



**CALL NO. 205**

**CONTRACT ID. 191237**

**CARLISLE COUNTY**

**FED/STATE PROJECT NUMBER 020GR19P066 - STP & FD05**

**DESCRIPTION US 51**

**WORK TYPE ASPHALT PAVEMENT & ROADWAY REHAB**

**PRIMARY COMPLETION DATE 6/30/2020**

**LETTING DATE: September 20,2019**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME September 20,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

**NO PLANS ASSOCIATED WITH THIS PROJECT.**

**DBE CERTIFICATION REQUIRED - 20%**

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

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

## ADMINISTRATIVE DISTRICT - 01

**CONTRACT ID - 191237**

**020GR19P066 - STP & FD05**

**COUNTY - CARLISLE**

**PCN - DE02000511937**

**STP 0511 (049)**

US 51 (MP 7.860) ADDRESS PAVEMENT CONDITION ON US 51 (MP 12.660), A DISTANCE OF 04.80 MILES.ASPHALT PAVEMENT & ROADWAY REHAB SYP NO. 01-20027.00.

GEOGRAPHIC COORDINATES LATITUDE 36:54:14.00 LONGITUDE 89:01:59.00

**PCN - MP02000511901**

**FD05 020 0051 007-013**

BARDWELL TO ARLINGTON ROAD (US 51) (MP 7.860) BEGIN AT THE CARLISLE/BALLARD COUNTY LINE EXTENDING NORTH TO 69 FEET NORTH OF US 62 (MP 12.655), A DISTANCE OF 04.79 MILES.ASPHALT RESURFACING

GEOGRAPHIC COORDINATES LATITUDE 36:54:14.00 LONGITUDE 89:01:59.00

**COMPLETION DATE(S):**

COMPLETED BY 06/30/2020

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.

### **ASPHALT MIXTURE**

Unless otherwise noted, the Department estimates the rate of application for all asphalt mixtures to be 110 lbs/sy per inch of depth.

### **DGA BASE**

Unless otherwise noted, the Department estimates the rate of application for DGA Base to be 115 lbs/sy per inch of depth.

### **DGA BASE FOR SHOULDERS**

Unless otherwise noted, the Department estimates the rate of application for DGA Base for Shoulders to be 115 lbs/sy per inch of depth. The Department will not measure necessary grading and/or shaping of existing shoulders prior to placing of DGA Base, but shall be incidental to the Contract unit price per ton for DGA Base.

Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for grading and/or shaping of existing shoulders and furnishing, placing, and compacting the DGA Base.

### **INCIDENTAL SURFACING**

The Department has included in the quantities of asphalt mixtures established in the proposal estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, curve widening, ramp gores and tapers, and road and street approaches, as applicable. Pave these areas to the limits as shown on Standard Drawing RPM-110-06 or as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, pave the crossroads to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. Surface or resurface these areas as directed by the Engineer. The Department will not measure placing and compacting for separate payment but shall be incidental to the Contract unit price for the asphalt mixtures.

### **FUEL AND ASPHALT PAY ADJUSTMENT**

The Department has included the Contract items Asphalt Adjustment and Fuel Adjustment for possible future payments at an established Contract unit price of \$1.00. The Department will calculate actual adjustment quantities after work is completed. If existing Contract amount is insufficient to pay all items on the contract with the adjustments, the Department will establish additional monies with a change order.

### **ASPHALT PAVEMENT RIDE QUALITY CATEGORY A**

The Department will apply Pavement Rideability Requirements on this project in accordance with Section 410, Category A.

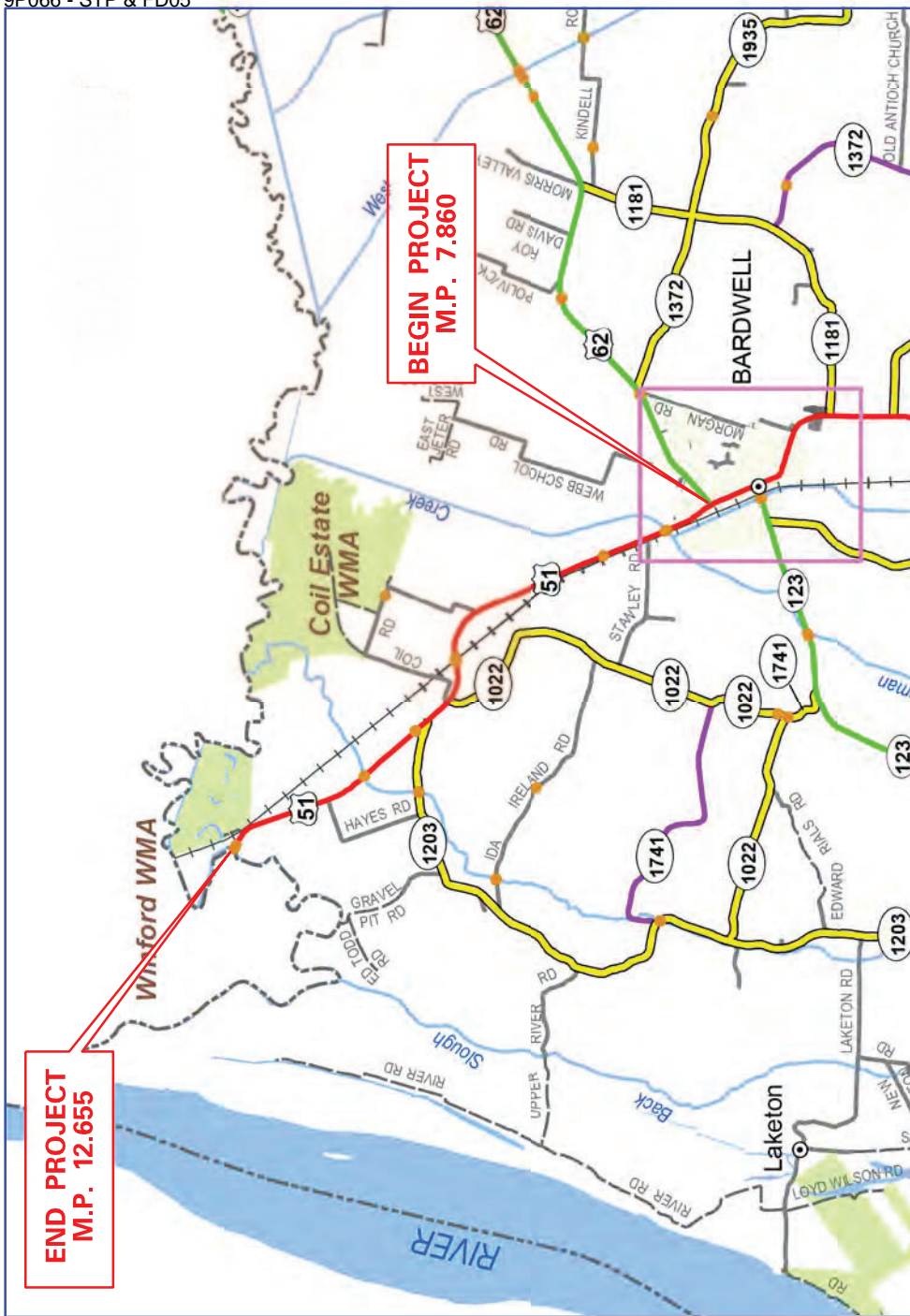
### **OPTION A**

Be advised that the Department will accept compaction of asphalt mixtures furnished for driving lanes and ramps, at 1 inch (25mm) or greater, on this project according to OPTION A in accordance with Section 402 and Section 403 of the current Standard Specifications. The Department will require joint cores as described in Section 402.03.02 for surface mixtures only. The Department will accept compaction of all other asphalt mixtures according to OPTION B.



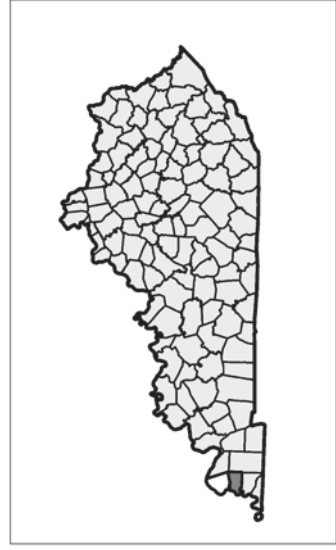


31100 Clark, U.S. 460  
Farmingdale, NY 11737  
516-695-8800



**END PROJECT  
M.P. 12.655**

**BEGIN PROJECT  
M.P. 7.860**








**PROJECT NUMBER:** STP 0511 (049), FD52 020 0051 007-013, FD05 020 0051 007-013  
**ITEM NUMBER:** 1-20027 **LETTING DATE:** SEPTEMBER 20, 2019  
**RECOMMENDED BY:** ANDRE JOHANNES, P.E. **DATE:** \_\_\_\_\_  
**PLAN APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
**FHWA APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

Project Manager

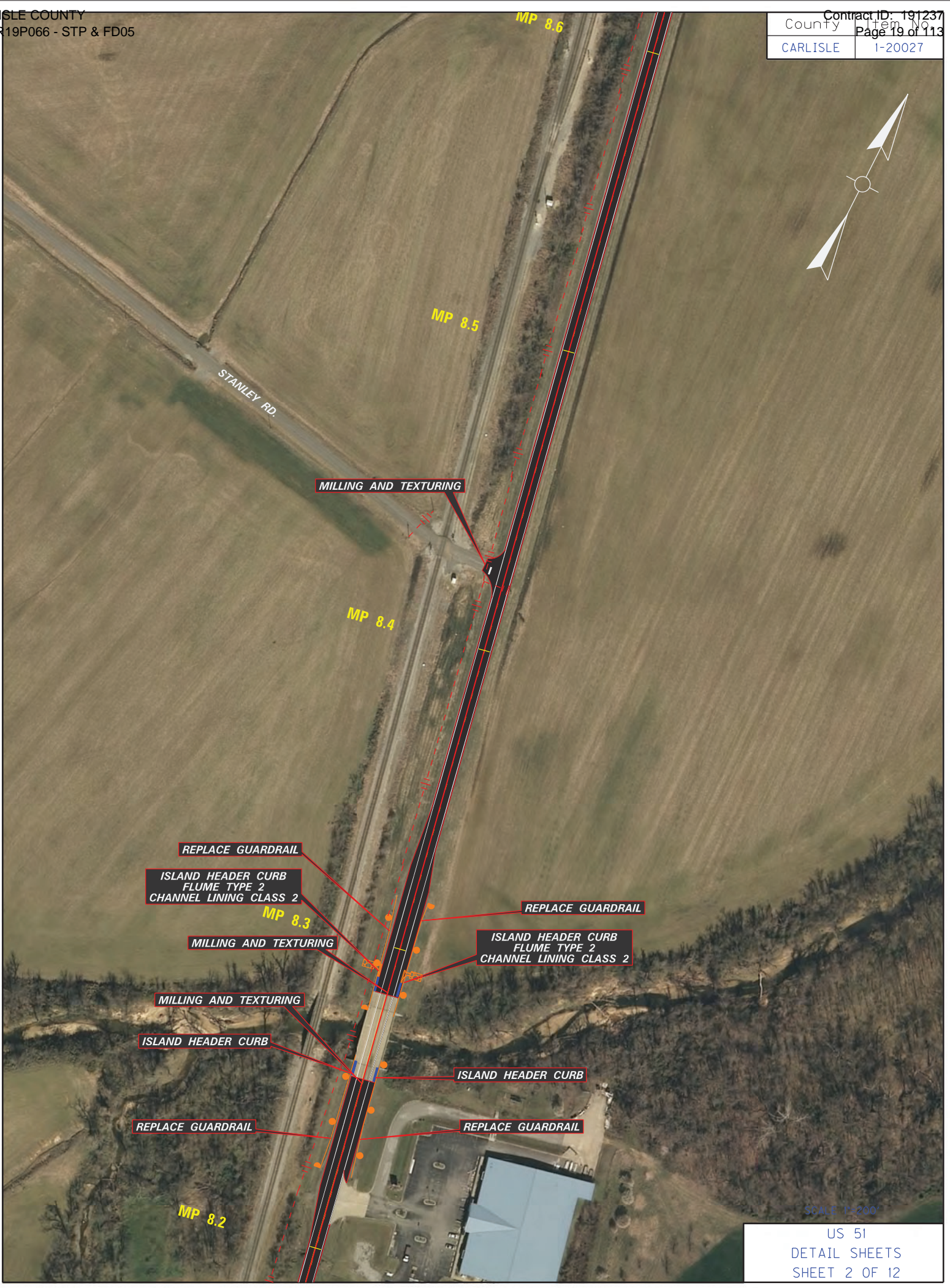
State Highway Engineer

**LEGEND**

-  CHANNEL LINING
-  GUARDRAIL
-  ISLAND HEADER CURB
-  FLUME INLET
-  EXISTING OVERHEAD UTILITY



SCALE 1"=200'



REPLACE GUARDRAIL

ISLAND HEADER CURB  
FLUME TYPE 2  
CHANNEL LINING CLASS 2

MILLING AND TEXTURING

MILLING AND TEXTURING

ISLAND HEADER CURB

REPLACE GUARDRAIL

MILLING AND TEXTURING

REPLACE GUARDRAIL

ISLAND HEADER CURB  
FLUME TYPE 2  
CHANNEL LINING CLASS 2

ISLAND HEADER CURB

REPLACE GUARDRAIL

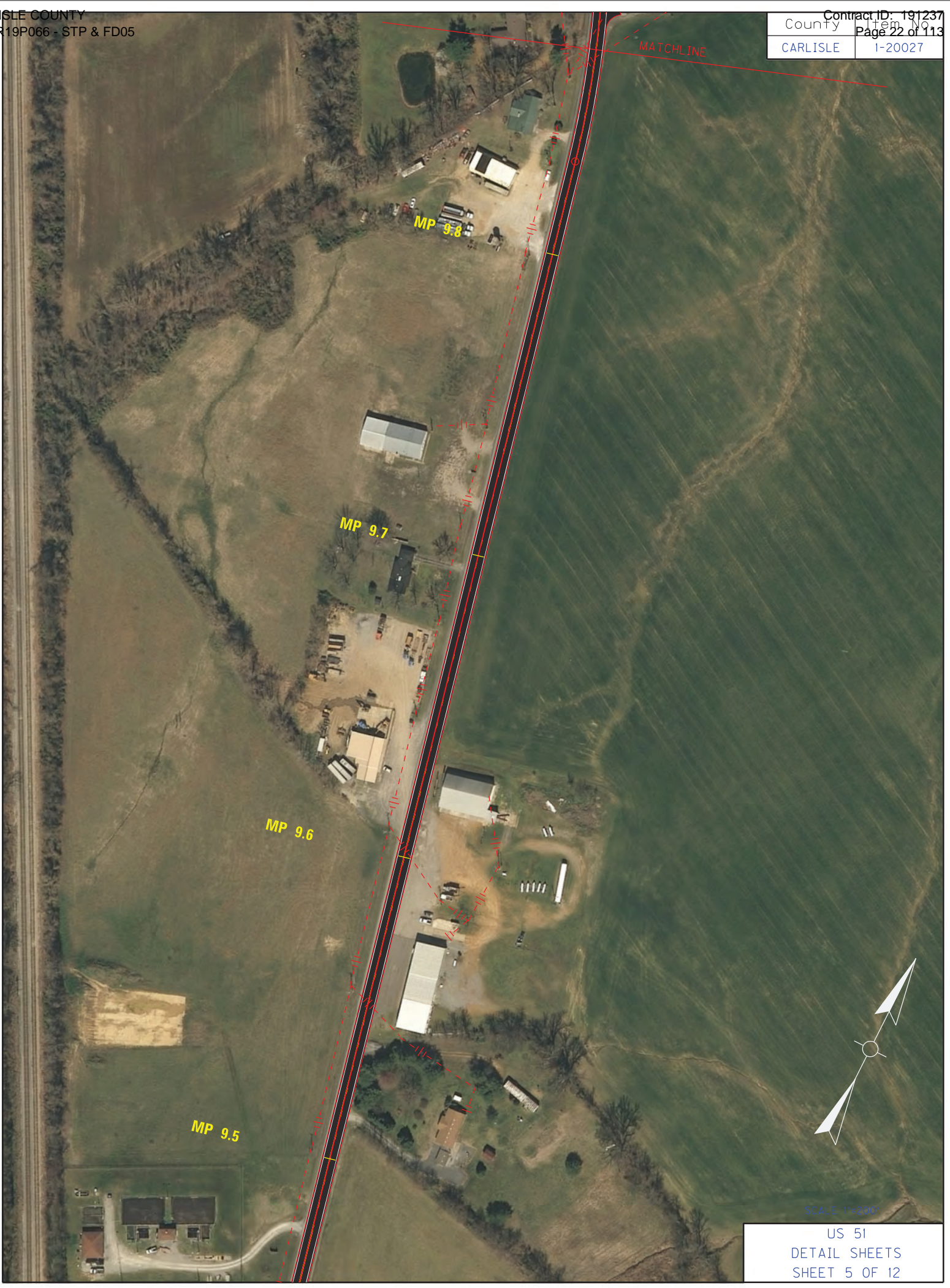
SCALE P=200'



SCALE 1"=200'



SCALE 1"=200'



SCALE: P=200'

US 51  
DETAIL SHEETS  
SHEET 5 OF 12

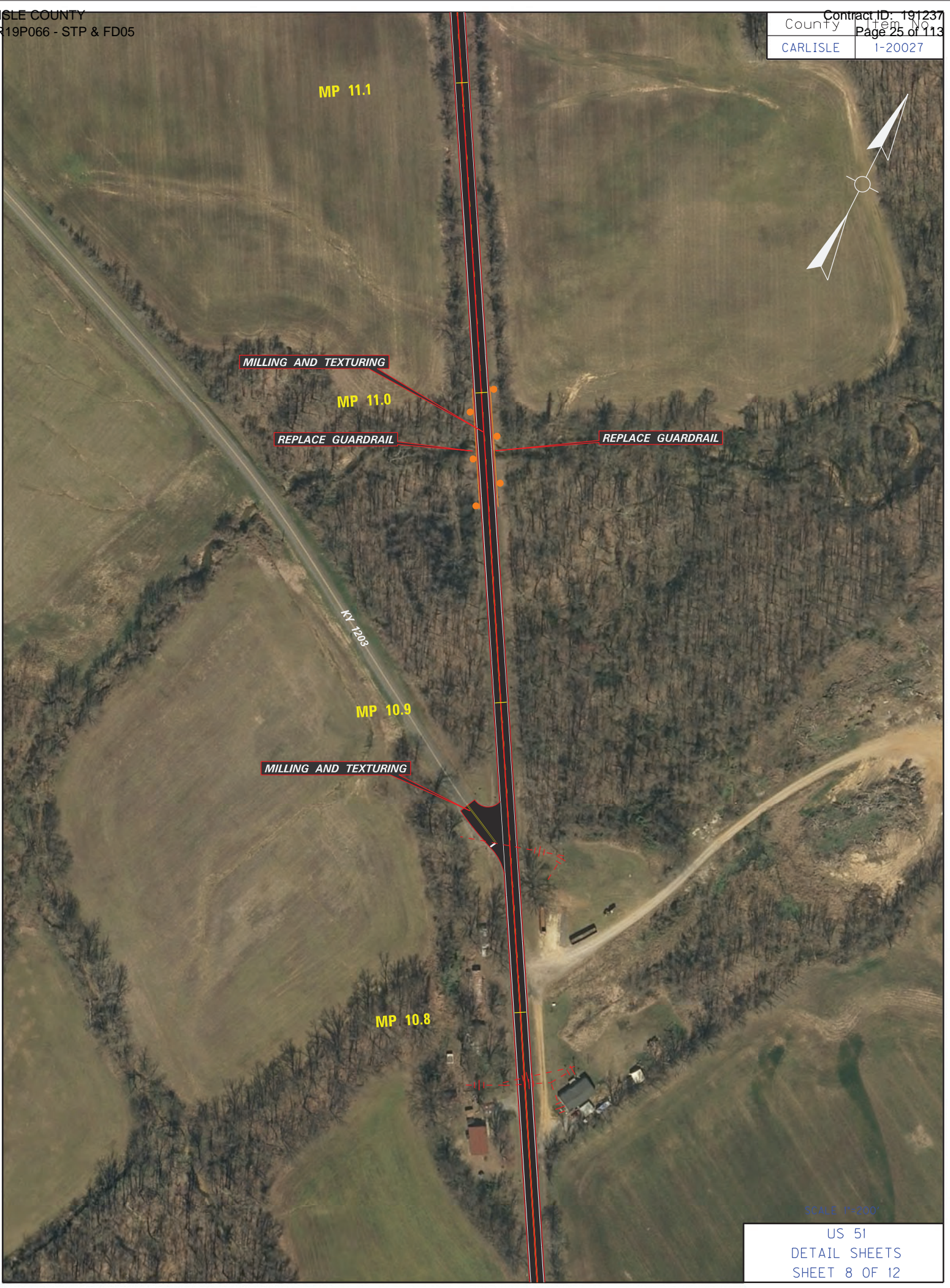


SCALE 1"=200'

US 51  
DETAIL SHEETS  
SHEET 6 OF 12







MP 11.1

MILLING AND TEXTURING

MP 11.0

REPLACE GUARDRAIL

REPLACE GUARDRAIL

KY 1203

MP 10.9

MILLING AND TEXTURING

MP 10.8

SCALE 1"=200'

US 51  
DETAIL SHEETS  
SHEET 8 OF 12



REPLACE GUARDRAIL

ISLAND HEADER CURB  
FLUME TYPE 2  
CHANNEL LINING CLASS 2

MILLING AND TEXTURING

ISLAND HEADER CURB  
FLUME TYPE 2  
CHANNEL LINING CLASS 2

REPLACE GUARDRAIL

MP 11.5

MP 11.4

MP 11.3

MP 11.2



SCALE 1"=200'



SCALE 1"=200'

US 51  
DETAIL SHEETS  
SHEET 10 OF 12



SCALE 1"=200'



MP 12.8

MP 12.7

ISLAND HEADER CURB

ISLAND HEADER CURB

MILLING AND TEXTURING

REPLACE GUARDRAIL

REPLACE GUARDRAIL

MP 12.6

MP 12.5

INSTALL GUARDRAIL

INSTALL GUARDRAIL

MP 12.4

SCALE 1"=200'

