TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

August 16, 2011

CALL NO. 105
CONTRACT ID NO. 111331
ADDENDUM # 2

Subject: Ohio County, NH 9001 (012)
Letting August 19, 2011

(1)Revised - Plan Sheet - T2
(2)Revised - Table of Contents - Page 2 of 79
(3)Added - Traffic Control Plan - Pages 15(a)-15(e) of 79
(4)Added - Special Note - Pages 47(a)-47(c) of 79
(5)Revised - Bid Items - Page 79 of 79

Proposal revisions are available at http://transportation.ky.gov/contract/.
Plan revisions are available at http://www.lynnimaging.com/kytransportation/.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

Ryan Griffith
Director
Division of Construction Procurement

RG:ks
Enclosures

COUNTY OF	ITEM NO.	SHEET NO.
OHIO	2-8508.00	12

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

TOTAL	UNITS	CODE	ITEM DESCRIPTION
14	EACH	4714	POLE 120' MTG HT HIGH MAST
2	EACH	4761	LIGHTING CONTROL EQUIPMENT
82	EACH	4773	HPS LUMINAIRE HIGH MAST
1,525	LIN FT	4797	CONDUIT 3 INCH
20	EACH	4800	MARKER
10,770	LIN FT	4820	TRENCHING AND BACKFILLING
14,105	LIN FT	4860	CABLE - NO. 8/3C DUCTED
14,400	LIN FT	4861	CABLE - NO. 6/3C DUCTED
18,765	LIN FT	4862	CABLE - NO. 4/3C DUCTED
18	EACH	20391NS835	JUNCTION BOX TYPE A
2	EACH	20392NS835	JUNCTION BOX TYPE C
1,525	LIN FT	21543EN	BORE AND JACK CONDUIT
137	CU YD	23161EN	POLE BASE - HIGH MAST
1	LS	2569	DEMOBILIZATION
300	SQ FT	2562	SIGNS
1	LP SUM	2650	MAINTAIN & CONTROL TRAFFIC (5%)
4	EACH	2671	PORTABLE CHANGEABLE MESSAGE SIGN

SEE SPECIAL NOTE 1I FOR
PORTABLE CHANGEABLE
MESSAGE SIGN REQUIREMENTS

DESIGNED BY: ADAM PROCTOR
DATE SUBMITTED: 7-15-2011

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF
OHIO

PROJECT NUMBERS: EQ52 092 9001 076-078
NN 9001 (012)

ROADWAY LIGHTING ESTIMATE OF QUANTITIES

FILE NAME: C:\PWWORK\TED.SWANSEGAR\D0344810\T00200SU.DGN
USER: ted.swansegar
DATE PLOTTED: August 16, 2011
E-SHEET NAME: T00200SU
MicroStation v8.11.7.180

COUNTY OF	ITEM NO.	SHEET NO.
OHIO	2-8508.00	12

1 REVISION

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

TOTAL	UNITS	CODE	ITEM DESCRIPTION
14	EACH	4714	POLE 120' MTG HT HIGH MAST
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DEPARTMENT OF HIGHWAYS
COUNTY OF

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MicroStation v8.11.7.180 | E-SHEET NAME: 100200SU | USER: ted.swansegar DATE PLOTTED: August 16, 2011 | FILE NAME: C:\PWWORK\TED.SWANSEGAR\D0344810\T00200SU.DGN

TABLE OF CONTENTS

TRAFFIC CONTROL PLAN

THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY

TRAFFIC CONTROL GENERAL

Except as provided herein, traffic shall be maintained in accordance with the 2003 MUTCD, Standard Specifications and the Standard Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition, at the beginning of the work. Maintain traffic control devices according to Section 112.

If requested by the Contractor, the speed limit in work areas may be reduced by 10 miles per hour and double fines for work zone speeding violations may be established. The extent of these areas within the project limits will be restricted to the proximity of actual work areas as determined by the Engineer. Signage for reduced speed limits and double fine work zones shall be furnished, relocated, and maintained by the Contractor.

TRAFFIC CONTROL PLANS

Proposed changes to the Traffic control plans shall be submitted to the Engineer two weeks prior to work in the area covered by the plan. This submittal shall consist of five copies of the plans for review and distribution. No work shall begin at any location until the traffic control plan has been approved by KYTC.

