



**CALL NO. 330**

**CONTRACT ID. 192134**

**BULLITT COUNTY**

**FED/STATE PROJECT NUMBER FD04 015 0404 000-001**

**DESCRIPTION COLEBURG ROAD (KY 434)**

**WORK TYPE SLIDE REPAIR**

**PRIMARY COMPLETION DATE 10/31/2019**

**LETTING DATE: March 22,2019**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME March 22,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

**NO PLANS ASSOCIATED WITH THIS PROJECT.**

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

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- EXECUTIVE BRANCH CODE OF ETHICS
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**PART I**  
**SCOPE OF WORK**

## ADMINISTRATIVE DISTRICT - 05

**CONTRACT ID - 192134**

**FD04 015 0404 000-001**

**COUNTY - BULLITT**

**PCN - MP01504341901**

**FD04 015 0434 000-001**

COLEBURG ROAD (KY 434) (MP 0.053) FROM ROLLING FORK RIVER BRIDGE EXTENDING NORTH TO 600 FEET  
NORTH OF ROLLING FORK RIVER BRIDGE (MP 0.163), A DISTANCE OF 0.11 MILES. SYP NO. 05--5014.  
GEOGRAPHIC COORDINATES LATITUDE 37:47:22.00 LONGITUDE 84:44:52.00

**COMPLETION DATE(S):**

COMPLETED BY 10/31/2019

SPECIFIED COMPLETION DATE -  
ALL ITEMS IN 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



## **SPECIAL NOTE FOR RECIPROCAL PREFERENCE**

### **RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS**

By reference, KRS 45A.490 to 45A.494 are incorporated herein and in compliance regarding the bidders residency. Bidders who want to claim resident bidder status should complete the Affidavit for Claiming Resident Bidder Status along with their bid in the electronic bidding software. Submittal of the Affidavit should be done along the bid in Bid Express.

April 30, 2018

### **SURFACING AREAS**

The Department estimates the mainline surfacing width to be 22 feet.

The Department estimates the total mainline area to be surfaced to be 1,550 square yards.

The Department estimates the shoulder width to be 1 foot on each side.

The Department estimates the total shoulder area to be surfaced is 130 square yards.

### **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-110-07 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.

### **OPTION B**

Be advised that the Department will control and accept compaction of asphalt mixtures furnished on this project under OPTION B in accordance with Sections 402 and 403.

## SPECIAL NOTES FOR SLIDE REPAIR

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### I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's 2012 Standard and Supplemental Specifications and Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications. Furnish all equipment, labor, materials, and incidentals for the following work:

(1) Maintain and Control Traffic; (2) Site Preparation; (3) Erosion Control; (4) Excavation and removal of Soil Nails and Micropiles; and (5) Channel Lining and Granular Embankment; and (6) Pavement and Shoulder Restoration; and (7) Remove and Replace Guardrail; and (8) Staking; and (9) All other work specified as part of this contract.

### II. MATERIALS

Provide for sampling and testing of materials in accordance with the Department's Sampling Manual. Unless otherwise specified herein, make materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

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

**B, Erosion Control.** See Special Note Erosion Control.

**C. Channel Lining.** Furnish Class III Channel Lining. See Section 703.

**D. Geotextile Fabric.** Furnish Geotextile fabric Type IV. See Section 843.

**E. Granular Embankment.** Contrary to Section 805.10, Furnish Crushed Limestone Aggregate Size No. 23 meeting the requirements of Section 805. Do not use excavated spoil salvaged from the existing roadway. The Engineer will use visual inspection and/or material testing as applicable to determine acceptability.

**F. Pavement and Shoulder Restoration.** Use Dense Graded Aggregate (DGA), Class 2 Asphalt Base 1.00D PG 64-22, and Class 2 Asphalt Surface 0.38D PG64-22. Do not use Crushed Stone Base in lieu of DGA.

**G. Guardrail.** See Special Notes for Guardrail.

### III. CONSTRUCTION METHODS

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

**B. Erosion Control.** See Special Note for Erosion Control.

**C. Staking.** See Special Note For Staking.

**D. Site Preparation and Earthwork.** Be responsible for all Site Preparation, including but not limited to, clearing and grubbing; roadway and special excavation; sweeping and/or otherwise removing debris from pavement and shoulders; saw cutting pavement and pavement and shoulder removal; removal of obstructions or any other items; disposal of materials; and final dressing and restoration. Clear and grub the minimum areas required to perform the other items of work; the Department has not determined the exact acreage of clearing and grubbing and the bidder must draw his own conclusions. Excavate as shown on the cross sections. Remove Soil Nails and Micropiles from the existing embankment. Provide for positive drainage during and upon completion of construction. Perform all site preparation only as approved or directed by the Engineer. Dispose of excavation, waste, and debris off the right-of-way at sites obtained by the Contractor at no additional cost to the Department. See special Note for Waste and Borrow. After excavation, use Geotextile fabric Type IV, Channel Lining Class III, and Crushed Limestone Size No. 23 as shown on the cross-sections or as directed by the Engineer to construct the embankment. Do not use excavated spoil or rock salvaged from the existing roadway as fill material.