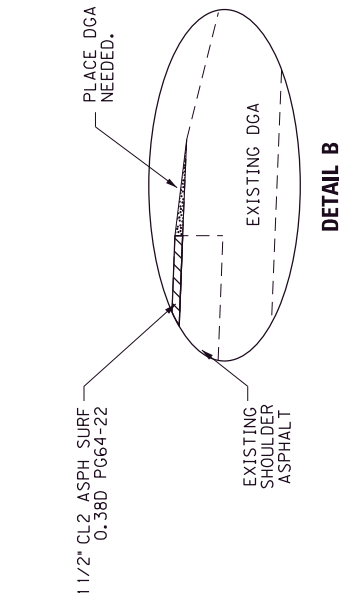
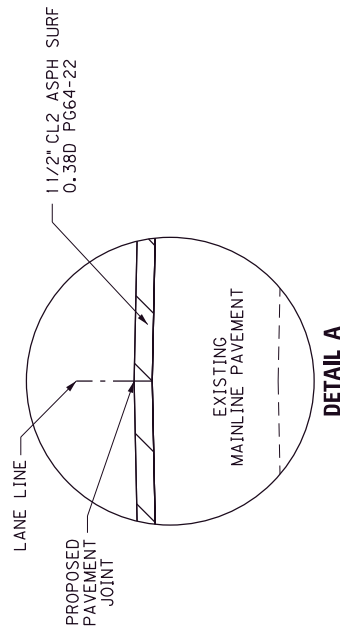
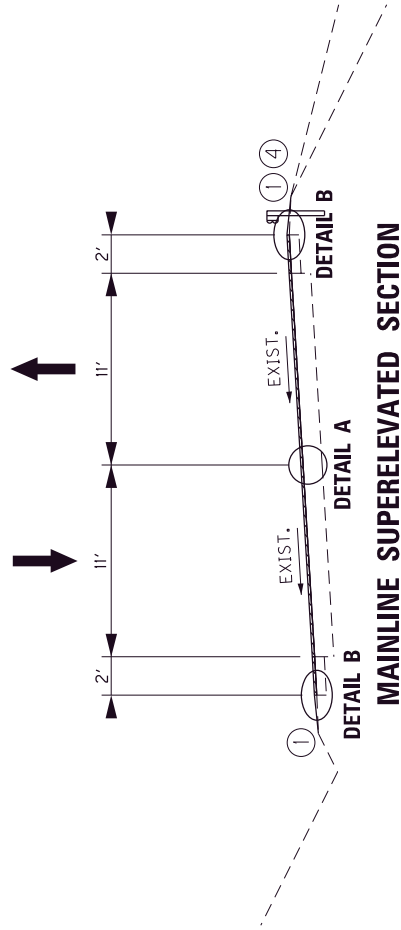
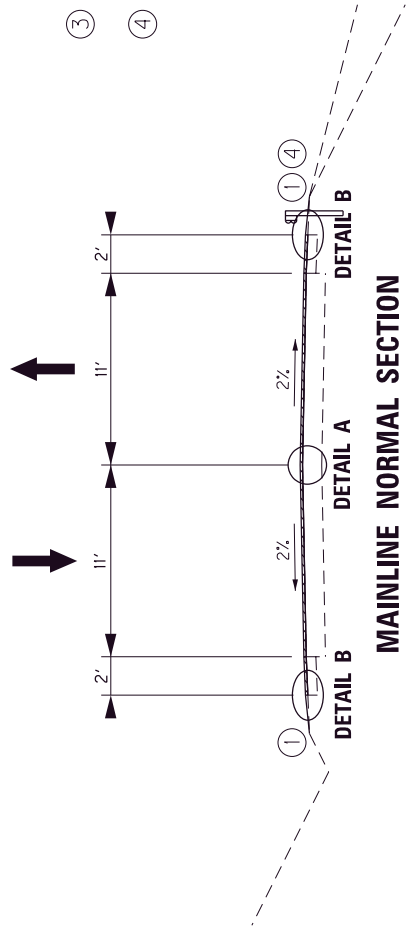
US 51  
DETAIL SHEETS  
SHEET 12 OF 12

County	Item No.	Sheet
CARLISLE	1-20027	-

# TYPICAL SECTION

US 51  
 MP 7.860 TO MP 12.655

- ① SEE DURABLE PAVEMENT EDGE DETAIL
- ② TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES AND INCREASE CROSS SLOPE TO 2% IN TANGENT SECTIONS WHERE MEASURED TO BE DEFICIENT. MAY BE USED AT THE DISCRETION OF THE ENGINEER TO CORRECT OTHER CROSS SLOPE IRREGULARITIES.
- ③ APPLY ASPHALT MATERIAL FOR TACK BETWEEN EACH COURSE AT 0.84 LBS PER SY.
- ④ SHOULDERS WIDENED TO 2' WHERE GUARDRAIL IS PRESENT.



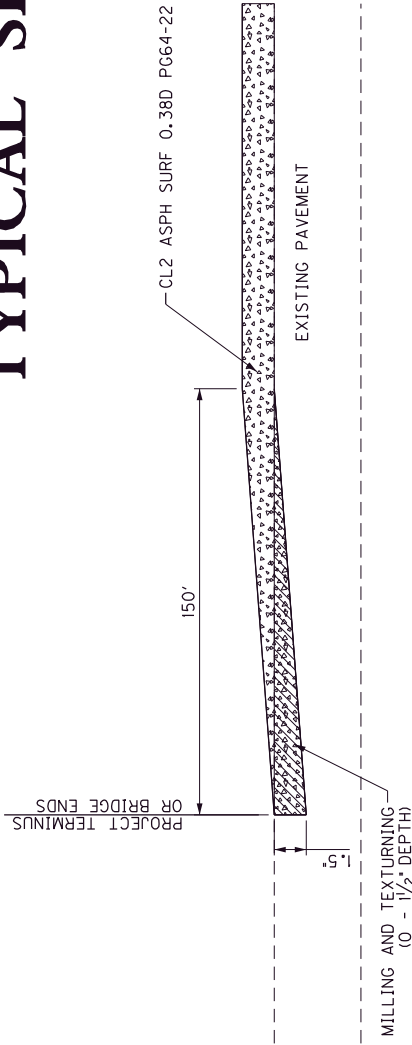
- ① **SURFACING SCHEDULE**
- ② LEVELING AND WEDGING PG64-22.....AS DIRECTED CL2 ASPH SURF 0.380 PG64-22.....1 1/2' DEPTH
- ③ **MAINLINE TRAFFIC LANES AND SHOULDERS**

NOT TO SCALE

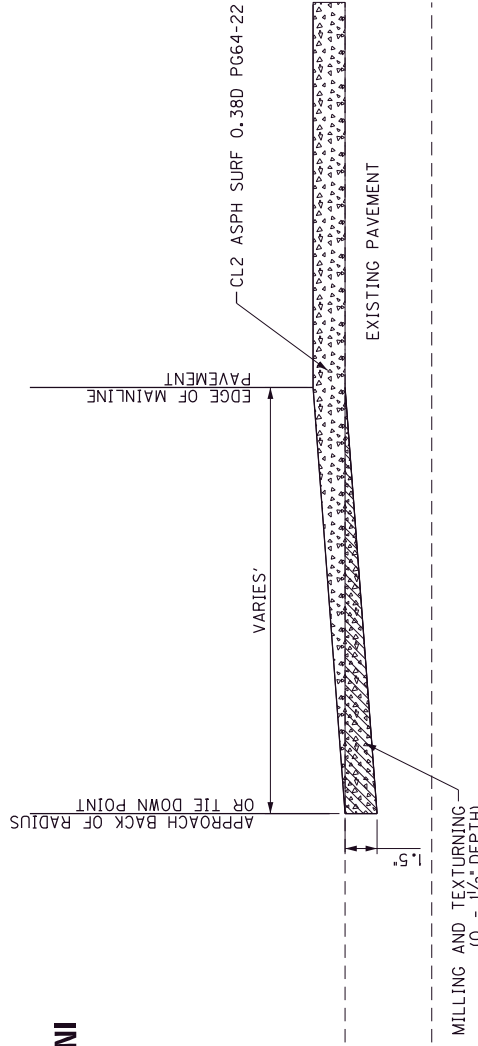
US 51  
 TYPICAL SECTIONS

County	Item No.	Sheet
CARLISLE	I-20027	-

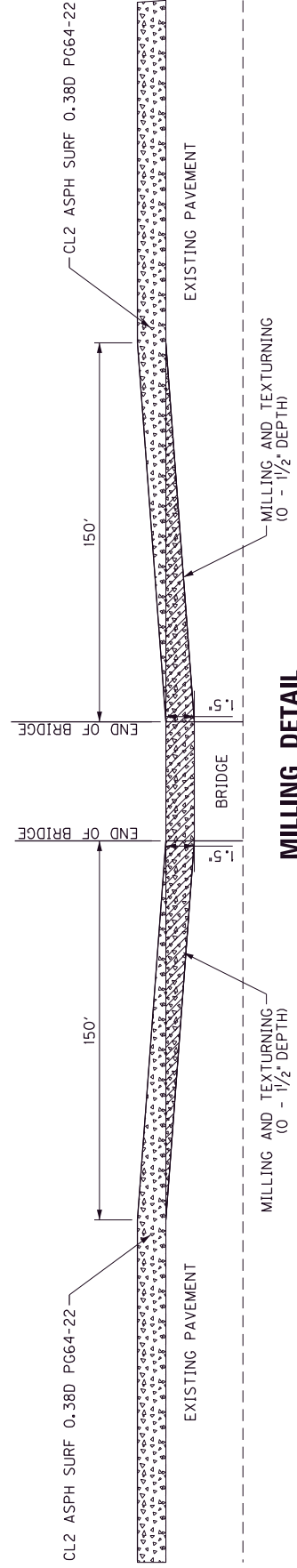
# TYPICAL SECTION



## MILLING DETAIL TAPERS AT BRIDGE ENDS AND PROJECT TERMINI



## MILLING DETAIL APPROACH TAPER



## MILLING DETAIL BRIDGE OVERLAY AND TAPERS (MP 10.982)

**US 641  
CARLISLE COUNTY  
ITEM NO. 1-20027 , PAVEMENT REHABILITATION  
MILEPOINT 7.860 TO 12.655  
GENERAL SUMMARY**

ITEM NUMBER	ITEM		UNIT	QUANTITY
00001	DGA BASE	①	TON	1,295
00301	CL2 ASPH SURF 0.38D PG64-22	①	TON	6,196
02677	ASPHALT PAVE MILLING & TEXTURING	①	TON	286
00190	LEVELING & WEDGING PG64-22	①	TON	1,200
00356	ASPHALT MATERIAL FOR TACK	①	TON	45
02351	GUARDRAIL-STEEL W BEAM-S FACE	②	LF	9,625
02360	GUARDRAIL TERMINAL SECTION NO 1	②	EACH	8
02367	GUARDRAIL END TREATMENT TYPE 1	②	EACH	24
02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	②	EACH	14
02381	REMOVE GUARDRAIL	②	LF	6,025
01691	FLUME INLET TYPE 2	②	EACH	10
01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	②	EACH	210
01890	ISLAND HEADER CURB TYPE 1	②	LF	350
20191ED	OBJECT MARKER TY 3	②	EACH	24
08801	GUARDRAIL-STEEL W BEAM-S FACE BR	②	LF	100
02355	GUARDRAIL-STEEL W BEAM-S FACE A	②	LF	200
02562	TEMPORARY SIGNS		SQFT	500
02650	MAINTAIN & CONTROL TRAFFIC		LS	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN		EACH	2
02676	MOBILIZATION FOR MILL & TEXT		LS	1
02565	OBJECT MARKER TYPE 2		EACH	12
06510	PAVE STRIPING-TEMP PAINT-4 IN		LF	50,635
24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W		LF	49,775
24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y		LF	31,443
06568	PAVE MARKING-THERMO STOP BAR-24IN		LF	95
06556	PAVE STRIPING-DUR TY 1-6 IN W		LF	860
24489EC	INLAID PAVEMENT MARKER		EACH	622
06557	PAVE STRIPING-DUR TY 1-6 IN Y		LF	573
06600	REMOVE PAVEMENT MARKER TYPE V		EACH	622
02483	CHANNEL LINING CLASS II	③	TON	250
24781EC	INTELLIGENT COMPACTION FOR ASPHALT		TON	7,396
24891EC	PAVE MOUNT INFRARED TEMP EQUIPMENT		SQFT	547,153
10030NS	ASPHALT ADJUSTMENT		DOLL	28,915
02569	DEMOBILIZATION		LS	1
10020NS	FUEL ADJUSTMENT		DOLL	11,512

- ① CARRIED OVER FROM PAVING SUMMARY.
- ② CARRIED OVER FROM GUARDRAIL SUMMARY.
- ③ FOR FLUME OUTLETS AT BRIDGE ENDS



**US 641**  
**CARLISLE COUNTY**  
**ITEM NO. 1-20027 , PAVEMENT REHABILITATION**  
**MILEPOINT 7.860 TO 12.655**  
**PAVING SUMMARY**

PAVING AREAS		PAVING AREAS	
ITEM	TOTAL	ITEM	TOTAL
MAINLINE, SHOULDERS, & APPROACHES			
1 1/2" CL2 ASPH SURF 0.38D PG64-22	75,090		
ASPHALT PAVE MILLING AND TEXTURING	6,933		

**PAVING SUMMARY**

ITEM NUMBER	ITEM	UNIT	QUANTITY
00001	DGA BASE ①	TON	1,295
00301	CL2 ASPH SURF 0.38D PG64-22	TON	6,196
02677	ASPHALT PAVE MILLING & TEXTURING ④	TON	286
00190	LEVELING & WEDGING PG64-22 ②	TON	1,200
00356	ASPHALT MATERIAL FOR TACK ③	TON	45

① To be used as directed to eliminate shoulder dropoffs.  
 ② To be used as directed for profile and cross slope corrections.  
 ③ Based on 0.84 LBS/SY per application.  
 ④ To be used for keying into bridges, project termini, and approaches. Based on average thickness of 3/4".

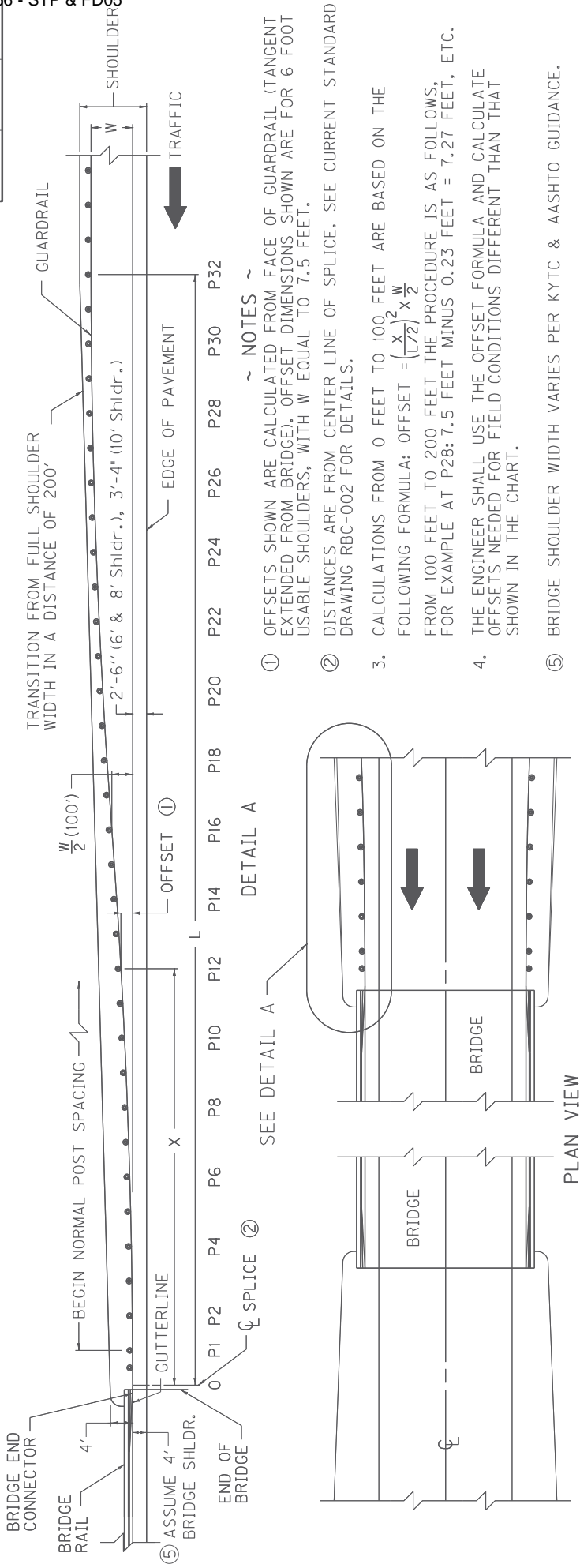
ALL ASPHALT MIXES CALC. BASED ON 110 LBS/SY PER IN DEPTH

Sheet 1 of 1

**US 641  
CARLISLE COUNTY  
ITEM NO. 1-20027 , PAVEMENT REHABILITATION  
MILEPOINT 7.860 TO 12.655  
GUARDRAIL SUMMARY**

POINT NUMBERS *	FROM MILEPOST **	TO MILEPOST **	ITEM CODE	GUARDRAIL-STEEL W BEAM- S FACE		GUARDRAIL TERMINAL SECTION NO 1	GUARDRAIL END TREATMENT TYPE 1	GUARDRAIL CONNECTOR TO BRIDGE END TY A	REMOVE GUARDRAIL	FLUME INLET TYPE 2	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	ISLAND HEADER CURB TYPE 1	OBJECT MARKER TY 3	GUARDRAIL-STEEL W BEAM- S FACE BR		DESCRIPTION
				02351	02363									02360	02367	
				LF		EACH	EACH	LF	EACH	EACH	LF	EACH	EACH	LF	LF	
8.225	8.264	8.264		162.5			1	1	212.5		4	25	1			Right
8.225	8.264	8.264		162.5			1	1	212.5		4	25	1			Left
8.278	8.318	8.318		162.5			1	1	212.5	1	4	25	1			Right
8.278	8.318	8.318		162.5			1	1	212.5	1	4	25	1			Left
8.752	8.827	8.827		225			2				6		2	25	50	Left
8.773	8.870	8.870		387.5	1		1				10		1	25	50	Right
9.277	9.334	9.334		212.5			2				5		2			Right
9.996	10.063	10.063		262.5			2		362.5		6		2			Right
9.996	10.066	10.066		375	2						8					Left
10.166	10.278	10.278		600	1			1	600	1	12	25				Left
10.170	10.283	10.283		600	1			1	600	1	12	25				Right
10.309	10.421	10.421		600	1			1	600	1	12	25				Left
10.313	10.422	10.422		587.5	1			1	587.5	1	12	25				Right
10.963	11.004	11.004		50			2		225		3		2	25	50	Right
10.963	11.004	11.004		50			2		225		3		2	25	50	Left
11.462	11.501	11.501		162.5			1	1	212.5	1	4	25	1			Right
11.462	11.503	11.503		175			1	1	225	1	4	25	1			Left
11.509	11.548	11.548		162.5			1	1	212.5	1	4	25	1			Left
11.511	11.548	11.548		150			1	1	200	1	3	25	1			Right
12.099	12.430	12.430		1662.5			2				34		2			Left
12.099	12.497	12.497		2012.5			2				41		2			Right
12.583	12.654	12.654		337.5			1	1	387.5		7	25	1			Right
12.587	12.654	12.654		362.5	1			1	362.5		8	25				Left
PROJECT TOTAL				9625	8		24	14	6025	10	210	350	24	100	200	

COUNTY OF	ITEM NO.	SHEET NO.
CARLISLE	1-20027	



- ~ NOTES ~
- OFFSETS SHOWN ARE CALCULATED FROM FACE OF GUARDRAIL (TANGENT EXTENDED FROM BRIDGE). OFFSET DIMENSIONS SHOWN ARE FOR 6 FOOT USABLE SHOULDERS, WITH W EQUAL TO 7.5 FEET.
  - DISTANCES ARE FROM CENTER LINE OF SPLICE. SEE CURRENT STANDARD DRAWING RBC-002 FOR DETAILS.
  - CALCULATIONS FROM 0 FEET TO 100 FEET ARE BASED ON THE FOLLOWING FORMULA:  $OFFSET = \left(\frac{X}{L}\right)^2 \times \frac{W}{2} \times 2$  FROM 100 FEET TO 200 FEET THE PROCEDURE IS AS FOLLOWS, FOR EXAMPLE AT P28: 7.5 FEET MINUS 0.23 FEET = 7.27 FEET, ETC.
  - THE ENGINEER SHALL USE THE OFFSET FORMULA AND CALCULATE OFFSETS NEEDED FOR FIELD CONDITIONS DIFFERENT THAN THAT SHOWN IN THE CHART.
  - BRIDGE SHOULDER WIDTH VARIES PER KYTC & AASHTO GUIDANCE.

