



**CALL NO. 101**

**CONTRACT ID. 201019**

**KENTON COUNTY**

**FED/STATE PROJECT NUMBER NHPP IM 0758 (105)**

**DESCRIPTION I-75**

**WORK TYPE JPC PAVEMENT REPAIRS - DIAMOND GRINDING**

**PRIMARY COMPLETION DATE 10/1/2020**

**LETTING DATE: April 24,2020**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 am EASTERN DAYLIGHT TIME April 24,2020. Bids will be publicly announced at 10:00 am EASTERN DAYLIGHT TIME.

**NO PLANS ASSOCIATED WITH THIS PROJECT.**

**DBE CERTIFICATION REQUIRED - 8.50%**

**REQUIRED BID PROPOSAL GUARANTY:** Not less than 5% of the total bid.

## TABLE OF CONTENTS

PART I	SCOPE OF WORK
	<ul style="list-style-type: none"><li>• PROJECT(S), COMPLETION DATE(S), &amp; LIQUIDATED DAMAGES</li><li>• CONTRACT NOTES</li><li>• FEDERAL CONTRACT NOTES</li><li>• JPC RIDE QUALITY</li><li>• SPECIAL NOTE(S) APPLICABLE TO PROJECT</li><li>• RIGHT OF WAY NOTES</li><li>• UTILITY IMPACT &amp; RAIL CERTIFICATION NOTES</li></ul>
PART II	SPECIFICATIONS AND STANDARD DRAWINGS
	<ul style="list-style-type: none"><li>• SPECIFICATIONS REFERENCE</li><li>• SUPPLEMENTAL SPECIFICATION</li><li>• [SN-1I] PORTABLE CHANGEABLE SIGNS</li></ul>
PART III	EMPLOYMENT, WAGE AND RECORD REQUIREMENTS
	<ul style="list-style-type: none"><li>• FEDERAL-AID CONSTRUCTION CONTRACTS - FHWA 1273</li><li>• NONDISCRIMINATION OF EMPLOYEES</li><li>• EXECUTIVE BRANCH CODE OF ETHICS</li><li>• PROJECT WAGE RATES LOCALITY 4 / FEDERAL</li><li>• NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EEO KENTON</li></ul>
PART IV	INSURANCE
PART V	BID ITEMS

**PART I**  
**SCOPE OF WORK**

## ADMINISTRATIVE DISTRICT - 06

**CONTRACT ID - 201019**

**NHPP IM 0758 (105)**

**COUNTY - KENTON**

**PCN - DE05900752019**

**NHPP IM 0758 (105)**

I-75 (MP 186.751) ADDRESS PAVEMENT CONDITION OF PCC PAVEMENT ON I-75 IN BOTH DIRECTIONS FROM MP 186.751 TO MP 190.700 (MP 190.700), A DISTANCE OF 03.95 MILES.JPC PAVEMENT REPAIRS - DIAMOND GRINDING SYP NO. 06-20032.00.

GEOGRAPHIC COORDINATES LATITUDE 39:03:21.00 LONGITUDE 84:32:38.00

**COMPLETION DATE(S):**

COMPLETED BY 10/01/2020

APPLIES TO ENTIRE CONTRACT

## **CONTRACT NOTES**

### **PROPOSAL ADDENDA**

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

### **BID SUBMITTAL**

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website ([www.bidx.com](http://www.bidx.com)) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

### **JOINT VENTURE BIDDING**

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

### **UNDERGROUND FACILITY DAMAGE PROTECTION**

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. When prescribed in said directives, the contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom shall be contacted through their individual Protection Notification Center. Non-compliance with these directives can result in the enforcement of penalties.

### **REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY**

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

**For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.**

Businesses can register with the Secretary of State at <https://secure.kentucky.gov/sos/ftbr/welcome.aspx>.

### **SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT**

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to [kytc.projectquestions@ky.gov](mailto:kytc.projectquestions@ky.gov). The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website ([www.transportation.ky.gov/contract](http://www.transportation.ky.gov/contract)). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

### **HARDWOOD REMOVAL RESTRICTIONS**

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

### **INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES**

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

### **ACCESS TO RECORDS**

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially

disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004.

April 30, 2018

### **FEDERAL CONTRACT NOTES**

The Kentucky Department of Highways, in accordance with the Regulations of the United States Department of Transportation 23 CFR 635.112 (h), hereby notifies all bidders that failure by a bidder to comply with all applicable sections of the current Kentucky Standard Specifications, including, but not limited to the following, may result in a bid not being considered responsive and thus not eligible to be considered for award:

- |                                |  |
|--------------------------------|--|
| 102.02 Current Rating          | 102.08 Preparation and Delivery of Proposals |
| 102.13 Irregular Bid Proposals | 102.14 Disqualification of Bidders           |
| 102.09 Proposal Guaranty       |  |

### **CIVIL RIGHTS ACT OF 1964**

The Kentucky Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Federal Department of Transportation (49 C.F.R., Part 21), issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin.

### **NOTICE TO ALL BIDDERS**

To report bid rigging activities call: 1-800-424-9071.

The U.S. Department of Transportation (DOT) operates the above toll-free “hotline” Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of the DOT’s continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

### **SECOND TIER SUBCONTRACTS**

Second Tier subcontracts on federally assisted projects shall be permitted. However, in the case of DBE’s, second tier subcontracts will only be permitted where the other subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.



### **DISADVANTAGED BUSINESS ENTERPRISE PROGRAM**

It is the policy of the Kentucky Transportation Cabinet (“the Cabinet”) that Disadvantaged Business Enterprises (“DBE”) shall have the opportunity to participate in the performance of highway construction projects financed in whole or in part by Federal Funds in order to create a level playing field for all businesses who wish to contract with the Cabinet. To that end, the Cabinet will comply with the regulations found in 49 CFR Part 26, and the definitions and requirements contained therein shall be adopted as if set out verbatim herein.

The Cabinet, contractors, subcontractors, and sub-recipients shall not discriminate on the basis of race, color, national origin, or sex in the performance of work performed pursuant to Cabinet contracts. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted highway construction projects. The contractor will include this provision in all its subcontracts and supply agreements pertaining to contracts with the Cabinet.

Failure by the contractor to carry out these requirements is a material breach of its contract with the Cabinet, which may result in the termination of the contract or such other remedy as the Cabinet deems necessary.

### **DBE GOAL**

The Disadvantaged Business Enterprise (DBE) goal established for this contract, as listed on the front page of the proposal, is the percentage of the total value of the contract.

The contractor shall exercise all necessary and reasonable steps to ensure that Disadvantaged Business Enterprises participate in a least the percent of the contract as set forth above as goals for this contract.

### **OBLIGATION OF CONTRACTORS**

Each contractor prequalified to perform work on Cabinet projects shall designate and make known to the Cabinet a liaison officer who is assigned the responsibility of effectively administering and promoting an active program for utilization of DBEs.

If a formal goal has not been designated for the contract, all contractors are encouraged to consider DBEs for subcontract work as well as for the supply of material and services needed to perform this work.

Contractors are encouraged to use the services of banks owned and controlled by minorities and women.

### **CERTIFICATION OF CONTRACT GOAL**

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE ACCEPTED. These bids will not be considered for award by the Cabinet and they will be returned to the bidder.

“The bidder certifies that it has secured participation by Disadvantaged Business Enterprises (“DBE”) in the amount of \_\_\_\_\_ percent of the total value of this contract and that the DBE participation is in compliance with the requirements of 49 CFR 26 and the policies of the Kentucky Transportation Cabinet pertaining to the DBE Program.”

**The certification statement is located in the electronic bid file. All contractors must certify their DBE participation on that page. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted.**

### **DBE PARTICIPATION PLAN**

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 14-35 DBE, within **5** days of the letting. This is necessary before the Awards Committee will review and make a recommendation. **The project will not be considered for award prior to submission and approval of the apparent low bidder’s DBE Plan/Subcontractor Request.**

The DBE Participation Plan shall include the following:

1. Name and address of DBE Subcontractor(s) and/or supplier(s) intended to be used in the proposed project;
2. Description of the work each is to perform including the work item, unit, quantity, unit price and total amount of the work to be performed by the individual DBE. The Proposal Line Number, Category Number, and the Project Line Number can be found in the “material listing” on the Construction Procurement website under the specific letting;
3. The dollar value of each proposed DBE subcontract and the percentage of total project contract value this represents. DBE participation may be counted as follows:
  - a. If DBE suppliers and manufactures assume actual and contractual responsibility, the dollar value of materials to be furnished will be counted toward the goal as follows:
    - The entire expenditure paid to a DBE manufacturer;
    - 60 percent of expenditures to DBE suppliers that are not manufacturers provided the supplier is a regular dealer in the product involved. A regular dealer must be engaged in, as its principal business and in its own name, the sale of products to the public, maintain an inventory and own and operate distribution equipment; and
    - The amount of fees or commissions charged by the DBE firms for a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.

- b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
  - c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;
4. Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
  5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

#### **UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED**

Contractors must submit the signed subcontract between the contractor and the DBE contractor, along with the DBE's certificate of insurance. If the DBE is a supplier of materials for the project, a signed purchase order must be submitted to the Division of Construction Procurement.

Changes to DBE Participation Plans must be approved by the Cabinet. The Cabinet may consider extenuating circumstances including, but not limited to, changes in the nature or scope of the project, the inability or unwillingness of a DBE to perform the work in accordance with the bid, and/or other circumstances beyond the control of the prime contractor.

#### **CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS**

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set (hard copy along with an electronic copy) of this information must be received in the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

Where the information submitted includes repetitious solicitation letters it will be acceptable to submit a sample representative letter along with a distribution list of the firms solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal as necessary to demonstrate compliance with the factors listed below which the Cabinet considers in judging good faith efforts. This documentation may include written subcontractors' quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

The Good Faith Effort Package shall include, but may not be limited to information showing evidence of the following:

1. Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2. Whether the bidder provided solicitations through all reasonable and available means;
3. Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4. Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainty whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the Disadvantaged Enterprise Business Liaison Officer (DEBLO) in the Office of Civil Rights and Small Business Development to give notification of the bidder's inability to get DBE quotes;
5. Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces;
6. Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract;
7. Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached;
8. Whether quotations were received from interested DBE firms but were rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firm's quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE goals;
9. Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
10. Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal; and
11. Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.

### **FAILURE TO MEET GOOD FAITH REQUIREMENT**

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Good Faith Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. The bidder will be notified of the Committee's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of the Committee's decision. The reconsideration meeting will be held within two days of the receipt of a request by the bidder for reconsideration.

The request for reconsideration will be heard by the Office of the Secretary. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration explaining the basis for the finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so.

The result of the reconsideration process is not administratively appealable to the Cabinet or to the United States Department of Transportation.

The Cabinet reserves the right to award the contract to the next lowest responsive bidder or to rebid the contract in the event that the contract is not awarded to the low bidder as the result of a failure to meet the good faith requirement.

### **SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT**

Failure by the prime contractor to fulfill the DBE requirements of a project under contract or to demonstrate good faith efforts to meet the goal constitutes a breach of contract. When this occurs, the Cabinet will hold the prime contractor accountable, as would be the case with all other contract provisions. Therefore, the contractor's failure to carry out the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- Disallow credit toward the DBE goal;
- Withholding progress payments;
- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

### **PROMPT PAYMENT**

The prime contractor will be required to pay the DBE within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

### **CONTRACTOR REPORTING**

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to complete and submit a **signed and notarized** Affidavit of Subcontractor Payment (TC 18-7) and copies of checks for any monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal. These documents must be completed and signed within 7 days of being paid by the Cabinet.

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers.

#### **\*\*\*\*\* IMPORTANT \*\*\*\*\***

**Please mail the original, signed and completed TC (18-7) Affidavit of Subcontractor Payment form and all copies of checks for payments listed above to the following address:**

Office of Civil Rights and Small Business Development  
6<sup>th</sup> Floor West 200 Mero Street  
Frankfort, KY 40622

The prime contractor should notify the KYTC Office of Civil Rights and Small Business Development seven (7) days prior to DBE contractors commencing work on the project. The contact in this office is Mr. Melvin Bynes. Mr. Bynes' current contact information is email address – [melvin.bynes2@ky.gov](mailto:melvin.bynes2@ky.gov) and the telephone number is (502) 564-3601.

### **DEFAULT OR DECERTIFICATION OF THE DBE**

If the DBE subcontractor or supplier is decertified or defaults in the performance of its work, and the overall goal cannot be credited for the uncompleted work, the prime contractor may utilize a substitute DBE or elect to fulfill the DBE goal with another DBE on a different work item. If after exerting good faith effort in accordance with the Cabinet's Good Faith Effort policies and procedures, the prime contractor is unable to replace the DBE, then the unmet portion of the goal may be waived at the discretion of the Cabinet.

7/19/2019

**LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC – CARGO PREFERENCE ACT (CPA).**

**(REV 12-17-15) (1-16)**

SECTION 7 is expanded by the following new Article:

102.10 **Cargo Preference Act – Use of United States-flag vessels.**

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

**JPC RIDE QUALITY**

The Department will apply JPC Ride Quality requirements on this project in accordance with Section 501.03.19(B).



## Kenton County I-75

<b>TABLE OF CONTENTS</b>	
<b>File</b>	<b>Title</b>
1	Layout
2	Begin Aerial View
3	End Aerial View
4	General Summary
5	Paving Summary
6	Full Depth Replacement Summary
7	Project Notes
8	Traffic Control Plan
9	Traffic Data Stations
10	References
11	Modified Special Note for Full Depth Concrete Pavement Repair
12	Special Note for Concrete Slurry
13	Special Note for BUD
14	Special Note for Concrete Pavement Joint Sealing
15	Special Note for JPC Pavement Grooving
16	Special Note for Fixed Completion Date and Liquidated Damages
17	Special Note for High Velocity Surface Texturing
18	Special Note for Polymer Concrete Overlay Systems
19	Special Note for Striping on High Friction Surface Treatments
20	Special Note for Class 1A Geotextile Fabrics
21	Special Note 11K Partial Depth Repair
22	Median Light Standard Detail



Item No.: Kenton 6-20032.00

Fed Project No: NHPP IM 0758 (105)

State Project No: FD52 059 0075 186-191

Letting Date: April 24, 2020

Recommended By: \_\_\_\_\_ Date: \_\_\_\_\_  
Project Manager

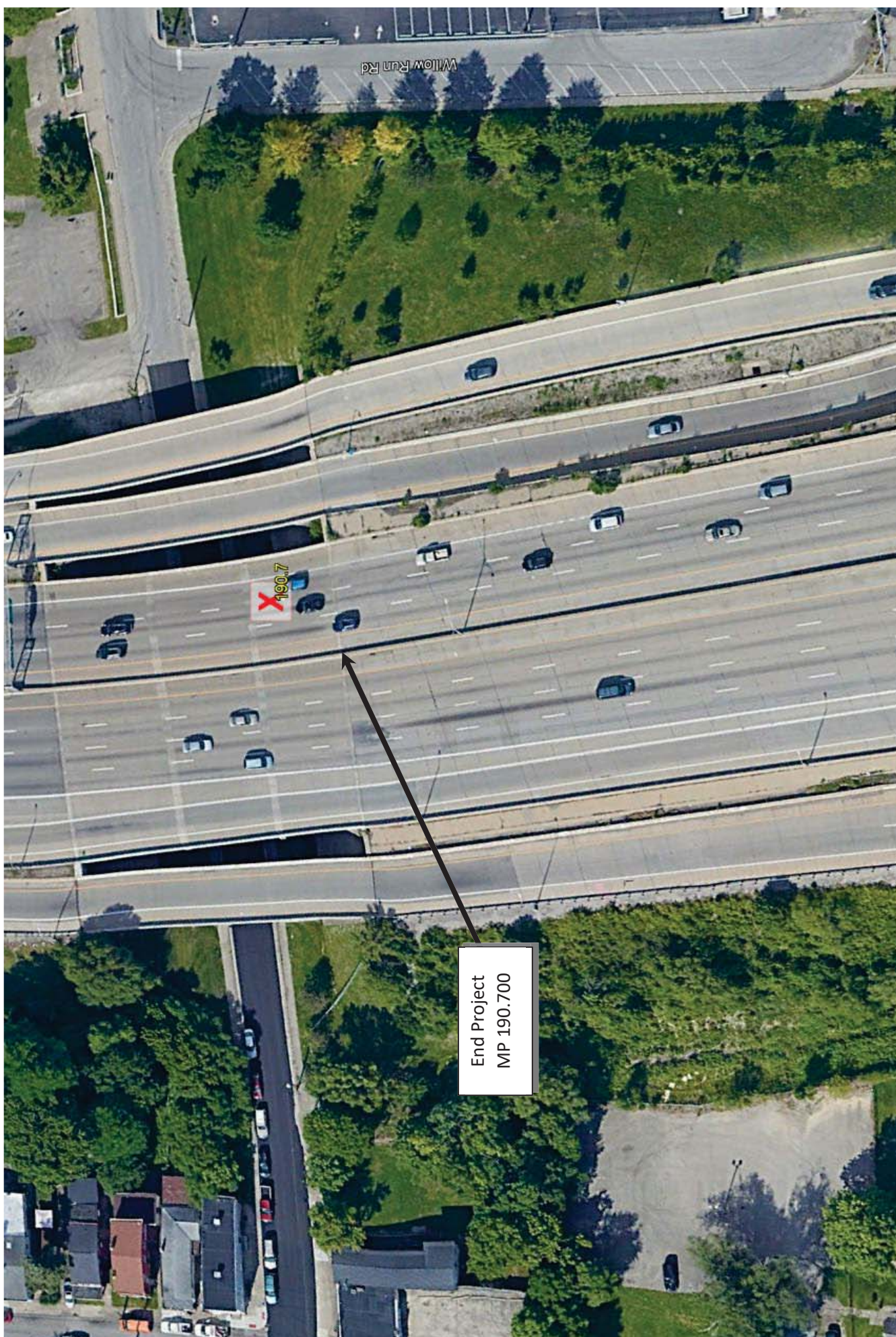
Plan Approved By: \_\_\_\_\_ Date: \_\_\_\_\_  
State Highway Engineer



Begin Project  
MP 186.751

500 ft

Google Earth  
© 2018 Google



End Project  
MP 190.700

General Summary				
Item Number	Item	Kenton	Unit	Comments
<b>ROADWAY</b>				
02562	SIGNS	500	SF	
02650	MAINTAIN & CONTROL TRAFFIC	1	LS	
02671	PORTABLE CHANGEABLE MESSAGE SIGN	7	EACH	
02775	ARROW PANEL	4	EACH	
03260	CLEAN ROADWAY DRAINS	100	EACH	
06511	PAVE STRIPING - TEMP PAINT - 6 IN	218,933	LF	
06542	PAVE STRIPING-THERMO-6 IN W	6,884	LF	To be used on the High Friction Surface
06543	PAVE STRIPING-THERMO-6 IN Y	4,198	LF	To be used on the High Friction Surface
06546	PAVE STRIPING-THERMO-12 IN W	395	LF	To be used on the High Friction Surface
06556	PAVE STRIPING-DUR TY 1-6 IN W	60,881	LF	To be used on Concrete pavement surface
06557	PAVE STRIPING-DUR TY 1-6 IN Y	41,701	LF	To be used on Concrete pavement surface
06560	PAVE STRIPING-DUR TY 1- 12 IN W	11,566	LF	To be used on Concrete pavement surface
06592	PAVEMENT MARKER TY V-B W/R	1,675	EACH	
06593	PAVEMENT MARKER TY V-B Y/R	500	EACH	
06600	REMOVE PAVEMENT MARKER TYPE V	2,175	EACH	See SN for Partial Depth Concrete Pavement Repairs (Patching shall be incidental to the Type V removal)
20411ED	LAW ENFORCEMENT OFFICER	1,000	HOURL	
21935EN	REMOVE CONCRETE MEDIAN BARRIER	400	LF	Remove & replace damaged portions of the existing median barrier wall at the discretion of the Engineer
23045ES508	CONCRETE MEDIAN BARRIER TY 14B (50)	400	LF	Remove & replace damaged portions of the existing median barrier wall at the discretion of the Engineer
24679ED	PAVE MARKING THERMO CHEVRON	7,500	SF	
<b>LIGHTING</b>				
04741	POLE BASE IN MEDIAN WALL	10	EACH	
04780	FUSE CONNECTOR KIT	20	EACH	
04834	NO.6 AWG	2,000	LF	
20394ES835	PVC CONDUIT-3 IN-SCHEDULE 80	500	LF	
<b>DEMOBILIZATION &amp; MOBILIZATION</b>				
02568	MOBILIZATION	1	LS	
02569	DEMOBILIZATION	1	LS	

**PAVING SUMMARY**

PAVING AREAS											
County	Direction	Begin Milepoint	End Milepoint	Total Length (Miles)	Lanes	JPC Pavement Diamond Grinding	JPC Pavement Grooving	Saw-Clean-Reseal Transverse Joint	Saw-Clean-Reseal Longitudinal Joint	High Velocity Surface Texturing	High Friction Surface Treatment
						2060	25049ED	2115	2116	25089EC	23229EC
						SY	SY	LF	LF	SY	SY
Kenton	NB	186.751	189.450	2.699	3	57,003	57,003	34,202	57,003		
Kenton	NB	189.800	190.700	0.900	3	19,008	19,008	11,405	19,008		
Kenton	SB	186.751	187.500	0.749	4	21,092	21,092	12,655	15,819		
Kenton	SB	187.945	190.700	2.755	4	77,581	77,581	46,548	58,186		
Kenton	NB	189.450	189.800	0.350	3					7803	7803
Kenton	SB	187.500	187.945	0.445	4					13053	13053

PAVING QUANTITIES				
Item Number	Item	Kenton	Unit	Comments
00003	CRUSHED STONE BASE	400.00	TON	Use as needed with full depth concrete pavement repairs. Engineer will determine locations.
01000	PERFORATED PIPE-4 IN	750	LF	Use as needed with full depth concrete pavement repairs. Engineer will determine locations.
01020	PERF PIPE HEADWALL TY 1-4 IN	15	EACH	Use as needed with full depth concrete pavement repairs. Engineer will determine locations.
01032	PERF PIPE HEADWALL TY 4-4 IN	15	EACH	Use as needed with full depth concrete pavement repairs. Engineer will determine locations.
02058	REMOVE PCC PAVEMENT	1,092	SY	Use with full depth concrete pavement repairs. Engineer will determine locations.
02060	JPC PAVEMENT DIAMOND GRINDING	192,152	SY	10% added to ensure proper drainage
02086	JPC PAVEMENT-13 IN	1,092	SY	See Full Depth Replacement Summary. 50% added to be used at the discretion of the Engineer.
02110	PARTIAL DEPTH PATCHING	1,100	CUFT	See SN for Partial Depth Concrete Pavement Repair
02115	SAW-CLEAN-RESEAL TRANSVERSE JOINT	104,810	LF	See SN for Concrete Pavement Joint and Random Crack Sealing
02116	SAW-CLEAN-RESEAL LONGITUDINAL JOINT	168,517	LF	See SN for Concrete Pavement Joint and Random Crack Sealing
02604	FABRIC-GEOTEXTILE CLASS 1A	1,092	SY	Use as needed with full depth concrete pavement repairs. Engineer will determine locations.
21173EC	SAW-CLEAN-RESEAL RANDOM CRACKS	5,000	LF	See SN for Concrete Pavement Joint and Random Crack Sealing. Not required in the High Friction Surface Treatment areas.
23229EC	HIGH FRICTION SURFACE TREATMENT	20,856	SY	See SN for Polymer Concrete Overlay. The overlay shall extend 1' onto the inside and outside shoulders.
25049ED	JPC PAVEMENT GROOVING	174,684	SY	See SN for JPC Pavement Grooving
25089EC	HIGH VELOCITY SURFACE TEXTURING	20,856	SY	See SN for High Velocity Surface Texturing. The texturing shall extend 1' onto the inside and outside shoulders.

### Full Depth Replacement Summary

Northbound			
Lane 1	Lane 2	Lane 3	SY
		187.997	
		12x20	88
		188.077	
		12x20	53
		188.093	
		12x20	27
		189.963	
		12x20	27
		190.263	
		12x20	27
<b>TOTAL SY</b>			<b>222</b>

Southbound				
Lane 1	Lane 2	Lane 3	Lane 4	SY
		190.645		
		12x40		53
		189.617	189.617	
		12x18	12x18	83
		189.593	189.593	
		12x18	12x18	48
		188.315	188.315	
		12x26	12x26	69
		187.976	187.976	
		12x26	12x26	69
	187.94	187.94	187.94	
	12x26	12x26	12x26	104
		187.476	187.358	
		12x20	12x20	53
			187.871	
			12x20	27
<b>TOTAL SY</b>				<b>506</b>

Lanes numbered by starting at the barrier wall and moving out.

**NOTE: Any partial depth or full depth concrete patching that will be located under the High Friction Surface Treatment shall be broom finished.**

**KENTON COUNTY  
I-75  
06-20032**

**PROJECT NOTES**

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THIS PROJECT IS A FULLY CONTROLLED ACCESS  
HIGHWAY

1. **Project Description.** Perform all work in accordance with the Department's 2019 Standard Specifications, Supplemental Specifications, Applicable Special Provisions, Special Notes, and Applicable Standard Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:  
  - (1) Maintain and Control Traffic; (2) JPC Full Depth and Partial Depth Repairs, (3) JPC Pavement Diamond Grinding and Grooving; (4) Pavement Markers and Markings; (5) Repair Damaged Barrier Wall; and (6) Surface Texturing; (7) Polymer Concrete Overlay; (8) All other work specified as part of this contract.
2. **Site Preparation.** Be responsible for all site preparation. Do not disturb existing signs. This item will include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; shoulder preparation and restoration, temporary and permanent erosion and pollution control; and all incidentals. Site preparation will be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but will be incidental to the other items of work.
3. **Disposal of Waste and Clean Up.** After all work is completed, completely remove all debris from the job site. Dispose of all cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor at no additional cost to the Department. The contractor will be responsible for obtaining any necessary permits for this work. No separate payment will be made for the disposal of waste and debris from the project or obtaining the necessary permits, but will be incidental to the other items of the work.
4. **Diamond Grinding and Grooving.** Diamond Grind the three mainlines Northbound and four/five mainlines Southbound. Grind onto the shoulders/additional lanes enough to ensure positive drainage. Grind auxiliary lanes when directed by the engineer. 10% has been added to the grinding quantity for these additional areas. Groove the pavement after diamond grinding has been completed. Do not diamond grind or groove the areas that will be beneath the polymer concrete overlays, NB Milepost 189.450 – 189.800 and SB Milepost 187.500 – 187.945. Waste material shall be collected/removed in accordance with Special Note for Concrete Slurry prior to



- opening to traffic.
5. **Clean Roadway Drains.** The contractor shall clean silt and debris in the box chambers and around the opening in the barrier wall and the outlet structures in order for the boxes to properly drain. All inlet boxes are to be re-inspected after diamond grinding and grooving operations to ensure paving operations did not deposit material into boxes. Work required may also require cleaning the connecting pipes and outlet structures. Cleaning of pipes between inlet and outlet structures, that may be required, shall be incidental to the Clean Roadway Drain bid item. Cleaning of a roadway drain with an inlet on both sides of the median barrier will be paid as one (1) Clean Roadway Drain.
  6. **On-Site Inspection.** Each Contractor submitting a bid for this work will make a thorough inspection of the site prior to submitting a bid and will thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.
  7. **Property Damage.** The Contractor shall be responsible for all damage to public and/or private property resulting from the Contractor's work. Restore all disturbed features in like kind materials and design to the existing or proposed grades, as applicable, at no additional cost to the Department.
  8. **Caution.** Information shown on the drawings and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusions as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown.
  9. **Rideability.** Pavement rideability requirements shall be Option A, in accordance with section 503.03.09 of the Standard Specifications. Locations with High Friction Surface Treatments shall not be required to meet rideability requirements.
  10. **Speed Limit.** The speed limit on this project will be reduced to 45 mph while lane closures are in place. Anytime work is suspended, the speed limit will revert to 55 mph. Double fine signs are to be installed while workers are present in the work zone.
  11. **Law Enforcement Officers (LEO'S).** Police support shall be a unit consisting of an off-duty police officer from any police force agency having lawful jurisdiction and a police car equipped with externally mounted flashing blue lights. Officers may be asked to issue citations for traffic violations but will be considered incidental to the contract unit bid price for "Law Enforcement Officer". No additional compensation will be provided. The officers will be placed at the discretion of the Engineer. Police support will be measured and

paid on a per hour basis for each officer and police vehicle.