**E. Restoration.** Consider the extents and depths on the drawings to be approximate only; the Engineer will determine exact locations at the time of construction. Warp and tie the slopes into the adjacent existing roadway to match existing slopes and ditches. Provide positive drainage of pavement, shoulders, slopes, and ditches at all times during and upon completion of construction.

**F. Pavement & Shoulders.** Restore pavement and shoulders as shown on the typical sections and as directed by the Engineer. Wedge drop-offs greater than 1 inch with DGA.

**G. Guardrail.** See Special Notes for Guardrail.

**H. Final Dressing, Clean Up, and Seeding.** After all work is completed, perform Class A Final Dressing on all disturbed areas, both on and off the Right of-Way. Dispose of all waste and debris off the right of way at sites obtained by the Contractor at no additional cost to the Department. See Special Note for Waste and Borrow and Special Note for Erosion Control for additional requirements.

Slide Repair  
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**I. Property Damage.** Be responsible for all damage to public and/or private property resulting from the work. Restore all damaged property and other disturbed areas in like kind materials and design or as directed by the Engineer.

**J. Disposal of Waste.** Dispose of all removed concrete, pipe, pavement, debris, excess and unsuitable excavation, and all other waste and debris at sites off the right of way obtained by the Contractor at no additional cost to the Department. See Special Note for Waste and Borrow.

**K. On-Site Inspection.** Make a thorough inspection of the site prior to submitting bid and become thoroughly familiar with existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid as evidence of this inspection having been made. The Department will not honor any claims resulting from site conditions.

**L. Right-of-Way Limits.** The Department has not established exact limits of Right-of-Way. Limit work activities to obvious Right-of-Way and work areas secured by the Department through Consent and Release of the adjacent property owners. Be responsible for all encroachments onto private lands.

**M. Utility Clearance.** The Department has not located utilities. Locate all underground, above ground and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Work around and do not disturb existing utilities. Be responsible for repairing all utility damage that occurs as a result of the work

The Department does not anticipate that utilities will require relocation; however, if utility relocation is required, the utility companies will work concurrently with the Contractor while relocating their facilities. Notify the Engineer and the utility owner(s) immediately when it is discovered or anticipated that any utility conflict could delay the Contractor's operations. If utility relocation is required, the Department will not charge working days for those days on which work on the controlling item is delayed, as provided in the Specifications. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however no extension will be granted for any delay caused by the Contractor's failure to notify the Engineer and/or the utility company as specified above when a conflict is discovered or anticipated. Comply with applicable sections of Chapter 107.

**N. Caution.** Consider the information in this proposal and shown on the drawings and the type of work listed herein to be approximate only and do not take the information as an accurate evaluation of the materials and conditions to be encountered during construction. Be aware that any reference to rock, earth, excavation, embankment, or any other material on the drawings, whether in numbers

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or words, letters, or lines, is solely for the Department's information and is not to be taken as an indication of classified excavation or the quantity of either rock, earth, or any other material involved. The bidder must draw his own conclusions. The Department does not give any guarantee as to the accuracy of the data and will not consider any claims for money or time extensions if the conditions encountered are not in accordance with the information shown.

**O. Control.** Perform all work included in this contract under the absolute control of the Department of Highways. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with each other's work will be reduced to a minimum. By submitting bid, the Contractor agrees to make no claims against the Department for additional compensation due to delays or other conditions created by the operations of such other parties. Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the work in general harmony and in a satisfactory manner, and his decision shall be final and binding upon the Contractor.

#### IV. METHOD OF MEASUREMENT

The Department will measure only the bid items listed for payment. The Department will consider all other items required to complete the work incidental to the listed items.

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

**B. Erosion Control.** See Special Note for Erosion Control.

**C. Site Preparation and Earthwork.** Other than the bid items listed, the Department will measure all site preparation and excavation as Earthwork as a Lump Sum.

**D. Remove Soil Nails and Micropiles.** The Department will measure removing Soil Nails and Micropiles as a Lump Sum.

**E. Geotextile Fabric.** The Department will measure Geotextile Fabric Type IV in square yards of finished in place area. The Department will not measure laps, cutoffs, excess, and waste.

Slide Repair  
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**F. Embankment.** The Department will measure Channel Lining and Granular Embankment in Tons.

**G. Dense Graded Aggregate.** See Section 302.04.02.

**H. Asphalt Surface and Base.** See Section 402.04.

**I. Guardrail.** See Special Notes for Guardrail.

**J. Staking.** See Special Notes for Staking.

**V. BASIS OF PAYMENT**

The Department will not make direct payment other than for the bid items listed. The Department will consider payment for all other items required to complete the work incidental to the listed items

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

**B. Earthwork.** Accept payment at the Contract Lump Sum unit price as full compensation for all labor, equipment, materials, and incidentals for site preparation and excavation.

**C. Remove Soil Nails and Micropiles.** Accept payment at the Contract Lump Sum unit price as full compensation for all labor, equipment, materials, and incidentals for Remoning Soil Nails and Micropiles.