6' USABLE SHOULDER  
GUARDRAIL FLARE DIMENSIONS

POST NUMBER	FEET	
	DISTANCE	OFFSET
0	0	0
P1	6.25	0.01
P2	12.5	0.02
P4	25.0	0.08
P6	37.5	0.19
P8	50.0	0.34
P10	62.5	0.52
P12	75.0	0.75
P14	87.5	1.03
P16	100.0	1.34
P18	112.5	1.64
P20	125.0	1.92
P22	137.5	2.15
P24	150.0	2.33
P26	162.5	2.48
P28	175.0	2.59
P30	187.5	2.65
P32	200.0	2.67

8' USABLE SHOULDER  
GUARDRAIL FLARE DIMENSIONS

POST NUMBER	FEET	
	DISTANCE	OFFSET
0	0	0
P1	6.25	0.01
P2	12.5	0.04
P4	25.0	0.15
P6	37.5	0.33
P8	50.0	0.59
P10	62.5	0.91
P12	75.0	1.32
P14	87.5	1.79
P16	100.0	2.34
P18	112.5	2.88
P20	125.0	3.35
P22	137.5	3.76
P24	150.0	4.08
P26	162.5	4.34
P28	175.0	4.52
P30	187.5	4.63
P32	200.0	4.67

10' USABLE SHOULDER  
GUARDRAIL FLARE DIMENSIONS

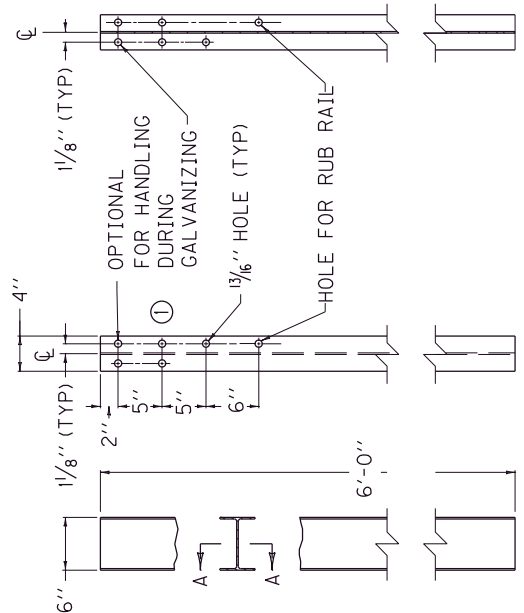
POST NUMBER	FEET	
	DISTANCE	OFFSET
0	0	0
P1	6.25	0.01
P2	12.5	0.05
P4	25.0	0.21
P6	37.5	0.47
P8	50.0	0.84
P10	62.5	1.30
P12	75.0	1.88
P14	87.5	2.56
P16	100.0	3.34
P18	112.5	4.11
P20	125.0	4.79
P22	137.5	5.37
P24	150.0	5.83
P26	162.5	6.20
P28	175.0	6.46
P30	187.5	6.62
P32	200.0	6.67

USE WITH CUR. STD. DWG.  
RBC-002

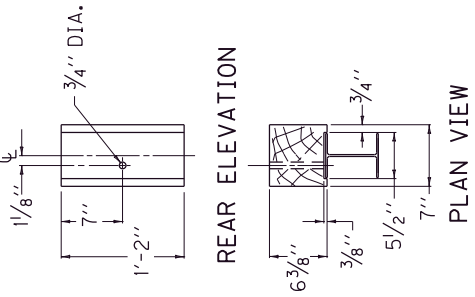
**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
GUARDRAIL TRANSITION  
FROM NORMAL SHOULDER  
TO NARROW BRIDGE

SUBMITTED: *William S. Shelt*  
DATE: 11-17-17  
DIRECTOR DIVISION OF DESIGN

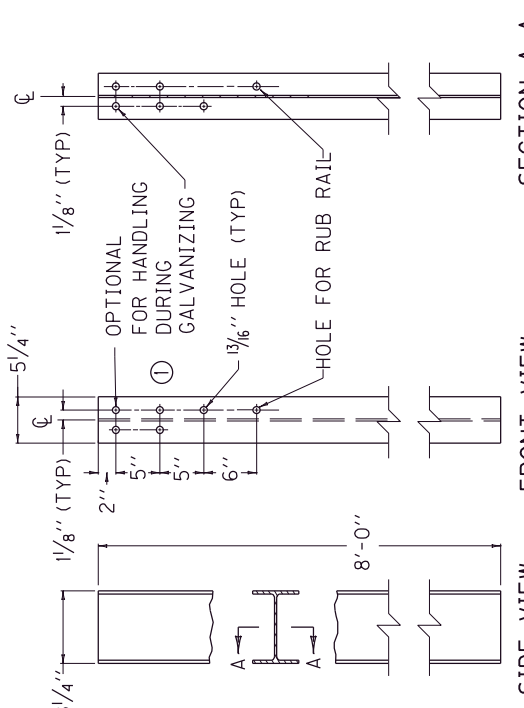
COUNTY OF CARLISLE	ITEM NO. 1-20027	SHEET NO.
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~ W6 X 9.0 STEEL GUARDRAIL POST ~  
(USED WITH C6 X 8.2 RUB RAIL)



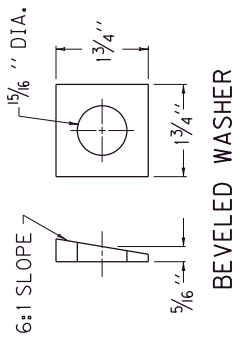
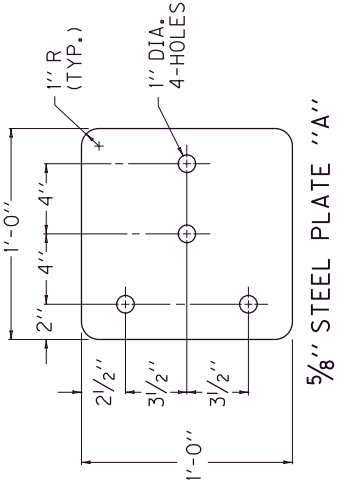
~ W8 X 21 STEEL GUARDRAIL POST ~



~ W8 X 21 STEEL GUARDRAIL POST ~

~ NOTES ~

① THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.

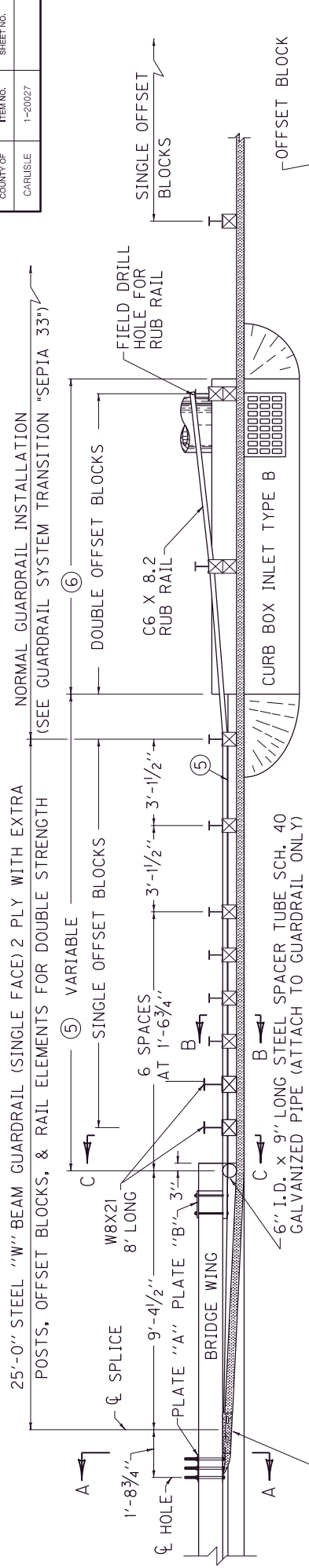


USE WITH CUR. STD. DWGS.  
RBC-002, RBC-005, RBC-006

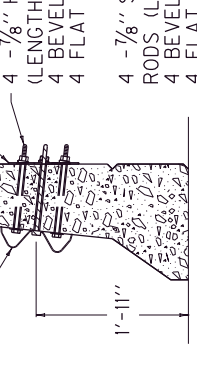
**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
**GUARDRAIL CONNECTOR**  
**TO BRIDGE END**  
**TYPE A AND A-1**  
**COMPONENTS**

SUBMITTED: *[Signature]* 12-20-18  
ACTING/DIRECTOR DIVISION OF DESIGN DATE  
013

COUNTY OF CARLISLE	ITEM NO. 1-20027	SHEET NO.
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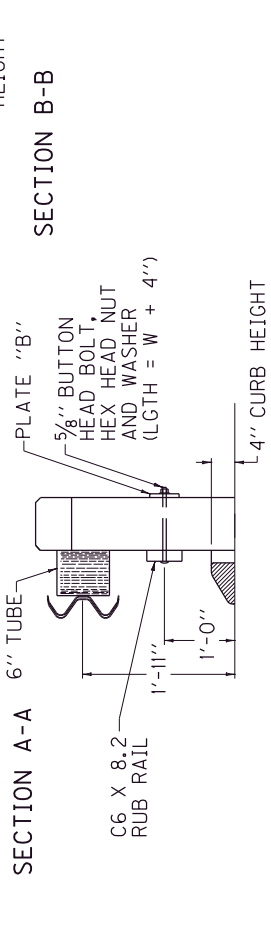


PLAN VIEW



1. GENERAL
- a. SEE CUR. STD. DWGS. IN THE RBB, RBI, RBR, AND RPM-SERIES FOR OTHER RELATED GUARDRAIL DETAILS AND BRIDGE PLANS FOR BRIDGE WING DETAIL.
  - b. SEE CUR. STD. DWG. RBB-SERIES FOR CURB BOX INLET TYPE B.
  - c. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A IS FOR USE ON BOTH BRIDGE ENDS OF AN UNDIVIDED HIGHWAY AND ON THE APPROACH BRIDGE ENDS OF A DIVIDED HIGHWAY.
2. MATERIAL REQUIREMENTS
- ALL HARDWARE SHALL BE GALVANIZED. (AASHTO M-232)
  - 7/8" STEEL PLATE "A" AND "B" (AASHTO M-270)
  - 7/8" HEX HEAD BOLTS OR STEEL THREADED RODS (LENGTH AS SHOWN)
  - 7/8" HEAVY HEX NUTS (7/8" THICK) (AASHTO M-291)
  - 7/8" FLAT WASHERS (3/16" THICK) (AASHTO M-293)
  - 7/8" BEVELED WASHERS (5/16" MEAN THICKNESS) (AASHTO M-293)
- BOTH THE BOLT AND THREADED ROD SHALL HAVE A MINIMUM OF 50,000 LBS. TENSILE STRENGTH AT THE NARROWEST POINT.
3. CONSTRUCTION METHODS
- a. ELIMINATE EXTRA OFFSET BLOCKS WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
  - b. HOLES TO BE FORMED THROUGH BRIDGE WING WITH 1" I.D. PLASTIC PIPE FOR 7/8" BOLTS AND 3/4" I.D. PLASTIC PIPE FOR 5/8" BOLTS, PIPE SHALL REMAIN IN PLACE.
4. METHOD OF MEASUREMENT AND BASIS OF PAYMENT
- a. GUARDRAIL CONNECTOR TO BRIDGE END TYPE A SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES: TERMINAL SECTION NO. 2; ALL ITEMS WHICH ARE IN ADDITION TO THE NORMAL INSTALLATION OF STEEL BEAM GUARDRAIL (EXTRA POSTS, OFFSET BLOCKS, RAIL ELEMENTS, SPACER TUBE, HARDWARE, RUB RAIL, ETC.), AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AS DETAILED. STEEL "W" BEAM GUARDRAIL (SINGLE FACE) AND ISLAND HEADER CURB ARE SEPARATE BID ITEMS WHICH ARE ALWAYS REQUIRED. CURB BOX INLET TYPE B IS A SEPARATE BID ITEM THAT WILL BE USED WHEN REQUIRED FOR BRIDGE END DRAINAGE.
- BID ITEMS AND UNIT TO BID
- GUARDRAIL CONNECTOR TO BRIDGE END TYPE A EACH
  - GUARDRAIL-STEEL "W" BEAM-S FACE LF
  - ISLAND HEADER CURB TYPE 1 OR 2 LF
  - CURB BOX INLET TYPE B (AS REQUIRED) EACH
- b. THE PLASTIC PIPE AND COST OF FORMING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR BRIDGE SUPERSTRUCTURE CONCRETE.

~ NOTES ~



5. ISLAND HEADER CURB. TRANSITION FROM ISLAND CURB SHAPE TO SHAPE ON BRIDGE WING WITHIN 7'-3". LENGTH OF CURB VARIABLE (22'-3" WHEN L=5'-0") (17'-3" WHEN L=10'-0") (12'-3" WHEN L=15'-0") (7'-3" WHEN L=20'-0"). ON APPROACH END CONSTRUCT 25'-0" OF ISLAND HEADER CURB EVEN WHEN CURB BOX INLET TYPE B IS NOT REQUIRED.
- 6. 6'-4" WHEN L=5'-0"
  - 11'-4" WHEN L=10'-0"
  - 16'-4" WHEN L=15'-0"
  - 21'-4" WHEN L=20'-0"
7. 5/8" X 3/2" BUTTON HEAD BOLT, HEX HEAD NUT.
- 8. CURB BOX NOT REQUIRED UNLESS NEEDED FOR DRAINAGE.
- ★ 10'-0" LENGTH IS REQUIRED UNLESS OTHERWISE NOTED.
- L EQUALS THROAT LENGTH OF BOX.

<b>KENTUCKY</b>	
<b>DEPARTMENT OF HIGHWAYS</b>	
<b>GUARDRAIL CONNECTOR TO BRIDGE END TYPE A</b>	
SUBMITTED	DATE
<i>Michael S. Galt</i>	4-04-18
DIRECTOR DIVISION OF DESIGN	
	015

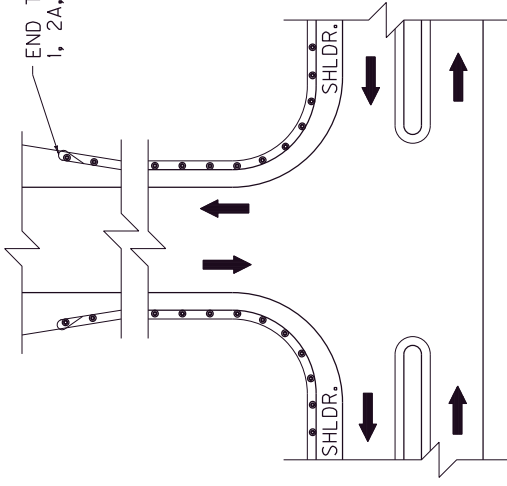
USE WITH CUR. STD. DWGS.  
BHS-008, RBC-002, RBC-003  
RBR-010

COUNTY OF	ITEM NO.	SHEET NO.
CARLISLE	1-20027	

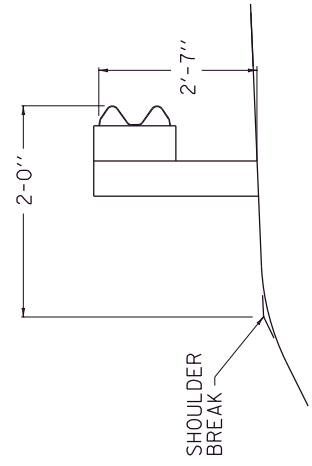
~ NOTES ~

1. FOR END TREATMENT TYPE 4A USE CUR. STD. DWG. RBR-035 FOR OFFSETS.
2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET: (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).

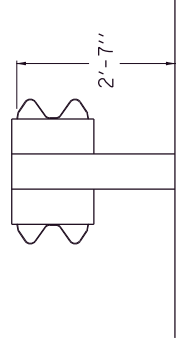
END TREATMENT ( TYPES 1, 2A, 3, 4A, OR 7 AS REQUIRED )



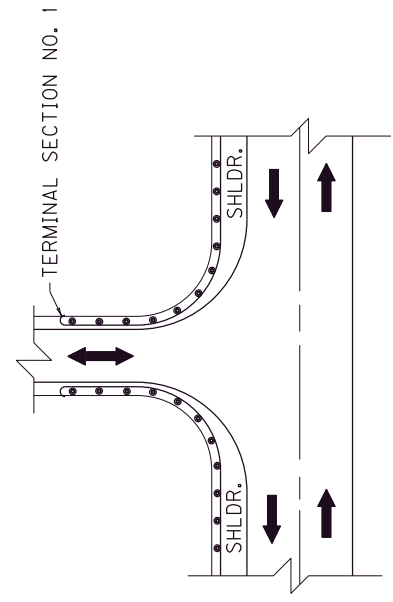
APPROACH ROADS



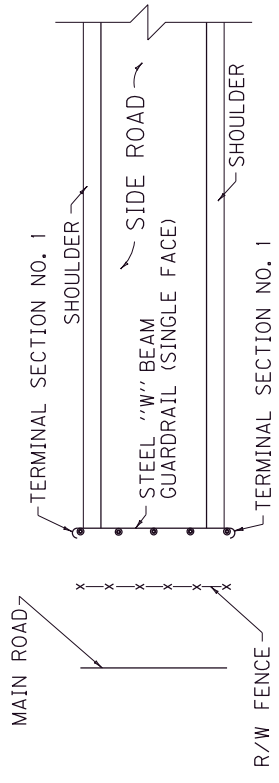
NORMAL GUARDRAIL INSTALLATION



TYPICAL DOUBLE FACE GUARDRAIL INSTALLATION



ENTRANCES



GUARDRAIL USED AS A BARRICADE

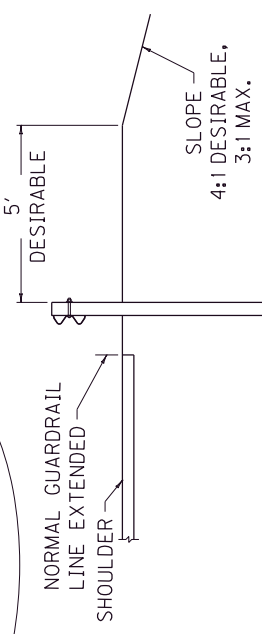
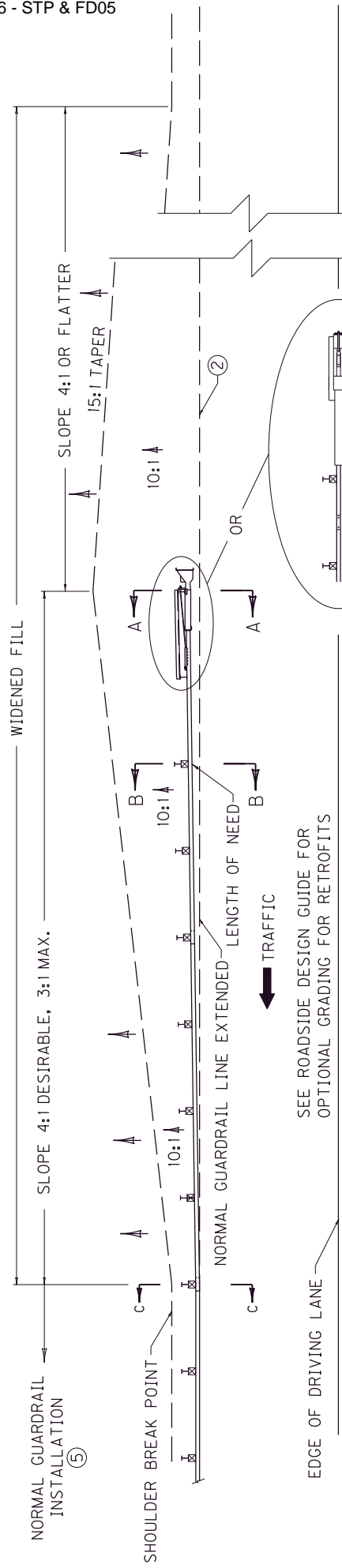
USE WITH CUR. STD. DWG.  
 RBI-002, RBR-035

KENTUCKY  
 DEPARTMENT OF HIGHWAYS

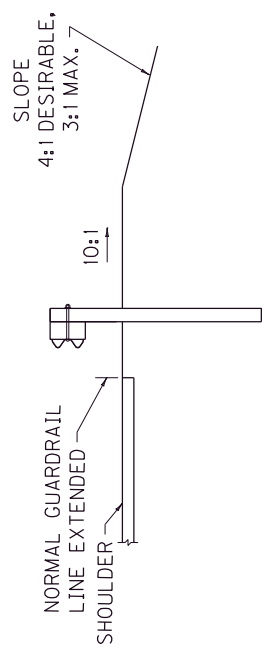
TYPICAL GUARDRAIL  
 INSTALLATIONS

SUBMITTED: *William J. Pickett*  
 DIRECTOR DIVISION OF DESIGN  
 DATE: 11-17-17  
 020

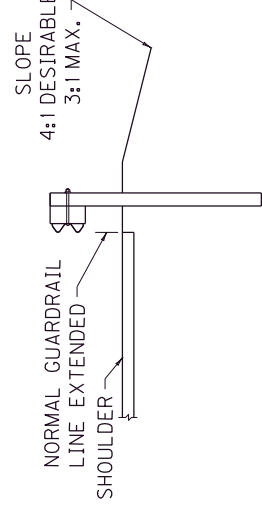
COUNTY OF	ITEM NO.	SHEET NO.
CARLISLE	1-20027	



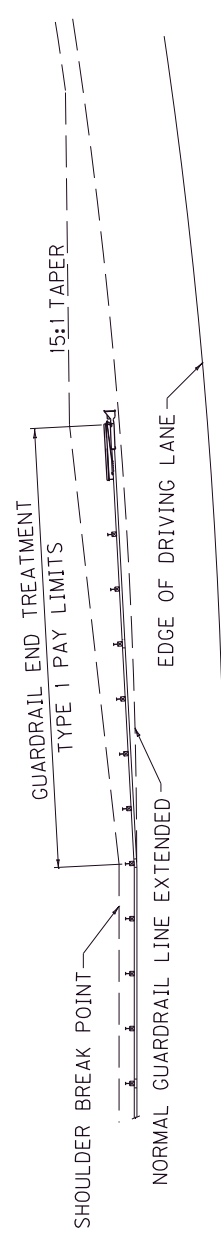
SECTION A-A



SECTION B-B



SECTION C-C



SECTION A-A  
TRAFFIC

~ NOTES ~

BID ITEMS AND UNIT TO BID:  
 GUARDRAIL END TREATMENT TYPE 1 EACH  
 ROADWAY OR BORROW EXCAVATION, CUYD  
 OR EMBANKMENT IN PLACE

1. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).
2. GUARDRAIL EXTRUDER EDGE CLOSEST TO TRAFFIC SHALL BE PLACED ON NORMAL GUARDRAIL LINE EXTENDED.
3. END TREATMENT TYPE 1 MAY BE ATTACHED TO CURVED GUARDRAIL PROVIDED CURVE IS A 550' RADIUS OR MORE. END TREATMENT TYPE 1 SHALL BE INSTALLED ON A STRAIGHT LINE TAPER WITHIN THE PAY LIMITS.
4. INTENDED USE: FILLS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL.
5. FOR MAINTENANCE AND REPAIR PROJECTS, USE 'GUARDRAIL SYSTEM TRANSITION "SEPIA 33" TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF ONLY THE TERMINAL IS PROPOSED TO BE REPLACED.