12. **Typical Sections.** Match all existing pavement widths and cross-slopes unless instructed otherwise by the Engineer. It is not intended that existing pavement or shoulders be widened or narrowed.
13. **Median Barrier Wall Replacement.** Median Barrier wall shall be constructed according to Standard Drawings RDB-240-02, RDB-241-02, RBM-001-10, RBM-050-01, RBM-053-01 and RBM-060-01 current edition. The median wall repair removal and replacement is expected to be one continuous segment between approximate mile-points 187.612 and 187.686. The engineer will determine the final limits for removal and replacement of the wall. Bidding contractors shall perform a site investigation to be aware the median wall may be either normal or asymmetric shaped. Incidental to the wall replacement, the contractor shall be required to masonry coat the wall replacement area. All labor, equipment and material costs to remove and replace the wall shall be included in the applicable bid items.
14. **Lighting.** The bid items for lighting are intended for the contractor to repair and make functional the lighting system within the area where median barrier wall replacement will take place between mile-points 187.4 and 187.8. In order to repair the lighting system, the successful bidder may need to investigate and or perform work in areas outside the work area. All necessary work shall be performed according to section 716 of the Standard Specifications. Poles and light arms will be provided at no cost to the contractor; however all other materials and devices necessary to repair the lighting shall be provided by the Contractor. Upon completion of the lighting repair, the circuit on which the repairs were conducted shall meet all necessary testing requirements.
15. **Traffic Data Acquisition Stations.** There are four sets of traffic data acquisition stations within the limits of the project. Two sets will be repaired/replaced and two sets shall not be disturbed and shall remain operational. See the Traffic Data Acquisition Notes for the two sets that shall be repaired/replaced.

Avoid diamond grinding, grooving and sawing cutting within 10 feet of the stations indicated below:

<u>Station</u>	<u>Travel Direction</u>	<u>Approximate MP</u>
794	Northbound	187.202
794	Southbound	187.12
072	Northbound	190.37
072	Southbound	190.3

16. **Joint and Crack Sealing.** Diamond grinding and grooving in an area of pavement shall be completed prior to the removal of the existing joint seals and resealing in that area. Once existing joint seals are removed, the contractor

shall ensure joints are not left open for an excessive period of time. Joint seals shall not be removed in areas that will be beneath the polymer concrete overlays (high friction surface), unless directed by the Engineer.

17. **Surface Texturing.** Surface texturing (see Special Note for High Velocity Surface Texturing) shall be performed on areas that will be beneath the polymer concrete overlay. Type V Markers shall be protected and remain usable.
18. **Permanent Striping.** Permanent striping on the high friction surface shall be thermoplastic in accordance with the Special Note for Striping on High Friction Surface Treatments. Permanent striping on concrete surfaces shall be Durable Type I Tape in accordance with Section 714.
19. **Pavement Markers.** Type V Pavement Markers shall not be removed within the area of the High Friction Surface. The markers shall be protected and remain operational after installation of the High Friction Surface. Markers that are missing or damaged shall be replaced prior to surface texturing and applying the high friction surface. Markers damaged by the contractor shall be replaced at their expense.

Type V Pavement Markers located within the Diamond Grinding and Grooving areas shall be removed and patched in accordance with the Special Note 11k Partial Depth Concrete. Patching shall be performed prior to diamond grinding and/or grooving operations. Payment for patching Type V Markers shall be incidental to Remove Pavement Marker Type V.

**KENTON COUNTY  
I-75  
MP 186.751-190.700**

**TRAFFIC CONTROL PLAN**

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**THIS PROJECT IS A FULLY  
CONTROLLED ACCESS HIGHWAY**

**TRAFFIC CONTROL GENERAL**

Except as provided herein, "Maintain and Control Traffic" shall be in accordance with the 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". All lane closures used on the Project will be in compliance with the appropriate Standard Drawings. Do NOT use cones for lane closures or shoulder closures.

Traffic control devices used on this project may be new, or used but in like new condition, at the beginning of the work and maintained in like new condition until completion of the work. Traffic control devices will conform to current MUTCD.

**PROJECT PHASING & CONSTRUCTION PROCEDURES**

Contractor will develop their own maintenance of traffic (MOT) plan that conforms to this note and the dates and times specified below. The MOT shall be approved by the District prior to implementation. All closures must be approved by the Engineer at least 14 days prior to the closure. Contrary to section 112, lane closures will **NOT** be measured for payment, but are considered incidental to "Maintain and Control Traffic," lump sum.

No lane closures are allowed on the following dates:

April 10-12, 2020

May 22-25, 2020

July 4, 2020

September 7, 2020

November 26-29, 2020

December 24-27, 2020

December 30, 2020- January 2, 2021

No lane closures are allowed during the following times:

6:00 AM to 9:00 PM

NB or SB traffic may be reduced to 2 lanes during the following times:

9:00 PM to 6:00 AM

NB or SB Traffic may be reduced to 1 lane during the following times:

## Traffic Control Plan

Page 2 of 4

12:00 AM to 5:00 AM

All ramps must remain open.

The Engineer may specify additional days and hours when lane closures are not allowed.

Night work will be required on this project. Obtain approval from the Engineer for the method of lighting prior to its use.

Long term shoulder closures are allowed for median barrier wall work. All median barrier wall work must occur behind a shoulder closure utilizing temporary concrete barrier walls with crash cushions in both directions. Engineer must approve the traffic control plan prior to beginning of work on the barrier walls. Any crash cushions, temporary barrier wall, etc. required for this work will be considered incidental to the bid item MAINTAIN AND CONTROL TRAFFIC.

### **FULL DEPTH REPLACEMENTS**

Lane closures and shifts on this project for the full depth patching shall be in accordance with the approved MOT drawings submitted by the contractor. All work shall be completed in weekend lane closures from 9:00pm on Friday to 5:00am the following Monday (56 hours). Lane closures and shifts for slab replacement are only permitted during the "56 hour weekend lane closure" periods. 2 lanes shall be maintained during slab replacements, except the Contractor may also restrict each slab replacement location to one lane, in accordance with Standard Drawing TTC 125, for up to 8 hours, in the beginning and in the end of the 56 hour weekend closure, for the purposes of striping and setting temporary barrier wall and crash cushions. The 8-hour period in the beginning of the 56-hour closure would be from 9:00pm Friday to 5:00am Saturday. The 8-hour period in the end of the 56-hour closure would be from 9:00pm Sunday to 5:00am Monday. All slab replacements shall be completed with a maximum of 9 weekend closures. If both NB and SB are restricted during a weekend, then that shall count as 2 weekend closures. Concrete Barrier Wall, Type 9T shall be required for each slab replacement location in accordance with Standard Drawing TTC-120. Provide one side mounted barrier wall delineator per each section of barrier. See Standard Drawing RBM-020 for types. To the satisfaction of the Engineer, extend Barrier wall out of the clear zone. If Barrier wall is not extended out of the clear zone to the satisfaction of the Engineer provide crash cushions / end treatments for the barrier wall. Provide Barrier end treatments that comply with MASH requirements. Skip lines and/or solid lines through the length of the tapers for lane closures and other striping as directed by the Engineer shall be temporarily covered with 6" black removable tape. The Contractor shall replace any temporary striping that becomes damaged or fails to adhere to the pavement. Edge lines will be required through the length of each slab replacement location and shift; but will not be required in long normal alignment sections if locations are combined.

All items of work necessary to maintain and control traffic for the slab replacement locations, other than those bid items listed in the general summary, will be paid at the lump sum bid price for "Maintain and Control Traffic".

### **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,

## Traffic Control Plan

Page 3 of 4

but are not limited to, dual mounted TRUCKS USE LEFT/RIGHT LANE, 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 will be furnished, relocated, and maintained by the Contractor.

Contrary to section 112, 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.

A quantity of signs has been included for lane shifts, "Roadwork Ahead" signs on entrance ramps, and extra double fine signs and speed limit signs between interchanges to be paid only once no matter how many times they are moved or relocated.

### **FLASHING ARROWS**

Flashing arrows will be measured for payment. The Department **WILL NOT** take possession of the flashing arrows upon completion of the work.

### **PORTABLE CHANGEABLE MESSAGE SIGNS**

Provide portable changeable message signs (PCMS) in advance of and within the project at locations to be determined by the Engineer. If work is in progress concurrently in both directions, or if more than one lane closure is in place in the same direction of travel, provide additional PCMS. Place PCMS one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens relocate or provide additional PCMS 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 will be designated by the Engineer. The PCMS will be in operation at all times. In the event of damage or mechanical/electrical failure, the contractor will repair or replace the PCMS immediately. PCMS will be paid for once, no matter how many times they are moved or relocated. The Department **WILL NOT** take possession of the signs upon completion of the work.

### **TRUCK MOUNTED ATTENUATORS**

Furnish and install MUTCD approved truck mounted attenuators (TMA) in advance of work areas when workers are present less than 12 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. Locate the TMAs at the individual work sites and move them as the work zone moves within the project limits. All details of the TMA installations shall be approved by the Engineer. TMA will not be measured for payment, but are incidental to "Maintain and Control Traffic," lump sum. The Department **WILL NOT** take possession of the TMAs upon completion of the work.

### **OVERHEAD UTILITIES**

The contractor is advised that overhead utilities may exist. These and all other utilities should be avoided on this project. If any utility is impacted, it will be the contractor's responsibility to contact the affected utility and cover any costs associated with the impact.

Traffic Control Plan  
Page 4 of 4

**PAVEMENT EDGE DROP-OFFS**

Pavement edge drop-offs will be protected by a lane or shoulder closure. Lane closures will be protected with plastic drums, vertical panels, or barricades as shown on the Standard Drawings. Contractor may not maintain traffic on milled surfaces.

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

2" and less – Protect with a lane closure.

2" to 4" – Protect with a lane closure. Place plastic drums, vertical panels, or barricades every 50 feet. Cones may not be used in place of plastic drums, panels, and barricades at any time. Construct a wedge with compacted cuttings from milling, trenching, or asphalt mixtures with a 3:1 or flatter slope, when work is not active in the drop-off area. Place Type III Barricades at the beginning of the lane closures, and place additional Type III Barricades spaced at 2,500 feet during the time the lane closure is in place. Type III Barricades will not be measured for payment and will be considered incidental to "Maintain and Control Traffic."

Greater than 4" – Must provide positive separation. See "FULL DEPTH REPLACEMENT" note above.

All materials, items and work required to protect pavement drop-offs shall be incidental to "Maintain and Control Traffic".

**SIGNIFICANT PROJECT-PROJECT TRAFFIC COORDINATOR (PTC)**

Be advised this project is a significant project pursuant to section 112.03.12.

**TRAFFIC COORDINATOR**

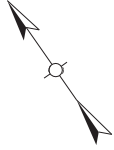
Designate an employee to be traffic coordinator. The designated Traffic Coordinator must meet the requirements of Section 112.03.12 of the Standard Specifications. The Traffic Coordinator will inspect the project maintenance of traffic once daily, including weekends, during the Contractor's operations and at any time a lane closure is in place. The Traffic Coordinator will report all incidents throughout the work zone to the Engineer on the project. The Contractor will furnish the name and telephone number where the Traffic Coordinator can be contacted at all times.

During any period when a lane closure is in place, the Traffic Coordinator will arrange for personnel to be present on the project at all times to inspect the traffic control, maintain the signing and devices, and relocate portable changeable 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.

KENTON CO. I-75 m.p. 188.2  
 ~LAT/LONG N 39.05618, W 84.54328  
 STATION 801 (NB)



SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET. A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE THE CABINET. ALL LOOPS AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

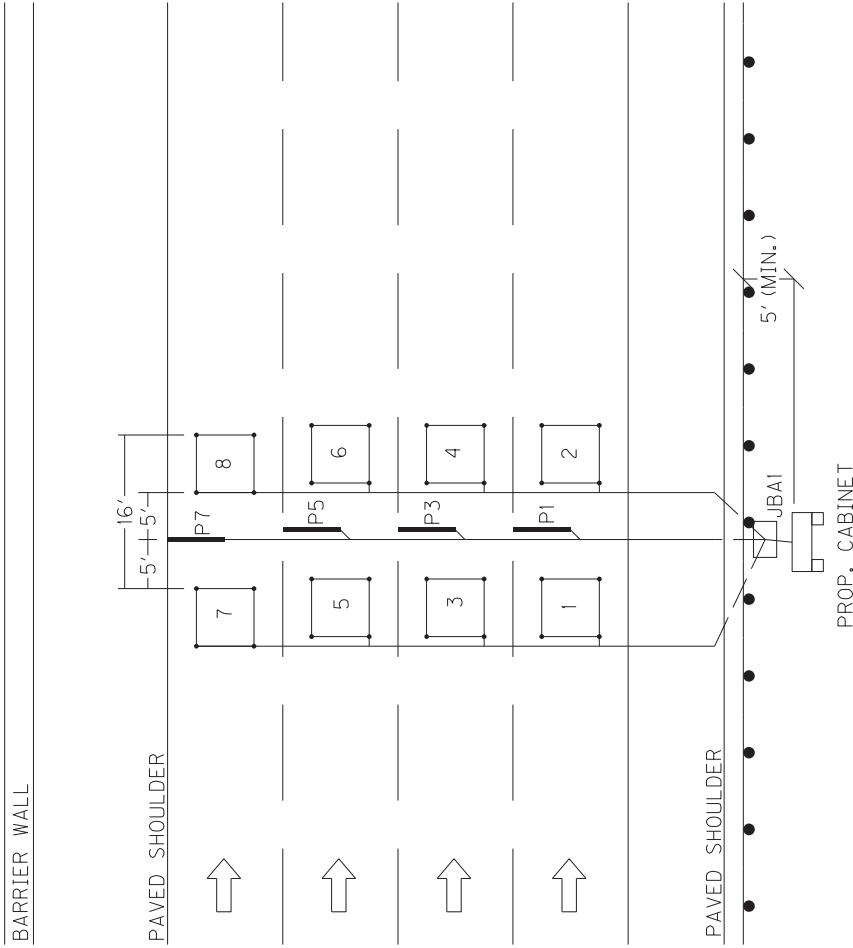
INSTALL ONE (1) TYPE A JUNCTION BOXES (JB A1).

INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

INSTALL ONE (1) 20"x20"x8" GALVANIZED STEEL CABINET ON TWO (2) WOOD POSTS.

INSTALL ONE (1) 2" CONDUIT FROM EACH JUNCTION BOX TO CABINET.

REMOVE ALL EX. TRAFFIC DATA COLLECTION EQUIPMENT (CABINET, WOOD POSTS, JUNCTION BOXES, WIRE, CONDUIT) NOT TO BE REUSED AND DISPOSE OF OFF THE PROJECT.





KENTON CO. I-75 m.p. 188.2  
 ~LAT/LONG N 39.05612, W 84.54386  
 STATION 801 (SB)

SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET. A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE THE CABINET. ALL LOOPS AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

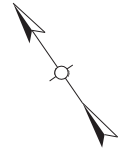
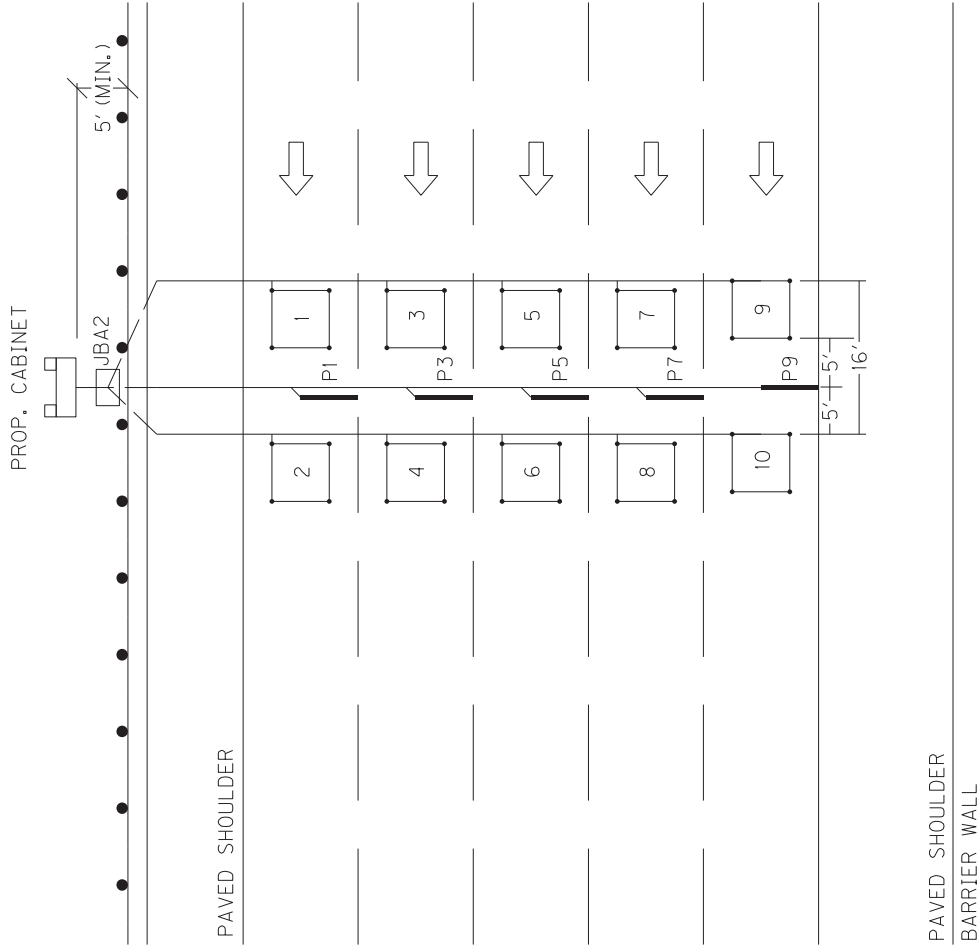
INSTALL ONE (1) TYPE A JUNCTION BOXES (JB A2).

INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

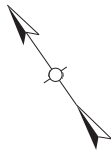
INSTALL ONE (1) 20"x20"x8" GALVANIZED STEEL CABINET ON TWO (2) WOOD POSTS.

INSTALL ONE (1) 2" CONDUIT FROM EACH JUNCTION BOX TO CABINET.

REMOVE ALL EX. TRAFFIC DATA COLLECTION EQUIPMENT (CABINET, WOOD POSTS, JUNCTION BOXES, WIRE, CONDUIT) NOT TO BE REUSED AND DISPOSE OF OFF THE PROJECT.



KENTON CO. I-75 m.p. 189.32  
 ~LAT/LONG N 39.06179, W 84.52524  
 STATION P93

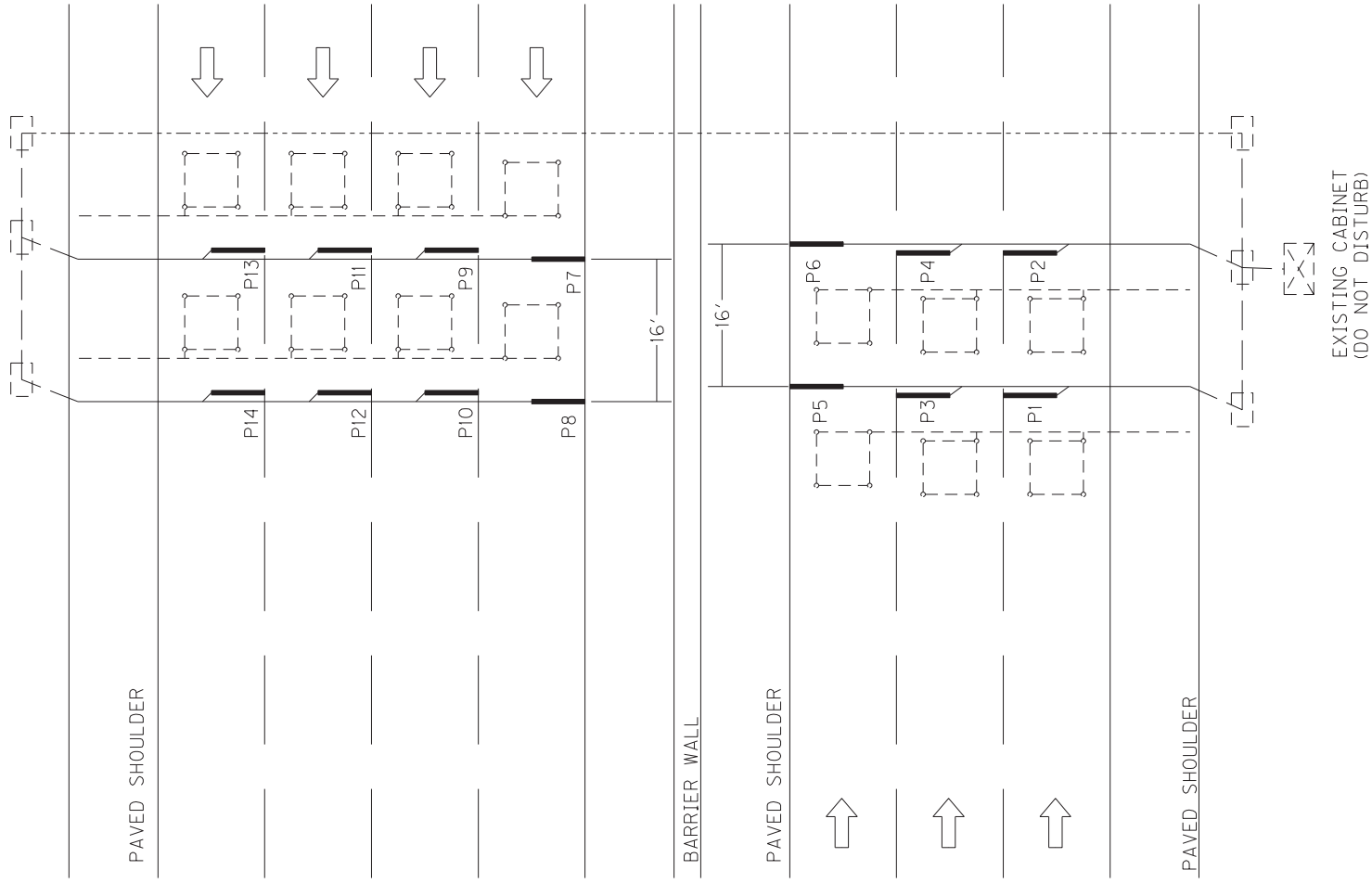


SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

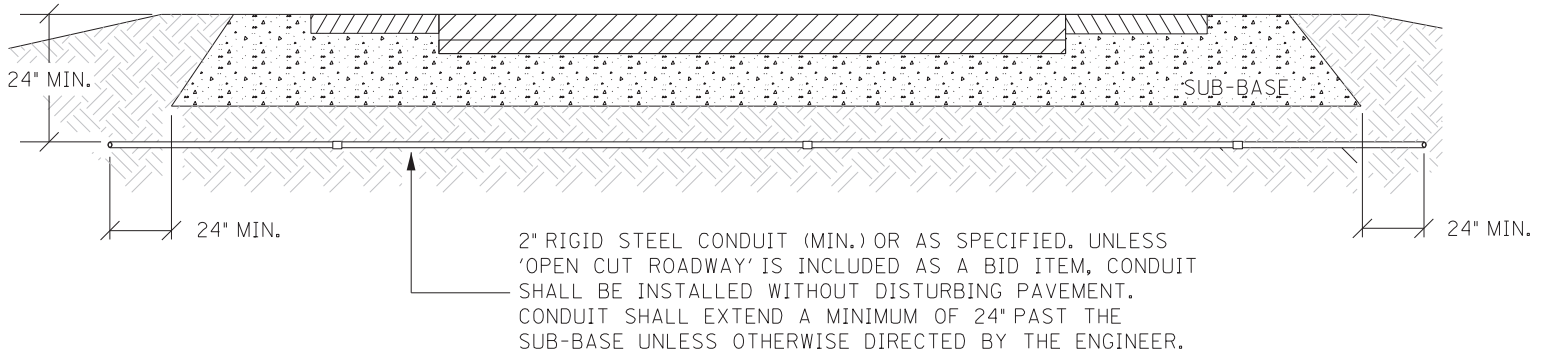
DO NOT DISTURB EXISTING LOOPS, PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE OFFSET FROM EXISTING OLD ONES IN THE PAVEMENT BY 1' AND INSTALLED BETWEEN THE EXISTING LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE AND SHALL BE 16' FROM LEADING EDGE TO LEADING EDGE. PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET. A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND A MINIMUM OF 6' AND A MAXIMUM OF 8' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE THE CABINET. ALL AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE PIEZOS INSIDE THE CABINET.

INSTALL ONE (1) 1/4" CONDUIT FROM EACH PIEZO SAW SLOT TO NEAREST EXISTING JUNCTION BOX.

REUSE EXISTING JUNCTION BOXES AND CONDUIT LEADING TO THE CABINET FOR THE NEWLY INSTALLED PIEZOS. LOOP WIRE IN THE JUNCTION BOXES AND CONDUIT SHALL NOT BE DISTURBED.



EXISTING CABINET  
(DO NOT DISTURB)

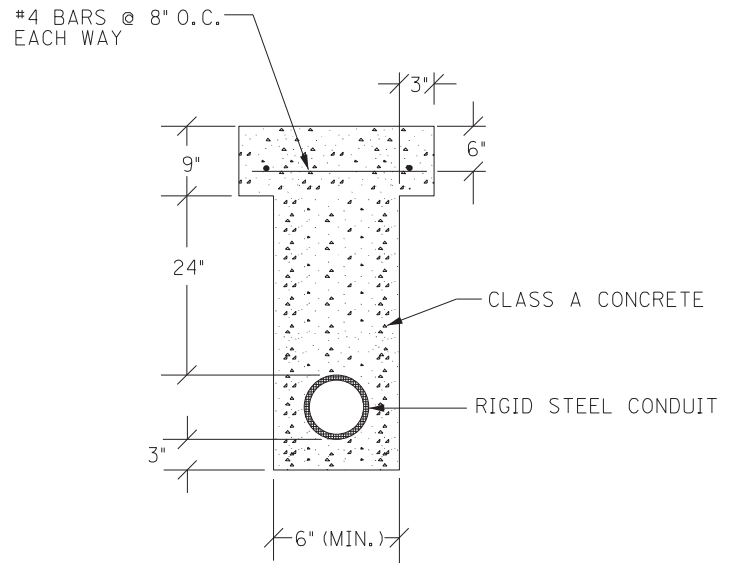
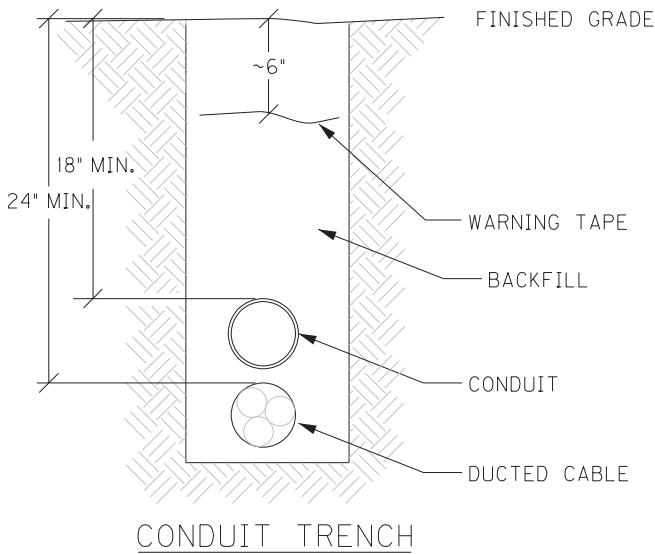


CONDUIT UNDER PAVEMENT

TOTAL TRENCH WIDTH SHALL BE 3" (NOM.) WIDER THAN THE SUM OF THE OUTSIDE DIAMETER(S) OF THE CONDUIT(S) INSTALLED. CONDUIT(S) SHALL BE CENTERED IN TRENCH.