**D. Geotextile Fabric Type IV.** Accept payment at the contract unit price per square yard of finished in place area of Geotextile Fabric Type IV as full compensation for all labor, equipment, materials, and incidentals for furnishing and placing Geotextile Fabric.

**E. Channel Lining.** See Section 703.05.

**F. Crushed Aggregate Size No. 23.** Accept payment at the Contract unit price per ton full compensation for all labor, equipment, materials, and incidentals for site preparation and excavation.

**G. Dense Graded Aggregate.** See Section 302.05.

**H. Asphalt Surface and Base.** See Section 402.05.

**I. Guardrail.** See Special Notes for Guardrail.

## **SPECIAL NOTE FOR STAKING**

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In addition to the requirements of Section 201, perform the following:

1. Contrary to Section 201.03.01, perform items 1-3 usually performed by the Engineer; and
2. Verify lane profile, alignment, and typical section to provide for positive drainage upon completion of construction; and
3. Prior to incorporating into the work, obtain the Engineers approval of all designs and revisions to be provided by the Contractor; and
4. Produce and furnish to the Engineer "As Built" plans; and
5. Perform any and all other staking operations required to control and construct the work.

Accept payment at the Contract unit bid price as full compensation for all labor, materials, equipment, and incidentals for performing all staking on the project.



## **SPECIAL PROVISION FOR WASTE AND BORROW SITES**

Obtain U.S. Army Corps of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". The Corps of Engineers defines "Waters of the United States" as perennial or intermittent streams, ponds or wetlands. The Corps of Engineers also considers ephemeral streams, typically dry except during rainfall but having a defined drainage channel, to be jurisdictional waters. Direct questions concerning any potential impacts to "Waters of the United States" to the attention of the appropriate District Office for the Corps of Engineers for a determination prior to disturbance. Be responsible for any fees associated with obtaining approval for waste and borrow sites from the U.S. Army Corps of Engineer or other appropriate regulatory agencies.

1-296 Waste & Borrow Sites  
01/02/2012

## **COORDINATION OF WORK WITH OTHER CONTRACTS**

Be advised, there may be an active project(s) adjacent to or within this project. The Engineer will coordinate the work of the Contractors. See Section 105.06.

1-3193 Coordination Contracts  
01/02/2012

## SPECIAL NOTE FOR PAVEMENT WEDGE AND SHOULDER MONOLITHIC OPERATION

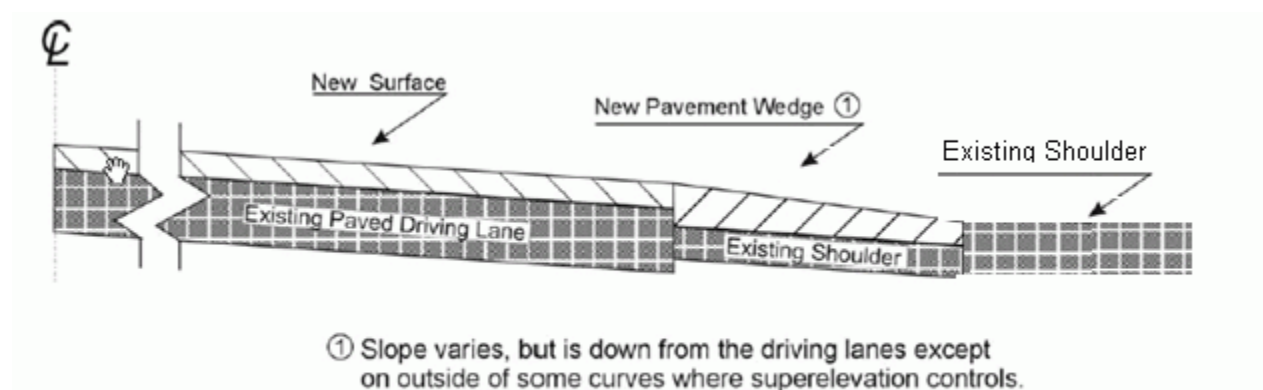
**1.0 MATERIALS.** Provide an Asphalt Surface Mixture conforming to Section 403 of the Standard Specifications, as applicable to the project, for the pavement wedge.

**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.



**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 SHOULDER PREPARATION**

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Grade, shape, and compact shoulders, adding additional materials, as shown on the typical section and as directed by the Engineer to provide proper template and foundation for the guardrail and end treatments. The Department will not measure grading, shaping, and compacting shoulders for separate payment, but shall be incidental to the DGA placed on the shoulder.

## SPECIAL NOTES FOR GUARDRAIL

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### I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's 2012 Standard and Supplemental Specifications and Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications.

Furnish all equipment, labor, materials, and incidentals for the following work items:

(1) Site preparation; (2) Remove existing guardrail systems; (3) Construct Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections, as applicable; (4) Delineators for guardrail; (5) Maintain and control traffic; and (6) all other work specified as part of this contract.

### II. MATERIALS

Except as specified herein, provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual and make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

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

**B. