

MOT - SR-725/741-13.99/1.52

100321 PID - 87885

Dist 7 5/13/2010

State Job No. 479116  
Project No. MOT-725/741-13.99/1.52

PID No. 87885  
Federal No. E100 (242)

STATE OF OHIO  
OHIO DEPARTMENT OF TRANSPORTATION  
MOT-725/741-13.99/1.52  
INTERSECTION TRAFFIC SIGNAL IMPROVEMENTS

PROJECT DESCRIPTION: The purpose of this contract is to modify existing signalized intersections by installing signal heads with LEDs and backplates, replacing traffic signs on span wires and mast arms, and adding street name signs.

Latitude: 39° 38' 16" Longitude: 84° 13' 30"

2010 SPECIFICATIONS

The Standard 2010 Specifications of the State of Ohio Department of Transportation, including changes and supplemental specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway to traffic and that the provisions for the maintenance and safety of traffic will be as set forth in the plans and estimates.

Date approved: 03/05/10

District Deputy Director: *Ret. Dickey, P.E., P.S./PRW*

Date approved: *03/09/10*

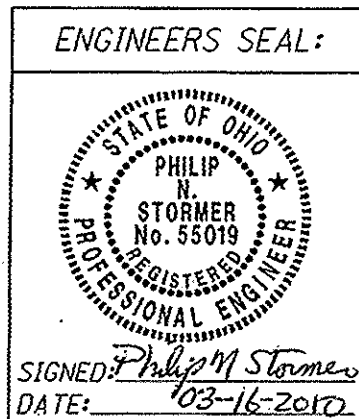
Director, Department of Transportation: *John M. Martini, Jr.*

STANDARD CONSTRUCTION DRAWINGS

MT-35.10	04/20/01	TC-16.21	01/16/09
MT-95.30	07/17/09	TC-17.10	01/19/07
MT-95.31	07/17/09	TC-22.20	01/19/01
MT-95.32	07/17/09	TC-52.20	01/19/07
		TC-81.21	07/17/09
DM-4.3	04/17/09	TC-85.20	01/15/10
DM-4.4	04/17/09	TC-85.21	01/15/10

PLAN PREPARED BY:  
ODOT - District 07  
Office of Production

ENGINEERS SEAL:



SUPPLEMENTAL SPECIFICATIONS:

800 4/16/2010

SPECIAL PROVISIONS:

None

**UNDERGROUND UTILITIES**  
CONTACT BOTH SERVICES  
CALL TWO WORKING DAYS  
BEFORE YOU DIG

CALL  
1-800-362-2764  
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE  
SERVICE CALL: 1-800-925-0988

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## **General Notes**

### **Scope of Work**

The purpose of this contract is to modify existing signalized intersections within a District to furnish and install some or all of the following items at each intersection:

- Vehicular signal heads with light emitting diode (LED) lamps and backplates
- Bottom tether wires for span wire mounted signal heads
- Street signs on span wires

Work also may include:

- Adjustment of existing span wire pole attachment height or sag to increase signal head clearance to pavement
- Removal and replacement of existing traffic signs on span wires

### **Locations**

All signalized intersections are located within the Ohio Department of Transportation, District 07. During the term of this contract, the District will designate a maximum of 68 existing signalized intersections where the work will be performed.

### **Term of Contract**

The term of the contract shall be from the date of award for a period of twelve (12) months or until all work described in the plans is completed, whichever comes first.

### **Work Assignment Process**

The District, through the Engineer, will provide the Contractor with locations to be upgraded. Prior to assigning the work to the Contractor, the Contractor and the Engineer will perform a site inspection to establish the quantities for the location and determine if there are utility conflicts with the proposed tether wires. See notes for "Signalization Misc.: Span Wire Adjustment" and "Utilities Note".

If it is determined that the work can be performed, the Engineer shall record the date that the Contractor acknowledges acceptance of the location. This date will be used to establish an interim completion date subject to disincentives according to CMS 108.07. The Contractor shall have 60 days to complete the work. To facilitate completion of the work within the required time period, the Contractor has the option to accept a maximum of 12 sites in any 30 day period at any time during the contract, unless otherwise agreed to by the Contractor. Completion of the 10 day performance test does not absolve the Contractor from the disincentives if the project work has not been completed to the satisfaction of the Engineer.

### **General Summary Estimated Quantities**

Quantities shown in the general summary are estimated quantities based on all of the potential locations being included within this contract. They are not to be construed as exact and variance can be expected in the actual quantities based on actual field review. All pay items listed in the plans are considered contingency quantities meaning that the Contractor will not receive payment for work that is not performed or materials that are not used unless otherwise specified in the plans.

The Contractor shall not order materials for any location until the Engineer establishes the quantities through the site inspection.

### **Work Inspection**

The Contractor shall provide the Engineer with 2 working day notice of any work to be performed at the intersection site so that inspection services can be supplied.