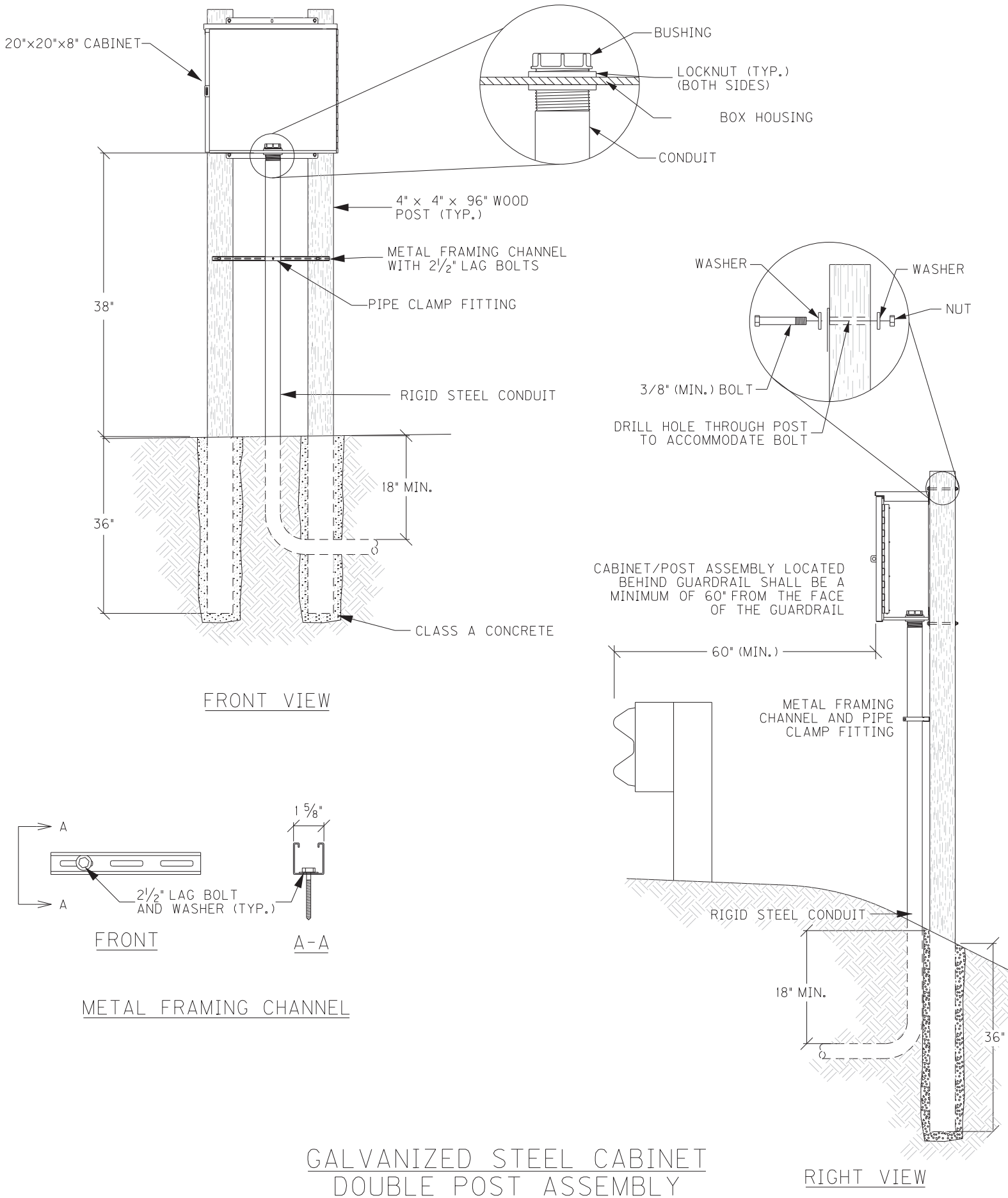
CONTRACTOR SHALL PLACE BACKFILL IN LIFTS (9" MAX.) COMPACT BACKFILL, AND RESTORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER

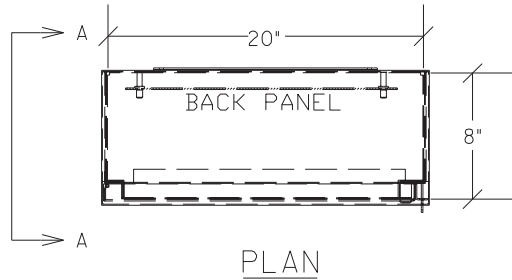
CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE ABOVE CONDUIT AS SHOWN.



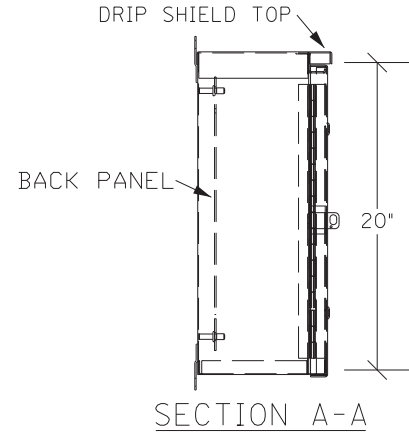
OPEN CUT PAVEMENT DETAIL

CONDUIT INSTALLATION

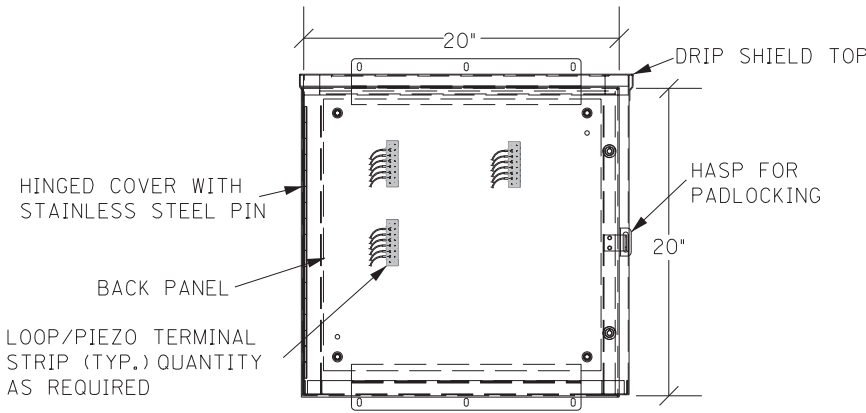




PLAN

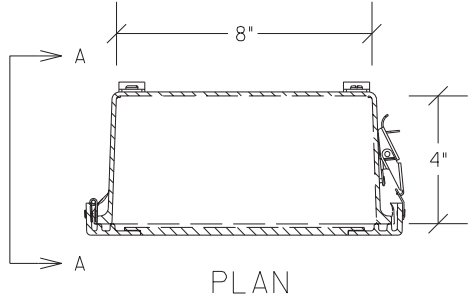


SECTION A-A

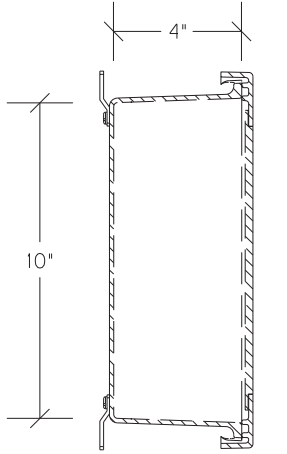


ELEVATION

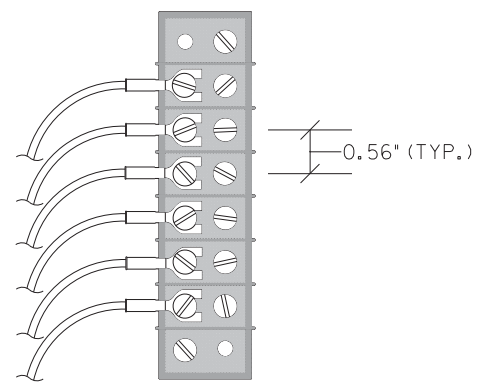
GALVANIZED STEEL CABINET



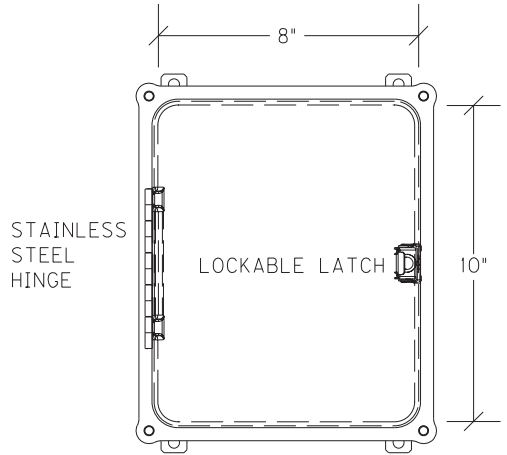
PLAN



SECTION A-A

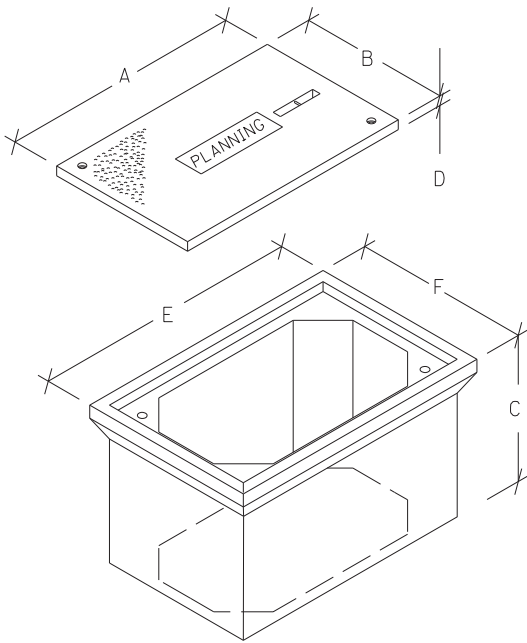


TERMINAL STRIP (TYP.)



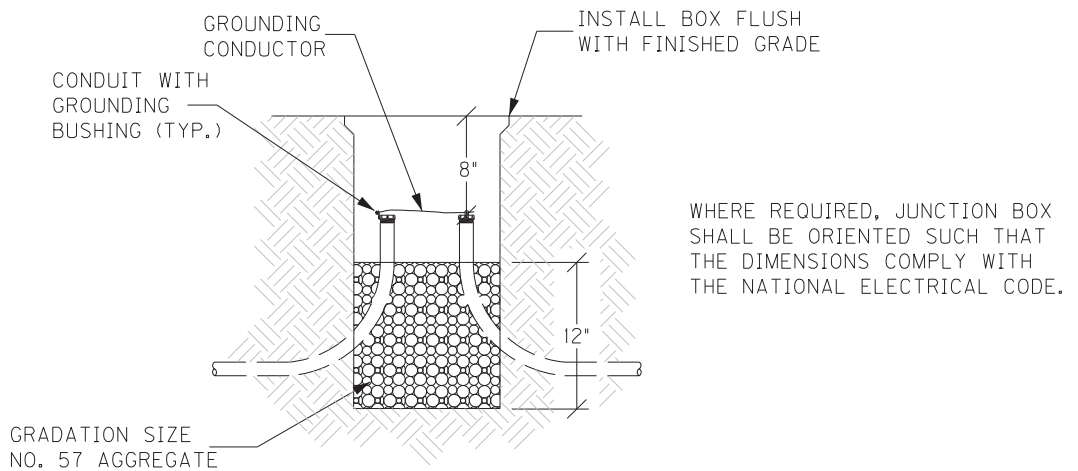
ELEVATION

JUNCTION BOX 10"X8"X4"



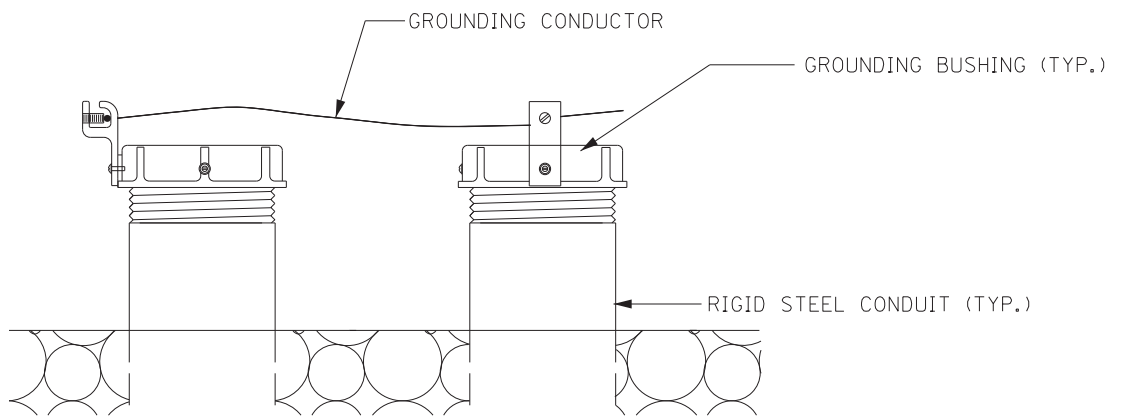
JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D*	E	F
TYPE A	23"	14"	18"	2"	25"	16"
TYPE B	18"	11"	12"	1¾"	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

\* MINIMUM  
STACKABLE BOXES ARE PERMITTED



ELEVATION

WHERE REQUIRED, JUNCTION BOX SHALL BE ORIENTED SUCH THAT THE DIMENSIONS COMPLY WITH THE NATIONAL ELECTRICAL CODE.

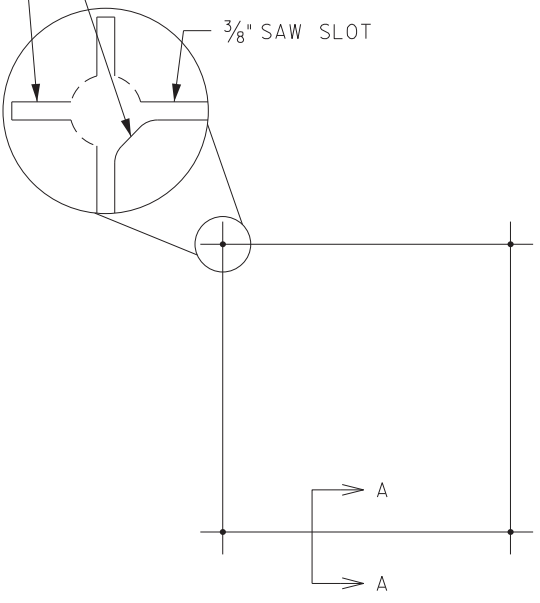


GROUNDING DETAIL

JUNCTION BOX - TYPE A, TYPE B, TYPE C

KENTON COUNTY  
NHPP IM 0758 (105)

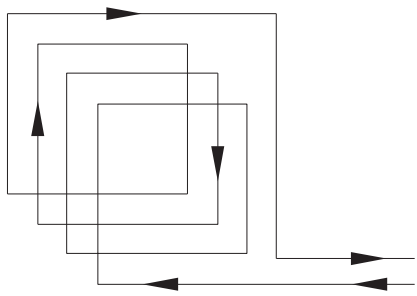
CORE DRILL 1 1/2" HOLE AND/OR  
CHISEL CORNER TO SLOT DEPTH  
TO ELIMINATE SHARP EDGES



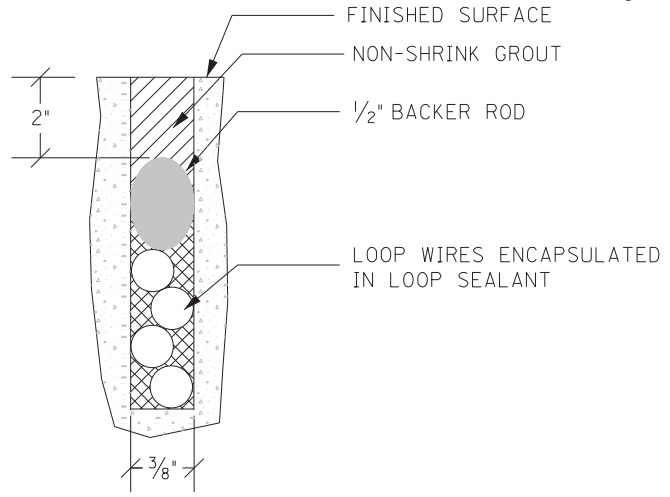
SAW CUT PLAN

UNLESS SPECIFIED OTHERWISE, ALL LOOPS SHALL BE 6' x 6' SQUARE, CENTERED IN EACH LANE, WITH FOUR TURNS OF 14 AWG LOOP WIRE.

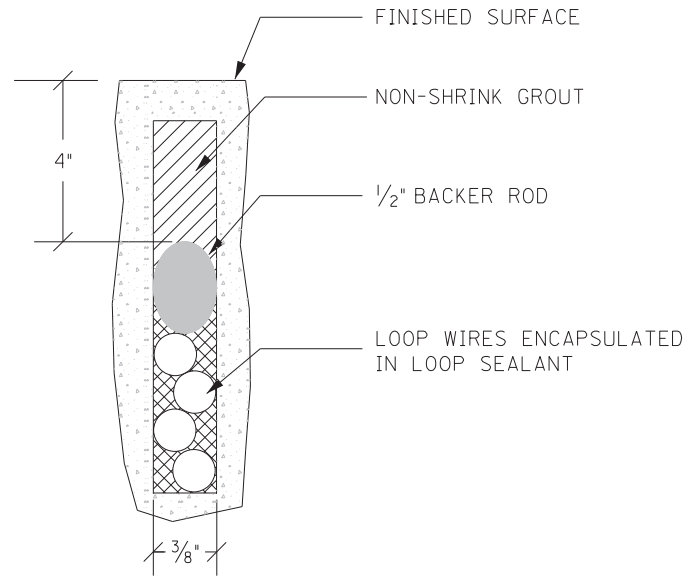
ADJACENT SAW SLOTS SHALL BE A MINIMUM OF 12" APART.



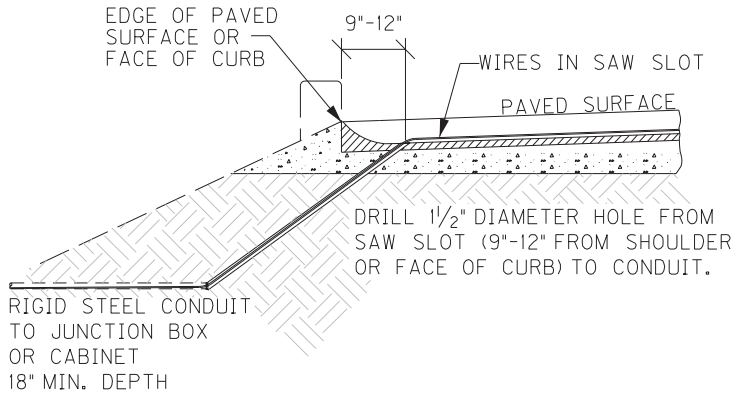
WIRING PLAN



SECTION A-A (CONCRETE)

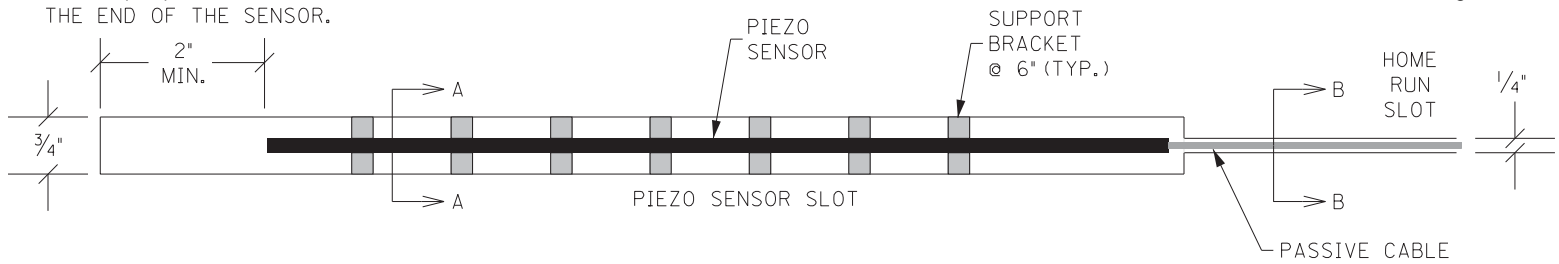


SECTION A-A (ASPHALT)

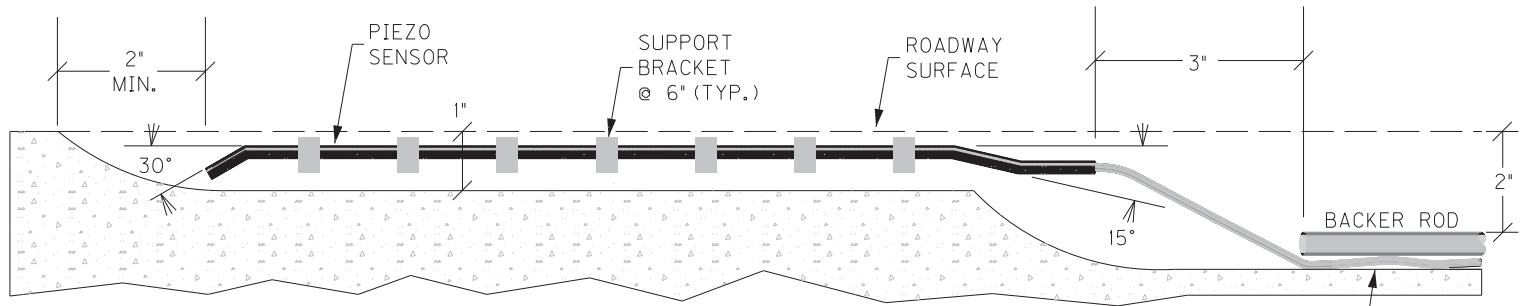


SAW SLOT EDGE OF PAVEMENT TRANSITION

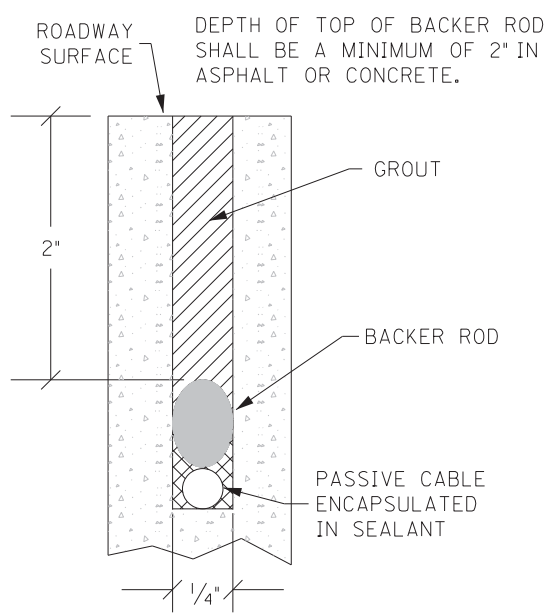
INDUCTIVE LOOP DETECTOR



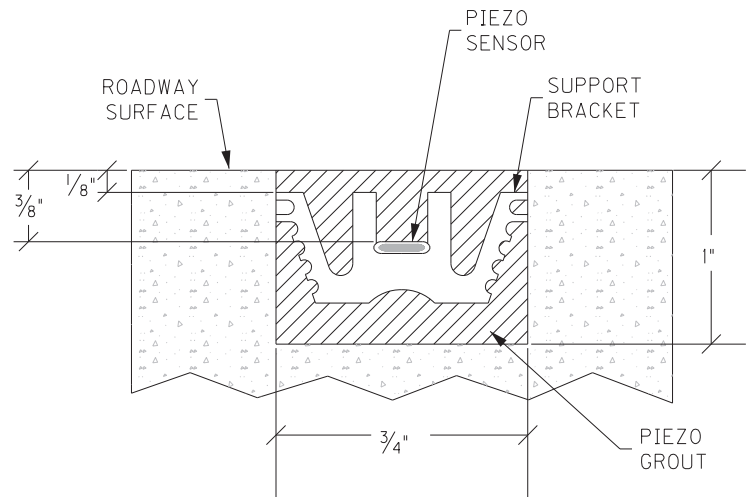
PLAN



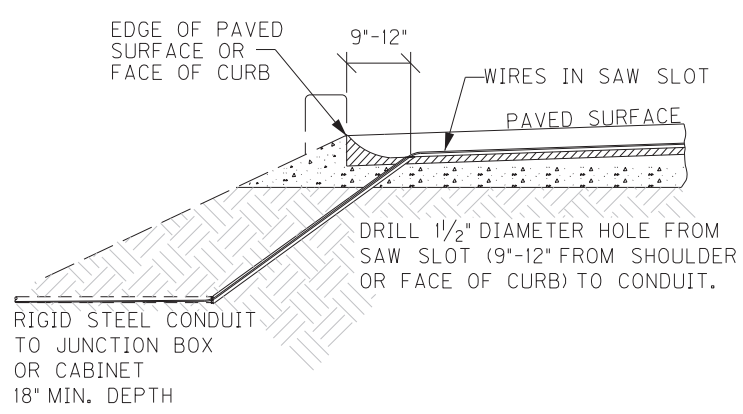
ELEVATION



SECTION B-B



SECTION A-A



SAW SLOT EDGE OF PAVEMENT TRANSITION

PIEZOELECTRIC SENSOR INSTALLATION



Permanent Traffic Data Acquisition Station  
 Estimate Of Quantities

Revised February 2019

**PERMANENT TRAFFIC DATA ACQUISITION STATIONS  
 ESTIMATE OF QUANTITIES**

Bid Item Code	Description	Unit	Quantity
4793	CONDUIT 1 ¼ INCH	LIN FT	120
4795	CONDUIT 2 INCH	LIN FT	20
4811	ELECTRICAL JUNCTION BOX TYPE B	EACH	
4820	TRENCHING AND BACKFILLING	LIN FT	130
4821	OPEN CUT ROADWAY	LIN FT	
4829	PIEZOELECTRIC SENSOR	EACH	23
4830	LOOP WIRE	LIN FT	4100
4850	CABLE NO. 14/1 PAIR	LIN FT	
4871	POLE – 35’ WOODEN	EACH	
4895	LOOP SAW SLOT AND FILL	LIN FT	1000
4899	ELECTRICAL SERVICE	EACH	
20213EC	INSTALL PAD MOUNT ENCLOSURE	EACH	
20359NN	GALVANIZED STEEL CABINET	EACH	2
20360ES818	WOOD POST	EACH	4
20391NS835	ELECTRICAL JUNCTION BOX TYPE A	EACH	2
20392NS835	ELECTRICAL JUNCTION BOX TYPE C	EACH	
20468EC	ELECTRICAL JUNCTION BOX 10x8x4	EACH	
21543EN	BORE AND JACK CONDUIT	LIN FT	
23206EC	INSTALL CONTROLLER CABINET	EACH	

## **MATERIAL, INSTALLATION, AND BID ITEM NOTES FOR PERMANENT TRAFFIC DATA ACQUISITION STATIONS**

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### **1. DESCRIPTION**

Except as specified in these notes, all work shall consist of furnishing and installing all materials necessary for permanent data acquisition station equipment installation(s) and shall be performed in accordance with the current editions of:

- The Contract
- Division of Planning Standard Detail Sheets
- Kentucky Transportation Cabinet, Department of Highways, *Standard Specifications for Road and Bridge Construction*
- Kentucky Transportation Cabinet, Department of Highways, Standard Drawings
- National Fire Protection Association (NFPA) 70: *National Electrical Code*
- Institute of Electrical and Electronic Engineers (IEEE), *National Electrical Safety Code*
- Federal Highway Administration, *Manual on Uniform Traffic Control Devices*
- American Association of State Highway and Transportation Officials (AASHTO), *Roadside Design Guide*.
- Standards of the utility company serving the installation, if applicable

The permanent traffic data acquisition station layout(s) indicate the extent and general arrangement of the proposed installation and are for general guidance. Any omission or commission shown or implied shall not be cause for deviation from the intent of the plans and specifications. Information shown on the plans and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusion as to the conditions encountered. The Department of Highways (Department) does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown. If any modifications of the plans or specifications are considered necessary by the Contractor, details of such modifications and the reasons, therefore, shall be submitted in writing to the Engineer for written approval prior to beginning such modified work.

The Contractor shall contact all utility companies and the district utility agent prior to beginning construction to insure proper clearance and shielding from existing and proposed utilities. The Contractor shall use all possible care in excavating on this project so as not to disturb any existing utilities whether shown on the plans or not shown on the plans. Any utilities disturbed or damaged by the Contractor during construction shall be replaced or repaired to original condition by the Contractor at no cost to the department. If necessary, to avoid existing utilities, the Contractor shall hand dig areas where poles or conduit cross utilities.

Material, Installation, and Bid Item Notes for  
Permanent Traffic Data Acquisition Stations

Revised August, 2018

The Contractor shall be responsible for all damage to public and/or private property resulting from his work.

The Contractor shall inspect the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions. Submission of a bid will be considered an affirmation of this inspection having been completed. The Department will not honor any claims resulting from site conditions.

## 2. MATERIALS

All proposed materials shall be approved prior to being utilized. The Contractor shall submit for material approval an electronic file of descriptive literature, drawings and any requested design data for the proposed materials. After approval, no substitutions of any approved materials may be made without the written approval of the Engineer.

Materials requiring sampling shall be made available a sufficient time in advance of their use to allow for necessary testing.

### 2.1. Anchoring

#### 2.1.1. Anchor and Anchor Rod

Anchor, except rock anchor, shall be expanding type, with a minimum area of 135 square inches.

Anchor rod shall be galvanized steel, double-eye, have a minimum diameter of 5/8 inches, and a minimum length of 84 inches. Minimum holding capacity shall be 15,400 lbs.

Rock anchor shall be galvanized steel, triple-eye, expanding type, with a minimum diameter of 3/4 inch, a minimum 53 inches long, and a minimum tensile strength of 23,000 lb.

#### 2.1.2. Guy Wire and Guy Guard

Guy wire shall be Class A, Zinc-coated, 3/8 inch diameter, high strength grade steel (minimum 10,800 lb.) and galvanized per ASTM A475. Guy guard shall be 8' long, fully-rounded, yellow, and able to be securely attached to the guy wire.

#### 2.1.3. Strandwise for Guy Wire

Strandwise for guy wire shall be 3/8 inch and rated to hold a minimum of 90% of the rated breaking strength (RBS) of the strand used.

### 2.2. Asphalt

Asphalt shall be a minimum CL2 Asph Surf 0.38C PG64-22 and conform to the *Standard Specifications for Road and Bridge Construction*.

### 2.3. Backer Rod

Backer rod shall be 1/2 inch diameter, closed cell polyethylene foam and shall meet or exceed the following physical properties:

- Density (average): 2.0 lbs/cu.ft. (minimum): ASTM D 1622 test method
- Tensile Strength: 50 PSI (minimum): ASTM D 1623 test method
- Compression Recovery: 90% (minimum): ASTM D 5249 test method
- Water Absorption: 0.03 gm/cc (maximum): ASTM C 1016 test method

## 2.4. Cabinets

### 2.4.1. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall be constructed of 16 or 14 gauge galvanized steel and shall meet or exceed the industry standards set forth by UL 50 and NEMA 3R. The finish shall be an ANSI 61 gray polyester powder finish inside and out over the galvanized steel. Cabinet shall have minimum inside dimensions of 20 inches high by 20 inches wide by 8 inches deep.

The cabinet shall be equipped with the following:

- Drip shield top
- Seam-free sides, front, and back, to provide protection in outdoor installations against rain, sleet, and snow
- Hinged cover with 16 gauge galvanized steel continuous stainless steel pin.
- Cover fastened with captive plated steel screws, knob or latch
- Hasp and staple for padlocking
- No gaskets or knockouts
- Back panel for terminal block installation
- Post mounting hardware
- Terminal Blocks

### 2.4.2. Anchor Bolt for Pad Mounted Cabinet

Anchor bolt for pad mounted cabinet shall be galvanized steel with minimum dimensions of 3/8 inch by 6 inches.

## 2.5. Concrete

Concrete shall be Class A and conform to the *Standard Specifications for Road and Bridge Construction*.

## 2.6. Conduit and Conduit Fittings

Conduit and conduit fittings shall be rigid steel unless otherwise specified.

Conduit shall be zinc galvanized inside and out and conform to the NEC, UL Standard 6, and ANSI C-80.1.

Rigid Steel Conduit Fittings shall be galvanized inside and out and conform to the NEC, UL Standard 514B, and ANSI C-80.4. Intermediate Metal Conduit (IMC) will not be approved as an acceptable alternative to rigid steel conduit.

## 2.7. Conduit sealant

Conduit sealant shall be weather-, mold-, and mildew-resistant and chemically resistant to gasoline, oil, dilute acids and bases. Conduit sealant shall be closed cell type and shall meet or exceed the following properties:

- Cure Time 20 minutes max.
- Density 64.4 kg/m<sup>3</sup>; 6 lbs/ft<sup>3</sup>
- Compressive Strength (ASTM 1691) 13.8 MPa; 330 or 300 psi

- Tensile Strength (ASTM 1623) 15.9 MPa; 270 or 250 psi
- Flexural Strength (ASTM D790) 14.5 MPa; 460 or 450 psi
- Service Temperature -20 to 200 F

## **2.8. Electrical Service Meter Base**

Electrical service meter base shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

## **2.9. Electrical Service Disconnect**

Electrical service disconnect shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

## **2.10. Flashing Arrow**

Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction*.

## **2.11. Ground Fault Circuit Interrupter (GFCI) Receptacle**

Ground Fault Circuit Interrupter Receptacle shall be 2-pole, 3-wire, 20 Amp, 125 Volt, 60 Hz, NEMA 5-20R configuration and meet or exceed the following standards and certifications:

- NEMA WD-1 and WD-6
- UL 498 and 943
- NOM 057
- ANSI C-73

This item shall include a UL listed, 4 inch x4 inch x 2<sup>1</sup>/<sub>8</sub> inch box with <sup>3</sup>/<sub>4</sub> inch side and end knockouts and a 1<sup>1</sup>/<sub>2</sub> inches deep, single-receptacle cover to house the GFCI receptacle. Box and cover shall be hot rolled, galvanized steel with a minimum thickness of 0.62 inches.

## **2.12. Grounding**

### **2.12.1. Ground Rod**

Ground Rod shall be composite shaft consisting of a pure copper exterior (5 mil minimum) that has been inseparably molten welded to a steel core. Ground Rod shall have a minimum diameter of 5/8 inch, a minimum length of 8 feet and shall be manufactured for the sole purpose of providing electrical grounding.

### **2.12.2. Ground Rod Clamp**

Ground rod shall be equipped with a one piece cast copper or bronze body with a non-ferrous hexagonal head set screw and designed to accommodate a 10 AWG solid through 2 AWG stranded grounding conductor.

## **2.13. Grout**

### **2.13.1. Grout for Inductive Loop Installation**

Grout for inductive loop installation shall be non-shrink, shall meet the requirements of the *Standard Specifications for Road and Bridge Construction*,

and shall be included on the KYTC Division of Materials, *List of Approved Materials*.

### **2.13.2. Grout for Piezoelectric Sensor Installation**

Grout for piezoelectric sensor installation shall be per the piezoelectric sensor manufacturer's recommendation. Grout shall be suitable for installation in both asphalt and Portland cement pavements. Grout shall have a short curing time (tack free in ten minutes; open to traffic in forty minutes; and fully cured within sixty minutes) to prevent unnecessary lane closure time and should be of sufficient consistency to prevent running when applied on road surfaces with a drainage cross slope. Particulate matter within the grout shall not separate or settle and the grout shall not shrink during the curing process.

## **2.14. Hardware**

Except where specified otherwise, all hardware such as nuts, bolts, washers, threaded ends of fastening devices, etc. with a diameter less than 5/8 inch shall be passivated stainless steel, alloy type 316 or type 304. Stainless steel hardware shall meet ASTM F593 and F594 for corrosion resistance. All other nuts and bolts shall meet ASTM A307 and shall be galvanized.

### **2.14.1. Conduit Strap**

Conduit strap shall be double-hole, stainless steel, and sized to support specified conduit. Conduit strap shall attach to wood pole or post with two 2 ¼ inch wood screws.

### **2.14.2. Mounting Strap for Pole Mount Cabinet**

Mounting strap for pole mount cabinet shall be ¾ inch x 0.03 inch stainless steel; equipped with clips or buckles to securely hold strap.

### **2.14.3. Metal Framing Channel and Fittings**

Metal framing channel shall be 1 5/8 inches wide galvanized steel that conforms to ASTM A1011 and ASTM A653. One side of the channel shall have a continuous slot with in-turned edges to accommodate toothed fittings.

Fittings shall be punch pressed from steel plates and conform to ASTM A575 and the physical requirements of ASTM A1011.

## **2.15. Junction Box**

### **2.15.1. Junction Box Type A, B, or C**

Junction Box Type A, B, or C shall meet or exceed ANSI/SCTE 77-2007, Tier 15. Box shall have an open bottom. A removable, non-slip cover marked "PLANNING" shall be equipped with a lifting slot and attached with a minimum of two 3/8 inch stainless steel hex bolts and washers. Type A Box shall have nominal inside dimensions of 13 inches wide by 24 inches long by 18 inches deep. Type B Box shall have nominal inside dimensions of 11 inches wide by 18 inches long by 12

inches deep. Type C Box shall have nominal inside dimensions of 24 inches wide by 36 inches long by 30 inches deep.

**2.15.2. Aggregate for Junction Box Type A, B, or C**

Aggregate for junction box type A, B, or C shall be gradation size no. 57 and conform to the *Standard Specifications for Road and Bridge Construction*.

**2.15.3. Junction Box 10x8x4**

Junction Box Type 10x8x4 shall be constructed of a UV-stabilized, nonmetallic material or non-rusting metal and be weatherproof in accordance with NEMA 4X. Box shall be equipped with an overhanging door with a continuous durable weatherproof gasket between the body and door. Door shall be hinged with screws, hinge(s) and pin(s) and shall be equipped with a padlockable latch on the side opposite the hinge(s). Junction Box 10x8x4 shall have minimum inside dimensions of 10 inches high by 8 inches wide by 4 inches deep.

**2.16. Maintain and Control Traffic**

Materials for the bid item Maintain and Control Traffic shall conform to the *Standard Specifications for Road and Bridge Construction*, and the KYTC Department of Highways *Standard Drawings*.

**2.17. Piezoelectric Sensor**

Piezoelectric sensor (piezo) shall provide a consistent level voltage output signal when a vehicle axle passes over it, shall have a shielded transmission cable attached, and shall meet the following requirements:

- Dimensions: such that sensor will fit in a ¾ inch wide by 1 inch deep saw cut. Total length shall be 6 feet unless specified otherwise.
- Output uniformity: ± 7% (maximum)
- Typical output level range: 250mV (minimum) from a wheel load of 400 lbs.
- Working temperature range: -40° to 160° F.
- Sensor life: 30 million Equivalent Single Axle Loadings (minimum)

Shielded transmission cable shall be coaxial and shall meet the following requirements:

- RG 58C/U with a high density polyethylene outer jacket rated for direct burial
- Length shall be a minimum of 100 feet. Installations may exceed 100 feet so the piezo shall be supplied with a lead-in of appropriate length so that the cable can be installed splice-free from the piezo to the cabinet.
- Soldered, water resistant connection to the sensor.

One installation bracket for every 6 inches of sensor length shall also be supplied. Piezo shall be a RoadTrax BL Class I or approved equal.

**2.18. Saw Slot Sealant**

Saw Slot Sealant shall be non-shrink, non-stringing, moisture cure, polyurethane



encapsulant suitable for use in both asphalt and concrete pavements. It shall provide a void-free encapsulation for detector loop cables and adequate compressive yield strength and flexibility to withstand heavy vehicular traffic and normal pavement movement.

The cured encapsulant shall meet or exceed the following:

- Hardness (Indentation): 35-65 Shore A, ASTM D2240
- Tensile Strength: 150 psi minimum, ASTM D412
- Elongation: 125% minimum 2 inch/minute pull, ASTM D412
- Tack-free Drying Time: 24 hours maximum, ASTM C679
- Complete Drying Time: 30 hours maximum, KM 64-447
- Chemical Interactions (seven day cure at room temperature, 24-hour immersion, KM 64-446):
  - Motor Oil: No effect
  - Deicing Chemicals: No effect
  - Gasoline: Slight swell
  - Hydraulic Brake Fluid: No effect
  - Calcium Chloride (5%): No effect

## **2.19. Seeding and Protection**

Material for Seeding and Protection shall be Seed Mixture Type I and conform to the *Standard Specifications for Road and Bridge Construction*.

## **2.20. Signs**

Materials for signs shall conform to the *Standard Specifications for Road and Bridge Construction*.

## **2.21. Splicing Materials**

### **2.21.1. Electrical Tape**

Electrical tape shall be a premium grade, UL-listed, all-weather, vinyl-insulating tape with a minimum thickness of 7 mil. Tape shall be flame retardant and resistant to abrasion, moisture, alkalis, acids, corrosion, and weather (including ultraviolet exposure).

### **2.21.2. Splice Kit**

Splice kit shall be inline resin-type and rated for a minimum of 600V. Resin shall be electrical insulating-type and shall provide complete moisture and insulation resistance.

## **2.22. Steel Reinforcing Bar**

Steel reinforcing bar shall be #5 and shall conform to the *Standard Specifications for Road and Bridge Construction*.

## **2.23. Terminal Block**

Terminal block shall be rated for a minimum of 300 V and have a minimum of six

terminal pairs with 9/16-inch nominal spacing (center to center) for connecting loop and piezoelectric sensor wires to cable assemblies. Terminal block shall have screw type terminal strips to accommodate wire with spade-tongue ends.

#### **2.24. Warning Tape**

Warning tape shall be acid and alkali resistant formulated for direct burial. Tape shall be a minimum of 3 inches wide by 4.0 mils (nominal) thick, and shall be permanently imprinted with a minimum 1 inch black legend on a red background warning of an electric line. Tape shall meet or exceed the following industry specifications:

- American Gas Association (AGA) 72-D-56
- American Petroleum Institute (API) RP 1109
- American Public Works Association (APWA) Uniform Color Code
- Department of Transportation (DOT) Office of Pipeline Safety USAS B31.8
- Federal Gas Safety Regulations S 192-321 (e)
- General Services Administration (GSA) Public Buildings Service Guide: PBS 4-1501, Amendment 2
- National Transportation Safety Board (NTSB) PSS 73-1
- Occupational Safety and Health Administration (OSHA) 1926.956 (c) (1)

#### **2.25. Wire and Cable**

All cable and wire shall be plainly marked in accordance with the National Electrical Code (NEC).

##### **2.25.1. Loop Wire**

Loop wire shall be 14 AWG, stranded, copper, single conductor, and shall conform to the International Municipal Signal Association (IMSA) Specification No. 51-7.

##### **2.25.2. Cable No. 14/1 Pair**

Cable No. 14/1 pair loop lead-in cable shall be 14 AWG, stranded, copper paired, electrically shielded conductors, and shall conform to IMSA 19-2.

##### **2.25.3. Grounding conductor**

Grounding conductor and bonding jumper shall be solid or stranded, 4 AWG bare copper.

##### **2.25.4. Service Entrance Conductor**

Service entrance conductor shall be stranded, copper, Type USE-2, sized as required to comply with the NEC.

##### **2.25.5. Terminal for electrical wire or cable**

Terminal for electrical wires or cables shall be insulated, solderless, spade tongue terminals of correct wire and stud size. Terminal for electrical wires or cables shall be incidental to the wire or cable (including piezoelectric sensor transmission cable) to be connected to terminal strips.

**2.26. Wood Post**

Wood post shall be Southern Pine pretreated to conform to the American Wood Preservers' Association (AWPA) C-14 or UC4B and shall have minimum dimensions of 4 inches by 4 inches by 8 feet long (for Galvanized Steel Cabinet) or 4 feet long (for Junction Box 10x8x4), sawed on all four sides with both ends square.

**2.27. Wooden Pole**

Wooden pole shall be a Class IV wood pole of the length specified and shall conform to the *Standard Specifications for Road and Bridge Construction* except the pole shall be treated in accordance with AWPA P9 Type A.

### 3. CONSTRUCTION METHODS

The plans indicate the extent and general arrangement of the installation and are for guidance. When the Contractor deems any modifications to the plans or specifications necessary, details of such changes and the reasons shall be submitted in writing to the engineer for written approval prior to beginning the modified work.

After the project has been let and awarded, the Division of Construction shall notify the Division of Planning of the scheduled date for a Pre-Construction meeting so that prior arrangements can be made to attend. This will allow the Division of Planning an opportunity to address any concerns and answer any questions that the Contractor may have before beginning the work.

The Division of Planning Equipment Management Team (502-564-7183) shall be notified a minimum of seven days before any work pertaining to these specifications begins to allow their personnel the option to be present during installation.

Unless otherwise specified, installed materials shall be new.

Construction involving the installation of loops or piezoelectric sensors shall not be performed when the temperature of the pavement is less than 38°F.

A final inspection will be performed by a member of the Central Office Division of Planning equipment staff after the installation is complete to verify that the installation is in compliance with the plans and specifications.

Any required corrective work shall be performed per the *Standard Specifications for Road and Bridge Construction*.

#### 3.1. Anchoring

Furnish: Anchor, anchor rod, guy wire, strand vise, guy guard.

Anchor shall be installed in relatively dry and solid soil. Rock anchor shall be installed in solid rock. Excavate the hole at a 45° to 60° angle in line with the guy (hole size shall be slightly larger than the expanded anchor – see manufacturer's recommendation). Attach rod to anchor, install assembly into hole, and expand anchor. Backfill and tamp entire disturbed area. The effectiveness of the anchor is dependent upon the thoroughness of backfill tamping. Attach guy to strand vise on pole and anchor rod and tighten to required tension. Install guy guard on guy.

#### 3.2. Bore and Jack Pipe – 2”

Furnish: Steel Encasement Pipe, 2”

Bore and jack pipe – 2” shall conform to the Section 706 of the *Standard Specifications for Road and Bridge Construction*.

### **3.3. Cleanup and Restoration**

Furnish: Seed Mix Type 1 (as required); fertilizer (as required); agricultural limestone (as required); mulch or hydromulch (as required); tackifier (as required).

The Contractor shall be responsible for repairing any damage to public and/or private property resulting from his work. Upon completion of the work, restore all disturbed highway features in like kind design and materials. This shall include filling any ruts and leveling ground appropriately. Contractor shall dispose of all waste and debris off the project. Sow all disturbed earthen areas with Seed Mix Type 1 per Section 212 of the *Standard Specifications for Road and Bridge Construction*. All materials and labor necessary for cleanup and restoration shall be considered incidental to other bid items.

### **3.4. Conduit**

Furnish: Conduit; conduit fittings; bushings (grounding where required); LB condulets (as required); weatherheads (as required); conduit straps; hardware; conduit sealant.

Conduit that may be subject to regular pressure from traffic shall be laid to a minimum depth of 24 inches below grade. Conduit that will not be subject to regular pressure from traffic shall be laid to a minimum depth of 18 inches below grade.

Conduit ends shall be reamed to remove burrs and sharp edges. Cuts shall be square and true so that the ends will butt together for the full circumference of the conduit. Tighten couplings until the ends of the conduit are brought together. Do not leave exposed threads. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with an Engineer-approved, rust inhibitive paint. Conduit bends shall have a radius of no less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans.

Contractor shall install a bushing (grounding bushing where required) on both ends of all conduits. Cap spare conduits on both ends with caps or conduit sealant.

Conduit openings in junction boxes and cabinets shall be waterproofed with a flexible, removable conduit sealant, working it around the wires, and extending it a minimum 1 inch into the end of the conduit.

After the conduit has been installed and prior to backfilling, the conduit installation shall be inspected and approved by the Engineer.

### **3.5. Electrical Service**

Furnish: Meter base, service disconnect, wire, GFCI AC duplex receptacle with box and cover; conduit, conduit fittings, bushings (grounding where required); LB condulets (as required); weatherhead; conduit straps; hardware; conduit sealant; ground rod with clamp; grounding conductor.

Prior to any construction, the Contractor shall initiate a work order with the local power

company for the installation of electrical service to the site. A representative from the Division of Planning and the local power company shall be consulted prior to choosing an exact location for the pole. The Contractor shall clear the right-of-way for the electrical service drop.

Contractor shall obtain electrical inspections, memberships, meter base, service disconnect and any other requirements by the utility serving the installation and pay all fees as required.

Install meter-base and disconnect panel with a 30-ampere, fused, circuit breaker inside. Install a manufactured weatherproof hub connectors to connect the conduit to the top of the meter base and service disconnect.

Install a rigid  $\frac{3}{4}$  inch conduit with three 8 AWG service conductors from the cabinet, through the service disconnect to the meter base and a  $1\frac{1}{4}$ " conduit with three 8 AWG service conductors from the meter base to a weatherhead two feet from the top of the electrical service pole. Install conduit straps 30 inches on center and provide a drip loop where the wire enters the weatherhead. Splice electric drop with service entrance conductors at the top of the pole.

The limit of conduit incidental to "Install Electrical Service" for a pad mounted cabinet is 24 inches beyond face of service pole.

Install a 120-volt, 20-amp GFCI AC duplex receptacle with box and cover in the automatic data recorder (ADR) cabinet.

Install a ground rod with clamp. Install a grounding conductor wire from the meter base, through the disconnect panel, to the ground rod clamp. Install grounding conductor in  $1\frac{3}{4}$ " conduit from service disconnect to ground rod.

After completing the installation and before the electrical service is connected, obtain a certificate of compliance from the Kentucky Department of Housing, Buildings and Construction, Electrical Inspection Division.

### **3.6. Flashing Arrow**

Furnish: Arrow Panel

Construction of Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction*.

### **3.7. Galvanized Steel Cabinet**

Furnish: Cabinet; wood posts; concrete; conduit fittings; metal framing channel; pipe clamp; terminal block(s); spade tongue wire terminals; wire labels; hardware.

Where right-of-way allows, locate the cabinet such that it is outside the clear zone in accordance with the *Roadside Design Guide*. Install Cabinet such that the door of the

cabinet faces the roadway.

Excavate as required and install wood posts to a depth of 36 inches and place concrete around posts as shown on the standard detail sheets. Install metal framing channel with pipe clamp between posts.

Install Cabinet on wood posts 38 inches above the finished grade as shown on the standard detail sheets. Install a unistrut between posts when two posts are specified.

Install the required number of terminal blocks on the cabinet back plate. Install a spade tongue terminal on each loop and piezo sensor wire entering the cabinet and connect wires to terminal block(s). Wiring shall be neat and orderly. Label all wires and cables inside cabinet.

Install conduit from ground to cabinet and attach to pipe clamp. Install locknuts to attach conduit to cabinet and install a conduit bushing as shown on the standard detail sheets.

### **3.8. Grounding**

Furnish: Ground rod with clamp; grounding conductor.

At sites with electrical or solar service, all conduits, poles, and cabinets shall be bonded to ground rods and the electrical system ground to form a complete grounded system.

Install such that top of ground rod is a minimum of 3 inches below finished grade.

Grounding systems shall have a maximum 25 ohms resistance to ground. If the resistance to ground is greater than 25 ohms, two or more ground rods connected in parallel shall be installed. Adjacent ground rods shall be separated by a minimum of 6 feet.

### **3.9. Install Pad Mount Enclosure**

Furnish: Concrete; anchor bolts with washers and nuts; conduit; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the enclosure from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site.

Where right-of-way allows, locate the enclosure such that it is outside the clear zone in accordance with the *Roadside Design Guide*.

Excavate as required, and place concrete to construct the enclosure foundation as specified on the standard detail sheets. Install enclosure on the concrete base such that the door(s) of the enclosure opens away from traffic (hinges away from traffic). Install anchor bolts, washers, and nuts to secure the enclosure to the foundation.

Install ground rod with clamp and install one ¾ inch rigid conduit from enclosure base to

ground rod. Install a grounding conductor from ground rod to enclosure base and bond to each conduit bushing in the base.

Install one ¾ inch rigid steel conduit for electrical service from the base of the enclosure to 24 inches beyond the concrete base. Make all field wiring connections to the electrical service, as applicable.

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with a cap, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled “¾ in. conduit.”

Install specified rigid steel conduit(s) into the base of the enclosure for sensor wire entry. Install one spare 2 inch conduit from the enclosure base to 2 feet beyond the concrete base. Plug spare conduit on both ends with a cap, conduit sealant or electrical tape.

The limit of all conduits incidental to “Install Pad Mount Enclosure” is 24 inches beyond the edge of the concrete base.

Wiring in enclosure shall be neat and orderly. Label all wires and cables inside enclosure. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

### **3.10. Install Controller Cabinet**

Furnish: Mounting brackets; mounting straps; conduit; LB condulets; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; cable staples; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the cabinet from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site. Any existing holes in the cabinet not to be reused shall be covered or plugged to meet NEC requirements.

Install mounting brackets and secure cabinet to pole with mounting straps.

Install a ground rod with clamp. Install grounding conductor in 1-¾” conduit from cabinet to ground rod.

Install one ¾ inch rigid steel conduit with two lb condulets from cabinet to electrical service disconnect box. Make all field wiring connections to the electrical service, as applicable.

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with cap, plumbers putty, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled “¾ in. conduit”.

Install specified rigid steel conduit(s) and type LB condulet(s) into the bottom of the



cabinet for sensor wire entry. The limit of conduits incidental to "Install Controller Cabinet" is 24 inches beyond the face of the pole.

Wiring in cabinet shall be neat and orderly. Label all wires and cables inside cabinet. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

### **3.11. Junction Box Type 10x8x4**

Furnish: Junction box; wood post; conduit fittings; wire labels; hardware.

Where right-of-way allows, locate the junction box such that it is outside the clear zone in accordance with the Roadside Design Guide.

Excavate as required and install wood post(s) to a depth of 18 inches. Install junction box on wood post such that the bottom of the box is 18 inches above the finished grade as shown on the standard detail sheets. Box shall be installed with four (4) 2½ inch wood screws and washers.

