

*City of*  
**SHELBYVILLE**  
*Tennessee*

DATE: June 5, 2019

NOTICE TO BIDDERS

Notice is hereby given that the CITY OF SHELBYVILLE, TENNESSEE is advertising for sealed bids on:

**FLASHING SIGNAL UPGRADE @ U.S. 231 NORTH  
AND AIRPORT BUSINESS PARK ROAD**

Bids will be accepted by the City of Shelbyville Purchasing Office, 201 N. Spring Street, Shelbyville, TN 37160 or may be mailed to P.O. Box 185, Shelbyville, TN 37162 **until 2:00 p.m. on June 27, 2019.** Any bids received after the scheduled closing time for receipt of bids will be returned to the bidder unopened.

The bids shall be opened and read aloud during a public meeting of the City Council appointed BID COMMITTEE on June 27, 2019 at 2:00 p.m. at CITY HALL, 201 N. Spring Street. Award of the bid will be made at the next scheduled City Council meeting at the Shelbyville City Hall Annex. (July 11, 2019)

GENERAL INFORMATION

It will be the sole responsibility of the Bidder to deliver personally or by mail the bid submission to the City of Shelbyville Purchasing Office, 201 N. Spring Street, Shelbyville, TN 37160 on or before the closing hour and date announced for the receipt of the bids. **The envelope must be sealed and marked on the outside “Sealed Bid - FLASHING SIGNAL UPGRADE @ U.S. 231 NORTH AND AIRPORT BUSINESS PARK ROAD”.**

The City is exempt from taxes imposed by State and/or Federal Government. Exemption certificate, if required, will be furnished by the successful bidder and will be completed by the City.

The City Council reserves the right to reject any or all proposals, to waive informalities and to accept all or any part of any proposal as described therein, as they deem necessary to be in the best interest of the City.

City of Shelbyville

Bidders guarantee that the prices quoted in the bid will remain firm from the date of the bid opening until the completion of delivery.

All proposals shall be made on forms furnished by the CITY. Supporting information shall be on the bidder's stationery.

Successful bidder must furnish Certificate of Liability insurance and Workers Compensation insurance to City upon request.

Each proposal must be accompanied by a bidder's bond, or Cashier's Check, or Certified Check made payable to the City of Shelbyville in an amount equaling not less than five percent of the amount bid. If the bidder's bond is offered as guaranty, the bond must be made by a surety company, qualified and authorized to transact business in the State of Tennessee and must be acceptable to the City of Shelbyville. If a check is offered as guaranty, the check of the successful bidder will be cashable at the discretion of the City of Shelbyville, pending the satisfactory execution and acceptance of the contract and the contract bond.

A current business license must also be furnished upon request.

All proposals must indicate the firm's name and address and be signed in ink by an officer or employee having authority to bind the company or firm.

The proposed construction shall be performed in accordance with the **Standard Specifications for Road and Bridge Construction of the Tennessee Department of Transportation, dated January 1, 2015**, which are incorporated herein by reference and made a part hereof. In addition, only those Special Provisions contained within this notice will be considered binding. Any reference to the Standard Specifications dated prior to March 1, 2006 shall be disregarded. In addition, any reference to any Special Provision not contained within this notice shall be disregarded.

All questions related to the notice or project drawings shall be directed to the attention of Mr. Eric Pierce at the City of Shelbyville at 1-931-684-2644, located at Public Works at 714 Industrial Pkwy., Shelbyville, TN 37160.

If a digital format of project drawings is needed, or to view a larger drawing, please contact Lori Saddler at City Hall, 931-684-2691 or Eric Pierce, as listed above.

**Supplemental Specifications to The Standard Specifications**

	Revision Date
Supplemental Specification to Section 100-----	10/08/18
Supplemental Specification to Section 200-----	10/08/18
Supplemental Specification to Section 300-----	10/08/18
Supplemental Specification to Section 400-----	10/08/18
Supplemental Specification to Section 500-----	10/08/18

Supplemental Specification to Section 600----- 10/08/18  
 Supplemental Specification to Section 700----- 10/08/18  
 Supplemental Specification to Section 900----- 10/08/18