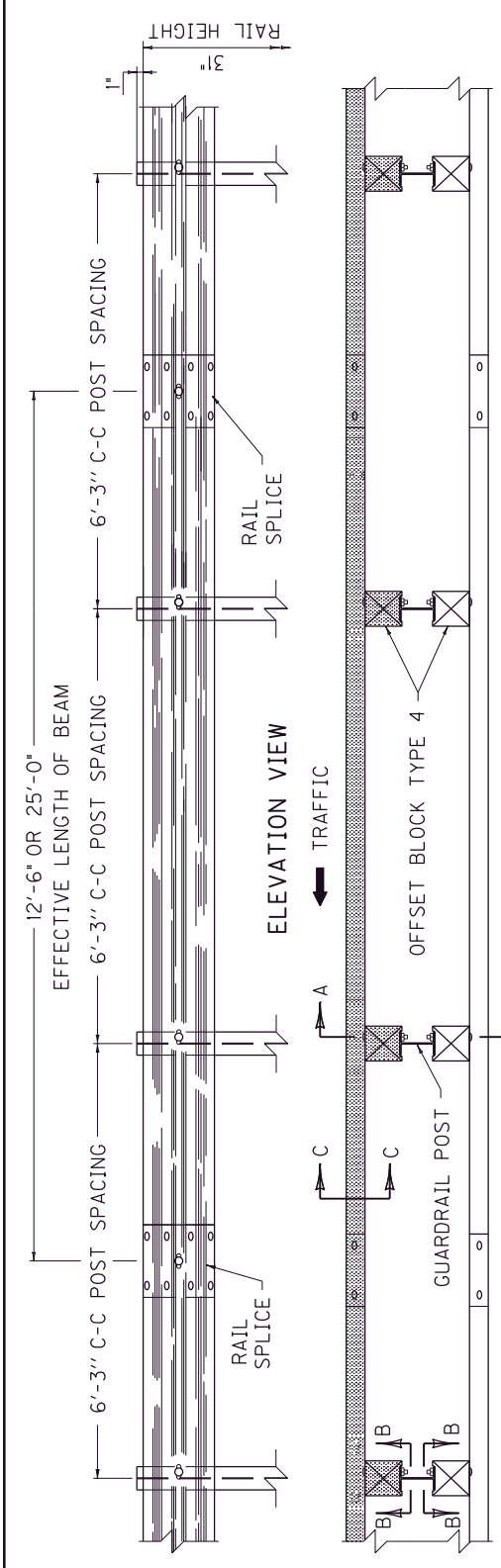
USE WITH CUR. STD. DWG.  
RBR-020

GUARDRAIL END TREATMENT TYPE 1  
 INSTALLED ON A CURVE

**KENTUCKY DEPARTMENT OF HIGHWAYS**  
 INSTALLATION OF GUARDRAIL END TREATMENT TYPE 1

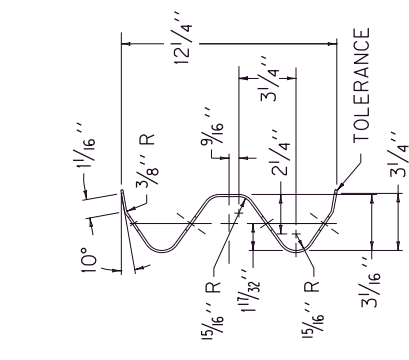
DATE: 11-17-17  
 SUBMITTED: [Signature]  
 DIRECTOR DIVISION OF DESIGN

COUNTY OF	ITEM NO.	SHEET NO.
CARLISLE	1-20027	

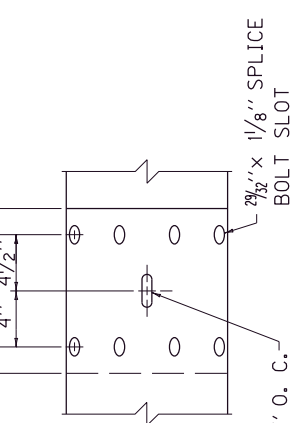


~ NOTES ~

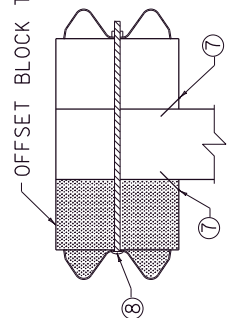
- BID ITEM AND UNIT TO BID  
 GUARDRAIL-STEEL W BEAM-S FACE LF  
 OR  
 GUARDRAIL-STEEL W BEAM-D FACE LF
- DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
  - THE RAIL ELEMENT SHALL COMPLY WITH AASHTO M-180 -CLASS A, TYPE II.
  - ALL LAPS SHALL BE PLACED IN THE DIRECTION OF TRAFFIC FLOW.
  - TOLERANCE + 1/4", -1/4"
  - 8-5/8" x 1 1/4" LONG BUTTON HEAD BOLTS AND HEX HEAD RECESS NUTS REQUIRED FOR EACH RAIL SPLICE.
  - LENGTH EQUALS POST AND BLOCK WIDTH PLUS 2" FOR BOLT OR 2 1/4" FOR THREADED ROD.
  - GALVANIZED STEEL 100 COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
  - 5/8" x 6" STEEL THREADED ROD AND TWO (2) HEX HEAD NUTS OR 5/8" x 6" BUTTON OR HEX HEAD BOLT AND HEX HEAD NUT.
  - 5/8" x 8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE 5/8" ROUND WASHER (TYP.). BOLT SHALL HAVE A MINIMUM THREAD LENGTH OF 2".
  - REQUIRED FOR DOUBLE RAIL
  - BOTH 12'-6" AND 25' LENGTHS OF "W" BEAM GUARDRAIL SECTIONS WILL BE PERMITTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



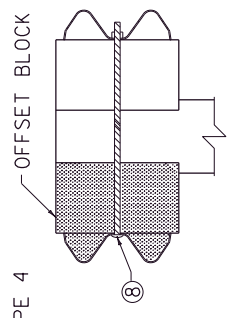
SECTION C-C  
(RAIL CORRUGATED SHEET STEEL BEAM)



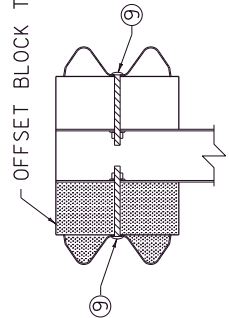
SECTION B-B  
 RAIL SPLICE



SECTION A-A  
 DOUBLE FACE RAIL WITH TIMBER POST



SECTION A-A  
 DOUBLE FACE RAIL WITH ROUND TIMBER POST



SECTION A-A  
 DOUBLE FACE RAIL WITH STEEL POST (W6x9) (TIMBER OR APPROVED COMPOSITE OFFSET BLOCK)

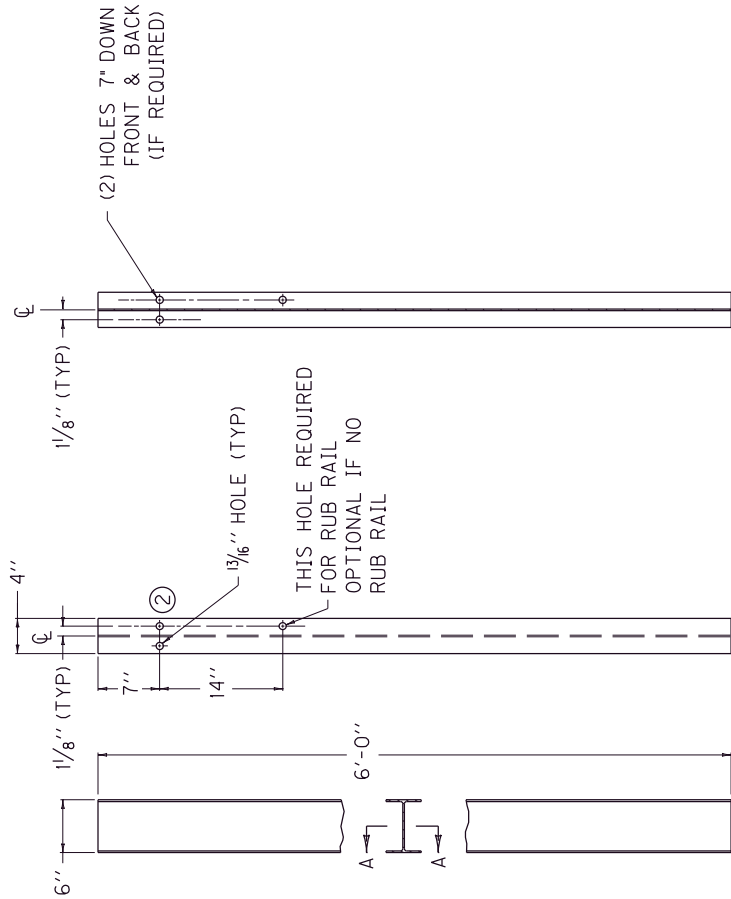
<b>KENTUCKY</b>	
<b>DEPARTMENT OF HIGHWAYS</b>	
STEEL BEAM GUARDRAIL ( "W" BEAM )	
SUBMITTED	DATE
<i>[Signature]</i>	11-17-17
DIRECTOR DIVISION OF DESIGN	
	027



COUNTY OF CARLISLE	ITEM NO. 1-20027	SHEET NO.
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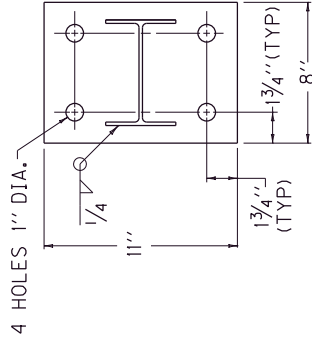
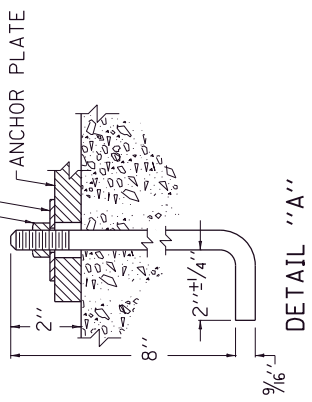
~ NOTES ~

- ① W6 X 8.5 IS AN ACCEPTABLE ALTERNATE.
- ② THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.
- ③ TIMBER OR COMPOSITE BLOCKOUTS MAY BE USED WITH STEEL POST.



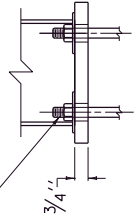
SECTION A-A

~ W6 X 9.0 STEEL POST ① ~

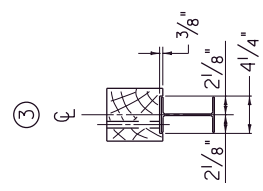


PLAN VIEW

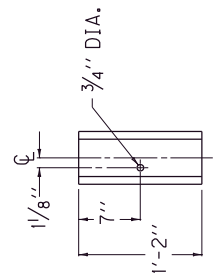
SEE DETAIL "A"



ANCHOR PLATE



PLAN VIEW



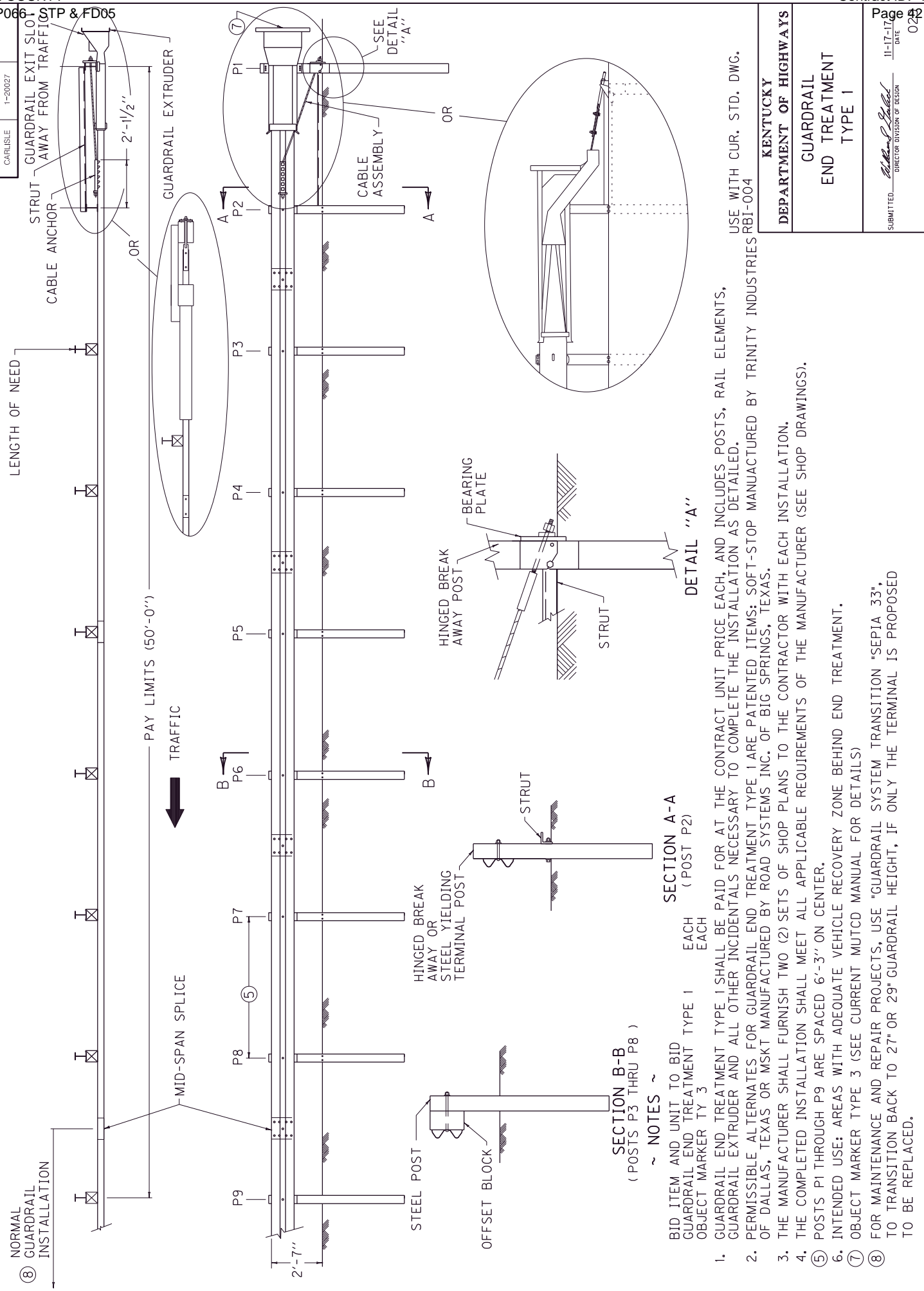
REAR ELEVATION

OFFSET BLOCK TYPE 4  
 6" X 8" (Nominal Size)  
 (TIMBER OR APPROVED COMPOSITE)  
 (FOR USE WITH STEEL POST ONLY)

KENTUCKY DEPARTMENT OF HIGHWAYS
STEEL GUARDRAIL POSTS
SUBMITTED: <i>William S. Sheldahl</i> DIRECTOR DIVISION OF DESIGN
DATE: 3-06-18
020GR19P066

SHEET NO.	ITEM NO.
1-20027	1-20027

COUNTY OF CARLISLE



KENTUCKY DEPARTMENT OF HIGHWAYS GUARDRAIL END TREATMENT TYPE 1	USE WITH CUR. STD. DWG. RBI-004
	SUBMITTED: <i>William S. Stalder</i> DIRECTOR DIVISION OF DESIGN DATE: 11-17-17 02

**SECTION B-B**  
(POSTS P3 THRU P8)

~ NOTES ~  
 BID ITEM AND UNIT TO BID  
 GUARDRAIL END TREATMENT TYPE 1 EACH  
 OBJECT MARKER TY 3 EACH

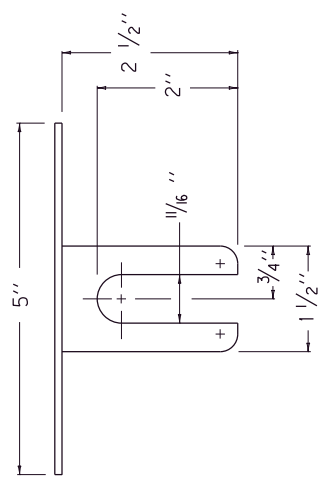
**SECTION A-A**  
(POST P2)

1. GUARDRAIL END TREATMENT TYPE 1 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, AND INCLUDES POSTS, RAIL ELEMENTS, GUARDRAIL EXTRUDER AND ALL OTHER INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION AS DETAILED.
2. PERMISSIBLE ALTERNATES FOR GUARDRAIL END TREATMENT TYPE 1 ARE PATENTED ITEMS: SOFT-STOP MANUFACTURED BY TRINITY INDUSTRIES OF DALLAS, TEXAS OR MSKT MANUFACTURED BY ROAD SYSTEMS INC. OF BIG SPRINGS, TEXAS.
3. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP PLANS TO THE CONTRACTOR WITH EACH INSTALLATION.
4. THE COMPLETED INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE MANUFACTURER (SEE SHOP DRAWINGS).
5. POSTS P1 THROUGH P9 ARE SPACED 6'-3" ON CENTER.
6. INTENDED USE: AREAS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND END TREATMENT.
7. OBJECT MARKER TYPE 3 (SEE CURRENT MUTCD MANUAL FOR DETAILS)
8. FOR MAINTENANCE AND REPAIR PROJECTS, USE "GUARDRAIL SYSTEM TRANSITION "SEPIA 33", TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF ONLY THE TERMINAL IS PROPOSED TO BE REPLACED.

COUNTY OF CARLISLE	ITEM NO. 1-20027	SHEET NO.
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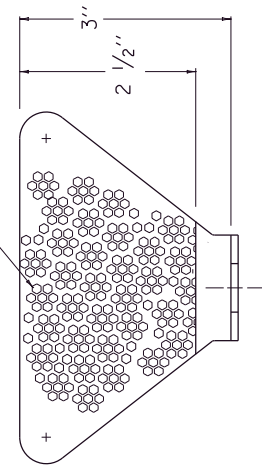
~ NOTES ~

- BID ITEMS AND UNIT TO BID  
 DELINEATOR FOR GUARDRAIL B/W EACH  
 DELINEATOR FOR GUARDRAIL M/W EACH  
 DELINEATOR FOR GUARDRAIL M/Y EACH
1. DELINEATORS SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE EACH AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR ONE COMPLETE INSTALLATION.
  2. DELINEATOR SHAPE AND DIMENSIONS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY. TYPES OF DELINEATORS PERMITTED SHALL BE FROM THE LIST OF APPROVED MATERIALS.
  3. GUARDRAIL DELINEATORS SHALL BE REQUIRED ON ALL GUARDRAIL.
  4. DELINEATORS SHALL NOT BE INSTALLED WITHIN THE PAY LIMITS OF THE END TREATMENT.
  5. DELINEATORS SHALL BE MANUFACTURED FROM 12 GA. GALVANIZED STEEL.
  6. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MANUFACTURER'S TOLERANCES.
  7. WHEN CONCRETE BARRIERS EXTEND ACROSS BRIDGE STRUCTURES IN LIEU OF STEEL BEAM GUARDRAIL, DELINEATORS SHALL BE INSTALLED AT SAME VERTICAL ALIGNMENT AS ON THE GUARDRAIL, AND DELINEATORS SHALL COMPLY WITH CURRENT STANDARD DRAWING RBM-020.
  8. DELINEATORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



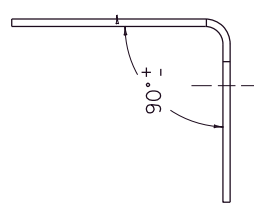
PLAN VIEW

TYPE IX SHEETING,  
YELLOW OR WHITE

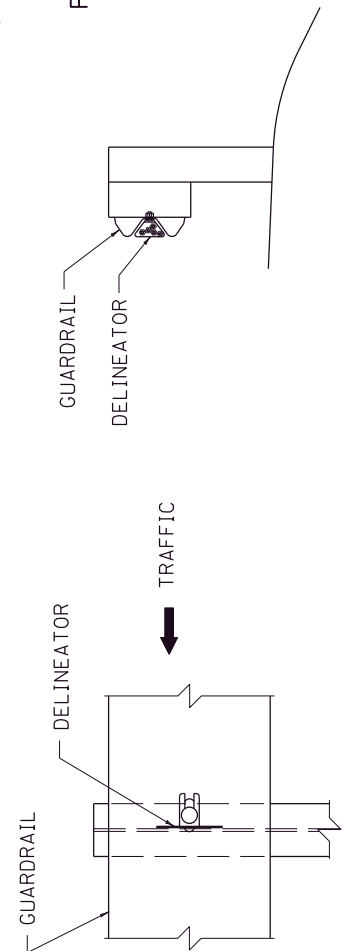


FRONT VIEW

SIDE VIEW



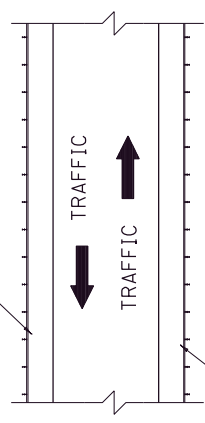
DIMENSIONS SHOWN ARE FOR ONE VERSION OF A WEB-MOUNTED GUARDRAIL DELINEATOR. DELINEATORS WITH ALTERNATE DIMENSIONS MAY BE CONSIDERED FOR INCLUSION ON THE APPROVED PRODUCTS LIST.



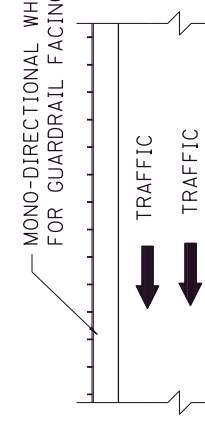
FRONT VIEW

SIDE VIEW

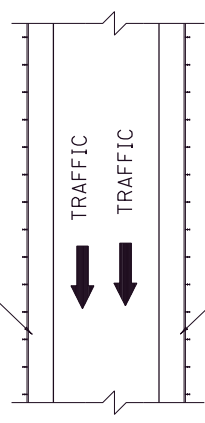
BI-DIRECTIONAL WHITE DELINEATOR  
FOR GUARDRAIL FACING TRAFFIC



BI-DIRECTIONAL WHITE DELINEATOR  
FOR GUARDRAIL FACING TRAFFIC



MONO-DIRECTIONAL WHITE DELINEATOR  
FOR GUARDRAIL FACING TRAFFIC

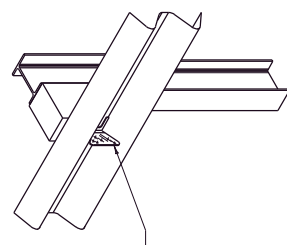


MONO-DIRECTIONAL YELLOW DELINEATOR  
FOR GUARDRAIL FACING TRAFFIC

PLACEMENT OF DELINEATORS  
FOR GUARDRAIL

APPROXIMATE DELINEATOR SPACING	
TANGENT	100'
CURVE	50'

SPACING SHOULD BE ADJUSTED IN CURVES SO THAT SEVERAL DELINEATORS ARE ALWAYS SIMULTANEOUSLY VISIBLE TO THE ROAD USER.