Install locknuts to attach conduit to junction box and install a conduit bushing as shown on the standard detail sheets.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

### **3.12. Junction Box Type A, B, or C**

Furnish: Junction box, No. 57 aggregate; grounding conductor

Excavate as required and place approximately 12 inches of No. 57 aggregate beneath the proposed junction box to allow for drainage. Install specified junction box type A, B, or C near the edge of pavement, flush with finished grade per the detail sheets. Where required, orient the box so that the dimensions comply with the National Electrical Code. Stub conduits with grounding bushings into junction box at its base to accommodate wires and connect grounding conductor to all grounding bushings. Backfill to existing grade, and restore disturbed area to the satisfaction of the Engineer.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

### **3.13. Loops - Proposed**

Furnish: Wire; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for loop installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the precise layout locations on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist.

Upon completion of this meeting, the Contractor shall measure out and mark the proposed loop locations with spray paint or chalk such that the saw slots will be parallel

and perpendicular to the direction of traffic. Marked lines shall be straight and exact to the locations determined and sized as shown on the plans. Unless indicated otherwise, loops shall be 6 feet by 6 feet square and loops in the same lane shall be spaced 16 feet from leading edge to leading edge.

On resurfacing, rehabilitation, and new construction projects that include new asphalt pavement, the Contractor shall install loops prior to laying the final surface course. On projects with milling and texturing, the Contractor may install the loops prior to or after the milling operation; however, if installed prior to milling, the Contractor shall be responsible for ensuring that the loops are installed at a depth such that the milling operation will not disturb the newly installed loops. The Contractor shall correct damage caused by the milling operations to newly installed loops prior to placement of the final surface course at no additional cost to the Cabinet.

For projects that include the installation of new asphalt and piezoelectric sensors, the Contractor shall mark or otherwise reference all loops installed prior to the final surface course such that the loops can be accurately located when the piezoelectric sensors are installed after placement of the final surface course.

For projects that do not have asphalt surfacing, the Contractor shall install the loops in the surface of the pavement.

The Prime Contractor shall coordinate the installation of loops with the electrical sub-Contractor and the Engineer to ensure correct operation of the completed installation.

The following is a typical step by step procedure for the installation of a loop.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and centered in the lane.
- Make each saw-cut 3/8-inch wide and at a depth such that the top of the backer rod is a minimum of 2 inches below the surface of rigid (PCC/Concrete) pavement or 4 inches below the surface of asphalt pavement.
- Drill a 1½ inch core hole at each corner and use a chisel to smooth corners to prevent sharp bends in the wire.
- Clean ALL foreign and loose matter out of the slots and drilled cores and within 1 foot on all sides of the slots using a high pressure washer.
- Completely dry the slots and drilled cores and within 1 foot on all sides of the slots using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45° angle to the conduit adjacent to the roadway.
- Closely inspect all cuts, cores, and slots for jagged edges or protrusions prior to the placement of the wire. All jagged edges and protrusions shall be ground or re-cut and cleaned again.

- Place the loop wire splice-free from the termination point (cabinet or junction box) to the loop, continue around the loop for four turns, and return to the termination point.
- Push the wire into the saw slot with a blunt object such as a wooden stick. Make sure that the loop wire is pushed fully to the bottom of the saw slot.
- Install conduit sealant to a minimum of 1" deep into the cored 1½ inch hole.
- Apply loop sealant from the bottom up and fully encapsulate the loop wires in the saw slot. The wire should not be able to move when the sealant has set.
- Cover the encapsulated loop wire with a continuous layer of backer rod along the entire loop and home run saw slots such that no voids are present between the loop sealant and backer rod.
- Finish filling the saw cut with non-shrinkable grout per manufacturer's instructions. Alleviate all air pockets and refill low spaces. There shall be no concave portion to the grout in the saw slot. Any excess grout shall be cleaned from the roadway to alleviate tracking.
- Clean up the site and dispose of all waste off the project.
- Ensure that the grout has completely cured prior to subjecting the loop to traffic. Curing time varies with temperature and humidity.

Exceptions to installing loop wire splice-free to the junction box or cabinet may be considered on a case-by-case basis and must be pre-approved by the Engineer. If splices are allowed, they shall be located in a junction box and shall conform to the construction note for Splicing.

If loop lead-in cable (Cable No. 14/1 Pair) is specified, cable shall be installed splice free to the cabinet ensuring that extra cable is left in each junction box or cabinet. All wires and cables shall be labeled in each junction box and cabinet.

Loop inductance readings shall be between 100 and 300 microhenries. The difference of the loop inductance between two loops in the same lane shall be  $\pm 20$  microhenries. Inductance loop conductors shall test free of shorts and grounds. Upon completion of the project, all loops must pass an insulation resistance test of a minimum of 100 million ohms to ground when tested with a 500 Volt direct current potential in a reasonably dry atmosphere between conductors and ground.

### **3.14. Loops – Existing**

When noted on a data collection station layout sheet that there are existing inductive loops within the limits of the project, notify the Engineer in writing, a minimum of 14 calendar days prior to beginning milling operations. After milling and prior to placing asphalt inlay, conduct an operating test on the existing inductance loops at the control cabinet in the presence of the Engineer to determine if the inductance loop conductors have an insulating resistance of a minimum of 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground. The Department may also conduct its own tests with its own equipment.

If the tests indicate the loop resistances are above the specified limit and the Engineer determines the system is operable, proceed with the asphalt inlay. If the test indicates the loop resistance is not within the specified limits or if the Engineer determines the system is otherwise not operable, prior to placing the asphalt inlay install and test new loop detectors according to the station layout, notes, and Detail Drawings.

The Engineer will contact and maintain liaison with the District Planning Engineer and the Division of Planning in order to coordinate any necessary work.

### **3.15. Maintain and Control Traffic**

Furnish (all as required): Drums, traffic cones, barricades used for channelization purposes, delineators, and object markers.

Maintain and Control Traffic shall conform to the plans, the Standard Specifications for Road and Bridge Construction, and the KYTC Department of Highways Standard Drawings.

### **3.16. Open Cut Roadway**

Furnish: Concrete, reinforcing bars.

Excavate trench by sawing and chipping away roadway to dimensions as indicated on the detail sheets. After placing conduit, install concrete and steel reinforcing bars per the *Standard Specifications for Road and Bridge Construction*. Restore any disturbed sidewalk to its original condition.

### **3.17. Piezoelectric Sensor**

Furnish: Piezoelectric sensor and cable; sensor support brackets; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for piezoelectric sensor (piezo) installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the final layout on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist. Roadway ruts at the proposed piezo location shall not be in excess of ½ inch under a 4-foot straight edge.

Install the piezo perpendicular to traffic in the final surface course of the pavement. Locate the sensor in the lane as shown on the site layout drawing. Eleven-foot length sensors shall be centered in the lane.

The following is a typical step by step procedure for the installation of a piezo. Refer specifically to the manufacturer's instructions provided with the sensor prior to installation.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and properly positioned in the lane.

- It is strongly recommended that a 3/4 inch wide diamond blade be used for cutting the slot, or that blades be ganged together to provide a single 3/4 inch wide cut. The slot shall be wet cut to minimize damage to the pavement.
- Cut a slot 3/4 inch wide ( $\pm 1/16$  inch) by 1 inch minimum deep. The slot should be a minimum of 2 inches longer than the sensor (including the lead attachment). Drop the saw blade an extra 1/2 inch down on both ends of the sensor. The lead out of the passive cable should be centered on the slot.
- Cut the slot for the passive cable 1/4 inch wide and at a depth so that the top of the backer rod is a minimum of 2 inches below the road surface.
- Clean ALL foreign and loose matter out of the slot and within 1 foot on all sides of the slot using a high pressure washer.
- Completely dry the slot and within 1 foot on all sides of the slot using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1 1/2 inch hole on a 45° angle to the conduit adjacent to the roadway.
- Place strips of 2-4 inch wide tape strips on the pavement along the lengths of both sides of the sensor slot, 1/8 inch away from the slot.
- Wear clean, protective latex (or equivalent) gloves at all times when handling sensors. Visually inspect sensor to ensure it is straight. Check lead attachment and passive cable for cuts, gaps, cracks and/or bare wire. Verify that the correct sensor type and length is being installed by checking the data sheet. Verify there is sufficient cable to reach the cabinet. Piezo lead-in cable shall not be spliced.
- Test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within  $\pm 20\%$  of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Record the sensor serial number and the test results and label "pre-installation." This information should be stored in the counter cabinet and/or returned to Department Planning personnel.
- Lay the sensor next to the slot and ensure that it is straight and flat.
- Clean the sensor with steel wool or an emery pad and wipe with alcohol and a clean, lint-free cloth.
- Place the installation bracket clips every 6 inches along the length of the sensor.
- Bend the tip of the sensor downward at a 30° angle. Bend the lead attachment end down at a 15° angle and then 15° back up until level (forming a lazy Z).
- Place the sensor in the slot, with the brass element 3/8 inch below the road surface along the entire length. The tip of the sensor should be a minimum of 2 inches from the end of the slot and should not touch the bottom of the slot. The top of the plastic installation bracket clips should be 1/8 inch below the surface of the road. The lead attachment should not touch the bottom or sides of the slot. Ensure the sensor ends are pushed down per the manufacturer's instructions.
- Visually inspect the length of the sensor to ensure it is at uniform depth along its length and it is level (not twisted, canted or bent).

- On the passive cable end, block the end of the slot approximately 3-5 inches beyond the end of the lead attachment area creating an adequate “dam” so that the sensor grout does not flow out.
- Use one bucket of sensor grout per piezo installation. Overfill the slot with sensor grout and allow to cure for a minimum of 10 minutes before continuing with the installation. Ensure that sensor grout fills around and beneath the sensor completely and that there is not a trough on top.
- Remove the tape along the sides of the saw slot when the adhesive starts to cure.
- Carefully remove the dam from the end of the sensor.
- Route the lead-in cable through the saw slot
- Install conduit sealant to a minimum of 1” deep into the cored 1½ inch hole.
- Cover the lead-in cable with encapsulant, backer rod, and grout.
- If necessary, after the grout has hardened, grind with an angle grinder until the profile is a 1/16 inch mound. There shall be no concave portion to the mound.
- Clean up the site and dispose of all waste off the project.
- Ensure that the sensor grout has completely cured prior to subjecting the sensor to traffic. Curing time will vary with temperature and humidity.

Upon installation, test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within  $\pm 20\%$  of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Perform a functional test of the piezo with an oscilloscope to ensure that the sensor is generating a proper response to the passage of vehicles.

Record the sensor serial number and the test results and label “post-installation.” This information should be stored in the counter cabinet and/or returned to Department Planning personnel.

### **3.18. Pole – Wooden**

Furnish: Pole; anchoring equipment (as required); hardware (as required).

Excavate and install wood pole to a minimum depth of one-sixth the total pole height. Place backfill material in hole and compact until flush with existing grade. Install guy wire, guy guard, anchor, anchor rod, and strand vise, if necessary. Anchor shall be a minimum of one-third the pole height from the face of the pole. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

### **3.19. Removal of Existing Equipment**

The Contractor shall remove existing materials (including but not limited to: poles, anchors, cabinets, junction boxes, conduit and wire) not to be reused. Contractor shall dispose of all removed materials off the project. All materials and labor necessary for the removal of existing equipment shall be considered incidental to other bid items.

### **3.20. Signs**

Furnish: Signs; sign standards; hardware.

Construction of signs shall conform to the *Standard Specifications for Road and Bridge Construction*.

### **3.21. Splicing**

Furnish: Splice kit; solder.

These notes describe the splicing process (if permitted) and are not intended to grant permission to splice. Permission to splice shall be determined by the Division of Planning and the locations shall be shown on the layout sheet. If splicing is needed but not shown on the layout sheet, the Contractor shall receive prior written approval from the Division of Planning.

All splices shall conform to the provisions of the NEC.

Splices for loop and loop lead-in wire shall be twisted and soldered. Abrade the outer jacket of both wires to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground.

For piezos, the same type coax cable, supplied by the manufacturer, shall be used to splice to the sensor's lead-in cable. Cables shall be soldered. Abrade the outer jacket of both cables to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced piezo cables shall be tested and have a minimum resistance of 20 megohms, a maximum dissipation factor of 0.03, a capacitance within the manufacturer's recommended range based upon the length of additional cable. A functional test of the piezo shall be performed to ensure that the sensor is generating a proper response to the passage of vehicles.

### **3.22. Trenching and Backfilling**

Furnish: Warning tape; seed mix type I; cereal rye or German foxtail-millet; mulch; concrete (as required); asphalt (as required).

Excavate trench and provide required cover as shown on the standard detail sheets. After placing conduit, backfill material shall be placed and compacted in lifts of 9 inches or less. Install warning tape as shown on the detail sheet. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required).

### **3.23. Wiring**

Furnish: Wire; wire labels; spade tongue wire terminals (as required).

Installation of all wiring shall conform to the NEC. Permanent identification numbers shall be affixed to all wires in all junction boxes and cabinets (see Layout(s) for loop and piezo numbers).

Additional lengths of each loop and piezo sensor wire shall be neatly coiled in all cabinets and junction boxes as follows:

<u>Enclosure Type</u>	<u>Additional length of each wire</u>
Galvanized Steel Cabinet	2' - 3'
Pad Mount Cabinet (332)	6' - 8'
Pole Mount Cabinet (336)	3' - 4'
Junction Box Type 10x8x4	2' - 3'
Junction Box Type A, B, or C	2' - 3'

**3.24. Wood Post**

Furnish: Wood post; concrete (as required); seed mix type I; cereal rye or German foxtail-millet; mulch.

Excavate hole to specified depth and place concrete, if required. Install post, backfill to existing grade, and tamp backfill. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.



#### **4. BID ITEM NOTES AND METHOD OF MEASUREMENT FOR PAYMENT**

Only the bid items listed will be measured for payment. All other items required to complete the vehicle detection installation shall be incidental to other items of work. Payment at the contract unit price shall be full compensation for all materials, labor, equipment and incidentals to furnish and install these items.

##### **4.1. Bore and Jack Pipe – 2”**

Bore and jack pipe – 2” shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

##### **4.2. Conduit**

Conduit shall include furnishing and installing specified conduit in accordance with the specifications. This item shall include conduit fittings, bodies, boxes, weatherheads, expansion joints, couplings, caps, conduit sealant, electrical tape, clamps, bonding straps and any other necessary hardware. Conduit will be measured in linear feet.

##### **4.3. Electrical Service**

Electrical Service shall include furnishing and installing all necessary materials and payment of all fees toward the complete installation of an electrical service which has passed all required inspections. Incidental to this item shall be furnishing and installing:

- Meter-base per utility company’s specifications
- Service disconnect panel per utility company’s specifications
- Meter base and service disconnect entrance hubs, waterproof
- Service entrance conductors
- Rigid steel conduit
- Rigid steel conduit fittings
- Conduit straps
- Weatherhead
- Duplex GFCI receptacle, 120-volt, 20-amp
- Ground rod with clamp
- Grounding conductor

Also incidental to this item shall be any necessary clearing of right of way for the electrical service drop.

Electrical service will be measured in individual units each.

##### **4.4. Flashing Arrow**

Flashing Arrow shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

##### **4.5. Galvanized Steel Cabinet**

Galvanized Steel Cabinet shall include furnishing and installing galvanized steel cabinet on post as specified. Incidental to this item shall be furnishing and installing grounding hardware, and any necessary post/pole mounting hardware. Also incidental to this item shall be furnishing and installing the required number of terminal blocks and connection of all

sensors to the terminal blocks. Galvanized Steel Cabinet will be measured in individual units each.

#### **4.6. Install Pad Mount Enclosure**

Install Pad Mount Enclosure shall include installing a Department-furnished enclosure as specified on the detail sheets.

This item shall include obtaining the enclosure from KYTC and transporting it to the installation site and furnishing and installing the following:

- Concrete foundation (including any excavation necessary)
- Anchor bolts, lock washers, and nuts
- Conduit
- Conduit fittings (including grounding bushings)
- Weatherhead
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Pad Mount Enclosure will be measured in individual units each.

#### **4.7. Install Controller Cabinet**

Install Controller Cabinet shall include installing a Department-furnished cabinet as specified on the detail sheets.

This item shall include obtaining the cabinet from KYTC and transporting it to the installation site and furnishing and installing the following:

- Conduit
- Conduit Fittings
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Controller Cabinet will be measured in individual units each.

#### **4.8. Junction Box Type 10" x 8" x 4"**

Junction Box Type 10"x8"x4" shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include connectors, splice sleeves, conduit fittings, mounting materials and any other items required to complete the installation. Incidental to this item shall be furnishing and installing specified post (wood, channel, metal, etc.) as required for the installation. Junction Box Type 10"x8"x4" will be measured in individual units each.

#### **4.9. Junction Box Type A, B, or C**

Junction Box Type A, B, or C shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include excavation, furnishing and installing #57 aggregate, backfilling around the box, and restoration of disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing a

grounding conductor bonding all conduit grounding bushings in the box. Junction Box Type A, B, or C will be measured in individual units each.

**4.10. Loop Saw Slot and Fill**

Loop Saw Slot and Fill shall include sawing and cleaning saw slots and furnishing and installing conduit sealant, loop sealant, backer rod, grout, or other specified material. Loop Saw Slot and Fill will be measured in linear feet of sawed slot.

**4.11. Maintain and Control Traffic**

Maintain and Control Traffic shall be measured for payment per the *Standard Specifications for Road and Bridge Construction*.

**4.12. Open Cut Roadway**

Open Cut Roadway shall include excavating trench (sawing and chipping roadway) to dimensions as indicated on the detail sheets and furnishing and placing concrete, steel reinforcing bars, and asphalt. This item also includes restoring any disturbed sidewalk to its original condition. Open Cut Roadway will be measured in linear feet.

**4.13. Piezoelectric Sensor**

Piezoelectric sensor (piezo) shall include sawing and cleaning saw slots and furnishing and installing piezo in accordance with the specifications. This item shall include furnishing and installing lead-in wire, conduit sealant, encapsulation material, backer rod, grout, testing, and accessories. Piezo will be measured in individual units each.

**4.14. Pole – 35' Wooden**

Pole – 35' Wooden shall include excavation, furnishing and installing specified wood pole, backfilling and restoring disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing guy wire, anchor and anchor rod, strand vise, and guy guard, if specified.

Pole – 35' Wooden will be measured in individual units each.

**4.15. Signs**

Signs shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

**4.16. Trenching and Backfilling**

Trenching and Backfilling shall include excavation, warning tape, backfilling, temporary erosion control, seeding, protection and restoration of disturbed areas to original condition. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required). Trenching and backfilling will be measured in linear feet.

**4.17. Wire or Cable**

Wire or cable shall include furnishing and installing specified wire or cable within saw slot, conduit, junction box, cabinet, or overhead as indicated on the detail sheets. Incidental to this item shall be the labeling of all wires and cables in each junction box, cabinet and splice

box, and furnishing and installing other hardware required for installing cable. Wire or Cable will be measured in linear feet.

**4.18. Wood Post**

Wood Post shall include furnishing and installing wood post as specified. This item shall include excavation, furnishing and placing concrete (if required), backfilling around the post, and restoration of disturbed areas to the satisfaction of the engineer. Wood Post will be measured in individual units each.

## REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Current Edition.
2. FHWA Manual on Uniform Traffic Control Devices (MUTCD), latest edition.
3. Active Sepia List

<u>Drawing No.</u>	<u>Drawing Name</u>
045	Typical Markings for Gore Areas
4. Kentucky Department of Highways Standard Drawings, current editions, as applicable.
5. Details and Special Notes Included in the proposal:
  - Special Note for Portable Changeable Message Signs 01I
  - Modified Special Note for Full Depth Concrete Pavement Repair
  - Special Note for Concrete Slurry
  - Special Note for Before You Dig
  - Special Note for Concrete Pavement Joint Sealing
  - Special Note for JPC Pavement Grooving
  - Special Note for Fixed Completion and Liquidated Damages
  - Special Note for High Velocity Surface Texturing
  - Special Note for Polymer Concrete Overlay Systems
  - Special Note for Striping on High Friction Surface Treatments
  - Special Note for Class 1A Geotextile Fabrics
  - Special Note 11K Partial Depth Repair

September 16, 2019

## **MODIFIED SPECIAL NOTE FOR FULL DEPTH CONCRETE PAVEMENT REPAIR**

This Special Note applies to full depth repairs of concrete pavement. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

**1.0 DESCRIPTION.** Remove and replace concrete pavement. Comply with the applicable Standard Drawings and the Standard Specifications except as specifically superseded herein.

### **2.0 MATERIALS AND EQUIPMENT.**

**2.1 JPC Pavement.** Test concrete materials according to section 601.03.03. Conform to 501, 502, and 601 except that the concrete must achieve 3000 psi in accordance with Section 4.4 of this note. The Engineer may allow pavement to be opened to traffic at less than 3,000 psi subject to the deductions described in Section 4.4 of this note.

**2.2 Dowel Bars and Sleeves.** Conform to 811. Contrary to the Standard drawings, 1.5-inch diameter dowel bars will be accepted for 13-inch JPC Pavement and 1.5-inch diameter dowel bars will be required for 10-inch JPC Pavement.

**2.3 Tie Bars.** Conform to Section 811. Use epoxy coated tie bars in longitudinal and transverse joints.

**2.4 Joint Sealants.** Conform to Subsection 807.03.01 or 807.03.05.

**2.5 Grout Adhesives and Epoxy Resin Systems.** Conform to Section 826.

**2.6 Dense Graded Aggregate (DGA) and Crushed Stone Base (CSB).** Conform to Section 805.

**2.7 Geotextile Fabric.** Conform to Section 843 and Special Note for Class 1A Geotextile Fabrics.

**2.8 Drills.** Drill holes using a gang drill, capable of drilling a minimum of four simultaneously. Misalignment of holes shall not exceed 1/4 inch in the vertical or oblique plane.

**2.9 Hammers.** Only use chisel point hammers weighing less than 40 pounds to remove deteriorated concrete.

### **3.0 CONSTRUCTION.**

**3.1 Removal of Existing Pavement.** Remove existing pavement to the extent the Contract specifies or as the Engineer directs. The minimum length of patches measured along centerline is 3 feet on each side of an existing joint.

When working with pavements with non-skewed transverse joints, if it is necessary to remove existing pavement closer than 6 feet to a transverse joint, remove the pavement 3 feet beyond that joint .

When working with pavements with skewed transverse joints, if it is necessary to remove existing pavement closer than 3 feet to a transverse joint, remove the pavement 3 feet beyond that joint.

Details of configurations of pavement and joints for various situations are

depicted in the drawings herein.

When small areas of removal and replacement are performed at bridge ends, maintain or reconstruct existing expansion joints at their existing location. When the Engineer determines extensive full width removal and replacement is required, construct new expansion joints at the locations shown on Standard Drawing No. RPN-010.

In the removal operation, make a full depth saw cut longitudinally along the centerline joint and shoulder joint and transversely along the area marked for removal. To prevent damage to the subbase, do not allow the saw to penetrate more than  $\frac{1}{2}$ " into the subbase. The Engineer may direct or approve additional cuts within the removal area in order to prevent damage to adjacent pavement remaining in place. Do not overcut beyond the limits of the removal area. Prevent saw slurry from entering existing joints and cracks. To avoid pumping and erosion beneath the slab, do not allow traffic on sawed pavement, unless directed by the Engineer.

Lift out the deteriorated concrete vertically with lift pins. If approved by the Engineer, use other methods that do not damage the base, shoulder, or sides of pavement that is to be left in place. If any damage does occur, saw cut and remove damaged section and if necessary use an acceptable alternative method for the removal process. Any additional costs associated with repair shall be the contractor's responsibility. Do not damage the pavement base during these operations.

Dispose of all removed pavement, cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor at no additional cost to the Department. The Contractor will be responsible for obtaining any necessary permits for this work.

**3.2 Pavement Replacement.** Do not damage the pavement base during these operations.

**3.2.1 Preparation of Base.** Compact the new and existing aggregate base to the Engineer's satisfaction. The Engineer will accept compaction by either visual inspection or by nuclear gauge. When the Engineer deems it necessary to stabilize the existing base or replace unsuitable materials, excluding bridge ends, use additional DGA to the depth deemed necessary by the Engineer. Underlay the DGA with FABRIC-GEOTEXTILE CLASS 1A. Flowable fill and cement stabilization may be used as an alternative to stabilize the existing base or to replace unsuitable materials when a plan for such is presented to and approved by the Engineer. At bridge ends, treat existing base and subgrade as the Contract specifies. During compaction, wet the base as the Engineer directs. Compact areas not accessible to compaction equipment by hand tamping.

**3.2.2 Underdrains.** Construct, or repair damage to, pavement edge drains according to Section 704. If underdrains are placed omitting areas to be patched, construct additional lateral drains as necessary to provide outlets for the installed underdrain until performing the pavement replacement and completing the underdrain system. Provide drainage for any undercut or base repair areas.

**3.2.3 Pavement Replacement.** Using load transfer assemblies for dowel joints drill into the existing slab according to the details shown herein and on the Standard Drawings.

Use plain epoxy coated dowels of the size specified on the standard drawings based on the pavement thickness for contraction and expansion joints.

Drill holes for dowel bars and tie bars into the face of the existing slab, at a

diameter as specified in the following. Drill the dowel bar holes and tie bar holes to a depth equal to 1/2 the length of the bars. Anchor tie bars into the existing pavement using an epoxy resin. Anchor dowel bars into the existing pavement using either an epoxy resin or an adhesive grout. For tie bars and dowel bars where an epoxy resin is to be used drill the holes 1/8 inch larger than the bar diameter. For dowel bars where an adhesive grout product is to be used, drill holes 1/4 inch larger than the bar diameter. Use a clear or opaque grout retention disk in both grout and epoxy applications. Operate the equipment to prevent damage to the pavement being drilled. Obtain the Engineer's approval of the drilling procedure. Install load transfer assemblies according to the Standard Drawings and Standard Specifications.

When indicated herein or in the Standard Drawings, use 1 inch deformed tie bars that are 18 inches long placed 30 inches on center starting and ending 20 inches inside the edges of the repair area in the longitudinal joint. Use 1 inch deformed tie bars, or plain epoxy coated dowel bars sized in accordance with the Standard Drawings that are 18 inches long beginning 12 inches inside of each edge and on 12-inch centers in transverse construction joints.

Install the dowels and tie bars according to Section 511 unless contradicted here. Ensure the holes are dry and free of dust and debris. Use a nozzle to insert the grout or epoxy starting at the back of the drilled hole to allow for full coating of the dowel or tie bar. After placement, use a bond breaker on the section of the dowel bar that is protruding from the hole.

Mix, place, finish, and cure concrete according to Section 501 with the exception that the Department will allow truck mixing, 2-bag mixers, and hand finishing.

When required, use a form on the side of the slab at longitudinal joints. When the adjacent traffic lane is not closed to traffic or the drop-off is not protected, temporarily fill the space between the form and the adjacent pavement with DGA. After placing the slab, remove the DGA and form. Fill the hole with concrete and thoroughly consolidate by rodding, spading, and sufficient vibration to form a dense homogeneous mass. Use a form on the side of the slab adjacent to shoulders. Excavate and backfill as shown on Section F'-F'.

For patches less than 25 feet in length, use a bond breaker and do not install tie bars at the longitudinal joint. Bond breakers should not exceed 1/8 inch in thickness, e.g. tarpaper.

When resurfacing is required, a float finish is satisfactory. Otherwise, broom finish or, when the adjacent surface has a grooved finish, texture the surface according to Subsection 501.03.13 H). Finish the surface, including joints, to meet a surface tolerance of 1/8 inch in 10 feet that will be verified by straightedge. Cure the pavement and apply curing membranes according to 501.03.15.