**The above Supplemental Specifications, revised as noted, are incorporated by reference but are considered part of Standard Specifications for Road and Bridge Construction of the Tennessee Department of Transportation, dated January 1, 2015. The proposed construction shall be performed in accordance with the Supplemental Specifications. Both these Standard Specifications and Supplemental Specifications may be obtained from the Department at Suite 700, James K. Polk Bldg., Nashville, Tennessee or viewed on the Department’s website at <http://www.tdot.state.tn.us/construction>.**

The proposed construction of this project must be compliant with the following special provision(s):

<b>Special Provision Regarding:</b>	Special Provision No.	Rev. Date
Highway Signs, Luminaires, and Traffic Signals -----	700SIG	02/03/07
Video Detection for Traffic Signals-----	730V	N/A

The intent of these specifications is to insure delivery of a new complete unit for operation. Omission of any essential detail from these specifications does not relieve the supplier from furnishing such unit. All bids must be on new models. This provision excludes surplus, used or demonstrators.

The bidder, by executing a contract or bid proposal on the terms of the invitation to bid, warrants the product that is supplied to the buyer shall remain fully in accord with the specifications and to be of the highest quality. In the event the product, as supplied to the buyer, is found to be defective or does not conform to the specifications, the buyer reserves the right to cancel the order upon written notice to the supplier and return such product to the supplier at the supplier’s expense.

Payments will commence or be made in full after delivery and acceptance of the product. All documents, invoices, title and exemption certificate shall be presented to the City of Shelbyville Purchasing Office.

All Bidders must comply with A.D.A. guidelines if required.

All Bidders must be in compliance with Title VI, Civil Rights Act of 1964, which specifies that: No person in the United States shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under a program or activity receiving federal financial assistance from the Department of Transportation

or the U. S. Department of Justice.

Failure on the part of the bidder to comply with all instructions herein may result in bid rejection.

**BID FORM**

TO: CITY OF SHELBYVILLE  
201 N. SPRING ST.  
SHELBYVILLE, TN 37160

DATE: \_\_\_\_\_

IN ACCORDANCE WITH YOUR INVITATION TO BID ON:

**FLASHING SIGNAL UPGRADE @ U.S. 231 NORTH  
AND AIRPORT BUSINESS PARK ROAD**

WE HEREBY SUBMIT THE FOLLOWING BID:

SPECIFICATIONS:

- **Standard Specifications for Road and Bridge Construction of the Tennessee Department of Transportation, dated January 1, 2015**
- **Supplemental Specifications to The Standard Specifications**

	Revision Date
Supplemental Specification to Section 100-----	10/08/18
Supplemental Specification to Section 200-----	10/08/18
Supplemental Specification to Section 300-----	10/08/18
Supplemental Specification to Section 400-----	10/08/18
Supplemental Specification to Section 500-----	10/08/18
Supplemental Specification to Section 600-----	10/08/18
Supplemental Specification to Section 700-----	10/08/18
Supplemental Specification to Section 900-----	10/08/18

- **Special Provisions:**

700SIG	Highway Signs, Luminaires, and Traffic Signals	02/03/07
730V	Video Detection for Traffic Signals	N/A

### ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
712-01	TRAFFIC CONTROL	1	LS
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	120	L.F.
716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	8	EACH
717-01	MOBILIZATION	1	LS
730-02.07	SIGNAL HEAD ASSEMBLY (130)	3	EACH
730-02.16	SIGNAL HEAD ASSEMBLY (150 A2)	1	EACH
730-02.30	SIGNAL HEAD ASSEMBLY (130 A3)	2	EACH
730-03.20	INSTALL PULL BOX (TYPE A)	4	EACH
730-12.02	CONDUIT 2" DIAMETER (PVC)	900	L.F.
730-12.13	CONDUIT 2" DIAMETER (JACK AND BORE)	160	L.F.
730-13.02	VEHICLE DETECTOR (VIDEO)	3	EACH
730-14.01	SHIELDED DETECTOR CABLE	2600	L.F.
730-14.02	SAW SLOT	110	L.F.
730-14.03	LOOP WIRE	330	L.F.
730-16.02	EIGHT PHASE ACTUATED CONTROLLER	1	EACH

See plan sheet quantities for footnotes concerning items.

Project to be completed by October 31, 2019.

Delivered and installed product must meet on-site approval by Public Works representative.

Any questions may be directed to Eric Pierce, Public Works Director, at 931-684-2644 or Lori Saddler, Purchasing/IT Director, at 931-684-2691.

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to TCA 12-12-106.

Each bid shall be in a sealed envelope which is plainly marked "Sealed bid – Flashing Signal Upgrade at U.S. 231 North and Airport Business Park Road".

The bidders name, address, contractor's and all subcontractor's license numbers shall appear on the envelope per State of Tennessee laws and regulations. Bidders upon submitting bids equal to or greater than twenty-five thousand dollars (\$25,000.00) in value are required to be licensed in accordance with Tennessee State laws. TCA 62-6-119

WE HEREBY SUBMIT THE FOLLOWING PRICE FOR YOUR CONSIDERATION:

\_\_\_\_\_ \$ \_\_\_\_\_  
**TOTAL BID WRITTEN IN WORDS**

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Company name and address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone number: \_\_\_\_\_

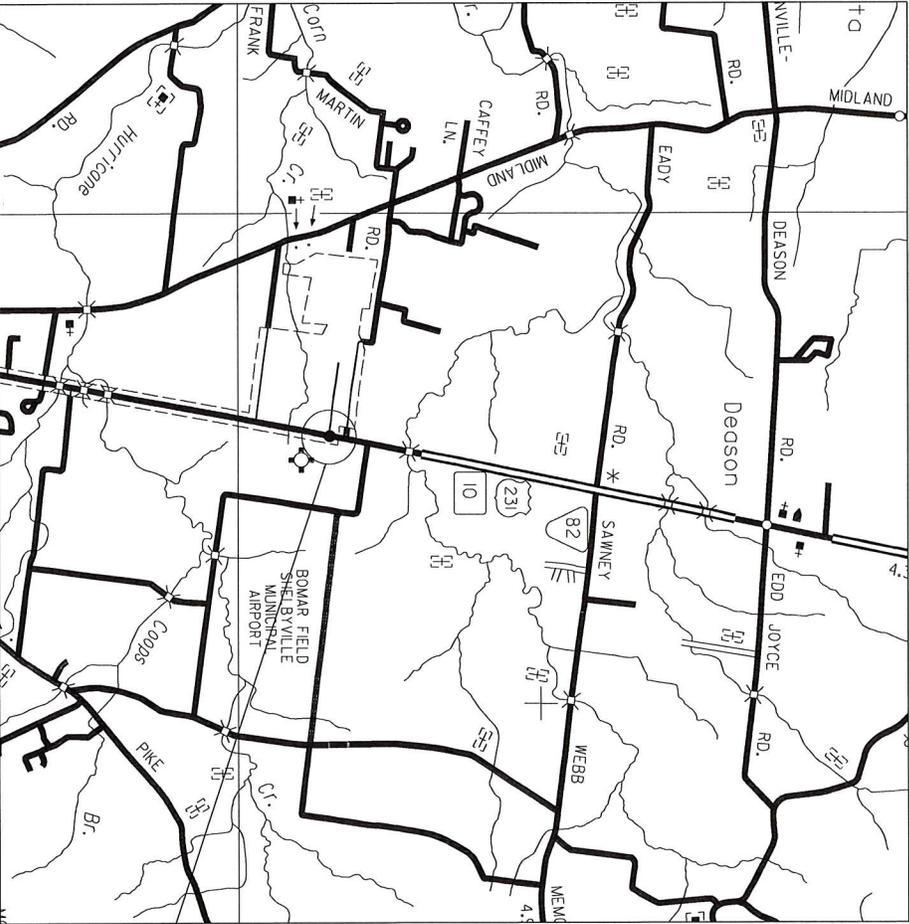
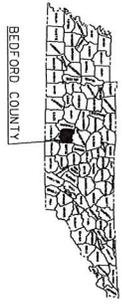
Email: \_\_\_\_\_

Bid quote good for \_\_\_\_\_ days.

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTI. QUANTITIES & STD. DRAWINGS
3	SIGNAL NOTES
4	SIGNAL LAYOUT

**SIGNAL UPGRADE FOR  
CITY OF SHELBYVILLE  
US 231 AT  
AIRPORT BUSINESS PARK ROAD**



**NO EXCLUSIONS  
NO EOLIATIONS**

- NOTES:**
1. THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.
  2. CONTRACTOR TO OBTAIN TENNESSEE DEPARTMENT OF TRANSPORTATION (TDOT) STANDARD DRAWINGS. ALL STANDARD DRAWINGS LISTED IN THIS PROJECT ARE TDOT STANDARD DRAWINGS.

**INTERSECTION OF US 231 AND  
AIRPORT BUSINESS PARK ROAD**



**CIVIL ENGINEER-  
GRESHAM, SMITH AND PARTNERS**  
1400 NASHVILLE CITY CENTER, 511 UNION STREET  
NASHVILLE, TENNESSEE, 37219  
(615) 770-8100 TELEPHONE  
(866) 539-7192 FAX  
CONTACT: MEREDITH CEBELAK, P.L.D., P.E.



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**GRESHAM  
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PARTNERS**  
1400 Nashville City Center  
Nashville, Tennessee 37219  
www.gsp.com

**U.S. HIGHWAY 231 AT  
AIRPORT BUSINESS PARK ROAD**  
  
SHELBYVILLE, TENNESSEE

NO.	DATE	REVISION

US 231 AT  
AIRPORT BUSINESS PARK  
1  
DATE: 08/20/15  
SCALE: AS SHOWN

TITLE SHEET



**GENERAL**

- (1) EQUIPMENT AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE FOLLOWING TENNESSEE DEPARTMENT OF TRANSPORTATION PUBLICATIONS.
  - SPECIAL PROVISIONS SECTION 700 - TRAFFIC SIGNALS
  - SPECIAL PROVISIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 1, 2015)
  - STANDARD ROADWAY AND STRUCTURE DRAWINGS
- (2) ALL PAVEMENT MARKINGS SHOWN ON THE PLANS, E.G. STOP BARS, LANE LINES, ETC. SHALL BE IN PLACE PRIOR TO ACTIVATION OF THE TRAFFIC SIGNAL START UP FLASH SIGNAGE.
- (3) AN ADVANCE FLASH OPERATION PERIOD IS REQUIRED TO MAKE MOTORISTS AWARE OF THE PRESENCE OF THE TRAFFIC SIGNAL. THE ADVANCE FLASH OPERATION SHALL BE FOR A MINIMUM OF SEVEN (7) CALENDAR DAYS UP TO FOURTEEN (14) CALENDAR DAYS PRIOR TO ACTIVATION OF NORMAL OPERATION. OTHER FLASH OPERATION PERIODS MAY BE CONSIDERED UPON WRITTEN APPROVAL FROM THE REGIONAL TRAFFIC ENGINEER.
- (4) SALVAGEABLE EQUIPMENT SHALL BECOME THE PROPERTY OF THE CITY OF SHELBYVILLE AND SHALL BE STOCKPILED AT A LOCATION DESIGNATED BY THE ENGINEER FOR PICKUP BY THE CITY.
- (5) THE CONTRACTOR SHALL SUBMIT A MATERIAL LIST TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO START OF CONSTRUCTION.
- (6) THESE PLANS SET FORTH CONDITIONS, NOTES DURING THEIR DEVELOPMENT. ALL SQUARES ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ALL WORK SHOWN IN THE PLANS.
- (7) THE PROPOSED LOCATION OF CONDUIT AND PULL/JUNCTION BOXES SHOWN ON THESE PLANS MAY BE ADJUSTED TO CLEAR EXISTING TREES, SIGNS, LIGHTING UTILITIES, STRUCTURES OR OTHER FIELD CONDITIONS. SIGNIFICANT DEVIATIONS SHALL BE IDENTIFIED BY THE ENGINEER. SIGNIFICANT ADJUSTMENTS SHALL BE DEFINED AS DEVIATION FROM PROPOSED ROUTES GREATER THAN 5 FEET IN OFFSET.
- (8) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA SIGNALIZATION.

**TRAFFIC SIGNAL**

- (9) SIGNALS SHALL BE INSTALLED AS PER TPOOT STANDARD DRAWINGS T-SG-7A, T-SG-7E, T-SG-7F, T-SG-9, T-SG-10, T-SG-12 AND T-SG-13

**SIGNAL HEADS**

- (10) ANY SIGNAL HEADS, WHEN VISIBLE TO DRIVERS, BUT NOT OPERATIONAL, SHALL BE COMPLETELY COVERED.
- (11) ALL CIRCULAR AND RESON INDICATORS WITHIN ALL VEHICULAR SIGNAL HEADS PROPOSED UNLESS OTHERWISE NOTED IN THE PLANS.
- (12) CIRCULAR INDICATORS SHALL MEET THE VTS-SHED CIRCULAR SIGNAL SUPPLEMENT FOR EXPANDED EXTENDED VIEW.
- (13) LED SIGNAL MODULES SHALL HAVE "NONDESCENT LOCK".
- (14) NONDESCENT OR SCREW-IN LED MODULES ARE NOT ACCEPTABLE.
- (15) MANUFACTURER SHALL PROVIDE A MINIMUM TEN YEAR WARRANTY FOR OPERATION OF THE UNIT.
- (16) SIGNAL HEAD PLACEMENT SHALL BE PER TPOOT STANDARD T-SG-7A, T-SG-7E AND T-SG-7F.
- (17) SIGNAL HEADS SHALL BE YELLOW WITH BLACK ALUMINUM BACK PLATES.
- (18) SIGNAL HEAD EQUIPMENT (IE FRAME AND ILLUMINATION TYPE) SHALL BE APPROVED BY THE CITY PRIOR TO ORDERING AND INSTALLATION.
- (19) BACKPLATES SHALL BE ALUMINUM LOVERED DULL NON-REFLECTIVE BLACK FINISH WITH YELLOW PAINED REFLECTIVE STRIPES. SIGNAL HEADS SHALL INCLUDE LOVERED BACKPLATES WITH YELLOW PAINED REFLECTIVE STRIPES. SIGNAL HEADS SHALL BE MADE OF A TYPE III PRISMATIC OR BETTER MATERIAL.

**CONTROLLER**

- (20) THE TRAFFIC SIGNAL CONTROLLER FURNISHED BY THE CONTRACTOR SHALL BE COMPLETE WITH ALL INCIDENTAL AND AUXILIARY EQUIPMENT (E.G. SERIALIZE CONTACT, MONITOR HARDWARE AND CABINET) NECESSARY FOR INSTALLATION AND OPERATION EITHER AS AN ISOLATED LOCATION OR AS PART OF A SYSTEM OF INTERSECTIONS. ALL WIRING AND ELECTRICAL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE TRAFFIC SIGNAL AS SPECIFIED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
- (21) THE CONTROLLER SHALL BE SERVICING SPEC. 180, CAPABLE OF PROVIDING FULLY ACTUATED OPERATION, CONTAINING AN ETHERNET PORT FOR COMMUNICATIONS TO THE CITY NETWORK AND COMPLETE WITH ALL SOFTWARE, FIRMWARE, AND CABINET CONNECTIONS TO ALLOW THE SIGNAL TO OPERATE IN THE EXISTING CITY OF SHELBYVILLE COMMUNICATIONS SYSTEM.
- (22) THE CONTROLLER SHALL BE COMPLETELY WIRED FOR OPERATION INCLUDING BUT NOT LIMITED TO A CITY STANDARD EIGHT PHASE CABINET, 81A/81B PHASE CONTROLLER WITH LOAD SWITCHES, FOUR FLASH TRANSFER RELAYS, FIVE DETECTION UNIT WITH DETECTORS FOR FOUR PHASES, G) FLASHER AND ANY OTHER EQUIPMENT NECESSARY TO MAKE AN OPERATIONAL TRAFFIC SIGNAL BASED ON THE DESIGN PLANS PROVIDED. THE CONTRACTOR SHALL MEET ALL NATIONAL ELECTRICAL MANUFACTURER APPROACHES. ALL EQUIPMENT WILL MEET ALL NATIONAL ELECTRICAL MANUFACTURER APPROACHES. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COPIES OF THE AID INVOICES FOR ALL TRAFFIC SIGNAL EQUIPMENT INSTALLED ON THIS PROJECT.