### **Contractor's Commitment**

If at any time the Contractor is unable to meet his commitment under the terms of this contract, as determined by the Engineer, the State will proceed by any means necessary to complete the work. Any expense incurred by ODOT in connection with the completion of the work shall be charged against any amounts due the Contractor.

### **Materials**

All materials furnished for this project shall be in accordance with the requirements of the Ohio Department of Transportation Construction and Material Specifications (CM&S) dated as shown on sheet 1. Furnish new materials and equipment of first quality, of current design and free from defects. No used material will be permitted.

### **Utilities Note**

During the site inspection, the Contractor shall check for conflicts between proposed tether wires, existing utility lines, and the need to raise the existing span wire. Where such conflicts exist, the Contractor shall propose a work plan to avoid the conflicts. If the utility conflicts cannot be worked around, the Engineer may cancel work at this location.

There are no utilities shown in these plans. It shall be the Contractor's responsibility to properly locate and work around all utilities if any conflicts exist.

### **Guarantee**

The Contractor shall guarantee that the traffic control equipment installed as part of this contract shall operate satisfactorily for a period of 90 days following the successful completion of the 10 day performance test.

The guarantee shall cover all traffic signal equipment, lamps and wiring installed by the contractor at the intersection as part of this contract.

Customary and applicable ODOT specified manufacturer's guarantees for the installed items shall be turned over to the state following acceptance of the equipment.

The cost of guaranteeing the traffic control system will be incidental to and included in the contract unit price of the various items making up the system.

### **614 Maintaining Traffic Misc.: Per Location**

The Contractor shall be responsible for maintaining traffic during the installation of all intersection work items. All traffic control devices shall be furnished, erected, maintained and removed by the contractor. The following requirements apply:

1. Lane closures on any street, ramp or business entrance in the project will not occur during the peak volume hours of 7 am to 9 am, and 4 pm to 7pm.

2. The use of a law enforcement officer with patrol car is required where a complete blockage of approach traffic is required.
3. The use of a law enforcement officer with patrol car is required if the contractor turns the intersection signals off or puts the intersection in flashing operation.

Payment for Item 614 "Maintaining Traffic Misc.: Per Location" shall include all the items required to maintain traffic in accordance with these requirements. The payment bid item shall be on an each basis for each of the signalized intersections at which work shall be performed.

#### **614 Law Enforcement Officer With Patrol Car For Assistance**

The official patrol car shall be a public safety vehicle as required by the Ohio Revised Code. The law enforcement officers (LEOs) are considered to be employed by the Contractor and the Contractor shall be responsible for their actions. Although they are employed by the Contractor, the Engineer shall have control over their placement. The hours paid shall include minimum show-up time required by the law enforcement agency involved.

The Contractor shall use LEOs where required in the note for "Maintaining Traffic Misc.: Per Location". Use of LEOs for other operations will require prior approval from the Engineer. LEOs should not be used where the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) intends that flaggers be used.

Payment for Item 614, "Law Enforcement Officer with Patrol Car For Assistance" will be on a unit price (hourly) basis. Any additional costs (administrative or otherwise) incurred by the Contractor to obtain the services of a LEO are included with the bid unit price.

#### **624 Mobilization, As Per Plan**

Because the total number of locations to be upgraded may be revised by the site inspection and may be spread across District 07, payment for Item 624 "Mobilization, As Per Plan" will be on an each basis for each signalized intersection where the Contractor has satisfactorily completed the contract work.

#### **632 Vehicular Signal Head, (LED), Black, 3-Section, 12" Lens, 1-Way, With Backplate, As Per Plan**

#### **632 Vehicular Signal Head, (LED), Black, 3-Section, 12" Lens, 2-Way, With Backplate, As Per Plan**

#### **632 Vehicular Signal Head, (LED), Black, 4-Section, 12" Lens, 1-Way, With Backplate, As Per Plan**

#### **632 Vehicular Signal Head, (LED), Black, 5-Section, 12" Lens, 1-Way, With Backplate, As Per Plan**

This item will be used to replace vehicular signal heads at the existing signalized intersections. New attachment hardware shall be installed for span wire (including the signal head hanger on the span wire) or rigid mounted mast arm installation. In addition to the requirements of CMS 632 and 732, the following shall apply:

1. Signal heads and visors shall be constructed of black polycarbonate plastic with cutaway visors and meet ITE specifications.
2. Proper exterior colors shall be obtained by use of colored plastic material rather than painting.
3. All upper signal support hardware and piping up to and including the wire inlet fitting shall be ferrous metal.
4. The entrance fitting shall be of the tri-stud design with serrated rings in order to achieve positive locking.
5. Aluminum backplates with reflective tape will be in accordance with CMS 732.22.

6. The light emitting diode (LED) signal lamp units shall meet the requirements of C&MS 732.04-C. The contractor shall provide ODOT, in writing, with the LED manufacturer name, serial number, part number, description of lamp, and date of manufacture for all LED units that are to be used in the signal head prior to installation, for acceptance and warranty purposes.

Removal of an existing signal head shall be by separate bid item.