DELINEATOR

ISOMETRIC VIEW

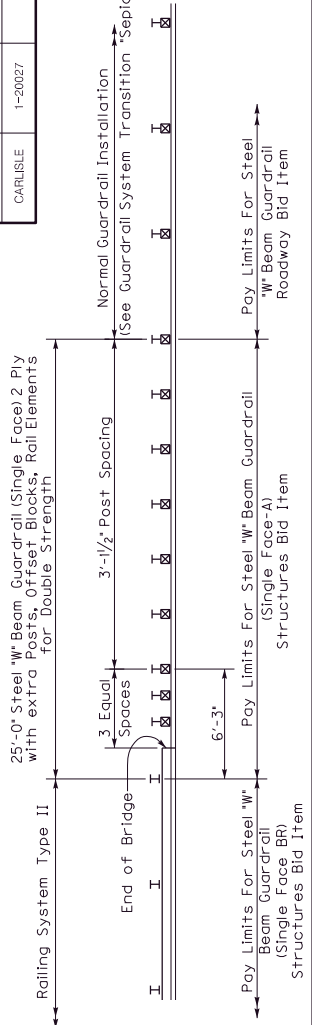
USE WITH CUR. STD. DWGS.  
RBM-020, RBR-060

KENTUCKY  
DEPARTMENT OF HIGHWAYS

DELINEATORS  
FOR GUARDRAIL

SUBMITTED: *[Signature]* 11-17-17  
DIRECTOR DIVISION OF DESIGN DATE  
032

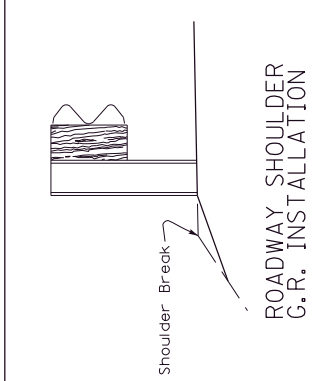
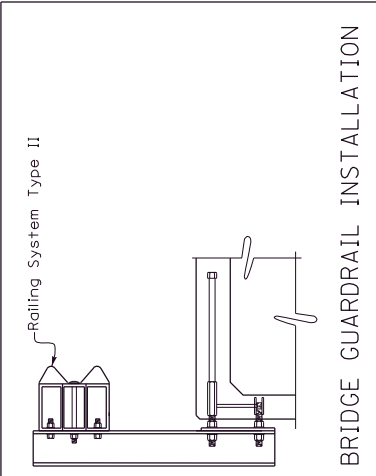
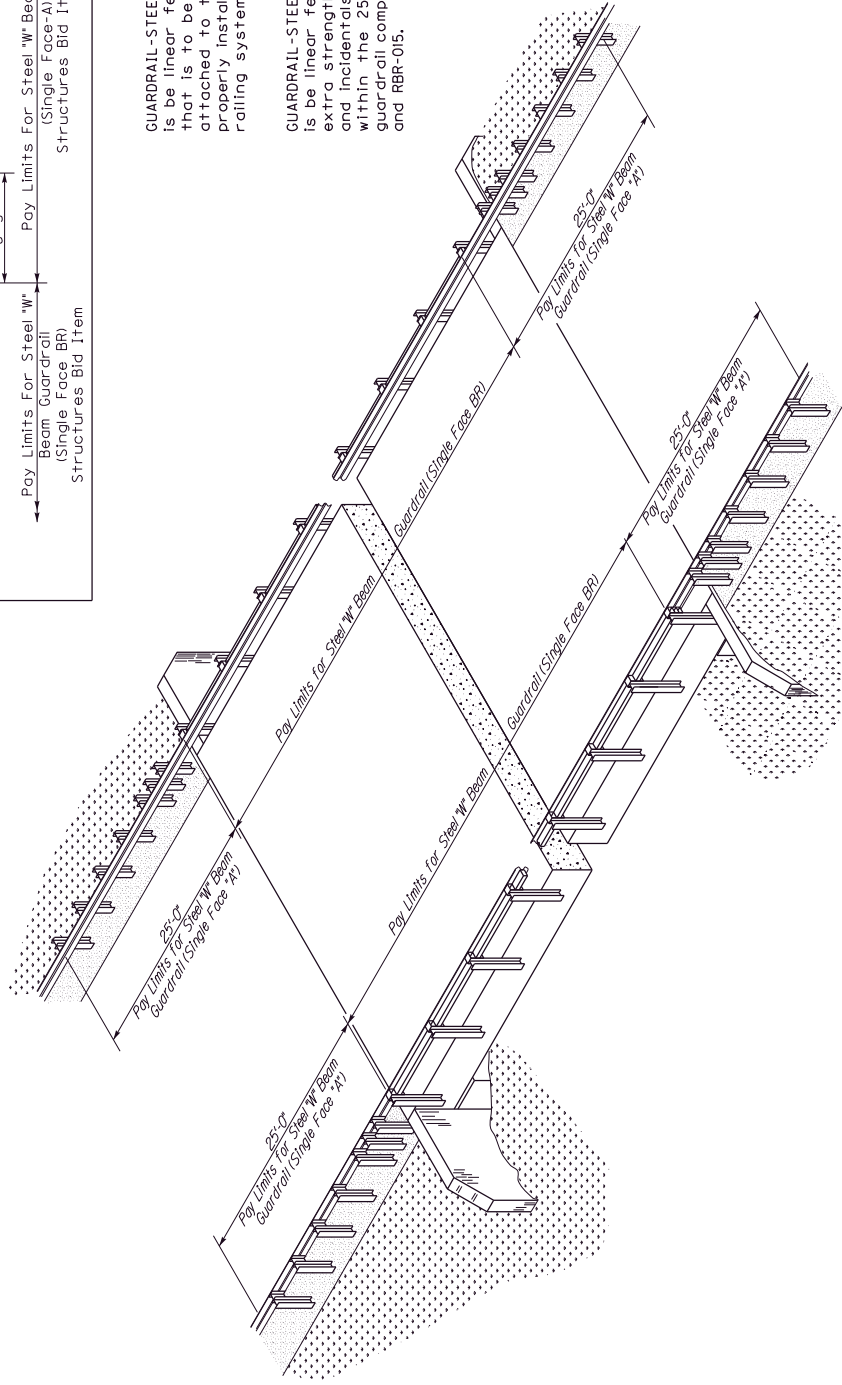
COUNTY OF	ITEM NO.	SHEET NO.
CARLISLE	1-20027	



**BID ITEM NOTES**

**GUARDRAIL-STEEL W BEAM (SINGLE FACE BR):** The bid unit for this item is linear feet. This item shall include the Railing System Type II that is to be installed on the bridge between the endmost posts attached to the bridge and all labor and incidentals necessary to properly install the railing system. For non-composite box beams, the railing system is attached to the beam prior to shipment.

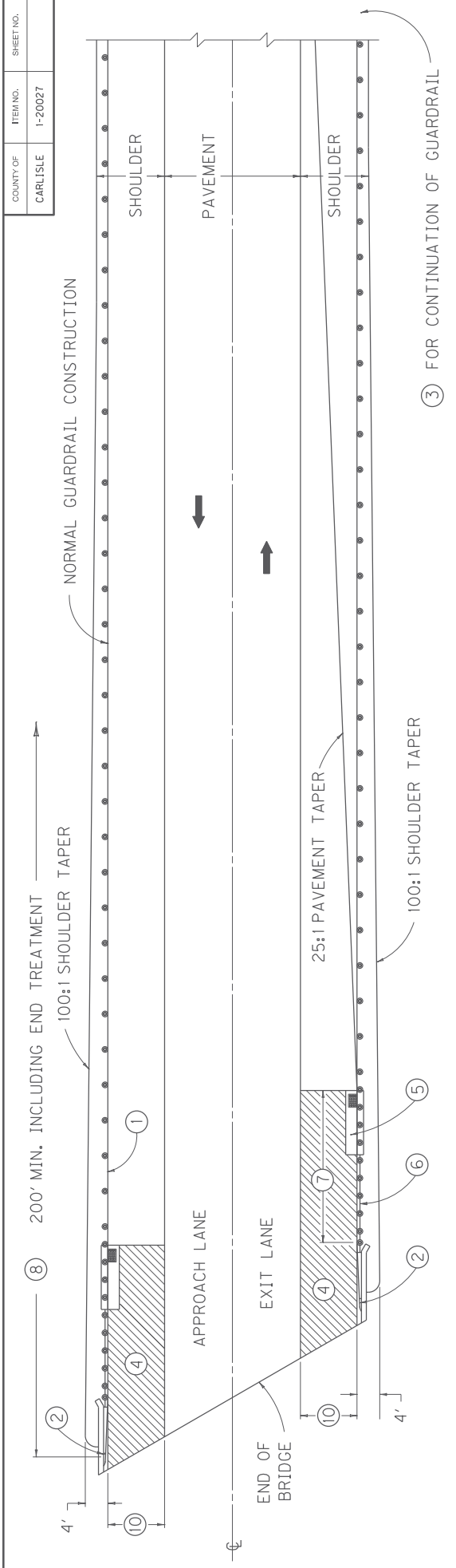
**GUARDRAIL-STEEL W BEAM (SINGLE FACE A):** The bid unit for this item is linear feet. This item includes the W-Beam guardrail (2 ply for extra strength), guardrail posts, offset blocks, hardware, and labor and incidentals necessary to properly install the approach guardrail within the 25'-0" limits at each corner of the structure. For guardrail components, refer to Standard Drawings RBR-001, RBR-005 and RBR-015.



KENTUCKY DEPARTMENT OF HIGHWAYS
RAILING SYSTEM TYPE II
GUARDRAIL TREATMENT

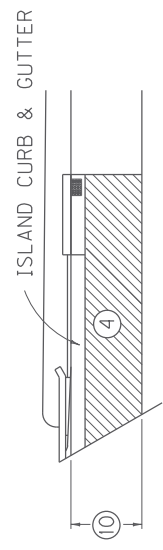
SUBMITTED: *Boyd M.*  
DIRECTOR DIVISION OF STRUCTURAL DESIGN

DATE: 03/24/18



ITEM	STD. DWG. NO. (CURRENT EDITION)
1 STEEL W BEAM GUARDRAIL - S FACE	RBR-001
2 BRIDGE END CONNECTORS	RBC-SERIES
3 END TREATMENT TYPE 1, 2A, 3 OR 4A (NOTE 9)	RBR-SERIES
<b>DRAINAGE ITEMS (WHEN REQUIRED)</b>	
4 BRIDGE END DRAINAGE AREA (NOTE 10)	RDB-SERIES
5 CURB BOX INLET TYPE B	RPM-SERIES
6 ISL. HEADER CURB OR ISL. CURB AND GUTTER	RPM-SERIES

- ~ NOTES ~
- 7 VARIABLE LENGTH, SEE APPLICABLE "BRIDGE END CONNECTOR" DRAWINGS.
  - 8 SHOWN FOR FILL CONDITION. LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT.
  - 9. TO TERMINATE GUARDRAIL INSTALLATION:
    - A. ALL FILLS; ALSO SOLID ROCK CUTS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL, USE END TREATMENT TYPE 1 OR 4A.
    - B. SOLID ROCK CUTS WITHOUT ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL, USE END TREATMENT TYPE 2A.
    - C. EARTH CUTS AND SOFT ROCK CUTS, USE END TREATMENT TYPE 3.
  - 10 USE ISLAND CURB AND GUTTER AND SAME PAVEMENT AS SHOWN ON MAINLINE DESIGN, (SEE DETAIL A).
  - 11. NO ANGLES PERMITTED IN NORMAL GUARDRAIL ALIGNMENT.
  - 12. THIS ILLUSTRATION IS FOR TWO-WAY TRAFFIC FLOW. FOR ONE-WAY TRAFFIC FLOW, MAKE THE FOLLOWING ALTERATIONS:
    - APPROACH END OF STRUCTURE-
      - A. NO PAVEMENT TAPER REQUIRED
      - B. ALIGN FACE OF GUARDRAIL WITH STRUCTURE GUTTERLINE
    - EXIT END OF STRUCTURE-
      - A. PAVEMENT TAPER REQUIRED FOR BOTH OUTSIDE LANES
      - B. FOR GUARDRAIL ALIGNMENT SEE BRIDGE END CONNECTOR DRAWINGS

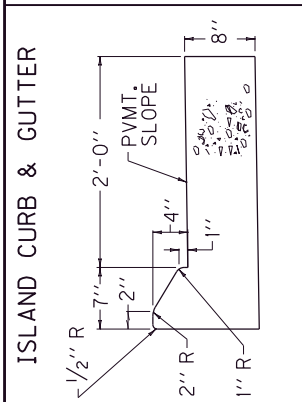
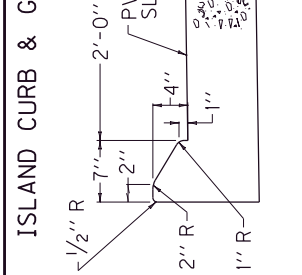
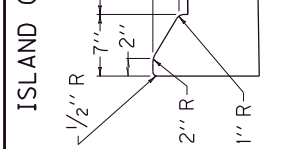
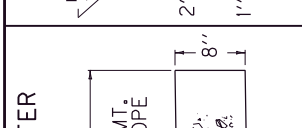

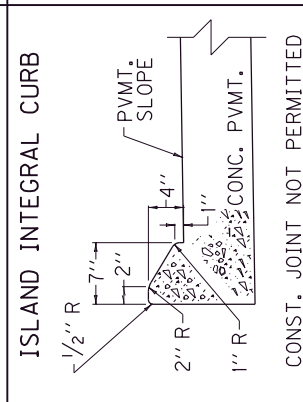
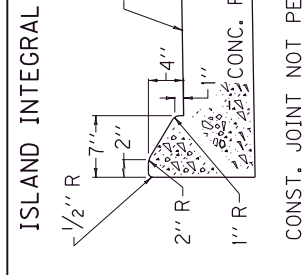
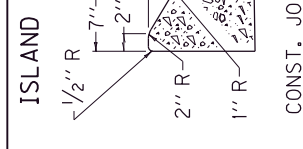

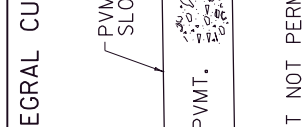
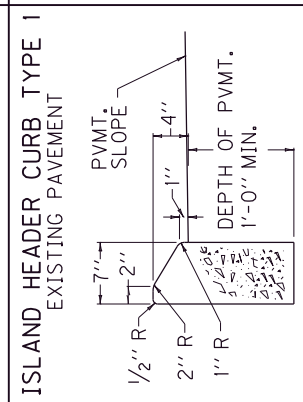
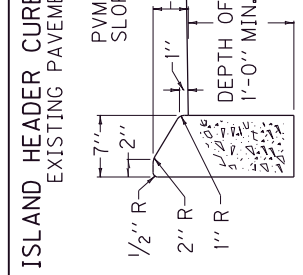
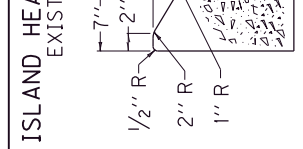

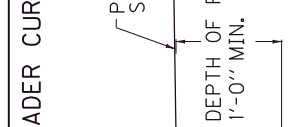
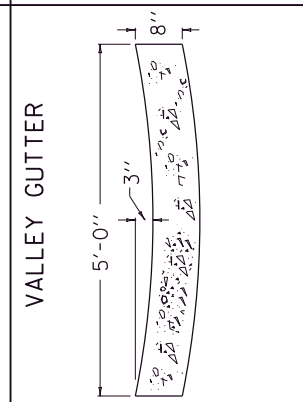
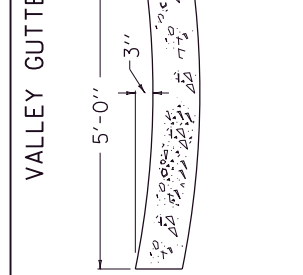
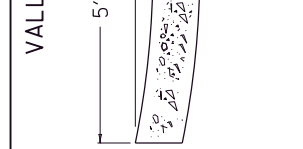
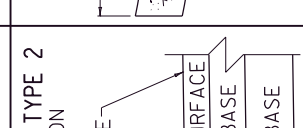
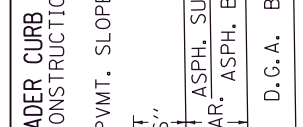
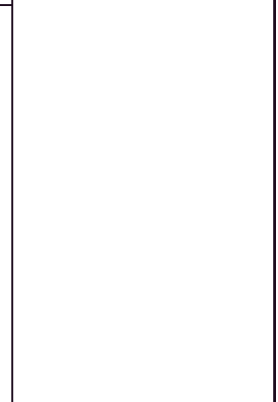
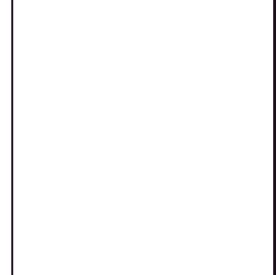


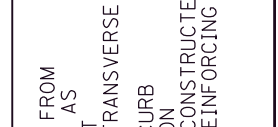


USE WITH CUR. STD. DWGS.  
RBC-005, RBC-006, RBR-001

**KENTUCKY**  
DEPARTMENT OF HIGHWAYS  
GUARDRAIL AND  
BRIDGE END DRAINAGE  
FOR SINGLE STRUCTURES

SUBMITTED *William S. Seltzer* 02-5-18  
DIRECTOR DIVISION OF DESIGN DATE

037

COUNTY OF <b>CARLISLE</b> SHEET NO. 1-20027 RZK					
<b>STANDARD CURB &amp; GUTTER</b> 	<b>ISLAND CURB &amp; GUTTER</b> 	<b>LIP CURB &amp; GUTTER</b> 	<b>ISLAND CURB &amp; GUTTER</b> 	<b>STANDARD HEADER CURB &amp; GUTTER</b> 	
<b>STANDARD INTEGRAL CURB</b> 	<b>ISLAND INTEGRAL CURB</b> 	<b>LIP INTEGRAL CURB</b> 	<b>ISLAND INTEGRAL CURB</b> 	<b>STANDARD INTEGRAL CURB</b> 	
<b>STANDARD HEADER CURB TYPE 1</b> EXISTING PAVEMENT 	<b>ISLAND HEADER CURB TYPE 1</b> EXISTING PAVEMENT 	<b>LIP HEADER CURB</b> 	<b>ISLAND HEADER CURB TYPE 2</b> NEW CONSTRUCTION 	<b>STANDARD HEADER CURB TYPE 2</b> NEW CONSTRUCTION 	
<b>STANDARD INTEGRAL CURB</b> LONGITUDINAL CONST. JOINT 	<b>VALLEY GUTTER</b> 	<b>STANDARD HEADER CURB TYPE 2</b> NEW CONSTRUCTION 	<b>ISLAND HEADER CURB TYPE 2</b> NEW CONSTRUCTION 	<b>ASPHALT WEDGE CURB</b> 	
<b>STANDARD INTEGRAL CURB</b> LONGITUDINAL CONST. JOINT 	<b>VALLEY GUTTER</b> 	<b>STANDARD HEADER CURB TYPE 2</b> NEW CONSTRUCTION 	<b>ISLAND HEADER CURB TYPE 2</b> NEW CONSTRUCTION 	<b>ASPHALT WEDGE CURB</b> 	

~ NOTES ~

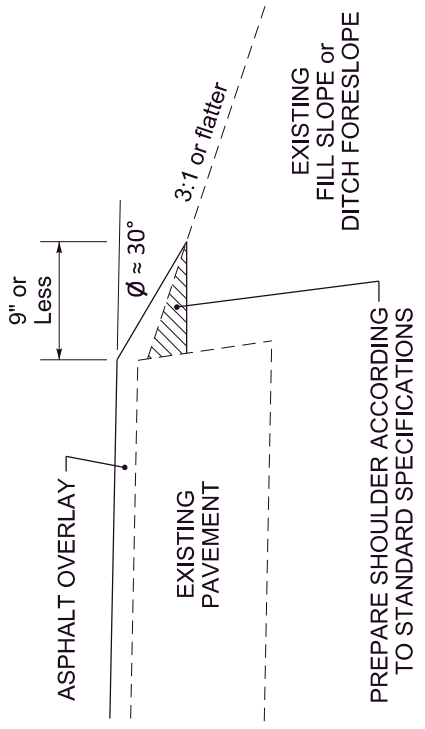
- ALL INTEGRAL CURBS, SHOWING REINFORCING STEEL SHALL BE CAST SEPARATELY FROM THE PAVEMENT AND THE REINFORCEMENT SHALL CONSIST SOLELY OF NO. 4 BARS AS DETAILED ON THIS DRAWING. ON CONSTRUCTION CARE SHOULD BE TAKEN SO THAT NO REINFORCEMENT BARS ARE CLOSER THAN 3" TO THE CENTER OF THE SAWED TRANSVERSE JOINT.
- THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING THE STANDARD INTEGRAL CURB AS DETAILED IN EITHER ① OR ②. IF ② IS CHOSEN A LONGITUDINAL CONSTRUCTION JOINT SHALL BE REQUIRED AND THE REMAINING PAVEMENT AND CURB SHALL BE CONSTRUCTED MONOLITHIC WITHOUT A HORIZONTAL CONSTRUCTION JOINT AND ACCOMPANYING REINFORCING STEEL.

**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
**CURB AND GUTTER,**  
**CURBS AND**  
**VALLEY GUTTER**

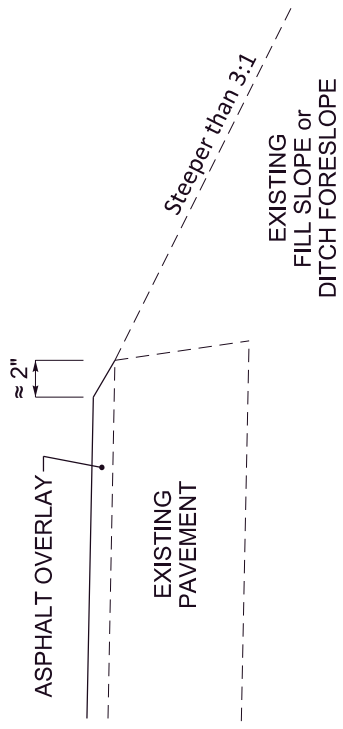
SUBMITTED: *Jul 2016*  
 4-30-19  
 DATE  
 DIRECTOR DIVISION OF DESIGN

County	Item No.	Sheet
CARLISLE	1-20027	-

**DURABLE PAVEMENT EDGE DETAIL**  
 (Resurfacing adjacent to fill slope or ditch foreslope that is 3:1 or less)



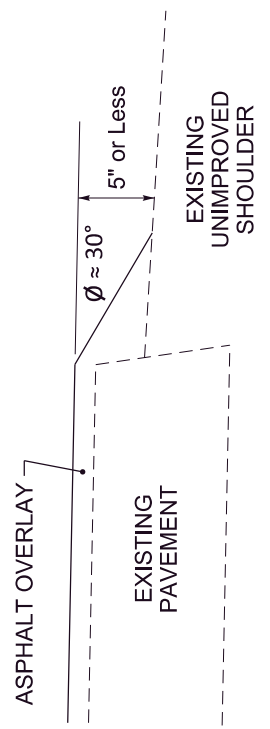
**DURABLE PAVEMENT EDGE DETAIL**  
 (Resurfacing adjacent to fill slope or ditch foreslope that is steeper than 3:1)



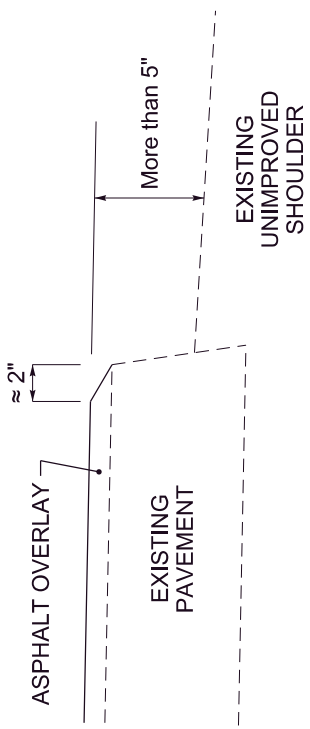
**NOTES**

1. DETAILS DO NOT APPLY TO OVERLAYS LESS THAN 1 INCH THICK.
2. THE DURABLE PAVEMENT EDGE DEVICE MAY BE DISENGAGED AT DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT, AS APPROVED BY THE ENGINEER.