**VIDEO DETECTION**

- (23) VIDEO DETECTION CAMERAS SHALL BE INSTALLED PER T D O T STANDARD DRAWING T-SS-8A. THE CABINET VIDEO DETECTION SYSTEM SHALL INCLUDE A SYSTEM INTERFACE CARD TO SUPPORT ETHERNET COMMUNICATIONS TO ALL VIDEO PROCESSOR UNIT'S PAYMENT FORM T-SS-1312. INCLUDES THE COMPLETED INSTALLATION OF A VIDEO DETECTION SYSTEM IN ANY CONTROL EQUIPMENT NECESSARY FOR A FULL OPERATIONAL DETECTION SYSTEM SHALL BE INCLUDED IN COST.
- (24) THE CONTRACTOR SHALL SUBMIT VIDEO DETECTION SYSTEM CUT SHEETS FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION. VIDEO DETECTOR LEAD-IN CABLE SHALL BE ONE CONTINUOUS LENGTH AND SPICES SHALL BE PERMITTED ONLY IN THE PULL BOXES AND/OR CONTROL CABINET. ALL CAMERA LEADINS SHALL BE LABELED WITH THE APPROPRIATE PHASE AND APPROACH TO WHICH THEY ARE ATTACHED BOTH IN THE PULL BOX AND CONTROL CABINET.
- (25) VIDEO DETECTION CAMERAS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

**PULL BOXES**

- (26) ALL PULL BOXES SHALL MEET THE SPECIFICATIONS REFERENCED IN THESE PLANS AND TPOOT STANDARD DRAWING T-SG-2 AND HAVE A TROPIC LOGO ON COVER.
- (27) PULL BOXES SHALL NOT BE LOCATED IN DRAINAGE SWALES, DITCHES, DRAINWAYS, SURFACE WATER PAVED SHOULDER, OR PEDESTRIAN RAWS.
- (28) INSTALL PULL BOX COVERS FLUSH WITH SURROUNDING GRADE. TO THE EXTENT EXISTING CONDITIONS ALLOW.

**CONDUIT**

- (29) ALL CONDUIT SHALL BE SCHEDULE 80 PVC UNLESS NOTED OTHERWISE. CONDUIT SHALL BE LAD AT A MINIMUM DEPTH OF 24 INCHES BELOW FINISHED GRADE AND SHALL COMPLY WITH TPOOT TRENCHING DETAILS AND CONDUIT PLACEMENT. THE CONTRACTOR IS ALLOWED TO JACK AND BORE THE CONDUIT AT NO ADDITIONAL COST.
- (30) AT THE CONTRACTOR'S DISCRETION, DIRECTIONAL BORING METHOD MAY BE USED FOR QUANTITIES PROPOSED CONDUIT ROUTES ARE AERIAL BASED. FIELD VERIFICATION OF MECHANICAL VERSUS HAND TRENCHING REQUIREMENTS OF THE PROPOSED ROUTES HAVE NOT BEEN EVALUATED. CONTRACTOR ASSUMES ALL RISKS ASSOCIATED WITH THE PROPOSED ROUTES.
- (31) ALL CONDUIT TRENCHES AND BORE ARE SHALL BE BACK FILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF EACH WORKING DAY. OR WHENEVER THE WORK ZONE BECOMES INACTIVE DO NOT OPEN ANY AREA THAT CANNOT BE COMPLETED AND BACK FILLED IN THE SAME WORK OPERATION, OR THE END OF THE WORK DAY, WHICHEVER IS LESS.

**SIGNAL TIMING**

- (32) THE CONTRACTOR SHALL CONTACT THE CITY OF SHELBYVILLE A MINIMUM OF THIRTY (30) DAYS PRIOR TO ACTIVATION OF THE SIGNAL, TO OBTAIN THE INITIAL SIGNAL TIMINGS CORPORATION AND TIME SAGE PROGRAMMING IN THE TRAFFIC SIGNAL CONTROLLER.

**SUBMITTALS**

- (34) ALL ACCEPTANCE CUT SHEETS SHALL BE SUBMITTED TO THE CITY OF SHELBYVILLE FOR REVIEW AND ACCEPTANCE PRIOR TO INSTALLATION.