PROJECT PHASING & CONSTRUCTION PROCEDURES

No lane or shoulder closures shall be allowed during the following times:

- Between 12:00 noon Friday and 6:00 A.M. Tuesday when the holiday is observed on a Monday: New Year's Day, Memorial Day, Labor Day, and Christmas.

- Between 12:00 noon Thursday and 6:00 A.M. Monday when the holiday is observed on a Friday: Good Friday.

- Between 12:00 noon on the day before the holiday and 6:00 A.M. on the day following the holiday when the holiday is observed midweek: Independence Day.

- Between 12:00 noon on the day before Thanksgiving and 6:00 A.M. the following Monday.

The Contractor shall maintain a minimum of two lanes in each direction at all times on the interstate roadways, one lane on entrance and exit ramps, and one lane in each

direction on surface streets, except as noted, or upon approval of the Engineer. The clear lane width shall be 12 feet. Lane closures shall not exceed 1 mile in length. Multiple closures in the same direction of travel are not permitted. Shoulders used as temporary roadways shall be paved with asphalt mixtures for Leveling and Wedging as directed by the Engineer prior to opening to traffic. The Contractor shall provide additional traffic control or flaggers as directed by the Engineer.

DESCRIPTION

Total road closures shall be accomplished by means of a rolling road block. Law enforcement officer(s) with patrol vehicle(s) shall be used to pace traffic. The patrol vehicles shall have high-rise flashing beacons to provide adequate visibility to approaching vehicles. When the Engineer deems appropriate, restrictions may be used to funnel traffic into fewer lanes at the work stoppage area. Where stoppages back up in the vicinity of freeway entrances, the Contractor shall place a flagman and appropriate signs on the ramps to stop traffic. When the Engineer deems appropriate, the Contractor shall erect and maintain "ROAD WORK AHEAD," "BE PREPARED TO STOP," and "STOP AHEAD" signs with flashing twelve inch (12") yellow traffic signal heads. These signs shall be illuminated during the night operation.

The Contractor shall advise the Engineer in writing in advance of all road/lane closures as follows:

- 48 hours notice on all lane closures
- 72 hours notice on total interstate roadway and ramp closures

If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, the Contractor shall make provisions for the passage of the bus as quickly as possible.

Night work is allowed on this project. The method of lighting will require written approval from the Engineer prior to its use.

TEMPORARY LANE CLOSURES

The lengths of additional lane closures shall be only that needed for actual operations, or as directed by the Engineer. Lane closures shall not exceed 1 mile in length. Multiple closures in the same direction of travel are not permitted.

SIGNS

Additional traffic control signs in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILE, LEFT/RIGHT LANE CLOSED 3 MILE, SLOWED/STOPPED TRAFFIC AHEAD. Signage for reduced

speed limits and double fine work zones shall be furnished, relocated, and maintained by the Contractor.

Contrary to section 112, only long term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment. Individual signs will be measured only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged signs or signs directed to be replaced by the Engineer due to poor legibility or reflectivity will not be measured for payment. Contrary to section 112, short term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but will be incidental to Maintain and Control Traffic.

VARIABLE MESSAGE SIGNS

Provide variable message signs in advance of and within the project at locations to be determined by the Engineer. If work is in progress concurrently in both directions, provide additional variable message signs. Place variable message signs one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens relocate or provide additional variable message signs so that traffic has warning of slowed or stopped traffic at least one mile but not more than two miles before reaching the end of the actual queue. The locations designated may vary as the work progresses. The messages required to be provided shall be designated by the Engineer. In the event of damage or mechanical/electrical failure, the Contractor shall repair or replace the Variable Message Sign within 24 hours.

TRUCK MOUNTED ATTENUATORS

If traffic lanes are closed without the use of temporary barrier wall, use Truck Mounted Attenuators. Furnish and install Truck Mounted Attenuators in advance of all pavement removal areas and other work areas when workers are present less than 10 feet from traffic. If there is less than 500 feet between work sites, only a single TMA will be required at a location directed by the Engineer. The TMAs shall be located at the individual work sites and shall be moved as the work zone moves within the project limits. All details of the TMA installations are to be approved by the Engineer. Contrary to Special Provision 13 Crash Cushions, the Department will not take ownership of the TMAs. Truck Mounted Attenuators are incidental to Maintain and Control Traffic.