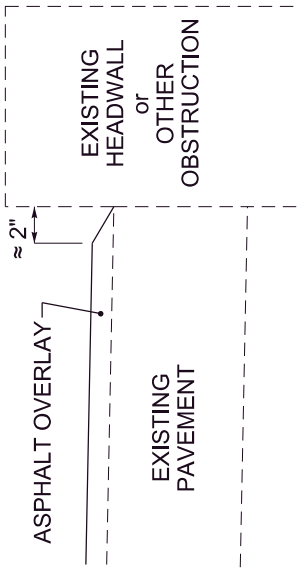
**DURABLE PAVEMENT EDGE DETAIL**  
 (Resurfacing adjacent to low shoulder with dropoff of 5 inches or less)



**DURABLE PAVEMENT EDGE DETAIL**  
 (Resurfacing adjacent to low shoulder with dropoff of more than 5 inches)



**DURABLE PAVEMENT EDGE DETAIL**  
 (Resurfacing adjacent to an obstruction, such as an existing headwall)



DRAWING NOT TO SCALE

DURABLE PAVEMENT EDGE DETAILS

**TRAFFIC CONTROL PLAN  
CARLISLE COUNTY  
US 51  
Item No. 01-20027**

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**THE CONTROL OF ACCESS ON THIS  
PROJECT IS BY PERMIT**

**TRAFFIC CONTROL GENERAL**

Except as provided herein, "Maintain and Control Traffic" shall be in accordance with the 2019 Standard Specifications and Standard Drawings, current editions and the Manual on Uniform Traffic Control Devices, 2009 Edition. 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.

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition at the beginning of the work and maintained in like new condition until completion of the work. Traffic control devices will conform to current MUTCD.

Night work will be allowed on this project. Obtain approval from the Engineer for the method of lighting prior to its use. No additional payment shall be made for night work operations.

**TRAFFIC PHASING OVERVIEW**

Access to all private and business entrances on the project shall be maintained and open to access at all times unless otherwise directed by the Engineer.

Use a lane closure per the Standard Drawings at all times when work is performed in the lane or on shoulder or side slopes adjacent to travel lanes. Perform any maintenance of the shoulder as deemed necessary by the Engineer in order to maintain traffic. Remove failed materials and perform additional patching as directed by the Engineer.



## **CONSTRUCTION PHASING**

### **PHASE I – Asphalt Milling and Paving**

Erect signs and using alternating lane closures, complete milling and texturing of bridge ends, project termini, and approach tie downs to key in per the milling detail. Using alternating lane closures, prepare the existing pavement surface for paving, remove existing pavement markers, clip back sod from shoulder and place leveling and wedging to correct any irregularities in profile or cross slope.

Using alternating lane closures, place asphalt surface on one lane and on one shoulder for approximately ½ day's production. After final rolling, alternate lane closures to place traffic on the newly paved lane and complete paving of the other lane and shoulder to approximately even with the first half day's production. Complete both lanes of paving daily to an approximate common point.

### **Phase II – Shoulder Wedging.**

Remove all guardrail from the project. Place drums on 40' spacing in all locations that guardrail has been temporarily removed. Place a wedge of DGA on any shoulder that has more than a 1" drop-off or in preparation for new guardrail as directed by the engineer.

### **Phase III – Guardrail**

Install new guardrail to replace the old guardrail and at new locations as listed and as directed by the engineer.

### **Phase IV – Final Pavement Markings and Cleanup**

Complete all remaining work including but not limited to final pavement markings and final dressing and cleanup.

## **LANE CLOSURES**

Contrary to Section 112.04.17, Lane closures, whether long term or short term, will not be measured for payment and will be incidental to the bid item "Maintain and Control Traffic". Lane closures will be permitted during holiday periods. Maintain a minimum lane width of 9 feet. Use traffic drums or vertical panels only for pavement edge drop-offs and areas that guardrail has been removed.

## **SIGNS**

Traffic control signs in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs may be needed for lane closures.

Quantities for Road Work ½ Mile (36" x 36"), Road Work 1500 Feet (36" x 36"), Road Work 1000 Feet (36" x 36"), Road Work 500 Feet, Side Road Placards, End Road Work (24" x 18") signs, etc.

have been included in the proposal. These signs shall be constructed on each end of the proposed project as directed by the Engineer. Additional quantities have been added for any additional signs required by the Engineer. One lane road and flagger signs will be required in accordance with the Standard Drawings and will be required to be moved periodically as the work progresses. Remove lane closure and flagger signage when workers are not present.

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.

Contrary to the section 112, only post mounted signs will be measured for payment and only signs intended to be continuously in place for more than 3 consecutive days will be measured for payment.

### **FLASHING ARROWS**

Flashing arrows will not be required for this project.

### **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. Place PCMS on either end of the project corridor. 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. See notes elsewhere in the proposal for additional requirements.

Use PCMS to advise traffic of lane closures, road closure, milled surface, and to provide advance notification of upcoming road closures or other messages as provided by the engineer.

### **PAVEMENT MARKINGS**

Maintain temporary or permanent pavement markings any time two lanes of traffic is open without flaggers.

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

Less than 2" – 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.

Greater than 4" – If ongoing work results in a greater than 4" drop-off, work should proceed continuously so that traffic is exposed to a drop-off for the minimum amount of time necessary to bring the pavement back up to existing grade. Barrel spacing should be 20 feet and appropriate lighting should be utilized to illuminate the area during nighttime operations. Complete backfill or grading operations and/or construct a wedge of minimum slope of 3:1 to eliminate drop-off situations within 5' of the traveled way prior to the end of the day's shift and restoration of traffic to two lanes.

## **GUARDRAIL REMOVAL**

Do not begin removal of guardrail until after completion of the final asphalt surface. Begin placement of the DGA wedge within 48 hours of the completion of the guardrail removal and pursue DGA wedging activities and guardrail placement activities daily (on normal work days) to completion in order to limit the time of exposure of the traveling public. Hang offset blocks and rail on all driven posts daily, and pin down both exposed ends and cover with DGA or soil temporarily until end treatments can be installed.

## **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 every two hours 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. The Project Traffic Coordinator will be responsible for ensuring One Lane Road and Flagger signs are maintained at appropriate locations and distance from the work zone and removed when not needed.

## **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.

## **CONTRACTOR'S AND CONTRACTOR'S EMPLOYEES' VEHICLES**

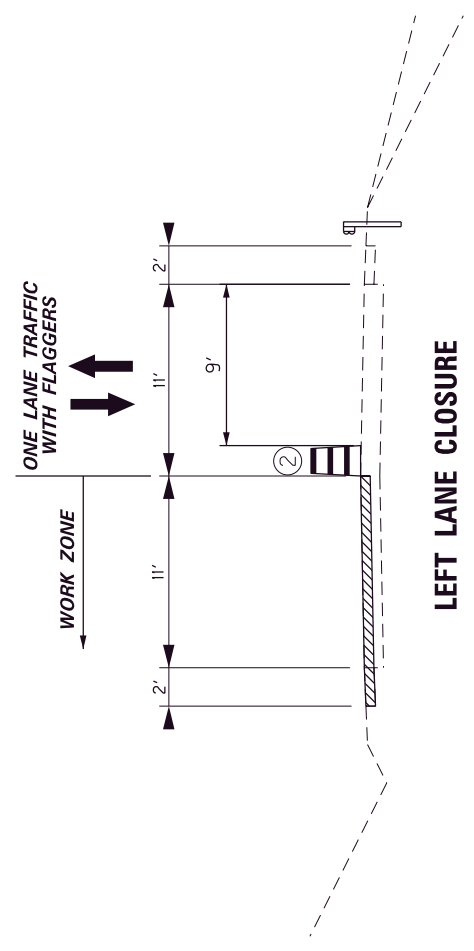
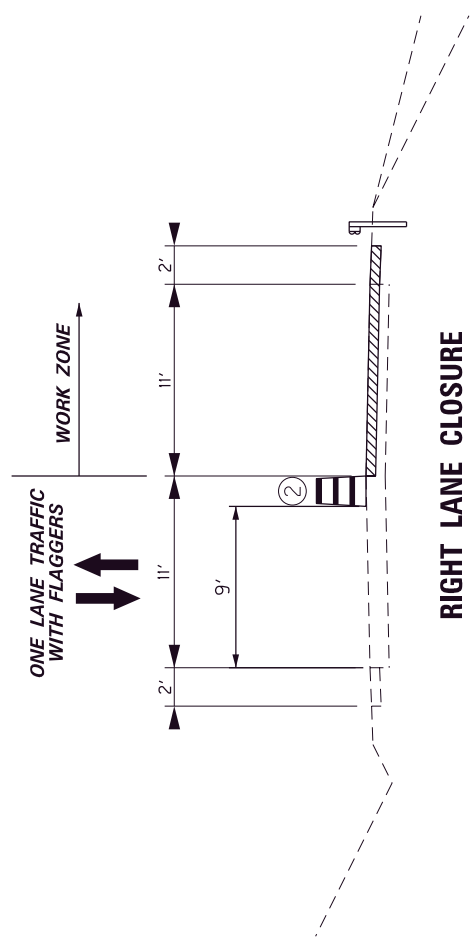
Do not allow contractors equipment or employees to park on private property or block access to any private or business entrances at any time. Damage to private property including but not limited to mailboxes, entrance pavement, entrance pipe, sod, or other items must be repaired immediately by the contractor, and at the contractor's expense.

County	Item No.	Sheet
CARLISLE	1-20027	-

# MAINTENANCE OF TRAFFIC

## TYPICAL SECTION ALL PHASES

- ① MAKE PROVISION FOR PASSAGE OF WIDE LOADS
- ② MOVE DRUM INTO CLOSED LANE TO PROVIDE ADDITIONAL TRAVEL LANE WIDTH WHEN POSSIBLE.



NOT TO SCALE

US 51  
 MAINTENANCE OF TRAFFIC  
 TYPICAL SECTIONS

**US 51  
Carlisle County  
STP 0511 (049)  
FD52 020 0051 007-013  
FD05 020 0051 007-013  
Item No. 1-20027  
MP 7.860 TO MP 12.655**

**THE CONTROL OF ACCESS ON THIS PROJECT  
IS BY PERMIT**

**I. DESCRIPTION**

Perform all work in accordance with the Department's 2019 Standard Specifications, Supplemental Specifications, Applicable Special Provisions, and Applicable Standard and 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) Asphalt Milling and Texturing and Asphalt Paving
- (3) Removal and Placement of Guardrail and Guardrail End Treatments; (4) Pavement Markings; (5) All other work specified as part of this contract.

**II. MATERIALS**

Except as specified in these notes or on the drawings, all materials will be according to the Standard Specifications and applicable Special Provisions and Special Notes. The Department will sample and test all materials according to Department's Sampling Manual and the Contractor will have 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. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Permanent Pavement Markings - 6 inch.** Use Spray-On Thermo 6 inches in width for applications on asphalt pavement in accordance with the Special Note for Spray Applied Thermoplastic Pavement Marking Material, and use Durable Type I Tape for applications on bridge decks.
- C. **Channel Lining Class II.** Channel lining will be limestone and is to be placed at flume outlets added at the ends of the added island header curbs.

D. **Asphalt Material for Tack.** Use conventional Tack Oil.

### III. CONSTRUCTION METHODS

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

If the contractor desires to deviate from the scheme provided in the Traffic Control Plan, obtain prior approval from the engineer.

B. **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.

C. **Milling and Texturing.** Construct pavement tapers from the proposed surface grade to existing pavement grades at project termini, approach tie downs and bridge approaches according to the milling details using variable depth milling and texturing.

D. **Disposal of Waste.** Dispose of all cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor. The contractor will be responsible for obtaining any necessary permits for this work. No separate payment will be made for obtaining the necessary permits, but will be incidental to the other items of the work. Disposal of existing cuttings and brush shall adhere to Section 202 of the current Standard Drawings.

E. **Final Dressing, Clean Up, and Seeding and Protection.** After all work is completed, completely remove all debris from the job site. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. 1 or Seed Mixture No. 3 for slopes greater than 3:1.

F. **Guardrail.** Remove guardrail after completion of the roadway final surfacing and immediately prior to the commencement of the application of the DGA shoulder wedge. Initiate installation of the new guardrail as soon as practical after an adequate length of DGA shoulder wedge has been placed. Hang offset blocks and guardrail on all posts driven daily. Turn down and pin the blunt ends and cover with DGA or soil and protect the unfinished ends with drums on 20' spacing for 100' until the end treatment is completed. Maintain drums on 40' spacing at all locations that guardrail has been removed until replaced.

- G. **Pavement Markings.** Permanent striping will be in accordance with Section 714 for Durable Type I Tape, Special Note for Spray Applied Thermoplastic Pavement Marking Material for Thermoplastic mainline markings, and Section 112 for temporary striping, except that:
- (1). Permanent striping will be 6" in width.
  - (2). Permanent striping or temporary striping will be in place before a lane is opened to traffic.
  - (3). Temporary Striping will be 4" in width.
- H. **On-Site Inspection.** In accordance with section 102.06, 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.
- I. **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 above.
- J. **Utility Clearance.** It is not anticipated that utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities.
- K. **Guardrail-Steel W Beam-S Face BR.** Remove the existing railing system by either removing bolts or cutting bolt heads off flush with the existing concrete surface with a grinder or saw. Do not use a torch. Drill and install min 7/8" diameter sleeve anchors for attachment of new posts. Sleeve anchors should be of sufficient length to place a nut and washer on each side of the post. Obtain approval of the type of sleeve anchors from the engineer prior to use.
- L. **Inlaid Pavement Markers.** Contrary to Section 712.03.04 of the Specifications, offset markers a minimum of 3 inches from the longitudinal pavement joint.



#### IV. METHOD OF MEASUREMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan. Only the bid items listed will be measured for payment. No measurement or payment for striping removal will be made and will be considered incidental to “Maintain and Control Traffic”.
- B. **Site Preparation.** Other than the bid items listed, site preparation will not be measured for payment, but will be incidental to the other items of work.
- C. **Erosion Control.** If any erosion control items including temporary BMP’s or permanent seeding are required, they will be considered incidental to other items of work with no measurement or separate payment.
- D. **Staking.** Staking will be performed by KYTC personnel and no separate measurement or payment made for the item “Staking”.
- E. **Pave Striping-Spray Thermo.** See Special Note for Spray Applied Thermoplastic Pavement Marking Material.
- F. **Final Dressing, Clean Up, and Seeding and Protection.** Final dressing and seeding will be considered incidental to other items in the contract.

#### V. BASIS OF PAYMENT

No direct payment will be made other than for the bid items listed. All other items required to complete the construction will be incidental to the bid items listed. Existing signs damaged by the Contractor will be replaced by the Contractor at his expense. Payment will be made in accordance with the KYTC Standard Specifications, current edition with supplemental specifications and current Standard Drawings unless otherwise specified herein.

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

If the contractor chooses to obtain approval for changes to the Traffic Control Plan, any additional costs for materials, labor or equipment necessary to implement the change will be at the contractor’s expense.

- B. **Site Preparation.** Other than the bid items listed, no direct payment will be allowed for site preparation, but will be incidental to the other items of work.
- C. **Lane Closures.** Contrary to Section 112, lane closures will not be measured for payment but will be incidental to the bid item “Maintain and Control Traffic”. Portable message boards and signs shall be paid for one time regardless of how many times they are moved. No payment will be made for temporary signals if the contractor chooses to use temporary signals for lane closures.

- D. **Milling and Texturing.** Milling and texturing will be paid for per section 408.05 of the 2019 Standard Specifications. No direct payment will be made for disposal of millings or for construction of edge keys. Construction of pavement tapers at project termini, approach tie downs and bridge ends will be considered incidental to the per ton measurement of "Asphalt Pave Milling and Texturing".
  
- E. **Pave Striping-Spray Thermo.** See Special Note for Spray Applied Thermoplastic Pavement Marking Material. Temporary striping (if used) on the final surface course placed prior to installation of the Spray-On Thermo paint will not be measured for payment and will be considered incidental to Pave Striping-Spray Thermo-size color.
  
- F. **Guardrail-Steel W Beam-S Face BR.** Removal of existing railing system and installation of the required new anchors will be considered incidental to the measured quantity of "Guardrail-Steel W Beam-S Face BR.

**US 51  
Carlisle County  
STP 0511 (049)  
FD52 020 0051 007-013  
FD05 020 0051 007-013  
Item No. 1-20027  
MP 7.860 TO MP 12.655**

1. This project is intended to provide a thin overlay to provide a new mainline riding surface through the length of the project.
2. Milling and Texturing will be required to provide a pavement taper at existing bridge ends, approach pavement tie downs, and at the southern project terminus. Construct a pavement taper at each end of the bridge at MP 10.982 and remove approximately 1 ½" depth of existing asphalt pavement prior to placement of the proposed overlay to provide for no additional resulting dead load.
3. The dimensions shown on the typical section for pavement and shoulder widths and thickness are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened unless otherwise specified in the Proposal.
4. The contractor is to be advised of the locations of overhead utility wires on the project. The following locations are approximate:

Mile 7.83	Mile 8.08	Mile 9.86
Mile 7.86	Mile 8.17	Mile 9.87
Mile 7.87 Appr. Rt.	Mile 8.42	Mile 9.90
Mile 7.88	Mile 8.43 Appr. Lt.	Mile 10.03
Mile 7.91	Mile 8.94	Mile 10.07
Mile 7.98	Mile 9.21	Mile 10.78
Mile 7.98 Appr. Rt.	Mile 9.34	Mile 10.85
Mile 8.02	Mile 9.55	Mile 11.84
Mile 8.07	Mile 9.60	Mile 12.52

**CAUTION:** Other overhead utility locations 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.

5. The contractor is advised that the planned locations of work established by milepoints are referenced from the Kentucky Transportation Cabinet's Official Route Log. The existing reference markers may not correspond to the established work locations.
6. All guardrail will be replaced as part of this project. New guardrail will be added where listed and as directed by the engineer. The engineer will verify the length of

- need and adjust the location of the end treatments as necessary.
7. The Contractor shall deliver existing salvaged guardrail system materials to the Central Sign Shop and Recycle center at 1224 Wilkinson Blvd in Frankfort, KY. Contact Section Supervisor at (502) 564-8187 to schedule the delivery of material. Deliver the material between the hours of 8:00AM and 3:30PM, Monday through Friday. There is a Guardrail Delivery Verification Sheet which must be completed and signed by the Contractor, Engineer and a representative of the Central Sign Shop and Recycle Center. A copy of this sheet is included elsewhere in the proposal.
  8. Existing Bridge End Connector Type A's will be replaced. The contractor will be required to drill through the entire thickness of the existing bridge barrier and use sufficient length bolts with washers to extend through the existing barrier, as directed and approved by the engineer. All materials, labor, equipment and hardware necessary to provide the updated connection will be considered incidental to "Bridge End Connector Type A".
  9. A quantity of Island Header Curb has been established to update Bridge End Connectors to current standards. A flume outlet has been set up for construction on each end of curb sloping away from the bridge. A quantity of Channel Lining Class II has been established to construct an outlet ditch for the proposed flumes. Excavation for the ditching at the flume outlet and excavation for the channel lining installation will be considered incidental to "Channel Lining Class II".
  10. A quantity of Leveling and Wedging has been established to repair pavement irregularities and also to provide cross slope corrections. Prior to placement of the final surface course, the contractor will be required to perform a check on cross slopes in the tangent segments. In tangent segments that the measured cross slopes are less than 2%, place leveling and wedging to increase the crown to 2% prior to placement of the final surfacing course. Revisions to cross slopes in the curves may also be required to be performed at the discretion of the engineer on a case by case basis. Provide a plan for methods and frequency of measurement of cross slopes to the engineer for approval.
  11. The contractor is to take precautions not to damage any existing roadway signs. Any roadway signs that are damaged during construction are to be replaced at the contractor's expense in accordance with section 105.08 of the standard specifications.
  12. A quantity of DGA Base has been established to eliminate shoulder drop-offs. Place DGA where existing drop-offs exist and where improvements to the shoulder are needed prior to guardrail installation.
  13. Coordinate activities of any adjacent contracts with this contract. Other projects may be in progress while this project is active. The engineer will determine the relative priority of activities on projects in case of conflict.

## REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2012.
2. FHWA Manual on Uniform Traffic Control Devices – 2009 Edition.
3. Kentucky Department of Highways Standard Drawings, Current Edition, as applicable:

RBI-002-07	TYPICAL GUARDRAIL INSTALLATIONS
RBR-005-11	GUARDRAIL COMPONENTS
RBR-010-06	GUARDRAIL TERMINAL SECTIONS
RDD-040-05	CHANNEL LINING CLASS II AND III
RDD-021-07	FLUME INLET TYPE 2
RGS-001-07	CURVE WIDENING AND SUPERELEVATION TRANSITIONS
RGX-001-06	MISCELLANEOUS STANDARDS
RPM-110-07	APPROACHES, ENTRANCES AND MAIL BOX TURNOUT
TTC-100-04	LANE CLOSURE TWO LANE HIGHWAY
TTC-135-02	SHOULDER CLOSURE
TPM-115-03	PAVEMENT MARKER ARRANGEMENTS TWO LANE, TWO WAY ROADWAYS
TTS-100-02	MOBILE OPERATION FOR PAINT STRIPING CASE I
TTS-105-02	MOBILE OPERATION FOR PAINT STRIPING CASE II
TTS-130-02	MOBILE OPERATION FOR DURABLE STRIPING CASE III
TTS-135-02	MOBILE OPERATION FOR DURABLE STRIPING CASE IV

4. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2012, Appendix B - Supplemental Specifications, as applicable:

Special Note	Typical Section Dimensions <i>attached</i>
Special Note	Before You Dig <i>attached</i>
Special Note	Fixed Completion Date and Liquidated Damages <i>attached</i>
Special Note	Asphalt Milling and Texturing <i>attached</i>
Special Note	Special Note for Pavement Wedge and Shoulder Monolithic Operation <i>attached</i>
Special Note	Special Note for Experimental KYCT and Hamburg Testing <i>attached</i>
Special Note	Special Note for Spray Applied Thermoplastic Pavement Marking Materials <i>attached</i>
Special Note	Portable Changeable Message Signs <i>attached</i>
General Note	Asphalt Pavement Ride Quality (Category A) <i>attached</i>
General Note	Compaction of Asphalt Mixtures (Option A) <i>attached</i>
Special Note	Special Note for Intelligent Compaction of Asphalt Mixtures <i>attached</i>
Special Note	Special Note for Paver Mounted Temperature Profiles <i>attached</i>
Special Note	Guardrail Delivery Verification Sheet <i>attached</i>

**SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS**  
**US 51**  
**CARLISLE COUNTY**  
**ITEM NO. 1-20027**

The dimensions shown on the typical sections for pavement and shoulder widths are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened or narrowed **EXCEPT** where specified elsewhere in the Proposal.

**SPECIAL NOTE FOR BEFORE YOU DIG**

**US 51  
CARLISLE COUNTY  
ITEM NO. 1-20027**

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 which subscribe to the before-u-dig (BUD) service. Coordinate excavation with all utility owners, including those who do not subscribe to BUD.

**Special Note for Fixed Completion Date and**

**Liquidated Damages**

**US 51  
CARLISLE COUNTY  
ITEM NO. 1-20027**

In accordance with Section 108.09, Liquidated Damages at the specified rate per calendar day will be assessed for each day work remains incomplete beyond the Specified Project Completion Date. This project has a Fixed Project Completion Date of June 30, 2020.

Also contrary to Section 108, liquidated damages will be charged during the months of December through March.



**SPECIAL NOTE FOR  
ASPHALT MILLING AND TEXTURING  
US 51  
CARLISLE COUNTY  
ITEM NO. 1-20027**

Mill pavement tapers at the project termini, approach tie downs, and at bridge ends and to remove existing surface (and dead load) over the bridge at MP 10.982. Begin asphalt paving operations within 7 days of milling of the pavement tapers.

The Contractor will take possession and dispose of the millings off the project. Disposal of millings will be considered incidental to the item "Asphalt Pave Milling and Texturing".

## SPECIAL NOTE FOR PAVEMENT WEDGE AND SHOULDER MONOLITHIC OPERATION

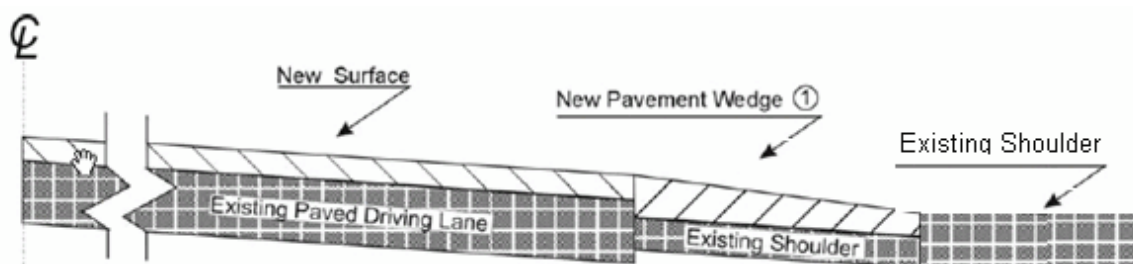
**1.0 MATERIALS.** Provide an Asphalt Surface Mixture conforming to Section 403 of the Standard Specifications, as applicable to the project, for the pavement wedge.

**2.0 CONSTRUCTION.** Place the specified Asphalt Surface Mixture on shoulders monolithically with the driving lane. Prime the existing shoulder with tack material as the Engineer directs before placing the wedge. Construct according to Section 403.03 of the Standard Specifications.

Equip the paver with a modified screed that extends the full width of the wedge being placed and is tapered to produce a wedge. Obtain the Engineer's approval of the modified screed before placing shoulder wedge monolithically with the driving lane.

The wedge may vary in thickness at the edge of the milled area in the shoulder. If the area to receive the shoulder wedge is milled prior to placement, during rolling operations pinch the outside edge of the new inlay wedge to match the existing shoulder elevation not being resurfaced. Unless required otherwise by the Contract, construct rolled or sawed rumble strips according to Section 403.03.08, as applicable.

The following sketch is primarily for the computation of quantities; however, the wedge will result in a similar cross-section where sufficient width exists. Do not construct a shoulder for placing the wedge unless specified elsewhere in the Contract.



① Slope varies, but is down from the driving lanes except on outside of some curves where superelevation controls.

**3.0 MEASUREMENT.** The Department will measure Asphalt Surface Mixture placed as the pavement wedge according to Section 403.

**4.0 PAYMENT.** The Department will make payment for the completed and accepted quantities of Asphalt Surface Mixtures on pavement wedges according to Section 403.

## SPECIAL NOTE FOR EXPERIMENTAL KYCT AND HAMBURG TESTING

### 1.0 General

**1.1 Description.** The KYCT (Kentucky Method for Cracking Test) and the Hamburg test results will help determine if the mixture is susceptible to cracking and rutting. During the experimental phase, data will be gathered and analyzed by the Department to determine the durability of the bituminous mixes. Additionally, the data will help the Department to create future performance based specifications which will include the KYCT and Hamburg test methods.

### 2.0 Equipment

**2.1 KYCT Testing Equipment.** The Department will require a Marshall Test Press with digital recordation capabilities. Other CT testing equipment may be used for testing with prior approval by the Department.

**2.2 Water Baths.** One or more water baths will be required that can maintain a temperature of 77° +/- 1.8° F with a digital thermometer showing the water bath temperature. Also, one water bath shall have the ability to suspend gyratory specimen fully submerged in water in accordance with AASHTO T-166, current edition.

**2.3 Hamburg Wheel Track Testing.** The department encourages the use of the PTI APA/Hamburg Jr. test equipment to perform the loaded wheel testing. The Department will allow different equipment for the Hamburg testing, but the testing device must be approved by the Department prior to testing.

**2.4 Gyratory Molds.** Gyratory molds will be required to assist in the production of gyratory specimens in accordance with AASHTO T-312, current edition.

**2.5 Ovens.** Adequate (minimum of two ovens) will be required to accommodate the additional molds and asphalt mixture necessary to perform the acceptance testing as outlined in Section 402 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.

**2.6 Department Equipment.** The Department will provide gyratory molds, PINE 850 Test Press with digital recordation, and CT testing equipment to assist during this experimental phase so data can be gathered. Hamburg test specimens will be submitted to the Division of Materials for testing on the PTI APA/Hamburg Jr if the asphalt contractor or district materials office does not have an approved Hamburg testing device.

### 3.0 Testing Requirements

**3.1 Acceptance Testing.** Perform all acceptance testing and aggregate gradation as according with Section 402 and Section 403 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.

**3.2 KYCT Testing.** Perform crack resistance analysis (KYCT) in accordance with the current Kentucky Method for KYCT Index Testing during the mix design phase and during the plant production of all surface mixtures. For mix design approvals, submit KYCT results on the Department MixPack. For Class 4 mixtures, submit ingredient materials to the Division of Materials for informational verification.

**3.2.1 KYCT Frequency.** Obtain an adequate sample of hot mix asphalt to insure the acceptance testing, gradation, and KYCT gyratory samples can be fabricated and is representative of the bituminous mixture. Acceptance specimens shall be fabricated first, then immediately after, fabricate the KYCT samples with the gyratory compactor in accordance with Section 2.4 of this Special Note. Analysis of the KYCT specimens and gradation will be required one per subplot produced from the same asphalt material and at the same time as the acceptance specimen is sampled and tested.

**3.2.2 Number of Specimens and Conditioning.** Fabricate specimens in accordance with the Kentucky Method for KYCT Index Testing. Contrary to the method, fabricate a minimum of 3 and up to 6 test specimens. The specimens shall be compacted at the temperature in accordance to KM 64-411. KYCT mix design specimens shall be short-term aged conditioned for four hours at compaction temperature in accordance to KM 64-411. Plant produced bituminous material will not be required for age conditioning and shall be fabricated immediately after the gyratory acceptance specimens have been fabricated. An acceptable transport container will be required to prevent the asphalt mixture from losing heat and to maintain the compaction temperature of the asphalt mixture until the KYCT gyratory samples can be fabricated. This will eliminate reheating of the asphalt mixture. To insure confidence and reliability of the test results provided by KYCT testing and Hamburg testing, reheating of the asphalt mixture is strongly discouraged. If reheating does occur, provide documentation on the Asphalt Mixtures Acceptance Workbook (AMAW).

**3.2.3 Record Times.** For each subplot, record the time required between drying aggregates in the plant to KYCT specimen fabrication. The production time may vary due to the time that the bituminous material is held in the silo. Record the preconditioning time when the time exceeds the one hour specimen cool down time as required in accordance to The Kentucky Method for KYCT Index Testing. The preconditioning time may exceed an hour if the technician is unable to complete the test on the same day or within the specified times as outlined in The Kentucky Method for KYCT Index Testing. The production time and the preconditioning time shall be recorded on the AMAW.

**3.2.4 File Name.** As according to section 7.12 of The Kentucky Method for KYCT Index Testing, save the filename with the following format; "CID\_Approved Mix Number\_Lot Number\_Sublot Number\_Date"

**3.3 Hamburg Testing.** Perform the rut resistance analysis (Hamburg) in accordance to AASTHO T-324, not to exceed 20,000 passes for all bituminous mixtures during the mix design phase and production. For mix design approvals, submit Hamburg results on the Department MixPack. For Class 4 mixtures, submit ingredient materials to the Division of Materials for informational verification.

**3.3.1 Hamburg Testing Frequency.** Perform testing and analysis per lot of material. The plant produced bituminous material sampled for the Hamburg test does not have to be obtained at the same time as the acceptance and KYCT sample. If the Hamburg test sample is not obtained at the same time as the KYCT sample, determine the Maximum Specific Gravity of the KYCT sample in accordance with AASTHO T-209 coinciding with the Hamburg specimens.

**3.3.2 Record Times.** Record the production time as according to section 3.2.3 in this special note. Also record the time that the specimens were fabricated and the time the Hamburg testing was started. All times shall be recorded on the AMAW.

**3.3.3 File Name.** Save the Excel spreadsheet with the following file name; “Hamburg\_CID\_Approved Mix Number\_Lot Number\_Sublot Number\_Date” and upload the file into the AMAW.

#### **4.0 Data**

Submit the AMAW and all test data that was obtained for acceptance, gradation, KYCT, and Hamburg testing within five working days once all testing has been completed for a lot to Central Materials Lab and the District Materials Engineer. Also, any data and or comments that the asphalt contractor or district personnel deem informational during this experimental phase, shall also be submitted to the Central Materials Lab and the District Materials Engineer. Any questions or comments regarding any item in this Special Note can be directed to the Central Office, Division of Materials, Asphalt Branch.

#### **5.0 KYCT Video Demonstration**

<https://youtu.be/84j0bM45-hg>

#### **6.0 Payment**

Any additional labor and testing equipment that is required to fabricate and test the KYCT and Hamburg specimens shall be considered to be incidental to the asphalt surface line item. The Department will perform the testing for the KYCT and Hamburg specimens if a producer does not possess the proper equipment.

June 3, 2019

## SPECIAL NOTE FOR SPRAY APPLIED THERMOPLASTIC PAVEMENT MARKING MATERIALS

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### I. DESCRIPTION

Except as provided herein, all work shall be performed in accordance with the Department’s Standard Specifications, Interim Supplemental Specifications, applicable Standard and Sepia Drawings, applicable Special Provisions and Special Notes, current editions. Article references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials and incidentals for the following:

- (1) Spray applied thermoplastic pavement marking materials with reflectorized glass beads for permanent applications

### II. MATERIALS

- A. **DROP ON BEADS.** Use beads that will ensure the pavement marking material will meet retroreflectivity requirements. The Department will evaluate the beads as part of the marking system through retroreflectivity readings.
- B. **APPROVAL.** Select materials that conform to the composition and physical characteristic requirements below when evaluated in accordance with AASHTO T-250 or other test methods as cited. The Department will sample and evaluate for approval each lot of thermoplastic material delivered for use per contract prior to installation of the thermoplastic material. Do not allow the installation of thermoplastic material until it has been approved by the Division of Materials. Allow the Department a minimum of 10 working days to evaluate and approve thermoplastic material from the date sampled.
- C. **Composition.** Use a maleic-modified glycerol ester resin (alkyd binder) to formulate the thermoplastic material. Ensure the pigment, pre-mix beads, and filler are uniformly dispersed in the resin. Use material that is free from all dirt and foreign material. Provide independent analysis data and certification for each formulation stating the total concentration of each heavy metal present, the test method used for each determination, and compliance to 40 CFR 261 for leachable heavy metals content.

<b>COMPOSITION</b> (Percentage by Weight)		
Component	White	Yellow
Binder, <sup>(1)</sup>	26.0 min.	26.0 min.
Glass Beads (Premixed)	30 - 40	30 - 40
Titanium Dioxide (Rutile, Type II)	10.0 min.	—
Calcium Carbonate & Inert Fillers <sup>(2)</sup>	42.0 max.	50.0 max.
Heavy Metals Content	Comply with 40 CFR 261	Comply with 40 CFR 261

<sup>(1)</sup>Use a binder that consists of a mixture of synthetic resins, at least one being solid at room temperature, and high boiling point plasticizers. Ensure that at least one-third of the binder composition is solid maleic-modified glycerol ester resin and is not less than 8 percent by weight of the entire material formulation. Do not use alkyd binder that contains petroleum based hydrocarbon resins.

<sup>(2)</sup>The manufacturer may choose the amount of calcium carbonate and inert fillers, providing all other requirements of this section are met.

Spray Applied Thermoplastic  
 Page 2 of 3

**D. Physical Characteristics.** For thermoplastic material heated for 4 hours at 425°F under agitation, conform to the following requirements.

a) **Color.** As determined with a spectrophotometer using D65 illuminant with a 45 degree entrance angle and 0 degree observation angle geometry.

CIELAB Color Coordinates		
	Yellow	White
Daytime Color (CIELAB) Spectrophotometer using illuminant D65 at 45° illumination and 0° viewing with a 2° observer	L* 81.76 a* 19.79 b* 89.89 Maximum allowable variation 6.0ΔE*	L* 93.51 a* -1.01 b* 0.70 Maximum allowable variation 6.0ΔE*
Nighttime Color (CIELAB) Spectrophotometer using illuminant A at 45° illumination and 0° viewing with a 2° observer	L* 86.90 a* 24.80 b* 95.45 Maximum allowable variation 6.0ΔE*	L* 93.45 a* -0.79 b* 0.43 Maximum allowable variation 6.0ΔE*

b) **Set Time.** Use material that, when applied at a temperature range of 375 ± 25 °F and thickness of 60 ± 10 mils, sets to bear traffic in not more than 2 minutes when the air and road surface temperature is approximately ≥ 50 ± 3 °F, and not more than 10 minutes when the air and road surface temperature is approximately < 50 ± 3 °F.

c) **Softening Point.** Ensure that the thermoplastic material has a softening point of 180 ± 15 °F.

d) **Bond Strength.** Ensure that the bond strength of the thermoplastic material to concrete exceeds 180 psi.

e) **Cracking Resistance at Low Temperature.** Ensure that the thermoplastic material shows no cracks when observed from a distance exceeding one foot.

f) **Impact Resistance.** Ensure the impact resistance of the thermoplastic material is a minimum of 50 inch-pounds.

g) **Flash Point.** Use thermoplastic material that has a flash point not less than 475 °F.

**E. PACKAGING.** Package thermoplastic material in suitable 50 pound containers to which the material shall not adhere during shipment or storage. Include a label stating that the thermoplastic material is to be maintained with a temperature range of 350 – 400°F during application. Provide the thermoplastic material in granular form.

**F. SHELF LIFE.** Ensure that the thermoplastic material conforms to this section for a period of one year. Replace any thermoplastic material not conforming to the above requirements.

**G. MANUFACTURER’S TESTING.** Perform testing in accordance with AASHTO T-250 on a minimum of one composite sample per 10,000 pounds, or portion thereof, per lot of thermoplastic produced.

**H. CERTIFICATION.** Submit manufacturer’s certification stating conformance to the requirements of this section for each lot of extruded thermoplastic delivered for use on projects. Clearly state the manufacture, formulation identification, product name, color, date of manufacturer, total quantity of lot produced, actual quantity of thermoplastic material represented, sampling method utilized to obtain the samples, and required manufacturer’s testing data for each composite sample tested to represent each lot produced.

### III. CONSTRUCTION METHODS

- A. **SURFACE PREPARATION.** The contractor will be required to sweep all pavement surfaces prior to striping and maintain the cleaning operation far enough in advance of the striping operation to prevent any dust from the cleaning operation from mixing with the paint. The sweeper must maintain contact with the roadway. When the Engineer determines abnormal amounts of debris or other material have accumulated beyond the capability of the required sweeping unit which will require shoveling or other means to remove, the Engineer will make arrangements, prior to painting, to have the material removed by the Department.
- B. **INSTALLATION.** Install thermoplastic materials in accordance with Section 714, Durable Pavement Striping, and the following exceptions:
  - Install the thermoplastic materials at a minimum thickness of 60 mils.
  - Ensure the material temperature is maintained between 350 and 400°F.
  - Do not allow the material temperature to exceed 400°F.
  - Removal of existing stripe on asphalt surfaces is not required.
- C. **RETROREFLECTIVITY.** The Department will evaluate installed markings in accordance with Section 714.03.06, Proving Period for Durable Markings.

### IV. METHOD OF MEASUREMENT

- A. **ACCEPTANCE AND PAYMENT.** The Department will accept spray applied thermoplastic materials based on compliance of the manufacturer’s certification and conformance of test results obtained by the Department to the requirements of this special note.

Contrary to Section 714.03.08, Acceptance of Non-Specification Thermoplastic Markings, the Department will not accept non-specification compliant markings. Remove non-specification compliant markings by water blasting. The Department will perform random thickness tests on applied markings to determine compliance to thickness requirements

### IV. BASIS OF 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>
24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF
24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF

The Department will consider payment as full compensation for furnishing all labor, materials, equipment, and incidentals required to construct spray applied thermoplastic pavement markings.



## SPECIAL NOTE FOR INTELLIGENT COMPACTION OF ASPHALT MIXTURES

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction current edition.

**1.0 DESCRIPTION.** Provide and use Intelligent Compaction (IC) Rollers for compaction of all asphalt mixtures.

**2.0 MATERIALS AND EQUIPMENT.** In addition to the equipment specified in Subsection 403.02, a minimum of one (1) IC roller is to be used on the project at all times, two (2) IC rollers will be required when the paving train consists of three (3) or more rollers. The Contractor is to only use the IC roller(s) for compaction as the breakdown and/or intermediate roller(s). All IC rollers will meet the following minimum characteristics:

1. Are self propelled double-drum vibratory rollers equipped with accelerometers mounted in or about the drum to measure the interactions between the rollers and compacted materials in order to evaluate the applied compactive effort. The IC rollers must have the approval of the Engineer prior to use. Examples of rollers equipped with IC technology can be found at [www.IntelligentCompaction.com](http://www.IntelligentCompaction.com).
2. Are equipped with non-contact temperature sensors for measuring pavement surface temperatures.
3. The output from the roller is designated as the IC-MV which represents the stiffness of the materials based on the vibration of the roller drums and the resulting response from the underlying materials.
4. Are equipped with integrated on-board documentation systems that are capable of displaying real-time color-coded maps of IC measurement values including the stiffness response values, location of the roller, number of roller passes, machine settings, together with the material temperature, speed and the frequency and amplitude of roller drums. Ensure the display unit is capable of transferring the data by means of a cloud based system.
5. Are equipped with a mounted Global Positioning System GPS radio and receiver either a Real Time Kinematic (RTK-GPS) or Global Navigational Satellite System (GNSS) units that monitor the location and track the number of passes of the rollers. Accuracy of the positioning system is to be a minimum of 12 inches. Data is to be transferred to the Cabinet via a cloud based system within 30 minutes of collection.

**3.0 WORK PLAN.** Submit to the Engineer an IC Work Plan at the Preconstruction Conference and at least 2 weeks prior to beginning construction. Describe in the work plan the following:

1. Compaction equipment to be used including:
  - Vendor(s)
  - Roller model(s),
  - Roller dimensions and weights,
  - Description of IC measurement system,
  - GPS capabilities,
  - Documentation system,
  - Temperature measurement system, and
  - Software.
2. Roller data collection methods including sampling rates and intervals and data file types.
3. Transfer of data to the Engineer including method, timing, and personnel responsible. At the preconstruction meeting, provide the Cabinet with rights to allow for web access to the data file location. Access to the data is not to be hindered in any way. The Contractor will provide the Cabinet with any vendor specific software, user id, passwords, etc. needed to access the data through this service, cost of this access is incidental to the thermal profile bid item. The Cabinet is to have access to all data as it is being collected. If a third party is used for collecting and distributing the data the Cabinet is to have the same access rights and time as the Contractor.
4. Training plan and schedule for roller operators, project foreman, project surveyors, and Cabinet personnel; including both classroom and field training. Training should be conducted at least 1 week before beginning IC construction. The training is to be performed by a qualified representative(s) from the IC Roller manufacture(s) to be used on the project. This training shall include how to access and use the data from the cloud data source.

**4.0 CONSTRUCTION.** Do not begin work until the Engineer has approved the IC submittals and the IC equipment.

Follow requirements established in Section 400 for production and placement, materials, equipment, acceptance plans and adjustments except as noted or modified in this Specification. Provide the Engineer at least one day's notice prior to beginning construction or prior to resuming production if operations have been temporarily suspended. Ensure paving equipment complies with all requirements specified in Section 400. The IC roller temperatures will be evaluated by the Department with the data from a Paver Mounted Infrared Temperature Gauge.

A. Pre-Construction Test Section(s) Requirements.

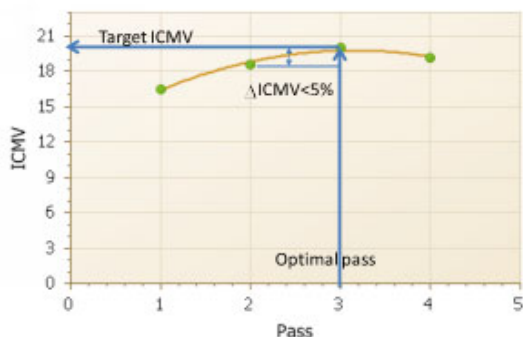
Three to five days prior to the start of production, ensure the proper setup of the GPS, IC roller(s) and the rover(s) by conducting joint GPS correlation and verification testing between the Contractor, GPS representative and IC roller manufacturer using the same datum.

1. Ensure GPS correlation and verification testing includes the following minimum processes:
  - a. Establish the GPS system to be used either one with a base station or one with mobile receivers only. Ensure all components in the system are set to the correct coordinate system; then,
  - b. Verify that the roller and rover are working properly and that there is a connection with the base station; then,
  - c. Record the coordinates of the two edges where the front drum of the roller is in contact with the ground from the on-board, color-coded display; then,
  - d. Mark the locations of the roller drum edges and move the roller, and place the mobile receiver at each mark and record the readings; then,
2. Compare coordinates between the roller and rover receivers. If the coordinates are within 12.0 in. of each other, the comparison is acceptable. If the coordinates are not within 12.0 in., diagnose and perform necessary corrections and repeat the above steps until verification is acceptable.
3. Do not begin work until acceptable GPS correlation and verification has been obtained.
4. The Contractor and the Department should conduct random GPS verification testing during production to ensure data locations are accurate. The recommended rate is once per day with a requirement of at least once per week.
5. All acceptance testing shall be as outlined in Standard Specifications section 400.

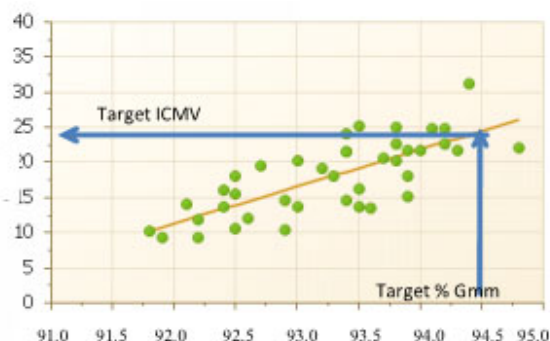
B. Construction Test Section(s) Requirements.

Construct test section(s) at location(s) agreed on by the Contractor and the Engineer within the project limits. The test section is required to determine a compaction curve of the asphalt mixtures in relationship to number of roller passes and to the stiffness of mixture while meeting the Department in-place compaction requirements. All rollers and the respective number of passes for each is to be determined via control strip each time a material change, equipment change or when the Engineer deems necessary.

Conduct test section(s) on every lift and every asphalt mixture. Ensure test section quantities of 500 to 1,000 tons of mainline mixtures. Operate IC rollers in the low to medium amplitude range and at the same settings (speed, frequency) throughout the section while minimizing overlapping of the roller, **the settings are to be used throughout the project with no changes**. After each roller pass, the qualified technician from the contractor observed by the Department will use a nondestructive nuclear gauge that has been calibrated to the mixture to estimate the density of the asphalt at 10 locations uniformly spaced throughout the test section within the width of a single roller pass. The density readings and the number of roller passes needed to achieve the specified compaction will be recorded. The estimated target density will be the peak of the average of the nondestructive readings within the desired compaction temperature range for the mixture. The IC roller data in conjunction with the Veda software will create an IC compaction curve for the mixture. The target IC-MV is the point when the increase in the IC-MV of the material between passes is less than 5 percent on the compaction curve. The IC compaction curve is defined as the relationship between the IC-MV and the roller passes. A compaction curve example is as follows:



Subsequent to the determination of the target IC-MV, compact an adjoining > 250 < 500 tons section using same roller settings and the number of estimated roller passes and allow the Department to verify the compaction with the same calibrated nondestructive nuclear gauge following the final roller pass. **The Department will obtain cores at 10 locations (No cores for calibration are to be taken in the surface layer, use non-destructive density results only!!)** uniformly spaced throughout the test section within the width of the single roller. Obtain GPS measurement of the core locations with a GPS rover. Use the Veda software to perform least square linear regression between the core data and IC-MV in order to correlate the production IC-MV values to the Department specified in-place air voids. A sample linear regression curve example is as follows.



C. Construction Requirements.

Use the IC roller on all lifts and types of asphalt within the limits of the project.

Ensure the optimal number of roller passes determined from the test sections has been applied to a minimum coverage of 80% of the individual IC Construction area. Ensure a minimum of 75% of the individual IC Construction area meets the target IC-MV values determined from the test sections.

Do not continue paving operations if IC Construction areas not meeting the IC criteria are produced until they have been investigated by the Department. Obtain the Engineer’s approval to resume paving operations. Non-IC rollers are allowed to be used as the third roller on the project; one of the breakdown or the finish rollers is to be equipped with IC technology.

IC Construction areas are defined as subsections of the project being worked continuously by the Contractor. The magnitude of the IC Construction areas may vary with production but must be at least 750 tons per mixture for evaluation. Partial IC Construction areas of < 750 tons will be included in the previous area evaluation. IC Construction areas may extend over multiple days depending on the operations.

The IC Construction Operations Criteria does not affect the Department’s acceptance processes for the materials or construction operations

**5.0 MEASUREMENT.** The Department will measure the total tons of asphalt mixtures compacted using the IC roller(s). Compaction is to be performed by a minimum of one (1) IC roller for a two (2) roller operation and a minimum of two (2) IC rollers when three (3) or more rollers are used for compaction. Material compacted by rollers not equipped with properly functioning IC equipment will not be accepted for payment of the bid item asphalt mixtures IC rolled. Use of

non-IC rollers can be accepted on small areas due to equipment malfunctions at the written approval of the Engineer. Paving operations should be suspended for equipment malfunctions that will extend over three days of operation.

Data is to be transferred to the cabinet in usable form no later than 30 minutes after collection. Data is to be transferred via a cloud based system.

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

1. Payment is full compensation for all work associated with providing IC equipped rollers, laptop computer, transmission of electronic data files, two copies of IC roller manufacturer software, and training.
2. Delays due to GPS satellite reception of signals to operate the IC equipment or IC roller breakdowns will not be considered justification for contract modifications or contract extensions.
3. Delays in data transfer will result in a reduction payment. Delays over 1 hour after collection are 75% pay, over 90 minutes are 50% pay, over 2 hours are 25% pay.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24781EC	Intelligent Compaction for Asphalt	Ton

March 14, 2019

## SPECIAL NOTE FOR PAVER MOUNTED TEMPERATURE PROFILES

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction current edition.

**1.0 DESCRIPTION.** Provide a paver mounted infrared temperature equipment to continually monitor the temperature of the asphalt mat immediately behind all paver(s) during the placement operations for all mainline pavements (including ramps for Interstates and Parkways) within the project limits. Provide thermal profiles that include material temperature and measurement locations.

**2.0 MATERIALS AND EQUIPMENT.** In addition to the equipment specified in Subsection 403.02 Utilize a thermal equipment supplier that can provide a qualified representative for on-site technical assistance during the initial setup, pre-construction verification, and data management and processing as needed during the Project to maintain equipment within specifications and requirements.

Provide operator settings, user manuals, required viewing/export software for analysis. Ensure the temperature equipment will meet the following:

- A. A device with one or more infrared sensors that is capable of measuring in at least 1 foot intervals across the paving width, with a minimum width of 12 feet, or extending to the recording limits of the equipment, whichever is greater. A **Maximum of two (2)** brackets are allowed in the influence area under the sensors. A temperature profile must be made on at least 1 foot intervals longitudinally down the road:
- B. Infrared sensor(s):
  1. Measuring from 32°F to 400°F with an accuracy of  $\pm 2.0\%$  of the sensor reading.
- C. Ability to measure the following:
  1. The placement distance using a Global Positioning System (GPS) or a Distance Measuring Instrument (DMI) and a Global Positioning System (GPS).
  2. Stationing
- D. GPS: Accuracy  $\pm 4$  feet in the X and Y Direction
- E. Latest version of software to collect, display, retain and analyze the mat temperature readings during placement. The software must have the ability to create and analyze:
  1. Full collected width of the thermal profiles,
  2. Paver speed and
  3. Paver stops and duration for the entire Project.
- F. Ability to export data automatically to a remote data server ("the cloud").

At the preconstruction meeting, provide the Cabinet with rights to allow for web access to the data file location. Access to the data is not to be hindered in any way. The Contractor will provide the Cabinet with any vendor specific software, user id, passwords, etc. needed to access the data through this service, cost of this access is incidental to the thermal profile bid item. The Cabinet is to have access to all data as it is being collected. If a third party is used for collecting and distributing the data the Cabinet is to have the same access rights and time as the Contractor.

This web-based software must also provide the Department with the ability to download the raw files and software and to convert them into the correct format.
- G. The thermal profile data files must provide the following data in a neat easy to read table format.
  1. Project information including Road Name and Number, PCN, Beginning and Ending MPs.
  2. IR Bar Manufacturer and Model number
  3. Number of Temperature Sensors (N)
  4. Spacing between sensors and height of sensors above the asphalt mat
  5. Total number of individual records taken each day (DATA BLOCK)
    - a. Date and Time reading taken
    - b. Latitude and Longitude
    - c. Distance paver has moved from last test location
    - d. Direction and speed of the paver
    - e. Surface temperature of each of the sensors

**3.0 CONSTRUCTION.** Provide the Engineer with all required documentation at the pre-construction conference.

- A. Install and operate equipment in accordance with the manufacturer’s specifications.
- B. Verify that the temperature sensors are within  $\pm 2.0\%$  using an independent temperature device on a material of known temperature. Collect and compare the GPS coordinates from the equipment with an independent measuring device.
  - 1. Ensure the independent survey grade GPS measurement device is calibrated to the correct coordinate system (using a control point), prior to using these coordinates to validate the equipment GPS.
  - 2. The comparison is considered acceptable if the coordinates are within 4 feet of each other in the X and Y direction.
- C. Collect thermal profiles on all mainline pavements during the paving operation and transfer the data to the “cloud” network or if automatic data transmission is not available, transfer the data to the Engineer at the end of daily paving.
- D. Contact the Department immediately when System Failure occurs. Daily Percent Coverage will be considered zero when the repairs are not completed within two (2) working days of System Failure. The start of this two (2) working day period begins the next working day after System Failure.
- E. Evaluate thermal profile segments, every 150 feet, and summarize the segregation of temperature results. Results are to be labeled as Minimal 0°-25°F, Moderate 25.1°-50°F and Severe >50°. Severe readings over 3 consecutive segments or over 4 or more segments in a day warrant investigation on the cause of the differential temperature distribution.

**4.0 MEASUREMENT.** The Department will measure the total area of the pavement lanes mapped by the infrared scanners. Full payment will be provided for all lanes with greater than 85% coverage. Partial payment will be made for all areas covered from 50% coverage to 85% coverage at the following rate Coverage area percentage X Total bid amount. And area with less than 50% coverage will not be measured for payment.

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

- 1. Payment is full compensation for all work associated with providing all required equipment, training, and documentation.
- 2. Delays due to GPS satellite reception of signals or equipment breakdowns will not be considered justification for contract modifications or contract extensions.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24891EC	Pave Mount Infrared Temp Equipment	Square Foot

March 14, 2019

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES	TC 62-226 Rev. 01/2016 Page 1 of 1
<b>RIGHT OF WAY CERTIFICATION</b>		

<input checked="" type="checkbox"/> Original	<input type="checkbox"/> Re-Certification	<b>RIGHT OF WAY CERTIFICATION</b>	
ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
01-20027.00	CARLISLE	FD52 020 0051 007-013	STP 0511 (049)

**PROJECT DESCRIPTION**

ADDRESS PAVEMENT CONDITION ON US-51 FROM MP 7.86 TO MP 12.66.

**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)**

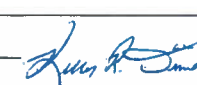
The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, 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	0	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	Greg L. Morgan
Signature		Signature	Digitally signed by Greg L. Morgan Date: 2019.08.09 07:47:53 -05'00'
Date		Date	
<b>Right of Way Director</b>		<b>FHWA</b>	
Printed Name		Printed Name	<b>No Signature Required</b>
Signature		Signature	<b>as per FHWA-KYTC</b>
Date	2019.08.09 14:34:11 -05'00'	Date	<b>Current Stewardship Agreement</b>

## UTILITIES AND RAIL CERTIFICATION NOTE

**CARLISLE COUNTY, STP 0511(049)  
FD52 020 0051 007-013, FD05 020 007-013  
MAYFIELD-WICKLIFFE ROAD (US 51)/ASPHALT RESURFACING  
ITEM NUMBER 1-20027.00**

*Utility coordination efforts conducted by the project sponsor have 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. The contractor will be responsible for any coordination or adjustments that are discussed or quantified in the proposal.*

### 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 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.



## UTILITIES AND RAIL CERTIFICATION NOTE

**CARLISLE COUNTY, STP 0511(049)  
FD52 020 0051 007-013, FD05 020 007-013  
MAYFIELD-WICKLIFFE ROAD (US 51)/ASPHALT RESURFACING  
ITEM NUMBER 1-20027.00**

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 AS PROVIDED BY KY 811**

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
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# MATERIAL SUMMARY

**CONTRACT ID: 191237**

**020GR19P066 - STP & FD05**

**DE02000511937**

US 51 ADDRESS PAVEMENT CONDITION ON US 51 ASPHALT PAVEMENT & ROADWAY REHAB, A DISTANCE OF 4.8 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	01691	FLUME INLET TYPE 2	10.00	EACH
0010	01890	ISLAND HEADER CURB TYPE 1	350.00	LF
0015	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	210.00	EACH
0020	02351	GUARDRAIL-STEEL W BEAM-S FACE	9,625.00	LF
0025	02355	GUARDRAIL-STEEL W BEAM-S FACE A	200.00	LF
0030	02360	GUARDRAIL TERMINAL SECTION NO 1	8.00	EACH
0035	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	14.00	EACH
0040	02367	GUARDRAIL END TREATMENT TYPE 1	24.00	EACH
0045	02381	REMOVE GUARDRAIL	6,025.00	LF
0050	02483	CHANNEL LINING CLASS II	250.00	TON
0055	02562	TEMPORARY SIGNS	500.00	SQFT
0060	02565	OBJECT MARKER TYPE 2	12.00	EACH
0065	02650	MAINTAIN & CONTROL TRAFFIC - (STP)	1.00	LS
0070	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0075	02676	MOBILIZATION FOR MILL & TEXT - (STP)	1.00	LS
0080	06510	PAVE STRIPING-TEMP PAINT-4 IN	50,635.00	LF
0085	06556	PAVE STRIPING-DUR TY 1-6 IN W	860.00	LF
0090	06557	PAVE STRIPING-DUR TY 1-6 IN Y	573.00	LF
0095	06568	PAVE MARKING-THERMO STOP BAR-24IN	95.00	LF
0100	06600	REMOVE PAVEMENT MARKER TYPE V	622.00	EACH
0105	08801	GUARDRAIL-STEEL W BEAM-S FACE BR	100.00	LF
0110	20191ED	OBJECT MARKER TY 3	24.00	EACH
0115	24489EC	INLAID PAVEMENT MARKER	622.00	EACH
0120	24781EC	INTELLIGENT COMPACTION FOR ASPHALT	7,396.00	TON
0125	24891EC	PAVE MOUNT INFRARED TEMP EQUIPMENT	547,153.00	SF
0130	24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W	49,775.00	LF
0135	24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	31,443.00	LF
0140	02569	DEMOBILIZATION	1.00	LS

# MATERIAL SUMMARY

**CONTRACT ID: 191237**

**020GR19P066 - STP & FD05**

**MP02000511901**

BARDWELL TO ARLINGTON ROAD (US 51) BEGIN AT THE CARLISLE/BALLARD COUNTY LINE EXTENDING NORTH TO 69 FEET NORTH OF US 62 ASPHALT RESURFACING, A DISTANCE OF 4.79 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0145	02562	TEMPORARY SIGNS	300.00	SQFT
0150	00001	DGA BASE	1,295.00	TON
0155	00301	CL2 ASPH SURF 0.38D PG64-22	6,196.00	TON
0160	00190	LEVELING & WEDGING PG64-22	1,200.00	TON
0165	00356	ASPHALT MATERIAL FOR TACK	45.00	TON
0170	02677	ASPHALT PAVE MILLING & TEXTURING	286.00	TON
0175	10030NS	ASPHALT ADJUSTMENT - (FD05)	28,915.00	DOLL
0180	10020NS	FUEL ADJUSTMENT	11,512.00	DOLL
0185	02650	MAINTAIN & CONTROL TRAFFIC - (FD05)	1.00	LS
0190	02676	MOBILIZATION FOR MILL & TEXT - (FD05)	1.00	LS
0195	02569	DEMOBILIZATION	1.00	LS

# GUARDRAIL DELIVERY VERIFICATION SHEET

Contract Id: \_\_\_\_\_

Contractor: \_\_\_\_\_

Section Engineer: \_\_\_\_\_

District & County: \_\_\_\_\_

<u>DESCRIPTION</u>	<u>UNIT</u>	<u>QTY LEAVING PROJECT</u>	<u>QTY RECEIVED@BB YARD</u>
GUARDRAIL (Includes End treatments & crash cushions)	LF	_____	_____
STEEL POSTS	EACH	_____	_____
STEEL BLOCKS	EACH	_____	_____
WOOD OFFSET BLOCKS	EACH	_____	_____
BACK UP PLATES	EACH	_____	_____
CRASH CUSHION	EACH	_____	_____
NUTS, BOLTS, WASHERS	BAG/BCKT	_____	_____
DAMAGED RAIL TO MAINT. FACILITY	LF	_____	_____
DAMAGED POSTS TO MAINT. FACILITY	EACH	_____	_____

**\*Required Signatures before Leaving Project Site**

Printed Section Engineer's Representative \_\_\_\_\_ & Date \_\_\_\_\_

Signature Section Engineer's Representative \_\_\_\_\_ & Date \_\_\_\_\_

Printed Contractor's Representative \_\_\_\_\_ & Date \_\_\_\_\_

Signature Contractor's Representative \_\_\_\_\_ & Date \_\_\_\_\_

**\*Required Signatures after Arrival at Bailey Bridge Yard (All material on truck must be counted & the quantity received column completed before signatures)**

Printed Bailey Bridge Yard Representative \_\_\_\_\_ & Date \_\_\_\_\_

Signature Bailey Bridge Yard Representative \_\_\_\_\_ & Date \_\_\_\_\_

Printed Contractor's Representative \_\_\_\_\_ & Date \_\_\_\_\_

Signature Contractor's Representative \_\_\_\_\_ & Date \_\_\_\_\_

\*\*Payment for the bid item remove guardrail will be based upon the quantities shown in the Bailey Bridge Yard received column. Payment will not be made for guardrail removal until the guardrail verification sheets are electronically submitted to the Section Engineer by the Bailey Bridge Yard Representative.

Completed Form Submitted to Section Engineer Date: \_\_\_\_\_ By: \_\_\_\_\_

**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

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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.

## PROJECT WAGE RATES / FEDERAL FUNDED

The contractor shall use the Davis-Bacon Act Wage Determinations for Highway construction that are effective 10 calendar days prior to the letting date. The project wage determinations can be found at the following link.

[https://beta.sam.gov/search?index=wd&date\\_filter\\_index=0&date\\_rad\\_selection=date&wdType=dbra&construction\\_type=Highway&state=KY&page=1](https://beta.sam.gov/search?index=wd&date_filter_index=0&date_rad_selection=date&wdType=dbra&construction_type=Highway&state=KY&page=1)

The Division of Construction Procurement will post the official Wage Determinations for each Letting at <https://transportation.ky.gov/Construction-Procurement/Pages> under Lettings - Proposal Information - Wage Determinations.

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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>
5.2%	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 Carlisle County.

**PART IV**  
**INSURANCE**

Refer to  
*Kentucky Standard Specifications for Road and Bridge Construction,*  
current edition

**PART V**  
**BID ITEMS**

**PROPOSAL BID ITEMS**

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**Section: 0001 - PAVING**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	1,295.00	TON		\$	
0020	00190		LEVELING & WEDGING PG64-22	1,200.00	TON		\$	
0030	00301		CL2 ASPH SURF 0.38D PG64-22	6,196.00	TON		\$	
0040	00356		ASPHALT MATERIAL FOR TACK	45.00	TON		\$	
0050	02562		TEMPORARY SIGNS	300.00	SQFT		\$	
0060	02650		MAINTAIN & CONTROL TRAFFIC (FD05)	1.00	LS		\$	
0070	02676		MOBILIZATION FOR MILL & TEXT (FD05)	1.00	LS		\$	
0080	02677		ASPHALT PAVE MILLING & TEXTURING	286.00	TON		\$	
0090	10020NS		FUEL ADJUSTMENT	11,512.00	DOLL	\$1.00	\$	\$11,512.00
0100	10030NS		ASPHALT ADJUSTMENT (FD05)	28,915.00	DOLL	\$1.00	\$	\$28,915.00

**Section: 0002 - ROADWAY**

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0110	01691		FLUME INLET TYPE 2	10.00	EACH		\$	
0120	01890		ISLAND HEADER CURB TYPE 1	350.00	LF		\$	
0130	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	210.00	EACH		\$	
0140	02351		GUARDRAIL-STEEL W BEAM-S FACE	9,625.00	LF		\$	
0150	02355		GUARDRAIL-STEEL W BEAM-S FACE A	200.00	LF		\$	
0160	02360		GUARDRAIL TERMINAL SECTION NO 1	8.00	EACH		\$	
0170	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	14.00	EACH		\$	
0180	02367		GUARDRAIL END TREATMENT TYPE 1	24.00	EACH		\$	
0190	02381		REMOVE GUARDRAIL	6,025.00	LF		\$	
0200	02483		CHANNEL LINING CLASS II	250.00	TON		\$	
0210	02562		TEMPORARY SIGNS	500.00	SQFT		\$	
0220	02565		OBJECT MARKER TYPE 2	12.00	EACH		\$	
0230	02650		MAINTAIN & CONTROL TRAFFIC (STP)	1.00	LS		\$	
0240	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0250	02676		MOBILIZATION FOR MILL & TEXT (STP)	1.00	LS		\$	
0260	06510		PAVE STRIPING-TEMP PAINT-4 IN	50,635.00	LF		\$	
0270	06556		PAVE STRIPING-DUR TY 1-6 IN W	860.00	LF		\$	
0280	06557		PAVE STRIPING-DUR TY 1-6 IN Y	573.00	LF		\$	
0290	06568		PAVE MARKING-THERMO STOP BAR-24IN	95.00	LF		\$	
0300	06600		REMOVE PAVEMENT MARKER TYPE V	622.00	EACH		\$	
0310	08801		GUARDRAIL-STEEL W BEAM-S FACE BR	100.00	LF		\$	
0320	20191ED		OBJECT MARKER TY 3	24.00	EACH		\$	
0330	24489EC		INLAID PAVEMENT MARKER	622.00	EACH		\$	
0340	24781EC		INTELLIGENT COMPACTION FOR ASPHALT	7,396.00	TON		\$	
0350	24891EC		PAVE MOUNT INFRARED TEMP EQUIPMENT	547,153.00	SF		\$	
0360	24995EC		PAVE STRIPING-SPRAY THERMO-6 IN W	49,775.00	LF		\$	
0370	24996EC		PAVE STRIPING-SPRAY THERMO-6 IN Y	31,443.00	LF		\$	



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### Section: 0003 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0380	02569		DEMOBILIZATION	1.00	LS		\$	