Keep all pavement surfaces adjacent to this operation reasonably clean of excess grout and other materials at all times. Maintain all original longitudinal joints. Place transverse joints according to the details shown herein and on the Standard Drawings.

**3.3 Joint Sealing.** Seal all new or partially new joints with hot-poured elastic joint sealant according to Subsection 501.03.18.

#### **4.0 MEASUREMENT.**

**4.1 Remove JPC Pavement.** The Department will measure the quantity in square yards of surface area. The Department will not measure removal of underlying



base material for payment and will consider it incidental to Remove JPC Pavement.

No separate payment will be made for the disposal of waste from the project or obtaining the necessary permits but will be incidental to the other items of the work.

**4.2 DGA or CSB.** The Department will measure the quantity used to stabilize the existing base or to replace unsuitable material in tons. The Department will not measure removal of existing base material or underlying material for payment and will consider incidental to DGA or CSB. The quantity of DGA used for the drop-off protection shall be incidental to this work and will not be measured for payment.

**4.3 JPC Pavement Non-Reinforced.** The Department will measure according to 501.04.01. The Department will not measure dowels, tie bars, or joint sealing for payment and will consider it incidental to Non-Reinforced JPC Pavement.

JPC Pavement will be paid according to section 5.0 below and according to the following payment schedule based on the compressive strength. The cylinders for payment will be tested two hours prior the scheduled opening of traffic.

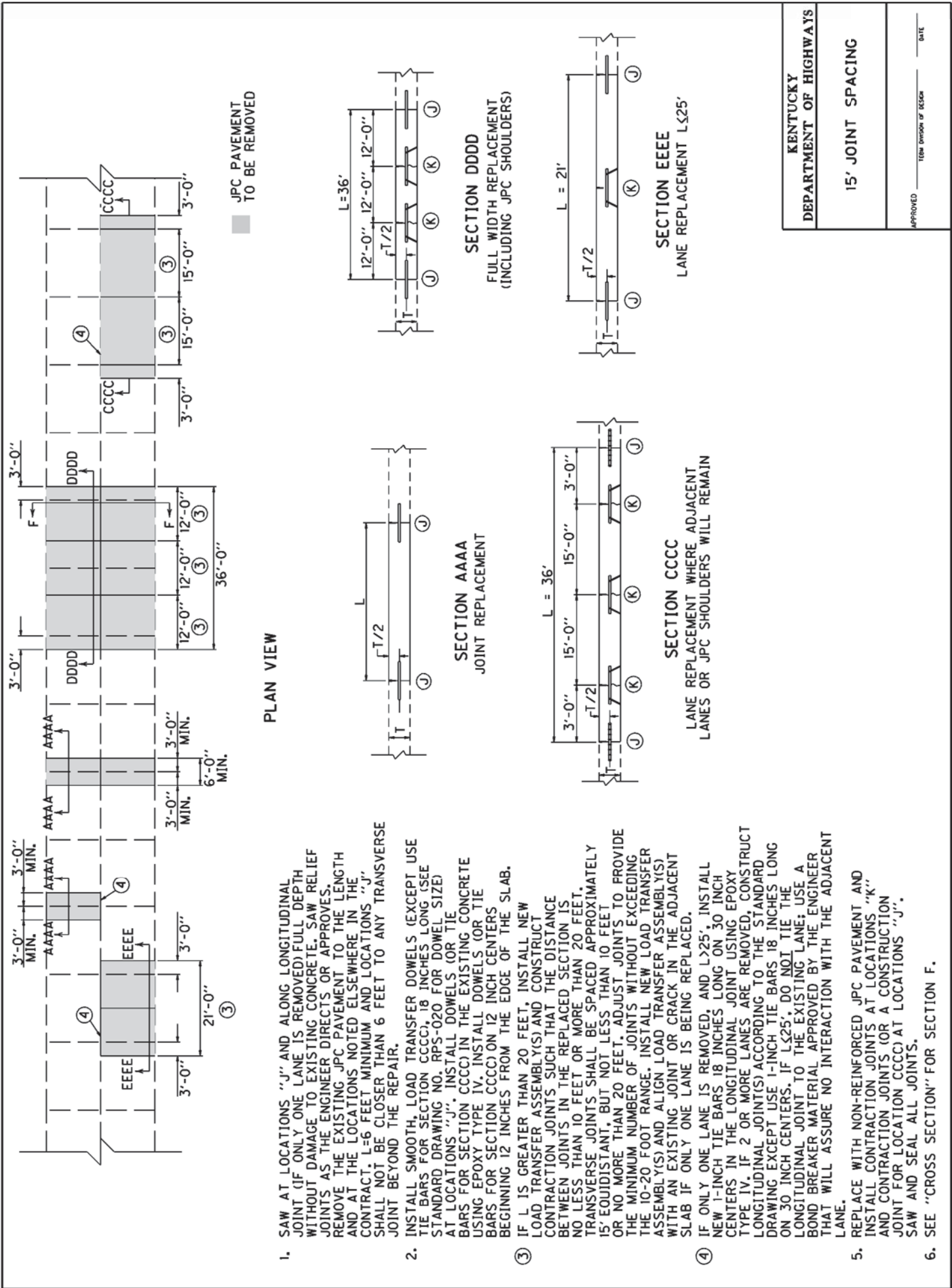
3000 psi and up	100% payment
2750 to 3000 psi	75% payment and approval from the Engineer to open to traffic*
2500 to 2750 psi	50% payment and approval from the Engineer to open to traffic*
2250 to 2500 psi	25% payment and approval from the Engineer to open to traffic*
Below 2250 psi	10% payment and no potential to open to traffic. Maintain traffic closure until concrete reaches a minimum of 2250 psi.

\*If the Engineer approves opening to traffic, the Engineer will evaluate the concrete at 28 days (or sooner) to determine if the removal and replacement of the concrete is necessary due to pavement distress induced by the early opening (i.e. noticeable cracking). If required by the Engineer, remove and replace those slabs showing distress at no cost to the Department.

**4.4 Underdrains.** The Department will measure the quantity according to Subsection 704.04. The Department will not measure lateral drains for payment and will consider them incidental to the Underdrains.

**5.0 PAYMENT.** The Department will consider payment as full compensation for all work required in this provision. The Department will make payment for the completed and accepted quantities under the following:

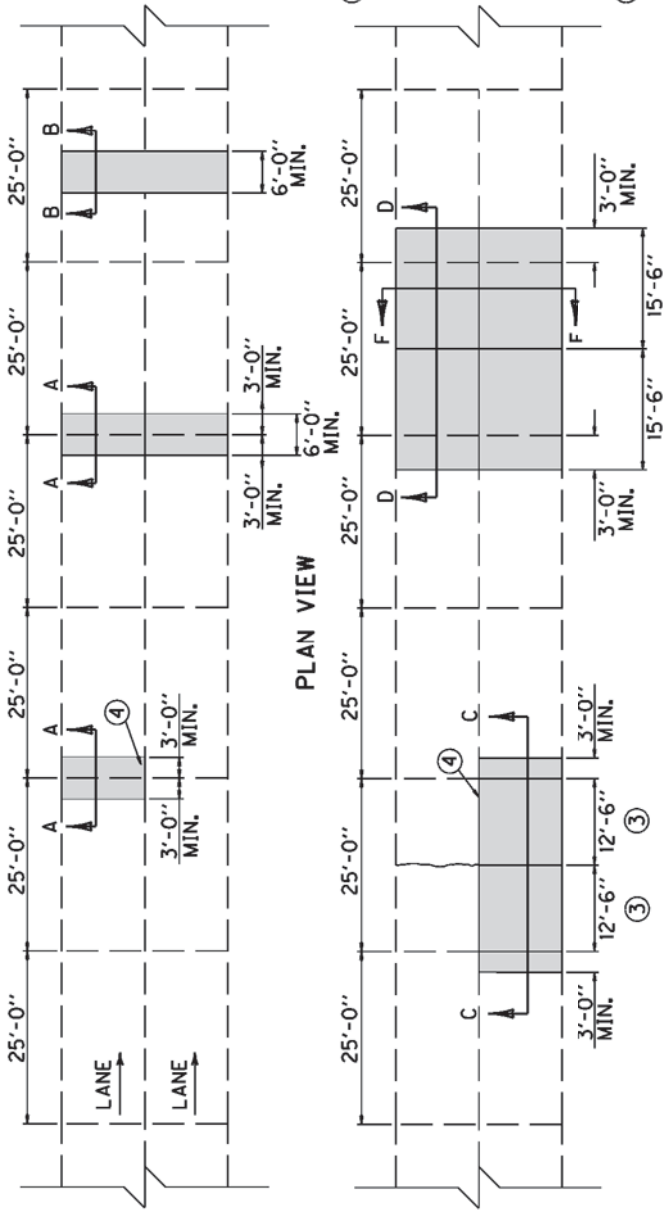
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02091	Remove Pavement	Square Yard
00001	DGA Base	Ton
02069-02088	JPC Pavement	Square Yard
02604	Fabric-Geotextile Class 1A	Square Yard



<b>KENTUCKY</b> <b>DEPARTMENT OF HIGHWAYS</b>
<b>15' JOINT SPACING</b>
APPROVED _____ DATE _____ TECHNICAL DIVISION OF DESIGN

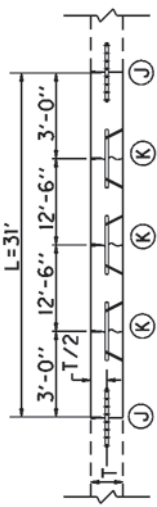
1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE; SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CCCC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION CCCC) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION CCCC) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
  - ③ IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
  - ④ IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L<25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION CCCC) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION C), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION C) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION C) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
3. IF ONLY ONE LANE IS REMOVED, AND  $L > 25'$ , INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF  $L < 25'$ , DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE. USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
4. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION C) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.



PLAN VIEW

JPC PAVEMENT TO BE REMOVED



SECTION C

LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



SECTION A

JOINT REPLACEMENT



SECTION D

FULL WIDTH REPLACEMENT (INCLUDING JPC SHOULDERS)

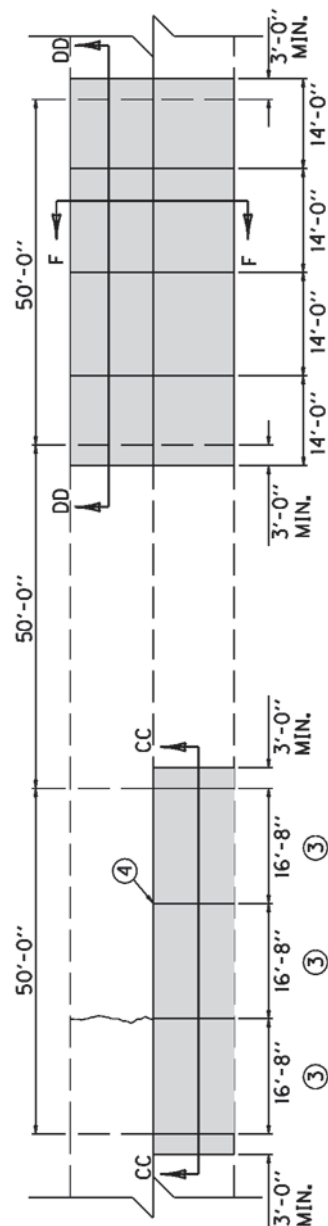
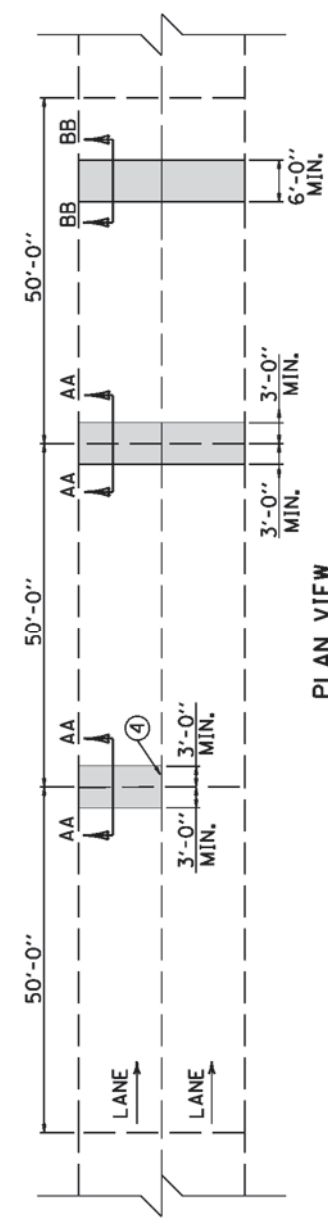


SECTION B

MID-SLAB REPLACEMENT

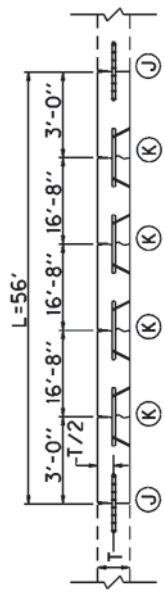
KENTUCKY DEPARTMENT OF HIGHWAYS
25' JOINT SPACING
APPROVED _____ DATE _____ <small>TEAM DIVISION OF DESIGN</small>

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS OR TIE BARS FOR SECTION CC IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS OR TIE BARS FOR SECTION CC ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
4. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L<25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS FOR A CONSTRUCTION JOINT FOR LOCATION CC AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.



PLAN VIEW

JPC PAVEMENT TO BE REMOVED



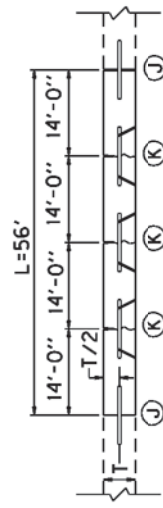
SECTION CC

LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



SECTION AA

JOINT REPLACEMENT



SECTION DD

FULL WIDTH REPLACEMENT (INCLUDING JPC SHOULDERS)

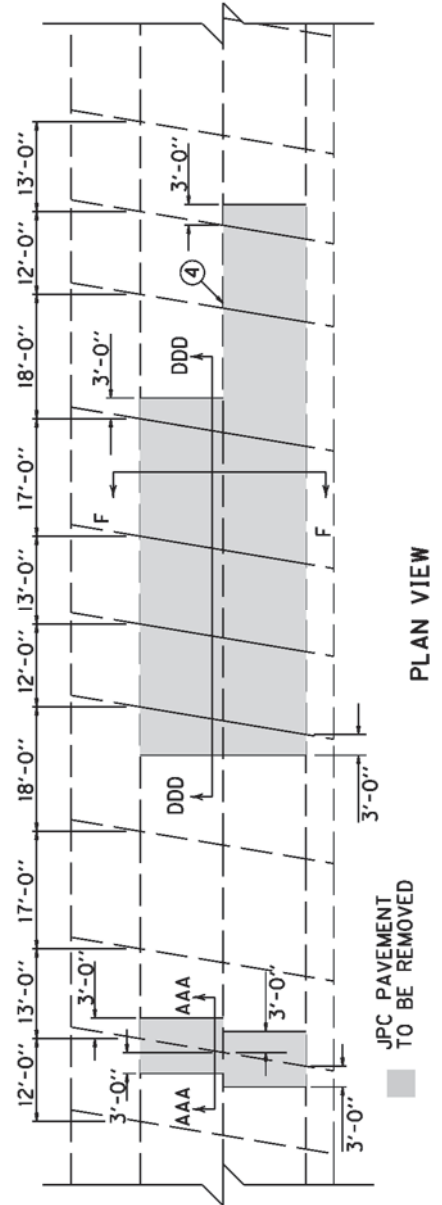


SECTION BB

MID-SLAB REPLACEMENT

KENTUCKY DEPARTMENT OF HIGHWAYS
50' JOINT SPACING
SUBMITTED: _____ TEAM DIVISION OF DESIGN _____ DATE _____

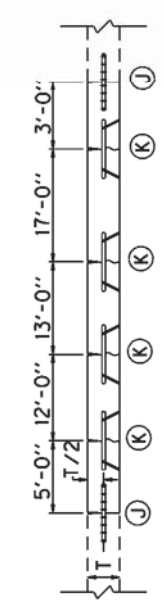
1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION DDD), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION DDD) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION DDD) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND MATCH EXISTING JOINTS. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH EXISTING JOINTS IN ADJACENT SLABS.
- ④ IF ONLY ONE LANE IS REMOVED, AND  $L > 25'$ , INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF  $L > 25'$ , DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K". AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION DDD) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.



PLAN VIEW

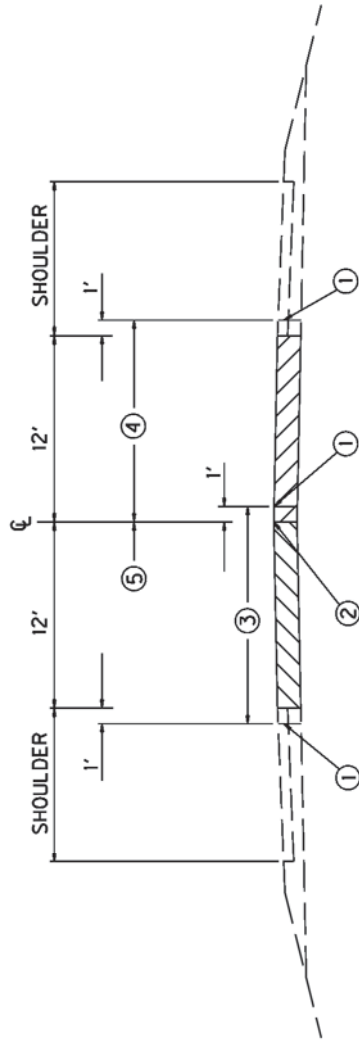


SECTION AAA  
JOINT REPLACEMENT



SECTION DDD  
LANE REPLACEMENT  
(ALWAYS MATCH EXISTING JOINTS)

KENTUCKY DEPARTMENT OF HIGHWAYS
RANDOM SKEWED
APPROVED _____ DATE _____ TECHNICAL DIVISION OF DESIGN



SECTION F

- ① SAW-CUT LINE. THIS ONE FOOT IS TO ALLOW FOR A FORM AND THE REMOVAL AND REPLACEMENT SHALL BE INCIDENTAL TO THE WORK, EXCEPT NEW ASPHALT MIXTURE SHALL BE PAID DIRECT ON A TONNAGE BASIS, AND NEW JPC PAVEMENT WILL BE PAID BY THE SQUARE YARD. COMPACT THE DGA BASE BY MECHANICAL TAMPERS TO THE ENGINEER'S SATISFACTION.
- ② EXISTING LONGITUDINAL JOINT.
- ③ FIRST SLAB REMOVAL LIMITS AND REPLACE 12-FOOT LANE.
- ④ SECOND SLAB REMOVAL LIMITS AND REPLACE 12-FOOT LANE.
- ⑤ THIS ONE FOOT IS TO ALLOW FOR A FORM ON THE FIRST POUR, AND A TEMPORARY PAVEMENT IS REQUIRED. THE DEPARTMENT WILL NOT REQUIRE REMOVAL OF THIS ONE FOOT IF THE GRADE OF THE EXISTING PAVEMENT IS ADEQUATE TO ENSURE THE NEW CONCRETE CAN BE PLACED AND FINISHED TO THE SATISFACTION OF THE ENGINEER. ANY TEMPORARY PAVEMENT IS INCIDENTAL TO JPC PAVEMENT.
6. THE ABOVE DRAWING DEPICTS THE ORDER OF SLAB REMOVAL WHEN BOTH ARE TO BE REMOVED AT THE SAME LOCATION. WHEN ONLY ONE SLAB OR LANE IS TO BE REMOVED, REMOVE AND REPLACE ACCORDING TO SECTION C, CC, OR CCCC. TRAFFIC CONTROL WILL SPECIFY WHICH LANE TO REMOVE FIRST.

KENTUCKY DEPARTMENT OF HIGHWAYS
CROSS SECTION
APPROVED _____ DATE _____ TECH. DIVISION OF DESIGN

## ***SPECIAL NOTE***

### **Concrete Slurry**

If diamond grinding, grooving or any other process which produces slurry is required on roadways or bridges, the contractor shall ensure that all concrete slurry associated with these processes is collected, managed, and disposed of appropriately. The waste material shall be disposed of at a permitted disposal facility, in accordance with the Kentucky Standard Specifications for Road and Bridge Construction and the Environmental Performance Standards outlined in 401 KAR 47:030, or managed as a material for beneficial reuse. Any fines or remediation related to improper disposal shall be the sole responsibility of the contractor.

Disposal of concrete slurry will not be paid separately and shall be considered incidental to other bid items.

**SPECIAL NOTE FOR BEFORE YOU DIG**

**I-75**

**KENTON COUNTY**

Call 1-800-752-6007 toll free a minimum of two and no more than ten business days prior to excavation for information on the location of existing under-ground utilities that subscribe to the before-u-dig (BUD) service. Coordinate excavation with all utility owners, including those who do not subscribe to BUD.



August 13, 2019

## **SPECIAL NOTE FOR CONCRETE PAVEMENT JOINT AND RANDOM CRACK SEALING**

### **I. DESCRIPTION**

Except as specified herein, perform all work in accordance with the Department's 2019 Standard and Supplemental Specifications, Special Notes and Special Provisions, and Standard and Sepia Drawings, current editions, as applicable. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

Saw, Clean, and Reseal Longitudinal Joints, Transverse Joints, and Random Cracks.

### **II. MATERIALS**

The Department will sample and test all materials according to the Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

**A. Joint Sealant.** Contrary to Section 501.03.18 (B), use hot poured elastic, no alternates.

### **III. CONSTRUCTION METHODS**

**A. Site Preparation.** Be responsible for all site preparation, including, but not limited to, removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; and any other incidentals. All site preparation shall be only as approved or directed by the Engineer.

**B. Sealing Joints and Random Cracks.** Saw cut, clean, and reseal longitudinal, transverse, and random cracks within the project limits as directed by the Engineer. Contrary to Standard Drawing RPX- 015-04, saw cut the joint or crack a minimum of 1/8 inch wider than the existing joint or crack or to the width necessary to provide a clean, new face for a reservoir for the new seal. Except as provided herein, perform all joint and crack sealing according to section 501.03.18(F) except random cracks only need to be routed to a depth of approximately one inch.

### **IV. METHOD OF MEASUREMENT**

Except as provided herein, the Department will measure all work in accordance with the 2019 Standard and Supplemental Specifications, Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions. The Department will measure only the bid items listed. Consider all other items required to complete the work as incidental to the listed items.

**A. Site Preparation.** Other than the bid items listed, the Department will not measure Site Preparation for payment, but shall be incidental to the other items of the work, as applicable.

**B. Saw-Clean-Reseal Joints and Random Cracks.** The Department will measure sawed and resealed joints and random cracks in linear feet along the joint or crack. The Department will not measure removing existing joint material or cleaning joints but shall be incidental to Saw-Clean-Reseal Joints and Random Cracks.

August 13, 2019

**V. BASIS OF PAYMENT**

The Department will make direct payment only for the bid items listed. Consider all other items required to complete the construction to be incidental to the bid items listed.

**A. Saw-Clean-Reseal Joints and Random Cracks.** Accept payment at the contract unit price per linear foot of each type as full compensation for all materials, equipment, labor and incidentals necessary to complete the work as specified.

<u>CODE</u>	<u>PAY ITEM</u>	<u>PAY UNIT</u>
02115	Saw-Clean-Reseal Transverse Joint	Linear Foot
02116	Saw-Clean-Reseal Longitudinal Joint	Linear Foot
021173EC	Saw-Clean-Reseal Random Cracks	Linear Foot

### SPECIAL NOTE FOR JPC PAVEMENT GROOVING

DESCRIPTION: JPC Pavement Grooving shall consist of cutting longitudinal or transverse grooves in the JPC surface by means of saw blades or other approved devices. The grooves shall be spaced 3/4 in. center to center and be 1/8 in. in width and depth. Alternative patterns may be used, subject to approval. The JPC surface, after cutting, shall not be polished.

Perform JPC Pavement Grooving after Diamond Grinding. Sealing of the pavement shall be done after JPC Pavement Grooving.

PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Payment</u>	<u>Pay Unit</u>
25049ED	JPC PAVEMENT GROOVING	Square Yard

### **Special Note for Fixed Completion Date and Liquidated Damages**

Contrary to Section 108.09, Liquidated Damages of \$10,000 per calendar day will be assessed for each day work remains uncompleted beyond the Specified Completion Date. This project has a Fixed Completion Date of October 1, 2020.

An agreed upon disincentive of \$10,000 per hour, or portion thereof, will be assessed for any hour or portion of an hour that I-75 traffic is reduced during times not allowed in the traffic control plan.

Also, contrary to Section 108.09 of the Standard Specifications, the disincentive fee will be charged during those periods when seasonal limitations of the Contract prohibit the Contractor from working on a controlling item or operation. This includes the months from December through March.

All liquidated damages will be applied cumulatively.

All other applicable portions of Section 108 apply.

## **Special Note for High Velocity Surface Texturing**

### **I. DESCRIPTION**

The work covered by this project shall include texturing existing the concrete and/or asphalt pavement at locations and widths stated in the contract, cleaning the textured surfaces, and collecting and disposing of all surface materials generated during the texturing process at locations approved by the Department.

### **II. EQUIPMENT**

The equipment used shall specifically be designed and built for high production pavement texturing. Use equipment employing the HVIM (High Velocity Impact Method) by hurling steel abrasive media at a high velocity to abrade and texture the surface.

The equipment shall be capable of varying the velocity of the steel abrasive as well as the speed of the machine to produce the desired surface texture such that a 12 foot wide lane is completed with a maximum of two parallel passes. The equipment shall be equipped with a vacuuming method to recover the abrasive and surface materials without emitting objectionable dust into a minimum 6 cubic yard container in such manner that meets or exceeds all local, State, and Federal air pollution control laws and regulations. Each equipment unit shall have a minimum average production rate of 1200 square yards per hour for concrete pavement and 1800 square yards per hour for asphalt pavement.

The equipment shall direct the velocity of abrasion in a bi-directional fashion, giving uniform abrasion to the surface. When transverse grooves are present, use equipment that directs abrasion at an angle transverse to the grooves to give equal texture to the groove edges.

The equipment shall have on-board controls capable of providing and monitoring uniform velocity and direction, and with self-contained lighting for night operations.

Provide additional equipment to electro-magnetically remove any remaining steel abrasive at the same width and production rate of the texturing equipment if deemed necessary by the Engineer.

Upon request by the Engineer the contractor may be required to provide documentation from previous pavement texturing projects demonstrating the ability to meet the requirements of this specification, or conduct test sections at no cost to the Department to demonstrate that ability, prior to the approval of the use of the equipment within the limits of the project.

### **III. CONSTRUCTION**

Texture the pavement surfaces in a continuous operation of consecutive passes up to 6 feet in width, parallel to the centerline such that a 12 foot wide lane is completed with a maximum of 2 passes.

Operate the equipment in such a manner that the textured surface has a uniform surface appearance, with a non-directional texture, and is devoid of machine produced streaks, ruts, or over-lap grooves which will inhibit the free flow of water.

When required by contract, conduct operations such that the texturing process does not obliterate or remove pavement striping or markings and without causing damage to the raised pavement markers. The distance from the edge of traffic markings to the texture surfaced shall be a maximum of three inches.

Texturing is required in the longitudinal area between the dashed pavement markings and the raised pavement markers.

Thoroughly clean the textured surface of all loose abrasives, surface materials, dust and other objectionable material using vacuum, electromagnetic or other approved methods and remove from the right of way. Do not store or transfer surface materials on-site. Remove all loose material from the pavement surface without the use of equipment that would result in debris being swept off adjacent to the roadway. Conduct texturing operations in a manner that effectively minimizes the amount of dust being emitted.

Plan and conduct the operation so it is safe for persons and property adjacent to the work including the traveling public.

Conduct a half mile test section to determine the velocity of the steel abrasive media to require a surface texture to yield the highest skid values without damaging the surface. Stop texturing the surface until the Department evaluates the skid values obtained from the test section.

#### **IV. TESTING**

Test the textured surface using ASTM E2380 – 09, Standard Test Method for Measuring Pavement Texture Drainage Using an Outflow Meter. Perform the testing in the presence of the Engineer with a qualified technician. A minimum of three tests are required per lane mile and during startup operations at random locations determined by the Engineer. The Engineer reserves the right to reduce testing for the subsequent lanes. Each one lane mile section shall have a minimum average test result of 10 seconds or less.

The Department will provide equipment and personnel to perform skid testing on the textured surface immediately after the surface has been textured at a maximum of half mile intervals as deemed by the Engineer. If the skid values are significantly lower than the test section reapply the surface treatment over the area until the values are within a four points of the test section.

When surface texturing is required for the placement of a high friction surface treatment or an epoxy treatment overlay on a concrete surface the texturing shall meet a minimum standard surface roughness of CSP 5 developed by the International Concrete Repair Institute.

Any additional surface texturing required to meet friction and surface roughness is at no additional cost to the Department.

#### **V. DISPOSAL**

Waste shall be properly disposed of off state right of way and in accordance with local and state regulation. Any cost associated with disposing the waste shall be incidental to the surface texturing.

#### **VI. MEASUREMENT and PAYMENT**

Texturing of pavements to be paid for will be the actual number of square yards of surface area that has been textured in accordance with the requirements of this specification. The Department will consider the unit bid price per square yard to include all labor, materials, and equipment necessary to complete the work. The Department will make payment for the completed and accepted quantities according to the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
25089EC	High Velocity Surface Texturing	SY

**SPECIAL NOTE FOR POLYMER CONCRETE OVERLAY SYSTEMS**

**I. DESCRIPTION**

This work shall be performed in accordance with the current edition of the Department’s Standard Specifications, and applicable Standard or Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications.

The Contractor shall furnish all materials, labor, and equipment for the following work:

- (1) Maintaining and Controlling Traffic; (2) Cleaning and preparing the existing surface; (3) Installing a high friction surface treatment in accordance with the contract documents; and (4) All other work as specified as part of this contract.

**II. MATERIALS**

Provide for sampling and testing of all materials in accordance with the Department's Materials Field Sampling and Testing Manual. Make materials available, within the State of Kentucky, for sampling a sufficient time in advance of the use of the materials. Allow a minimum of 15 working days for testing. The Contractor shall use materials listed on the Department’s List of Approved Materials for Polymer Concrete Overlay Systems (High Friction Surface and Bridge Deck Overlays).

**A. Maintain and Control Traffic.** See Traffic Control Plan.

**B. High Friction Surface Treatment.** The high friction surface treatment shall consist of a polymer resin binder and aggregate system chosen from the Department’s List of Approved Materials. The Department will obtain samples of each binder component and aggregate at a frequency of one sample per lot per contract. The Department will obtain one, one-quart (32 ounce) sample of each binder component for testing. The Department will obtain one 60 to 70 pound composite sample of aggregate for testing. Reclaimed aggregate shall not be allowed for use.

- a) **Binder.** The polymer resin binder shall hold the aggregate firmly in position and meet the following requirements:

<b>TWO-PART MODIFIED BINDER REQUIREMENTS</b>		
<b>Property</b>	<b>Specification Limits</b>	<b>Test Method</b>
Ultimate Tensile Strength	17.0 – 25.0 MPa (19.65 MPa)	ASTM D638
Compressive Strength	5mm min.; > 13 MPa	ASTM D695
Gel Time	50 ml; 10 minutes min. (16 minutes)	ASTM D2471
Elongation at break	30% minimum (54.0%)	ASTM D638
Peak Exothermic Temperature	150°F min.	ASTM D2471
Water Absorption	Less than 0.25%	ASTM D570
Shore Hardness	70 min.	ASTM D2240, Shore D
Cure Rate	3 hours max	ASTM D1640 @ 75°F
Mixing Ratio	Per Manufacturer’s Recommendation	n/a



- b) **Aggregate.** Ensure that the aggregate is clean, dry and free from foreign matter and meets the following requirements:

AGGREGATE REQUIREMENTS		
Property	Specification Limits	Test Method
SFC – Side Force Coefficient	0.70 min.	ASTM E670
SN – Skid Number	75 min SN40R	ASTM E274
PSV – Polished Stone Value	75.0 mm max. (70 mm)	ASTM E660
Texture Depth – Sand Patch Method	1 mm min. (1.2 mm)	ASTM E965
AAV – Aggregate Abrasion Value	20 max	AASHTO T96
Aggregate Gradation	95.0 – 100.0% Passing No. 6 0.0 – 5.0% Passing No. 16	AASHTO T27
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	87 min	ASTM C114

### III. CONSTRUCTION METHODS

Prior to beginning work, provide the Engineer with a certification from the manufacturer of the binder stating that all material used in the work will meet the requirements of Section II B. a. in this Special Note. Also provide the Engineer with a certification stating that all aggregates used in the work will meet the requirements of Section II B. b. of this Special Note.

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Site Preparation.** Be responsible for all site preparation, including but not limited to the following:
- a) **Preparation and Restoration.** Ensure that a manufacturer’s representative is on site to provide technical assistance during the start up operations and as necessary during the surface preparation, material placement, and during any necessary remedial work.
  - b) **Protective Coverings.** Utilities, drainage structures, curbs, bridge joints, and any other structure within or adjacent to the high friction surface treatment location shall be protected from surface preparation activities and application of the surface treatment materials. Cover and protect all existing pavement markings that are adjacent to the surface treatment location. Pavement markings that conflict with the surface application shall be removed prior to performing the required surface preparation.
  - c) **Surface Preparation.** Prepare all surfaces in accordance with the Special Note for High Velocity Surface Texturing, included in the project proposal. Ensure surfaces are dry and meet the requirements of this section immediately prior to installation of the high friction surface treatment. Surfaces contaminated with oils, greases, or other deleterious materials not removed by the required surface preparation shall be washed with a mild detergent solution, rinsed with clean potable water, and dried using a hot compressed air lance. The high friction surface shall be installed within 24 hours of surface texturing.

Polymer Concrete Overlay Systems  
Page 3 of 5

- d) **Asphalt Pavement.** Clean asphalt pavement surfaces using mechanical sweepers and high pressure air wash. Mechanically sweep all surfaces to remove dirt, loose aggregate, debris, and deleterious material. Air wash all surfaces using a minimum of 180 CFM clean and dry compressed air. Maintain the air lance perpendicular to the surface and the tip of air lance within 12 inches of the surface. For applications on new asphalt pavement, ensure the surface has cured a minimum of 30 days prior to performing surface preparation and installation of the high friction surface treatment.
  - e) **Concrete Pavement.** Clean concrete pavement surfaces by texturing in accordance with the Special Note for High Friction Surface Texturing and vacuum sweeping. The prepared surface shall comply with the International Concrete Repair Institute (ICRI) standard for surface roughness CSP 5. After texturing, vacuum sweep all surfaces to remove all dust, debris, and deleterious material.
  - f) **Concrete Bridge Deck.** Clean the entire area of the deck surface and vertical faces of curbs, barrier walls and plinths up to a height of one inch above the top elevation of the overlay, and areas to receive epoxy-sand slurry, by shot blasting and vacuum sweeping. Shot blast all surfaces to remove all curing compound, loosely bonded mortar, surface carbonation, and deleterious material. Areas to receive epoxy-sand slurry shall be cleaned to a bright, clean appearance. The prepared bridge deck surface to receive high friction surface treatment shall comply with the International Concrete Repair Institute (ICRI) standard for surface roughness CSP 5. After shot blasting, vacuum sweep all surfaces to remove all dust, debris, and deleterious material.
  - g) **Pre-Treating.** Pre-treat joints and cracks greater than 1/4 inch in width and depth with properly proportioned and mixed polymer resin binder. Once the binder in the pre-treated areas has gelled, the installation of the high friction surface treatment may proceed.
- C. **Mechanized Application.** Do not apply surface treatment on a wet surface, when the ambient air or surface temperature is below 50°F or above 110°F, or when the anticipated weather conditions or surface temperature would prevent the proper application of the surface treatment as determined by the manufacturer.

Apply the polymer resin binder by a truck or trailer mounted application machine that must be capable of continually mixing and delivering the binder components on demand within the temperature range specified in varying widths of up to 12 feet wide at a uniform application thickness. Ensure that the mechanically applied distributing equipment includes accurate measuring devices and/or calibrated containers and thermometers for measuring the binder temperature prior to placement should heating be required. Operations will proceed in such a manner that will not allow the binder material to separate in the mixing lines, cure, dry, or otherwise impair retention bonding of the high friction surfacing aggregate. The application machine shall be equipped with flushing systems such that blockages of lines will not occur, and installation operations are not delayed, stopped, or otherwise compromised. Ensure that mechanical applications are capable of applying binder uniformly at a minimum rate of 10 gallons per minute. The mixed components are mechanically applied onto a prepared surface with a minimum coverage rate of 3.5 square yards per gallon at a minimum uniform thickness of 50 mils onto the surface. In addition, ensure that the application machine complies with the requirements of the binder manufacturer.

The aggregate shall be applied within 120 seconds of the binder application onto the surface. Uniformly spread aggregate immediately without causing excessive overlap of aggregate outside of coverage area. Ensure that the mechanical aggregate spreader is capable of applying a continuous application of varying widths up to 12 feet wide, in a manner to not violently disturb the wet binder film, at a rate of approximately 13-15 lbs per square yard. Complete coverage of the "wet" binder with aggregate is necessary to achieve a uniform surface. No exposed wet spots of the binder shall be visible once the aggregate is installed. The operations should proceed in such a manner that will not allow the mixed binder material to separate, cure, dry, be exposed, or otherwise harden in such a way as to impair retention and bonding of the high friction surfacing aggregate. Do not use reclaimed aggregate. Do not use vibratory or impact type compaction on the aggregate after placement.

Polymer Concrete Overlay Systems  
Page 4 of 5

- D. Hand Application.** At the Engineers discretion, corrective work and application to areas such as intersections or areas less than 300 square yards, or where truck mounted application machines are not applicable to the specified locations because of logistical restrictions, may be performed by hand application of the high friction surface treatment.

Do not apply surface treatment on a wet surface, when the ambient air or surface temperature is below 50°F or above 110°F, or when the anticipated weather conditions or surface temperature would prevent the proper application of the surface treatment as determined by the manufacturer.

The polymer resin binder components Part (A) and Part (B) shall be proportioned to the correct ratio (+/- 2% by volume ), mixed using a low speed high torque drill fitted with a helical stirrer.

The mixed components shall be hand applied onto a prepared surface at a minimum coverage rate of 3.5 square yards per gallon at a minimum uniform thickness of 50 mils onto the surface. Hand applied binder will be uniformly spread onto the prepared surface by the use of a continuous V notch serrated edged squeegee.

Immediately after placing the binder, apply the aggregate, in a manner to not violently disturb the wet binder film, at a rate of approximately 13-15 lbs per square yard. Do not use reclaimed aggregate. Do not use vibratory or impact type compaction on the aggregate after placement.

- E. Curing of Installed High Friction Surface Treatment.** Allow the installed high friction surface treatment to cure in accordance with manufacturer recommendations (approximately 3 hours at an ambient air temperature of at least 50 degrees Fahrenheit). Protect treated surfaces from traffic and environmental effects until the area has cured.
- F. Removal of Excess Aggregate.** Remove the excess aggregate from the treatment area and all adjacent surfaces by mechanical sweeping or vacuum sweeping the surfaces a minimum of 3 times before applying additional application and/or opening to traffic. In addition, re-sweep the treatment area and adjacent surfaces using mechanical sweeping or vacuum sweeping 48 hours after opening to traffic to remove all additional loose aggregate and aggregate shed by the action of traffic.
- G. Disposal of Waste.** All debris, excess aggregate, materials containers, and other waste shall be disposed of off the Right-of-Way at approved sites obtained by the Contractor at no cost to the Department. No separate payment will be made for the disposal of waste and debris from the project, but shall be incidental to the other items of the work.
- H. Restoration.** Any roadway features disturbed by the work or the Contractor's operations shall be restored in like kind materials and design as directed by the Engineer at no additional cost to the Department.
- I. Property Damage.** Be responsible for all damage to public and/or private property resulting from the work. Repair or replace damaged roadway features in like kind materials and design as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.
- J. On-Site Inspection.** Before submitting a bid for the work, make a thorough inspection of the site and determine existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid to be evidence of this inspection having been made. The Department will not honor any claims for money or time extension resulting from site conditions.
- K. Right-of-Way Limits.** All work is located within the existing right of way. Limit work activities to the Right-of-Way, and work and staging areas secured by the Contractor, at no additional cost to the Department. Be responsible for all encroachments onto private lands.
- L. Caution.** The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if

Polymer Concrete Overlay Systems  
Page 5 of 5

the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

- M. Control.** Perform all work under the absolute control of the Department of Highways. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces, and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties.

Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and his/her decision shall be final and binding upon the Contractor.

#### IV. FIELD EVALUATION

High friction surface treatment locations that can be safely tested at 40 mph shall be evaluated by locked wheel skid test as per ASTM E274 between 60 and 90 days after installation. A minimum skid number of 75 SN40R is required. Installations that are not conducive to skid testing due to roadway geometrics or speed limitations shall be accepted based upon visual determination of acceptable bond and aggregate exposure.

Surface treatment applications not meeting average minimum skid test results of 75 SN **shall be removed and replaced** at no cost to the Department.

#### V. METHOD OF MEASUREMENT

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Site Preparation.** Other than the bid items listed, site preparation will not be measured for payment, but shall be incidental to high friction surface treatment.
- C. High Friction Surface Treatment.** The Department will measure the surface area coverage of High Friction Surface Treatment in Square Yards.

#### VI. BASIS OF PAYMENT

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. High Friction Surface Treatment.** Payment for the accepted quantity at the Contract unit price per Square Yard shall be full compensation for furnishing all labor, materials, equipment, and incidentals for furnishing and installing High Friction Surface Treatment. Payment shall not be made prior to the final and accepted sweeping, 48 hours after installation.

**SPECIAL NOTE FOR STRIPING ON HIGH FRICTION SURFACE TREATMENTS**

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**I. DESCRIPTION**

Installation of pavement striping, temporary, durable waterborne markings, and/or thermoplastic markings on High Friction Surface (HFS) Treatments.

**II. CONSTRUCTION**

Conduct striping under lane closures meeting the conditions of the MUTCD and Kentucky Standard Drawings and Specifications, current editions. Upon initial completion of the HFS installation, install temporary striping as the Engineer directs. Upon completion of the 48 hour vacuum sweeping, install either durable waterborne markings or thermoplastic markings, whichever the Contract specifies or as directed by the Engineer. Temporary Pavement Striping will comply with all applicable requirements within Section 112. Thermoplastic markings shall comply with all applicable requirements within Section 714. Durable waterborne markings shall comply with all applicable requirements within Section 713. Application rates of durable waterborne striping shall be as follows:

<b>Material</b>	<b>Paint Application Rate</b>	<b>Glass Bead Application Rate</b>
4 inch durable waterborne paint	Min. of 24 gallons/mile	Min. of 6 pounds/gallon
6 inch durable waterborne paint	See Section 713.03.03	See Section 713.03.04

**III. MEASUREMENT**

The Department will measure striping quantities in linear feet. NOTE: On HFS installations, the Contractor is advised that it may be necessary to install multiple passes of striping in order to achieve the required specifications. Final payment will be based on the actual length of the final striping regardless of the number passes required to meet specifications.

**IV. PAYMENT**

The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
----	Pavement Striping - Temporary	Linear Foot
----	Durable Waterborne Marking, width, color	Linear Foot
----	Pavement Striping - Thermoplastic, width, color	Linear Foot

The Department will consider payment as full compensation for all work required under this note, Section 112, Section 713, and Section 714.

September 18, 2019

## **SPECIAL NOTE FOR CLASS 1A GEOTEXTILE FABRICS USED IN STRUCTURAL PAVEMENT DESIGNS**

1. **DESCRIPTION.** This special note covers requirements for Class 1A geotextile fabrics to be used for subgrade stabilization that is a part of a structural pavement design.
2. **GEOTEXTILE FABRIC.** Use woven fabric consisting only of long chain polymeric filaments or yarns such as polypropylene formed into a stable network such that the filaments or yarns retain their relative position to each other. Use fabric that is inert to commonly encountered chemicals and free of defects or flaws significantly affecting its physical or filtering properties.

Ensure that the fabric is formed in widths of at least 6 feet. When necessary, sew sheets of fabric together to form required fabric widths. Sew the sheets of fabric together at the point of manufacture or other approved locations.

The geotextile manufacturer is responsible for establishing and maintaining a quality control program to ensure compliance with this section. The manufacturer must participate in the National Transportation Product Evaluation Program (NTPEP) for Geotextiles and Geosynthetics and the product data must be posted in NTPEP DataMine.

2.1 **PACKING.** During all periods of shipment and storage, wrap the fabric in a heavy duty protective covering to protect the fabric from direct sunlight, ultraviolet rays, temperatures greater than 140 °F, mud, dirt, dust, and debris.

2.2 **PHYSICAL REQUIREMENTS.** Class 1A fabrics are to meet the current requirements of AASHTO M288.

2.3 **ACCEPTANCE.** Obtain the Department's approval for all material before incorporating it into the project.

3. **CONSTRUCTION.** The Engineer will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage. Prepare the surface to receive the fabric to a smooth condition, free of obstructions, debris, or sharp objects that may puncture the fabric. Place the fabric smooth and free of folds, wrinkles, or creases. Do not operate equipment directly on the fabric. Protect the fabric at all times from contamination. Remove and replace any contaminated fabric with uncontaminated fabric.

Repair or replace any fabric damage. Repair individual isolated cuts, tears, or punctures by placing a patch of geotextile fabric that extends at least 3 feet beyond the damage in all directions or by field splicing the patch. Cover the fabric with a layer of the specified material within 14 calendar days. Remove and replace fabric not covered within 14 days.

September 18, 2019

4. ACCEPTANCE PROCEDURES FOR NON-SPECIFICATION FABRIC. Ensure that all geotextile fabric conforms to the requirements of this section. However, when non-specification geotextile fabric is inadvertently incorporated into the work before completion of testing, the Department may accept the material with a reduction in pay, provided the failure is marginal and will not cause poor performance. When the failure is excessive, then remove the geotextile fabric, and replace it unless the Engineer determines that the geotextile fabric can remain in place. The Department will apply the largest payment reduction when the material fails to meet more than one specification requirement. The Department will calculate the payment reduction on the invoice cost of the material delivered at the project site. The Department will reject geotextile fabric that fails and has not been incorporated into the work.

5. FASTENER PINS. The Engineer will accept fastener pins based on visual inspection on the project. Conform to the following:

5.1 SUBGRADE STABILIZATION AND WRAPPED AGGREGATE DRAINAGE BLANKET. Provide fastener pins that are formed of 3/16 inch diameter or heavier steel, pointed at one end, with a head on the opposite end to retain a washer with a minimum diameter of 1 1/2 inches.

6. MEASUREMENT. The Department will measure the quantity in square yards. The Department will not measure fabric when the Contract indicates the fabric is incidental to the work or when the specification for another item requires incidental installation of geotextile fabric.

The Department will not measure material in laps or seams.

When fabric is used in conjunction with an aggregate layer, the Department will measure the quantity of (1) the area of the lower surface of the aggregate layer, (2) the area of the upper surface of the aggregate layer, and (3) the area of the sides and ends of the aggregate layer; using the dimensions specified in the Plans for each fabric type that applies to its corresponding location(s).

The Department will not measure for payment the repair or replacement of damaged fabric or replacement of fabric not covered within 14 days.

7. PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02604	FABRIC-GEOTEXTILE CLASS 1A	Square Yard

11K

### **SPECIAL NOTE FOR PARTIAL DEPTH CONCRETE PAVEMENT REPAIR**

This Special Note applies to partial depth repairs of concrete pavement. Section references herein are to the Department's 2019 Standard Specifications for Road and Bridge Construction.

**1.0 DESCRIPTION.** Remove and replace small, shallow areas of deteriorated concrete that extend no deeper than one-third of the slab thickness. Comply with the applicable Standard Drawings and the Standard Specifications except as specifically superseded herein.

#### **2.0 MATERIALS AND EQUIPMENT.**

**2.1 JPC Pavement.** Conform to Section 601.

**2.2 Latex Materials.** Conform to Section 606.

**2.3 Rapid Set Concrete Patching Materials.** See the List of Approved Materials for Rapid and Very Rapid hardening materials from the Division of Materials.

**2.4 Hot-Poured Elastic and Silicone Rubber Sealant.** Conform to Subsection 807.03.01 or 807.03.05.

**2.5 Hammers.** Only use chisel point hammers weighing less than 15 pounds to remove deteriorated concrete.

#### **3.0 CONSTRUCTION.**

**3.1 Repair Dimension Selection.** The locations for partial-depth repair will be identified in the plans or proposal or as specified by the Engineer during construction. Identify the repair boundaries by sounding the concrete with a solid steel rod, a heavy chain, or a ball peen hammer. Repair boundaries should extend a minimum of 3 inches outside unsound areas.

**3.2 Concrete Removal.** Saw the hole to be patched with a vertical face, to a 2-inch minimum depth and to the configuration the Contract specifies or the Engineer directs. After sawing, keep exposure to traffic to a minimum until patching.

If the area to be patched is deeper than 1/3 the slab depth, construct full depth patches according to the "Special Note for Full-Depth Concrete Pavement Repair". Partial depth patches that become full depth repairs will be paid forty (40) percent of the unit price for Partial Depth Patching.

Keep overcutting beyond the limits of the removed area to a minimum. Prevent saw slurry from entering existing joints and cracks. Clean all saw slurry and other contaminants from overcutting. Repair the overcut area with a low viscosity epoxy compound.

**3.3 Repair Area Preparation.** Following the removal of the concrete, the surface of the repair area must be prepared to provide a clean, irregular surface for the development of a good bond between the repair material and the



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existing slab. Clean the repair area by sandblasting followed by compressed airblasting to remove dirt, oil, thin layers of unsound concrete, and laitance. The compressed air used in the final cleaning must be free of oil. This should be checked by placing a cloth over the air compressor nozzle and visually inspecting for oil.

**3.4 Joint Preparation.** Partial-depth repairs placed against transverse joints require the use of an insert to act as a bondbreaker or joint reformer. Place the insert so that it prevents intrusion of repair material into the joint opening. Insure the compressible insert extends 1 inch below and 3 inches beyond the repair boundaries. Prior to placement, score the insert at the appropriate depth to accommodate the joint sealant material to be used. Once the patch has cured or set, remove the scored top strip to allow for the joint sealant to be placed.

### **3.5 Patching Material and Placement.**

**3.5.1 Portland Cement Patch.** Use a mixture conforming to Section 502 except use No. 8 or 9M coarse aggregate. Submit a mix design for the Engineer's approval. Vigorously scrub a grout bond coat into the repair area. Use a grout consisting of a slurry made of water mixed with equal parts of Portland cement and mortar sand.

Place the patch before the grout shows any sign of drying. Cure according to the Standard Specifications. Two applications of curing compound will be required. Remove and replace all areas of the patches that display cracks or are not bonded to the underlying pavement.

**3.5.2 Latex Concrete Patch.** Prepare the patch area and apply a latex grout bond coat. Furnish, mix, place, and cure the latex concrete according to Section 606. Ensure the curing materials required by Subsection 606.03.17 A) 4) remain in place for the specified time. Remove and replace all areas of the patches that display cracks or are not bonded to the underlying pavement.

**3.5.3 Rapid Set Concrete Patching Materials.** Furnish a repair material specified as "Rapid" or "Very Rapid" hardening listed on the Division of Materials *List of Approved Materials* when the repair area is required to be opened to traffic in a short time frame. A substitute product may be allowed only after submittal and approval by the Division of Materials. Repair materials should be installed according to the manufacturer's recommendations. All materials used will be tested prior to the project beginning to insure that a minimum opening compressive strength of 3,000 psi can be obtained based on the time requirements listed in the maintenance of traffic notes for the project.

Remove and replace all areas of the patches that display cracks or are not bonded to the underlying pavement.

**3.6 Joint Sealing.** Seal all new or partially new joints with hot-poured elastic or silicone rubber sealant according to Subsection 501.03.18 D).

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**4.0 MEASUREMENT.**

**4.1 Partial Depth Patching.** The Department will measure the quantity in cubic feet, either from field measurements or the metered quantity from the mixer, as the Engineer determines.

**5.0 PAYMENT.** The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02110	Partial Depth Patching	Cubic Foot

The Department will consider payment as full compensation for all work required in this provision.

February 17, 2020

Jeff Wolfe - Director  
Phone (502) 564-3020  
FAX (502) 564-7759

**PROJECT MATERIALS RELEASE FORM  
FOR SIGNAL AND LIGHTING**

**Note: Email form with signatures to KYTC's warehouse (kim.stamper@ky.gov) at least two (2) days prior to arrival for pickup. Ensure Contractor's delivery driver has a copy of form with signatures. Failure to do either may result in long delays or refusal to distribute materials upon arrival.**

Item Number: 6-20023

County: Kenton

Description: Wall replacement

Poles	
2	T-04-0160 Lighting Pole 40' w/twin 15' arms

**REQUIRED**

Electrical Contractor Name \_\_\_\_\_

Electrical Contractor Supervisor \_\_\_\_\_

Project Engineer \_\_\_\_\_

Project Engineer attests that the mentioned contractor is the actual electrical contractor on this project

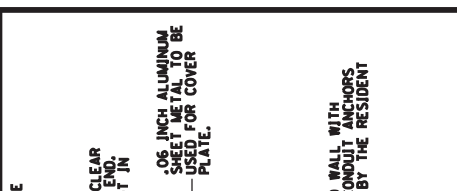
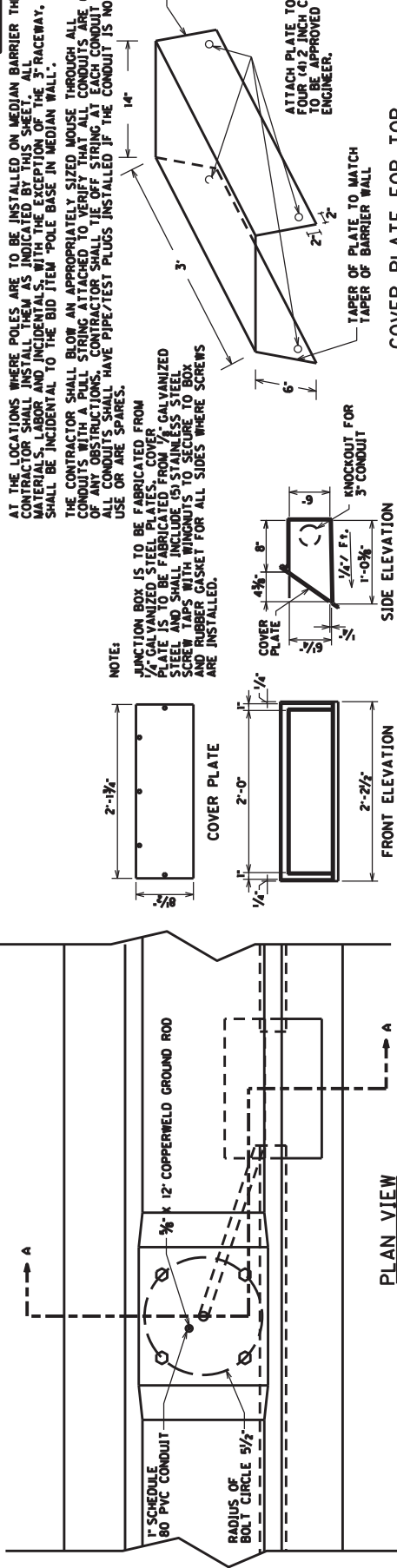
Signature of Project Engineer or Designee \_\_\_\_\_

Contact number for Supervisor \_\_\_\_\_

Contact number for Project Engineer \_\_\_\_\_

CONCRETE MEDIAN BARRIER WITH LIGHT STANDARDS

COUNTY OF	ITEM NO.	SHEET
		105



AT THE LOCATIONS WHERE POLES ARE TO BE INSTALLED ON MEDIAN BARRIER THE CONTRACTOR SHALL INSTALL THEM AS INDICATED BY THIS SHEET. ALL MATERIALS, LABOR AND INCIDENTALS, WITH THE EXCEPTION OF THE 3" RACEWAY, SHALL BE INCIDENTAL TO THE BID ITEM "POLE BASE IN MEDIAN WALL".

THE CONTRACTOR SHALL BLOW AN APPROPRIATELY SIZED MOUSE THROUGH ALL CONDUITS WITH A PULL STRING ATTACHED TO VERIFY THAT ALL CONDUITS ARE CLEAR OF ANY OBSTRUCTIONS. CONTRACTOR SHALL TIE OFF STRING AT EACH CONDUIT END. ALL CONDUITS SHALL HAVE PIPE/TEST PLUGS INSTALLED IF THE CONDUIT IS NOT IN USE OR ARE SPARES.

JUNCTION BOX IS TO BE FABRICATED FROM 1/2" GALVANIZED STEEL PLATES. COVER PLATE IS TO BE FABRICATED FROM 1/2" GALVANIZED STEEL AND SHALL INCLUDE (5) STAINLESS STEEL SCREW TAPS WITH WINGNUTS TO SECURE TO BOX AND RUBBER GASKET FOR ALL SIDES WHERE SCREWS ARE INSTALLED.

NOTE: 0.6 INCH ALUMINUM SHEET METAL TO BE USED FOR COVER PLATE.

ATTACH PLATE TO WALL WITH FOUR (4) 1/2 INCH CONDUIT ANCHORS TO BE APPROVED BY THE RESIDENT ENGINEER.

TAPER OF PLATE TO MATCH TAPER OF BARRIER WALL

COVER PLATE FOR TOP OF POLE BASE (IF NEEDED)

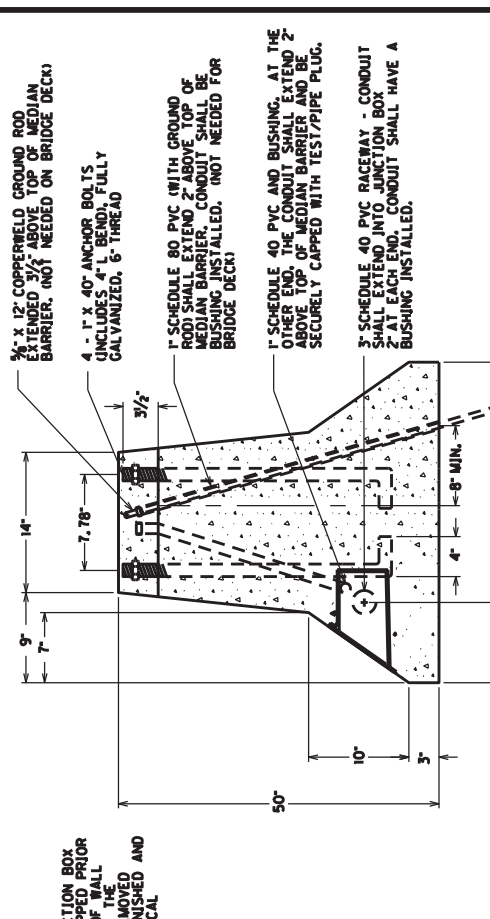
3/4" x 12" COPPERWELD GROUND ROD EXTENDED 3/2" ABOVE TOP OF MEDIAN BARRIER. (NOT NEEDED ON BRIDGE DECK)

4 - 1" x 40" ANCHOR BOLTS UNINCLUDES 4" L BEND, FULLY GALVANIZED, 6" THREAD

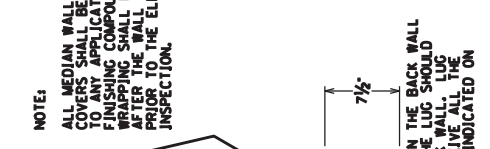
1" SCHEDULE 80 PVC WITH GROUND ROD BUSHINGS SHALL EXTEND 2" ABOVE TOP OF MEDIAN BARRIER AND SHALL BE FLUSH WITH THE BOTTOM OF MEDIAN BARRIER. (NOT NEEDED ON BRIDGE DECK)

1" SCHEDULE 40 PVC AND BUSHING. AT THE OTHER END, THE CONDUIT SHALL EXTEND 2" ABOVE TOP OF MEDIAN BARRIER AND BE SECURELY CAPPED WITH TEST/PIPE PLUG.

3" SCHEDULE 40 PVC RACEWAY - CONDUIT SHALL EXTEND INTO JUNCTION BOX 2" AT EACH END. CONDUIT SHALL HAVE A BUSHING INSTALLED.



JUNCTION BOX



COVER PLATE



FRONT ELEVATION

SIDE ELEVATION

NOTE: ALL MEDIAN WALL JUNCTION BOX COVERS SHALL BE WRAPPED PRIOR TO ANY APPLICATION OF WALL FINISHING COMPOUNDS. THE WRAPPING SHALL BE FINISHED AND PRIOR TO THE ELECTRICAL INSPECTION.

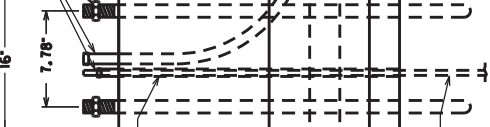
NOTE: ALL THREADS, CAPS, NUTS, ETC. SHALL BE WRAPPED PRIOR TO ANY APPLICATION OF WALL FINISHING COMPOUNDS. THE WRAPPING SHALL BE REMOVED AND AFTER THE WALL IS FINISHED AND PRIOR TO THE ELECTRICAL INSPECTION.

INSTALL GROUNDING LUG ON THE BACK WALL OF THE JUNCTION BOX. THE LUG SHOULD BE CENTERED ON THE BACK WALL. LUG SHOULD BE SIZED TO RECEIVE ALL THE SIZES OF WIRES THAT IS INDICATED ON THE PLAN SHEET.

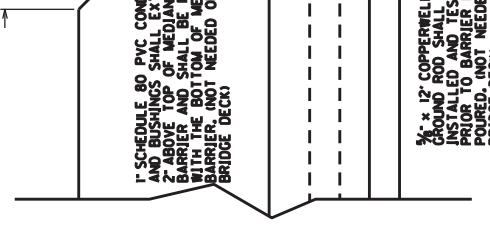
TEST/PIPE PLUG FOR SPARE CONDUITS CAPPED ON BOTH ENDS

SCHEDULE 80 PVC FINISHED GRADE

TEST/PIPE PLUG FOR SPARE CONDUITS AND GROUNDING DETAIL



SECTION A-A



NOTE: 3/4" x 12" COPPERWELD GROUND ROD SHALL BE INSTALLED AND TESTED PRIOR TO BARRIER BEING POURED. (NOT NEEDED ON BRIDGE DECK)

MEDIAN DETAILS

3/20/2017

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES  <b>RIGHT OF WAY CERTIFICATION</b>	TC 62-226 Rev. 01/2016 Page 1 of 1
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<input checked="" type="checkbox"/> Original	<input type="checkbox"/> Re-Certification	<b>RIGHT OF WAY CERTIFICATION</b>	
<b>ITEM #</b>	<b>COUNTY</b>	<b>PROJECT # (STATE)</b>	<b>PROJECT # (FEDERAL)</b>
6-20032	Kenton	FD52 059 0075 086-191	NHPP IM 0758 (105)

**PROJECT DESCRIPTION**  
 I-75 ROAD IMPROVEMENTS; I-75, Concrete patching/repair and diamond grinding project, FROM MP 186.751 – 190.453  
 Location: I-75 Kenton County MP 186.751 – 190.453

**No Additional Right of Way Required**  
 Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

**Condition # 1 (Additional Right of Way Required and Cleared)**  
 All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

**Condition # 2 (Additional Right of Way Required with Exception)**  
 The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

**Condition # 3 (Additional Right of Way Required with Exception)**  
 The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.

Total Number of Parcels on Project	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
<b>Number of Parcels That Have Been Acquired</b>		
Signed Deed		
Condemnation		
Signed ROE		

**Notes/ Comments (Use Additional Sheet if necessary)**

<b>LPA RW Project Manager</b>		<b>Right of Way Supervisor</b>	
Printed Name		Printed Name	Date: 2019.08.15 11:24:26 -04'00'
Signature		Signature	
Date		Date	
<b>Right of Way Director</b>		<b>FHWA</b>	
Printed Name		Printed Name	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Signature	Digitally signed by <b>DM Loy</b> Date: 2019.08.15 12:35:01 -04'00'	Signature	
Date		Date	

## UTILITIES AND RAIL CERTIFICATION NOTE

**KENTON COUNTY  
NHPP IM 0758 (105)  
FD52 059 0075 086-191  
ADDRESS PAVEMENT CONDITION OF PCC PAVEMENT ON I-075  
BOTH DIRECTIONS FROM MILEPOINT 186.95 TO MILEPOINT  
190.721.**

**GENERAL PROJECT NOTE ON UTILITY PROTECTION**

Utility Coordination efforts determined that no significant utility relocation work is required to complete the project. Any work pertaining to these utility facilities is defined in the bid package and is to be carried out as instructed by the Kentucky Transportation Cabinet.

**NOTE: DO NOT DISTURB THE FOLLOWING UTILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS**

Duke Energy Electric, Cincinnati Bell Telephone, Spectrum Communications, CenturyLink, & Windstream have facilities in the area. There are five overhead facility crossing within the project area. All appear to exceed the minimum clearance requirement of 24'. The contractor should operate with extreme caution in the vicinity of these crossings.

These overhead crossings occur near MP 187.7, 187.9, 190.1, 190.4, & 190.5. These facilities shall not be disturbed during construction.

**THE FOLLOWING COMPANIES ARE RELOCATING/ADJUSTING THEIR UTILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION**

N/A

**THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE COMPANY OR THE COMPANY'S SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT**

N/A

**THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE ROAD CONTRACTOR AS INCLUDED IN THIS CONTRACT**

N/A

**THE FOLLOWING RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED**

- No Rail Involved     Minimal Rail Involved (See Below)     Rail Involved (See Below)

**UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG**

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is

## UTILITIES AND RAIL CERTIFICATION NOTE

**KENTON COUNTY  
NHPP IM 0758 (105)  
FD52 059 0075 086-191  
ADDRESS PAVEMENT CONDITION OF PCC PAVEMENT ON I-075  
BOTH DIRECTIONS FROM MILEPOINT 186.95 TO MILEPOINT  
190.721.**

instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

### SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor’s responsibility to verify all utilities and their respective locations before excavating.

*Please Note: The information presented in this Utility Note is informational in nature and the information contained herein is not guaranteed.*

### AREA UTILITIES CONTACT LIST

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
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## UTILITIES AND RAIL CERTIFICATION NOTE

**KENTON COUNTY  
NHPP IM 0758 (105)  
FD52 059 0075 086-191  
ADDRESS PAVEMENT CONDITION OF PCC PAVEMENT ON I-075  
BOTH DIRECTIONS FROM MILEPOINT 186.95 TO MILEPOINT  
190.721.**

**UTILITY CONTACT INFORMATION WILL BE PROVIDED AT THE PRECONSTRUCTION  
CONFERENCE.**



**PART II**  
**SPECIFICATIONS AND STANDARD DRAWINGS**

### **SPECIFICATIONS REFERENCE**

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2016*.

## **SUPPLEMENTAL SPECIFICATIONS**

The contractor shall use the Supplemental Specifications that are effective at the time of letting.  
The Supplemental Specifications can be found at the following link:

<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>

### **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 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) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
- 8) 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.
- 9) 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.
- 10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 11) Provide a photocell control to provide automatic dimming.

- 12) Allow an on-off flashing sequence at an adjustable rate.
- 13) Provide a sight to aim the message.
- 14) Provide a LED display color of approximately 590 nm amber.
- 15) Provide a controller that is password protected.
- 16) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

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

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

**2.3 Power.**

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to 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.

**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.

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.

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

11

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:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

## **PART III**

### **EMPLOYMENT, WAGE AND RECORD REQUIREMENTS**

FHWA-1273 -- Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

**ATTACHMENTS**

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

**II. NONDISCRIMINATION**

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

**I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under



this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

**III. NONSEGREGATED FACILITIES**

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

**IV. DAVIS-BACON AND RELATED ACT PROVISIONS**

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

**1. Minimum wages**

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

**2. Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**3. Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**4. Apprentices and trainees**

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

#### **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

##### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.



i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\*\*\*\*\*

**2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**KENTUCKY TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS**

**EMPLOYMENT REQUIREMENTS  
RELATING TO  
NONDISCRIMINATION OF EMPLOYEES  
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)**

**AN ACT OF THE KENTUCKY GENERAL ASSEMBLY  
TO PREVENT DISCRIMINATION IN EMPLOYMENT**

**KRS CHAPTER 344  
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

### Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
  - a. withholding payments to the contractor under the contract until the contractor complies; and/or
  - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

### Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*)

## EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

"General Decision Number: KY20200039 01/03/2020

Superseded General Decision Number: KY20190039

State: Kentucky

Construction Type: Highway

Counties: Boone, Campbell, Kenton and Pendleton Counties in  
Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building  
structures in rest area projects & railroad construction;  
bascule, suspension & spandrel arch bridges designed for  
commercial navigation, bridges involving marine construction;  
and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage  
of \$10.80 for calendar year 2020 applies to all contracts  
subject to the Davis-Bacon Act for which the contract is awarded  
(and any solicitation was issued) on or after January 1, 2015.  
If this contract is covered by the EO, the contractor must pay  
all workers in any classification listed on this wage  
determination at least \$10.80 per hour (or the applicable  
wage rate listed on this wage determination, if it is higher)  
for all hours spent performing on the contract in calendar  
year 2020. If this contract is covered by the EO and a  
classification considered necessary for performance of work on  
the contract does not appear on this wage determination, the  
contractor must pay workers in that classification at least



the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/03/2020

BRKY0002-005 06/01/2017

	Rates	Fringes
BRICKLAYER.....	\$ 27.81	13.01
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BROH0001-005 06/01/2008

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER....	\$ 25.75	8.60
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CARP0698-001 05/01/2014

BOONE, CAMPBELL, KENTON & PENDLETON COUNTIES:

	Rates	Fringes
Carpenter & Piledrivermen.....	\$ 27.27	14.59
Diver.....	\$ 40.58	9.69
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\* ELEC0212-007 06/03/2019

	Rates	Fringes
ELECTRICIAN.....	\$ 30.18	18.89

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ELEC0212-013 11/26/2018

	Rates	Fringes
Sound & Communication Technician.....	\$ 24.35	10.99

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ENGI0018-013 05/01/2019

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 37.39	14.95
GROUP 2.....	\$ 37.27	14.95
GROUP 3.....	\$ 36.23	14.95
GROUP 4.....	\$ 35.05	14.95
GROUP 5.....	\$ 29.59	14.95
GROUP 6.....	\$ 37.64	14.95
GROUP 7.....	\$ 37.89	14.95

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew

(Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; & Wheel Excavator

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48"; Bulldozer; Endloader; Hydro Milling Machine; Horizontal Directional Drill (over 500,000 ft. lbs. thrust); Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24" wide & under); & Vermeer type Concrete Saw

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer; Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4" & over discharge); Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie

Tampers (without lifting & aligning device); Utility  
Operator (Small equipment); & Welding Machines

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh  
Installing Machine; Batch Plant; Boring Machine Operator  
(48" or less); Bull Floats; Burlap & Curing Machine;  
Concrete Plant (capacity 4 yd. & under); Concrete Saw  
(Multiple); Conveyor (Highway); Crusher; Deckhand;  
Farm-type Tractor with attachments (highway) except  
Masonry); Finishing Machine; Fireperson, Floating Equipment  
(all types); Fork Lift (highway); Form Trencher; Hydro  
Hammer; Hydro Seeder; Pavement Breaker; Plant Mixer; Post  
Driver; Post Hole Digger (Power Auger); Power Brush Burner;  
Power Form Handling Equipment; Road Widening Trencher;  
Roller (Brick, Grade & Macadam); Self-Propelled Power  
Spreader; Self-Propelled Power Subgrader; Steam Fireperson;  
Tractor (Pulling Sheepfoot, Roller or Grader); & Vibratory  
Compactor with Integral Power

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum  
Fireperson (Asphalt); Generator; Masonry Fork Lift;  
Inboard-Outboard Motor Boat Launch; Masonry Fork Lift; Oil  
Heater (asphalt plant); Oiler; Power Driven Heater; Power  
Sweeper & Scrubber; Pump (under 4" discharge);  
Signalperson; Tire Repairperson; & VAC/ALLS

GROUP 6 - Master Mechanic & Boom from 150 to 180

GROUP 7 - Boom from 180 and over

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IRON0044-008 06/01/2019

Rates                      Fringes

Ironworkers:

Fence Erector.....\$ 28.00                      21.20  
Structural.....\$ 29.47                      21.20

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IRON0044-018 06/01/2019

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 29.47	21.20

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LABO0189-004 07/01/2018

PENDLETON COUNTY:

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste

- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving  
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven  
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;  
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind  
Trencher; Sand Blaster; Concrete Chipper; Surface Grinder;  
Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite  
Operator & Mixer; Grout Pump Operator; Side Rail Setter;  
Rail Paved Ditches; Screw Operator; Tunnel (Free Air);  
Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Driller (All Types); Powderman & Blaster;  
Troxler & Concrete Tester if Laborer is Utilized

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LABO0265-009 05/01/2018

BOONE, CAMPBELL & KENTON COUNTIES:

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 30.62	10.95
GROUP 2.....	\$ 30.79	10.95
GROUP 3.....	\$ 31.12	10.95
GROUP 4.....	\$ 31.57	10.95

LABORER CLASSIFICATIONS

GROUP 1 - Asphalt Laborer; Carpenter Tender; Concrete Curing  
Applicator; Dump Man (Batch Truck); Guardrail and Fence

Installer; Joint Setter; Laborer (Construction); Landscape  
Laborer; Highway Lighting Worker; Signalization Worker;  
Mesh Handlers & Placer; Right-of-way Laborer; Riprap  
Laborer & Grouter; Scaffold Erector; Seal Coating; Surface  
Treatment or Road Mix Laborer; Sign Installer; Slurry Seal;  
Utility Man; Bridge Man; Handyman; Waterproofing Laborer;  
Flagperson; Hazardous Waste (level D); Diver Tender; Zone  
Person & Traffic Control

GROUP 2 - Skid Steer; Asphalt Raker; Concrete Puddler; Kettle  
Man (Pipeline); Machine Driven Tools (Gas, Electric, Air);  
Mason Tender; Brick Paver; Mortar Mixer; Power Buggy or  
Power Wheelbarrow; Sheeting & Shoring Man; Surface Grinder  
Man; Plastic Fusing Machine Operator; Pug Mill Operator; &  
Vacuum Devices (wet or dry); Rodding Machine Operator;  
Diver; Screwman or Paver; Screed Person; Water Blast, Hand  
Held Wand; Pumps 4" & Under (Gas, Air or Electric) &  
Hazardous Waste (level C); Air Track and Wagon Drill;  
Bottom Person; Cofferdam (below 25 ft. deep); Concrete Saw  
Person; Cutting with Burning Torch; Form Setter; Hand  
Spiker (Railroad); Pipelayer; Tunnel Laborer (without air)  
& Caisson; Underground Person (working in Sewer and  
Waterline, Cleaning, Repairing & Reconditioning);  
Sandblaster Nozzle Person; & Hazardous Waste (level B)

GROUP 3 - Blaster; Mucker; Powder Person; Top Lander;  
Wrencher (Mechanical Joints & Utility Pipeline); Yarnier;  
Hazardous Waste (level A); Concrete Specialist; Concrete  
Crew in Tunnels (With Air-pressurized - \$1.00 premium);  
Curb Setter & Cutter; Grade Checker; Utility Pipeline  
Tapper; Waterline; and Caulker

GROUP 4 - Miner; & Gunite Nozzle Person

TUNNEL LABORER WITH AIR-PRESSURIZED ADD \$1.00 TO BASE RATE

SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID  
THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS

SIGNALING.

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PAIN0012-016 05/01/2015

	Rates	Fringes
PAINTER		
Bridge.....	\$ 24.39	9.06
Bridge Equipment Tender and Containment Builder.....	\$ 20.73	9.06
Brush & Roller.....	\$ 23.39	9.06
Sandblasting & Water Blasting.....	\$ 24.14	9.06
Spray.....	\$ 23.89	9.06

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PLUM0392-008 06/01/2018

	Rates	Fringes
PLUMBER.....	\$ 32.01	19.67

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SUKY2010-161 02/05/1996

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 15.85	4.60
GROUP 2.....	\$ 16.29	4.60

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Driver

GROUP 2 - Euclid Wagon; End Dump; Lowboy; Heavy Duty  
Equipment; Tractor-Trailer Combination; & Drag



WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year.

Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular

rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the

wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

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Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

**TO: EMPLOYERS/EMPLOYEES**

**PREVAILING WAGE SCHEDULE:**

**The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.**

**OVERTIME:**

**Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.**

Director  
Division of Construction Procurement  
Frankfort, Kentucky 40622  
502-564-3500

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION  
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY  
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

<b>GOALS FOR MINORITY PARTICIPATION IN EACH TRADE</b>	<b>GOALS FOR FEMALE PARTICIPATION IN EACH TRADE</b>
11.0%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director  
Office of Federal Contract Compliance Programs  
61 Forsyth Street, SW, Suite 7B75  
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Kenton County.

**PART IV**  
**INSURANCE**

Refer to  
*Kentucky Standard Specifications for Road and Bridge Construction,*  
current edition



**PART V**  
**BID ITEMS**

**PROPOSAL BID ITEMS**

Report Date 4/21/20

**Section: 0001 - PAVING**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	400.00	TON		\$	
0020	01000		PERFORATED PIPE-4 IN	750.00	LF		\$	
0030	01020		PERF PIPE HEADWALL TY 1-4 IN	15.00	EACH		\$	
0040	01032		PERF PIPE HEADWALL TY 4-4 IN	15.00	EACH		\$	
0050	02058		REMOVE PCC PAVEMENT	1,092.00	SQYD		\$	
0060	02060		PCC PAVEMENT DIAMOND GRINDING	192,152.00	SQYD		\$	
0070	02086		JPC PAVEMENT-13 IN	1,092.00	SQYD		\$	
0080	02110		PARTIAL DEPTH PATCHING	1,100.00	CUFT		\$	
0090	02115		SAW-CLEAN-RESEAL TVERSE JOINT	104,810.00	LF		\$	
0100	02116		SAW-CLEAN-RESEAL LONGIT JOINT	168,517.00	LF		\$	
0110	02603		FABRIC-GEOTEXTILE CLASS 2	960.00	SQYD		\$	
0120	02604		FABRIC-GEOTEXTILE CLASS 1A	1,092.00	SQYD		\$	
0130	21173EC		SAW-CLEAN-RESEAL RANDOM CRACKS	5,000.00	LF		\$	
0140	23229EC		HIGH FRICTION SURFACE TREATMENT	20,856.00	SQYD		\$	
0150	25049ED		JPC PAVEMENT GROOVING	174,684.00	SQYD		\$	
0160	25089EC		HIGH VELOCITY SURFACE TEXTURING	20,856.00	SQYD		\$	

**Section: 0002 - ROADWAY**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0170	02562		TEMPORARY SIGNS	500.00	SQFT		\$	
0180	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0190	02671		PORTABLE CHANGEABLE MESSAGE SIGN	7.00	EACH		\$	
0200	02775		ARROW PANEL	4.00	EACH		\$	
0210	03260		CLEAN ROADWAY DRAINS	100.00	EACH		\$	
0220	06511		PAVE STRIPING-TEMP PAINT-6 IN	218,933.00	LF		\$	
0230	06542		PAVE STRIPING-THERMO-6 IN W	6,884.00	LF		\$	
0240	06543		PAVE STRIPING-THERMO-6 IN Y	4,198.00	LF		\$	
0250	06546		PAVE STRIPING-THERMO-12 IN W	395.00	LF		\$	
0260	06556		PAVE STRIPING-DUR TY 1-6 IN W	60,881.00	LF		\$	
0270	06557		PAVE STRIPING-DUR TY 1-6 IN Y	41,701.00	LF		\$	
0280	06560		PAVE STRIPING-DUR TY 1-12 IN W	11,566.00	LF		\$	
0290	06592		PAVEMENT MARKER TYPE V-B W/R	1,675.00	EACH		\$	
0300	06593		PAVEMENT MARKER TYPE V-B Y/R	500.00	EACH		\$	
0310	06600		REMOVE PAVEMENT MARKER TYPE V	2,175.00	EACH		\$	
0320	20411ED		LAW ENFORCEMENT OFFICER	1,000.00	HOURL		\$	
0330	21935EN		REMOVE CONC MEDIAN BARRIER	400.00	LF		\$	
0340	23045ES508		CONCRETE MEDIAN BARRIER TY 14B(50)	400.00	LF		\$	
0350	24679ED		PAVE MARK THERMO CHEVRON	7,500.00	SQFT		\$	

**Section: 0003 - LIGHTING**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	04741		POLE BASE IN MEDIAN WALL (REVISED: 4-21-20)	2.00	EACH		\$	

**PROPOSAL BID ITEMS**

Report Date 4/21/20

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0370	04780		FUSED CONNECTOR KIT (REVISED: 4-21-20)	6.00	EACH		\$	
0375	04832		WIRE-NO. 12 (ADDED: 4-21-20)	400.00	LF		\$	
0380	04834		WIRE-NO. 6	2,000.00	LF		\$	
0390	20394ES835		PVC CONDUIT-3 IN- IN MEDIAN BARRIER WALL	500.00	LF		\$	
0400	22939ND		INSTALL LUMINAIRE POLE (REVISED: 4-21-20)	2.00	EACH		\$	
0410	24589ED		LED LUMINAIRE (REVISED: 4-16-20)	4.00	EACH		\$	

**Section: 0004 - TRAFFIC LOOPS**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0420	04793		CONDUIT-1 1/4 IN	120.00	LF		\$	
0430	04795		CONDUIT-2 IN	20.00	LF		\$	
0440	04820		TRENCHING AND BACKFILLING	130.00	LF		\$	
0450	04829		PIEZOELECTRIC SENSOR	23.00	EACH		\$	
0460	04830		LOOP WIRE	4,100.00	LF		\$	
0470	04895		LOOP SAW SLOT AND FILL	1,000.00	LF		\$	
0480	20359NN		GALVANIZED STEEL CABINET	2.00	EACH		\$	
0490	20360ES818		WOOD POST	4.00	EACH		\$	
0500	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	2.00	EACH		\$	

**Section: 0005 - DEMOBILIZATION &/OR MOBILIZATION**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0510	02568		MOBILIZATION	1.00	LS		\$	
0520	02569		DEMOBILIZATION	1.00	LS		\$	