CONTRACTOR'S AND CONTRACTOR'S EMPLOYEE'S VEHICLES

Median crossovers will not be used at any time. All vehicles will change directions only at interchanges.

PAVEMENT MARKINGS

Remove or cover the lenses of raised pavement markers that do not conform to the traffic control scheme in use, or as directed by the Engineer. Lenses shall be replaced or uncovered before a closed lane is reopened to traffic. No direct payment will be made for removing and replacing or covering and uncovering the lenses, but shall be incidental to "Maintain and Control Traffic".

Temporary striping shall be in accordance with Section 112, except that:

(1) Temporary Striping shall be 6" in width; and

(2) If the contractor's operations or phasing requires temporary markings which must be subsequently removed from the ultimate pavement, an approved removable lane tape shall be used; and

(3) Edge lines will be required for temporary striping; and

(4) Temporary striping shall be in place before a lane is opened to traffic.

(5) Use black mask removable lane tape to cover existing permanent striping that will be required to remain in place for subsequent phases or upon completion of the work.

Permanent striping shall be in accordance with Section 112, except that:

(1) Striping shall be 6" in width; and

(2) Temporary or Permanent striping shall be in place before a lane is opened to traffic; and

(4) Permanent striping shall be Painted.

TRAFFIC COORDINATOR

The Contractor shall designate an employee to be traffic coordinator. The Traffic Coordinator shall inspect the project maintenance of traffic every day during the Contractor's operations and at any time a lane closure is in place. The Traffic Coordinator shall report all incidents throughout the work zone to the Engineer on the project. The Contractor shall furnish the name and telephone number where the Traffic Coordinator can be contacted at all times.

The Traffic Coordinator will arrange for personnel to inspect the traffic control, maintain the signing and devices, and relocate variable message boards as queue lengths change. The personnel will have access on the project to a radio or telephone to be used in case of emergencies or accidents.

COORDINATION OF WORK

The Contractor is advised that other projects may be in progress within or in the near vicinity of this project. The traffic control of those projects may affect this project and the traffic control of this project may affect those projects. The Contractor will coordinate the work on this project with the work of the other contractors. In case of conflict, the Engineer will determine the relative priority to give to work phasing on the various projects.

PAVEMENT EDGE DROP OFFS

Pavement edge drop-offs shall be protected by a lane or shoulder closure. Lane closures shall be protected with plastic drums, vertical panels, or barricades as shown on the Standard Drawings. Cones may be used for shoulder closures, but will not be allowed for lane closures.

Pavement edges that traffic is not expected to cross, except accidentally, will be treated as follows:

Less than 2 inches - No protection required. Warning signs should be placed in advance and throughout the drop-off area.

2 inches to 4 inches - Place plastic drums, vertical panels, or barricades every 50 feet. Wedge with asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area. Spacing for devices on tapered sections should be in accordance with the Manual on Uniform Traffic Control Devices, current edition.

Greater than four inches - positive separation or wedge with 3:1 or flatter slope needed. If there is five (5) feet or more distance between the edge of pavement and drop-off, then drums, panels, or barricades may be used. If the drop off is greater than twelve (12) inches, positive separation is strongly encouraged. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations.

For temporary conditions, drop-offs greater than four (4) inches may be protected with plastic drums, vertical panels or barricades for short distances during daylight hours while work is being done in the drop-off area.

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SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

This Special Note will apply when indicated on the plans or in the proposal.

1.0 DESCRIPTION. Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

2.0 MATERIALS.

2.1 General. Use LED or flip disk/LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

2.2 Sign and Controls. All signs must:

1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
3) Provide a controller consisting of:
   a) Keyboard or keypad.
   b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
   c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
   d) Logic circuitry to control the sequence of messages and flash rate.
4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
6) Allow direct wiring for operation of the sign or arrow board from an external power source when desired.
7) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
8) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
9) Provide the driver board as part of a module. All modules are interchangeable, and have plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.
10) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.

