. The following traffic control devices are required for maintenance of traffic for all projects (whether a specific maintenance of traffic plan is included within the project plans or not)

1.3.1.1. Furnishing, placing and maintain all of the following traffic control devices:

1.3.1.1.1. Standard construction barrels/drums

1.3.1.1.2. Traffic cones and/or other appropriate barricades

1.3.1.1.3. Informational and warning signs

1.3.1.1.4. Warning lights, red and yellow flashers, pot torches, etc.

1.3.1.1.5. Steel plates, where necessary

1.3.1.2. Maintaining required traffic control devices throughout the course of construction

1.3.1.3. Removal and relocating traffic control devices as necessary as the work zone changes location

1.3.1.4. Providing two flagmen with stop/slow paddles and 2-way communication devices at the ends of the construction zone whenever traffic is reduced to one lane.

1.3.2. In addition to the items listed in section 1.3.1, the following traffic control devices may be required for certain projects and/or construction zones.

1.3.2.1. Work zone traffic signals

1.3.2.2. Flashing arrow panels

1.3.2.3. Lighting (if performing work after nightfall) for work zone and flaggers

1.3.2.4. Changeable message sign

1.3.2.5. Detour signs

1.3.2.6. Other items as noted

1.3.3. Temporary pavement marking, if required, will be paid at the unit price bid for Pavement Marking – Temporary.

1.4. Unit Price – Measurement and Payment:

1.4.1. Payment will be made based upon the unit price bid per LUMP SUM for Maintenance of Traffic. The City will process partial payments for this item on a monthly basis. The City Engineer will determine the percentage of the project that is complete and approve the same percentage for payment of this item. Acceptance of Maintenance of Traffic item contingent upon successful performance and completion of all items listed in Section 1.3 of this specification for reinforced concrete pavement.

Any temporary pavement marking that is specifically required by the Maintenance of Traffic plan and/or the City Engineer during construction will be paid at the unit price bid for Pavement Marking – Temporary. All other items necessary for the safe maintenance of traffic shall be considered as inherent to this item.

1.5. Submittals:

1.5.1. Prior to construction, Contractor shall submit the following:

1.5.1.1. Traffic Control Plan

1.5.2. Prior to construction, the City of Medina, at its discretion, may require that the Contractor submit the following:

1.5.2.1. No other submittals required

1.5.3. Any costs incurred as a result of providing any submittal, whether mandatory (Section 1.5.1.) or at the City's discretion (Section 1.5.2.) must be included within the unit price bid for this item; unless stated otherwise within the bid documents for this project, no additional compensation will be granted to the Contractor for the efforts necessary to provide any submittal, shop drawing or other documentation.

1.6. Quality Assurance:

1.6.1. The City of Medina will monitor maintenance of traffic continually throughout the course of the Project. Any modifications required by the City must be implemented by the Contractor as soon as reasonably possible and at no cost to the City.

2. PART 2: PRODUCTS AND MATERIALS:

2.1. Not Applicable

3. PART 3: EXECUTION

3.1. No work shall commence until all traffic control devices are in place.

3.2. Contractor is required to maintain all devices (including barricades, signs, lights, etc.) throughout the length of the project. The City maintains the right to stop work at any time if traffic control devices are not properly maintained.

3.3. If applicable, refer to the Special Conditions section of these specifications for specific requirements for this project.

3.4. Unless specifically noted either herein, or on the project plans, or elsewhere in the contract documents, all maintenance and traffic items and issues must be in accordance Item 614 of the ODOT Construction and Material Specifications, latest revision) and ODOT's Manual of Traffic Control for Construction, Operations, current revision

3.5. Maintenance of Traffic Plan:

3.5.1. Some City Projects will have a Maintenance of Traffic plan prepared by the Engineer and included in the plans as a part of the bid package. For projects where a specific Maintenance of Traffic Plan is included within the project documents:

3.5.1.1. At the time of the pre-construction meeting, the contractor will be afforded the opportunity to propose modifications to the proposed Traffic Plan. City Engineer will review proposal and determine whether it will be implemented. Contractor is required to strictly adhere to the plan approved by the Engineer prior to construction.

3.5.1.2. Unless modified by the Engineer after reviewing comments from the Contractor, all items required within the Traffic Plan must be strictly adhered to.

3.5.2. For projects where a Maintenance of Traffic Plan is not included within the project documents:

3.5.2.1. Contractor will be required to formulate, prepare and present a Maintenance of Traffic Plan for submittal to the City Engineer at the time of the pre-construction meeting. This plan must be approved by the City Engineer prior to the commencement of any work

3.5.2.2. The Plan that the contractor will prepare must contain specific and sufficient information in order to communicate to all what traffic control procedures and devices will be utilized during the course of construction.

3.5.2.3. Unless noted otherwise, the contractor is not required to submit a drawing for the Maintenance of Traffic Plan; however drawings and/or sketches should be included as necessary to clarify any issues. The City Engineer may require additional sketches and/or drawings after review of the contractor's initial Plan.

3.6. General Requirements:

The following items are generally required in all situations. Unless specifically noted otherwise, these items must be strictly adhered to:

3.6.1. Warning Signs/Lights & Flashers:

- 3.6.1.1. Appropriate warning signs will be required at both ends of all construction sites to inform the Public of the construction.
- 3.6.1.2. Contractor shall post all warning and informational signs as required by Manual of Traffic Control for Construction, Operations
- 3.6.1.3. Red lights, yellow flashers, pot torches, barricades, and warning signals shall be placed at the limits of the work and wherever work is in progress.

3.6.2. Barricades:

- 3.6.2.1. Construction zone shall be clearly barricaded.
- 3.6.2.2. Standard barricades shall be placed at a maximum of ten (10) feet on center and at other appropriate locations to keep the public from entering where work is in progress, where incomplete work can be damaged and where work is completed but curing of concrete is not completed.
- 3.6.2.3. Resulting lanes for vehicular travel shall not be less than 10 feet in width.
- 3.6.2.4. Where the construction zone will require a shift in the existing traffic lane, barricades shall be placed along the temporary center line of traffic in order to prevent any conflicts between vehicles traveling in opposite directions.

3.6.3. Signage

- 3.6.3.1. All required signs shall be Type G or Type H reflective sheeting complying with ODOT Item No. 730.19 or 730.192
- 3.6.3.2. Contractor required to furnish, install, maintain and remove all necessary detour, work zone marking, warning or informational signs
- 3.6.3.3. When a road is to be closed to traffic, contractor shall furnish, erect and maintain "Road Closed" signs with yellow flashing lights.

3.6.4. Closing a Roadway to all Traffic

- 3.6.4.1. Unless specifically noted within the Project plans or the Special Conditions section of these specifications, at no time will the contractor be permitted to close any roadway in both directions for any period of time.

3.6.5. Restricting Traffic to one lane, one direction

- 3.6.5.1. Where necessary, the Contractor will be permitted to restrict traffic to one lane, provided that all the conditions specified herein are met.
- 3.6.5.2. Only areas at and adjacent to work areas will be permitted to be closed. Long sections of lane closings consisting of several work areas will not be permitted unless the proximity of the work areas permits safe passage of vehicles between them.
- 3.6.5.3. Where traffic is limited to one lane during all or part of the working day, and the traffic can be restored to two lanes after completion of the days work, (during concrete placement, for example), the contractor shall post flagmen with stop/slow paddles and 2-way communication devices at the ends of the construction zone.
- 3.6.5.4. When traffic will be limited to one lane for more than one working day the contractor is required to supply and maintain Work zone traffic signals

3.6.6. Local Traffic

- 3.6.6.1. Unless noted otherwise and alternate provisions have been established, local traffic must be maintained at all times. Where private drive ways must be closed in order to perform work, the contractor is required to notify the property owner a minimum of 48 hours in advance of proposed closure. Contractor must make every reasonable effort to coordinate closure with the needs and requests of the property owner.

3.6.7. Law Enforcement Officers

- 3.6.7.1. Contractor required to employ off-duty City of Medina Law Enforcement Officers when required to by notation within the Special Conditions Section of the contract bid specifications or when Contractor will be disconnecting existing traffic signals.
- 3.6.7.2. In all other situations, Contractor is permitted, but not required, to employ City of Medina Law Enforcement Officers.
- 3.6.7.3. Contact the City of Medina Police Department at 330/725-7777 for further information.

3.6.8. Miscellaneous

3.6.8.1. At the end of each day, and prior to weekends and/or holidays when no work will be performed, all vehicles and construction equipment, materials, supplies, etc. must be stored more than ten feet from the active roadway.

3.6.8.2. All ditches, excavations and hazards of any kind shall be clearly marked and protected at all times.

3.7. Length of Time to Maintain Traffic Control

3.7.1. All traffic control devices shall remain in place until such time that the City accepts the work completed in that work zone as finished and that the area in said work zone can be safely opened to the traveling public.

3.7.2. The contractor's attention is directed to the unit price item for Reinforced Concrete Pavement for specific information regarding minimum lengths of time that barricades shall be maintained in order to protect freshly poured concrete. The contractor is reminded that protecting the concrete area is a requirement of the unit price bid for Reinforced Concrete Pavement; maintenance of traffic adjacent to that protected area is a function of this the unit price bid for Maintenance of Traffic.

3.7.3. The City retains the right of final decision as to when traffic control devices can be removed.

- **ITEM NO. 5: PERFORMANCE BOND, WARRANTY AND MAINTENANCE BOND**

- 1. **PART 1: GENERAL NOTES:**

- 1.1. **Scope:**

- Under this item of work, the contractor shall furnish to the City the following bonds and warranties: a performance bond (to be presented prior to execution of contract), manufacturer's warranty of materials and equipment supplied and a maintenance bond for labor and installation items.

- 1.2. **Applicable Documents:**

- 1.2.1. The project plans and specifications

- 1.2.2. The contract

- 1.2.3. The unit price bid proposal

- 1.3. **Included within this Item:**

- Each of the following items are included with and considered to be incidental to this item. Costs and fees necessary to provide the labor, material and equipment necessary to satisfactorily complete all these requirements are to be included within the unit price bid for this item. No additional payment will be made for any of the items listed herein:

- 1.3.1. Performance / Contract Bond

- 1.3.2. Manufacturer's Warranty (all that apply, including ramp surfaces)

- 1.3.3. Maintenance Bond

- 1.4. **Unit Price – Measurement and Payment:**

- 1.4.1. Payment will be made based upon the unit price bid per LUMP SUM for submittal all three of the items listed in 1.3 (above) – performance bond, manufacturer's warranty and maintenance bond.

- 1.5. **Submittals:**

- 1.5.1. Prior to the execution of the contract, the contractor shall submit the following:

- 1.5.1.1. Performance / Contract Bond

- 1.5.2. Prior to issuance of final payment by the City of Medina, the contractor shall submit the following:

- 1.5.2.1. Manufacturer's warranty

- 1.5.2.2. Maintenance Bond

- 1.5.3. Any costs incurred as a result of providing any submittal, whether mandatory (Section 1.5.1.) or at the City's discretion (Section 1.5.2.) must be included within the unit price bid for this item; no additional compensation will be granted to the Contractor for the efforts necessary to provide any submittal, shop drawing or other documentation.

- 2. **SPECIFICATIONS**

- 2.1. **Performance Bond / Contract Bond**

- The successful bidder shall be required to furnish a Performance Bond in the amount of one hundred percent (100%) of the contract price. Performance Bond should be submitted in compliance with one of the following:

- 2.1.1. AIA Document A312

- 2.1.2. Other approved bond forms

- 2.2. **Manufacturer's Warranty**

- Upon completion of the project, the contractor shall submit to the City evidence of manufacturer's warranty for all pre-manufactured products supplied for this project. Specifically, evidence of manufacturer's warranty covering the ramp surface material provided. The warranty must cover a period of a minimum of twenty-four (24) months from date of installation

- 2.3. **Maintenance Bond**

- Upon completion of the project, the contractor shall be required to execute a Maintenance Bond in the amount of ten percent (10%) of the final estimate covering a period of twenty-four (24) months commencing from the date of final estimate. Maintenance bond shall serve as owner's (City's) guarantee that all installation items (labor and all material not covered by manufacturer's warranty, etc.) will be maintained by the contractor for a period of twenty-four (24) months from the date of installation.