**LOOP DETECTORS**

- (35) DETECTOR LOOPS SHALL BE INSTALLED IN ACCORDANCE WITH T D O T STANDARD DRAWING T-SG-3 UNLESS OTHERWISE NOTED. LOOPS SHALL BE SEALED WITH APPROVED LOOP SEALANT AND INSTALLED WITHOUT FLEXIBLE TUBE OR BACKER ROD.
- (36) ADVANCE DETECTOR LOOPS SHALL MEASURE 6 X 6 WITH THREE TURNS OF WIRE UNLESS OTHERWISE NOTED. LOOPS SHALL BE CENTERED IN PROPOSED LANES.
- (37) LOOPS AND LEAD-IN CABLE SHALL BE CONTINUOUS LENGTH. SPICES SHALL BE PERMITTED ONLY IN PULL BOXES OR CONTROLLER CABINETS.
- (38) LOOPS SHALL BE LABELED IN THE CABINET IN ACCORDANCE WITH T D O T STANDARD DRAWING T-SG-12. ALL WIRES SHALL BE LABELED IN PULL BOXES ON MULTI-LANE APPROACHES.
- (39) LOOP DETECTOR AMPLIFIERS SHALL BE FOUR CHANNEL FOR CARD RACK PLACEMENT. EACH LOOP SHALL HAVE ITS OWN DISTINCT CIRCUIT CHANNEL.

**UTILITIES**

- (40) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR WITHIN THE TIME FRAME AND BUDGET INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111 AS REQUIRED BY 65-31-106 WILL BE REQUIRED.
- (41) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO FURNISH SUCH EQUIPMENT, THE COST OF SUCH EQUIPMENT SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

**CONSTRUCTION WORK ZONE AND TRAFFIC CONTROL**

- (42) ADVANCE WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE RECTED UP TO ONE WEEK BEFORE NEEDED. IF THE SIGN PLACE IS FULLY COVERED.
- (43) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING AND REINSTALLING

**WARRANTY**

- (44) SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06. SIGNS (CONSTRUCTION) PER SQUARE FOOT.
- (45) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR RECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- (46) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY WITHIN PROJECT ZONE. THE ENGINEER SHALL REMOVE OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE. WHEN THESE IS SUFFICIENT RISK OF DAMAGE TO THE PROJECT, THE ENGINEER SHALL REJECT THE ENGINEER'S APPROVAL TO USE THEM AT ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
- (47) THE CONTRACTOR SHALL SUBMIT A FINAL TRAFFIC CONTROL PLAN TO THE ENGINEER PRIOR TO BEGINNING WORK. THE TRAFFIC CONTROL PLAN SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.
- (48) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

**WARRANTY**

- (49) ALL EQUIPMENT SHALL BE WARRANTED FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR THREE (3) YEARS FROM DATE DELIVERED. SIGNAL HEADS SHALL BE WARRANTED FOR FIVE (5) YEARS.



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GRESHAM PARTNERS 1408 AIRPORT BUSINESS PARK ROAD SHELBYVILLE, TN 37076-1111

U.S. HIGHWAY 231 AT AIRPORT BUSINESS PARK ROAD SHELBYVILLE, TENNESSEE

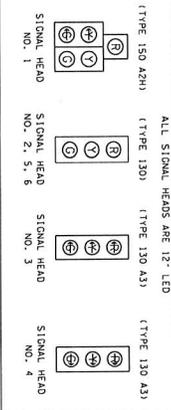


REVISION	Date	Revision

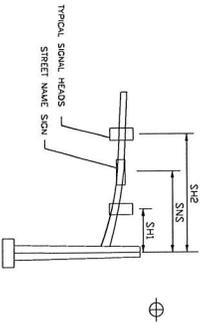
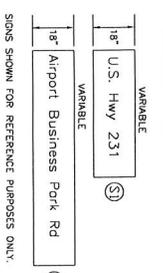
**TRAFFIC SIGNAL LEGEND**

- EXISTING MAST ARM POLE
- (X) PROPOSED SIGNAL HEAD
- ☒ EXISTING PAD MOUNTED CABINET
- ☑ PROPOSED PULL BOX
- ▣ EXISTING PULL BOX
- ▣ PROPOSED JACK & BORE CONDUIT
- EXISTING CONDUIT
- PROPOSED CONDUIT
- VIDEO DETECTOR CABLE