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11) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
12) Provide a photocell control to provide automatic dimming.
13) Allow an on-off flashing sequence at an adjustable rate.
14) Provide a sight to aim the message.
15) Provide a LED display color of approximately 590 nm amber.
16) Provide a controller that is password protected.
17) Provide a security device that prevents unauthorized individuals from accessing the controller.
18) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

/KEEP/RIGHT/⇒⇒⇒/
/KEEP/LEFT/⇐⇐⇐/
/LOOSE/GRAVEL/AHEAD/
/RD WORK/NEXT/**MILES/
/TWO WAY/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/
/REDUCE/SPEED/**MPH/
/BRIDGE/WORK/***0 FT/
/MAX/SPEED/**MPH/
/SURVEY/PARTY/AHEAD/
/MIN/SPEED/**MPH/
/ICY/BRIDGE/AHEAD/ /ONE LANE/BRIDGE/AHEAD/
/ROUGH/ROAD/AHEAD/
/MERGING/TRAFFIC/AHEAD/
/NEXT/***/MILES/
/HEAVY/TRAFFIC/AHEAD/
/SPEED/LIMIT/**MPH/
/BUMP/AHEAD/
/TWO/WAY/TRAFFIC/

*Insert numerals as directed by the Engineer.
Add other messages during the project when required by the Engineer.

2.3 Requirements for Flip-Disc Type Signs. Flip-disc type signs will have the following additional requirements:

1) Disc faces are fluorescent yellow on one side, and flat black on the reverse.
2) Discs are at least 3.5 square inches with a minimum character size of 5 discs horizontally by 7 discs vertically.
3) Discs are designed to operate without lubrication for at least 200 million operations.
4) Line change speed of 600 milliseconds or less.
5) When power is lost, the sign automatically becomes blank or displays a preprogrammed default message.

2.4 Power.

1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.
2) Diesel Power Source. Ensure the following is provided for:

   a) At least 24 spare bulbs available on the project for quick replacement of burned out bulbs.
   b) Black light at both top and bottom of each line to illuminate discs for visibility at night or under adverse weather conditions, for flip disk signs.

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c) Diesel generator and electric start assembly, including batteries and a fuel capacity adequate to provide at least 72 hours continuous operation without refueling.
d) Fuel gage.
e) Provide all other specific features, such as bulb size, protection from sun glare, and shock protection for electronics and bulbs, to the satisfaction of the Engineer.

3.0 CONSTRUCTION. Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater. Unless the Contract specifies flip-disk signs, use Class I signs on interstates and parkways.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel or disk.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will not assume ownership of these signs.

4.0 MEASUREMENT. The final quantity of Variable Message Sign will be the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

5.0 PAYMENT. The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

January 5, 2010

CONTRACT ID: 111331 PAGE: 1
COUNTY: OHIO LETTING: 08/19/11
PROPOSAL: NH 9001 (012) CALL NO: 105

LINE NO	ITEM	DESCRIPTION	APPROXIMATE UNIT QUANTITY	UNIT PRICE	AMOUNT
	SECTION 0001	LIGHTING			
0007	02562	SIGNS (ADDED: 8-16-11)	300.000 SQFT		
0008	02650	MAINTAIN & CONTROL TRAFFIC (ADDED: 8-16-11)	(1.00) LS		
0009	02671	PORTABLE CHANGEABLE MESSAGE SIGN (ADDED: 8-16-11)	4.000 EACH		
0010	04714	POLE 120 FT MTG HT HIGH MAST	14.000 EACH		
0020	04761	LIGHTING CONTROL EQUIPMENT	2.000 EACH		
0030	04773	HPS LUMINAIRE HIGH MAST	82.000 EACH		
0040	04797	CONDUIT-3 IN	1,525.000 LF		
0050	04800	MARKER	19.000 EACH		
0060	04820	TRENCHING AND BACKFILLING	10,770.000 LF		
0070	04860	CABLE-NO. 8/3C DUCTED	14,105.000 LF		
0080	04861	CABLE-NO. 6/3C DUCTED	14,400.000 LF		
0090	04862	CABLE-NO. 4/3C DUCTED	18,765.000 LF		
0100	20391NS835	JUNCTION BOX TYPE A	18.000 EACH		
0110	20392NS835	JUNCTION BOX TYPE C	2.000 EACH		
0120	21543EN	BORE AND JACK CONDUIT	1,525.000 LF		
0130	23161EN	POLE BASE-HIGH MAST (REVISED: 8-16-11)	137.000 CUYD		
	SECTION 0002	DEMOBILIZATION			
0140	02569	DEMOBILIZATION (AT LEAST 1.5%)	LUMP		
		TOTAL BID			