Payment for all Item 632 Vehicular Signal Heads as listed above shall be made for complete signal head furnished and installed, including all labor, equipment, materials and new attachment hardware.

#### **632 Tether Wire with Accessories, As Per Plan**

Installation of the tether wire shall be in accordance with CMS 632.225, 732.185 and Standard Construction Drawing TC 85.21 with the following exceptions:

1. The lead sheet shall not be used to wrap the tether wire at the signal head clamp.
2. Shim washers shall be installed inside the span wire clamp on the pin on which the signal head wire entrance hangs when necessary to minimize twisting of the signal head.
3. Balance adjusters shall not be used.
4. On all spans, both simple and complex, the tether span shall be tightened to provide a horizontal span. Signal head drop pipes on the top or extenders on the bottom will be used to keep the tether wire span in a tight horizontal position.

If external conduit risers attached to the support interfere with the attachment of the tether wire pole clamp, the Contractor shall loosen and reattach the conduit riser to allow installation of the pole clamp.

Payment for Item 632 "Tether Wire with Accessories, As Per Plan" will be measured by the number of feet in place, and will include all necessary accessories such as anchor shackles, S-hooks yielding element, thimbles, turnbuckles, guy grips, wire rope clips, lock wire, safety tie wire, and signal head tether anchors and extenders. Payment also includes any labor, equipment, and materials necessary to modify existing conduit risers.

#### **632 Signalization Misc.: Span Wire Adjustment**

For the "Safety" upgrades, the new signal heads with backplates may result in insufficient clearance from the pavement to the bottom of the backplate or tether wire. TC-85.20 and TC-85.21 require a clearance of 17 to 19 feet for tethered signal heads and a clearance of 16 to 18 feet for untethered signal heads. During the site inspection, the Engineer and Contractor will determine if the existing signal span wire elevation will provide a minimum 17 ft. clearance with the new signal heads. If not, they will determine if the span wire attachments at the strain pole can be raised or the span wire sag reduced. If this is not possible, work at this location will not be assigned (cancelled) if this minimum cannot be obtained. It is preferable to raise the span at the poles instead of adjusting the sag.

Payment for Item 632 "Signalization Misc.: Span Wire Adjustment" will be made for each intersection where the Contractor raises the span wire, including all labor and equipment.

**632 Removal of Miscellaneous Traffic Signal Item, Vehicular Signal Head**

Signal heads removed on this project will be delivered to an outpost, district facility, or closest county garage listed below as directed by the Engineer. Delivery should be scheduled upon direction of the contact person, generally between 7:00 am and 4:00 pm.

Auglaize County  
511 Commerce Drive  
Wapakoneta, Ohio 45895  
Ted Hemleben  
937-497-6980 or 419-738-4214

Champaign County  
217 S. Edgewood Avenue  
Urbana, Ohio 43078  
Mark Lewis  
937-497-6982 or 937-653-4614

Clark County  
1630 W. First Street  
Springfield, Ohio 45504  
Jim Shull  
937-497-6984 or 937-325-4573

Darke County  
1144 Martin Street  
Greenville, Ohio 45331  
Scott Brewer  
937-497-6986 or 937-548-3015

Logan County  
149 Northview Drive  
Bellefontaine, Ohio 43311  
Roger Apthorpe  
937-497-6988 or 937-592-6911

Mercer County  
4444 State Route 29 West  
Celina, Ohio 45822  
Steve Zehringer  
937-497-6990 or 419-586-4269

Miami County  
2423 W. State Route 55  
Troy, Ohio 45373  
Shawn Anverse  
937-497-6992 or 937-339-1921

Montgomery County  
300 Smith Drive  
Clayton, Ohio 45315  
John Glover  
937-497-6994 or 937-832-1824

Shelby County  
District 7 Headquarters  
1001 St. Marys Road  
Sidney, Ohio 45365  
Jeffrey Whetstone  
937-497-6841

## GENERAL SUMMARY

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
630	79000	452	EACH	SIGN HANGAR ASSEMBLY, SPAN WIRE
630	79100	10	EACH	SIGN HANGAR ASSEMBLY, MAST ARM
630	80100	1793	SQ FT	SIGN, FLAT SHEET
630	80510	253	EACH	SIGN, STREET NAME
630	87400	211	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL
632	04911	479	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN
632	04917	1	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 3-SECTION, 12" LENS, 2-WAY, WITH BACKPLATE, AS PER PLAN
632	04921	86	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 5-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN
632	04925	7	EACH	VEHICULAR SIGNAL HEAD, (LED) BLACK, 4-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN
632	30601	25544	FOOT	TETHER WIRE WITH ACCESSORIES, AS PER PLAN
632	90020	573	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM, VEHICULAR SIGNAL HEAD
632	90400	68	EACH	SIGNALIZATION MISC.: SPAN WIRE ADJUSTMENT
614	11110	272	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
614	18000	68	EACH	MAINTAINING TRAFFIC MISC.: PER LOCATION
624	15001	68	EACH	MOBILIZATION, AS PER PLAN