**SIGNAL DISPLAYS**



**SIGN DETAILS**



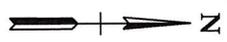
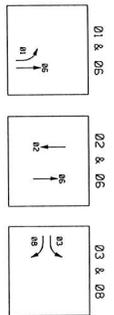
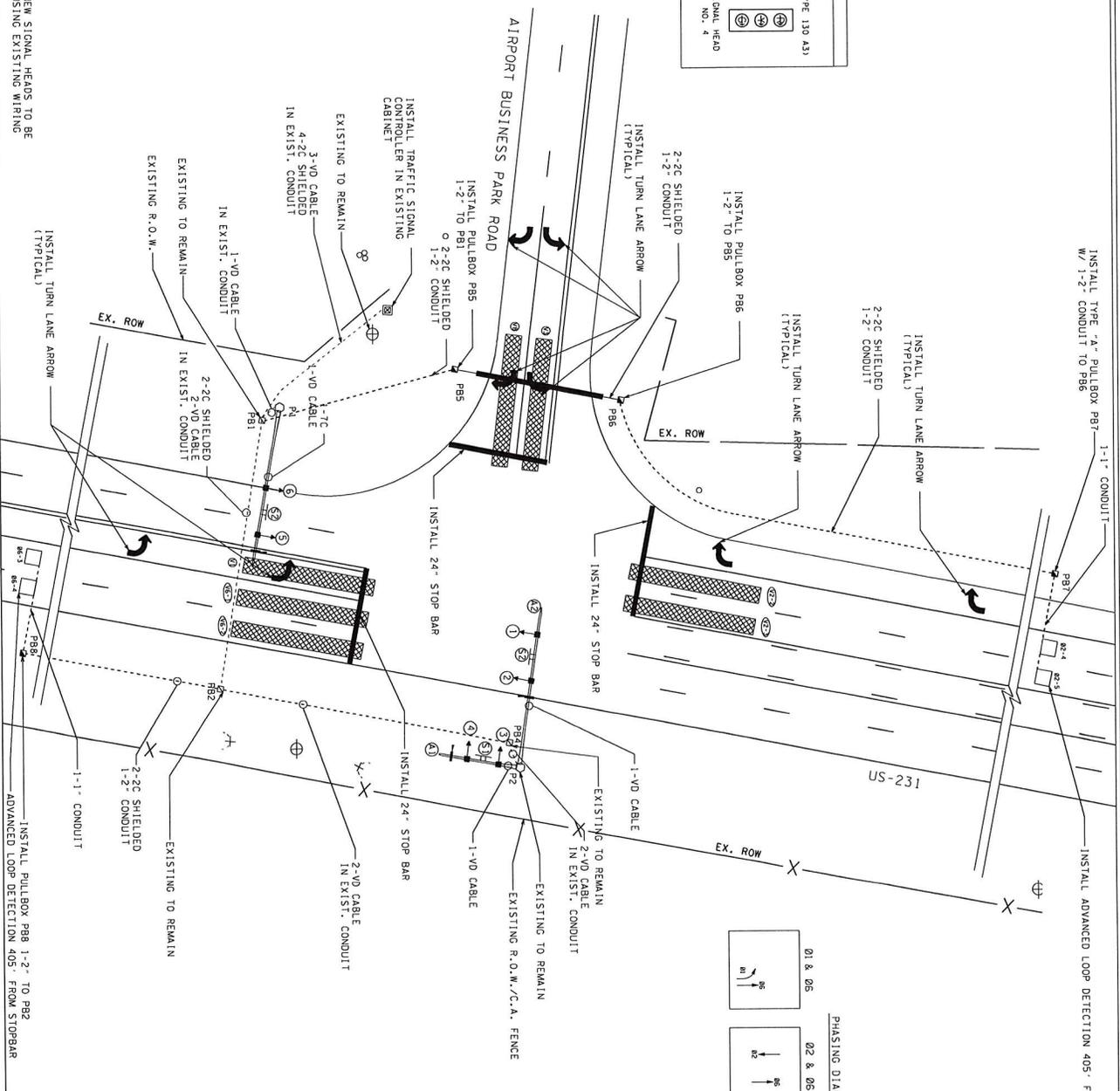
**MAST ARM DETAILS**

N.T.S.

POLE	SNS	SH1	SH2
P1	40'-0"	31'-0"	89'-0"
P2-A3	14'-0"	8'-0"	20'-0"
P2-BE	42'-0"	33'-0"	31'-0"



NOTE: NEW SIGNAL HEADS TO BE WIRED USING EXISTING WIRING



4

**REVISION**

No.	Date	Revision

**U.S. HIGHWAY 231 AT AIRPORT BUSINESS PARK ROAD**

SHELBYVILLE, TENNESSEE

**G S & P**

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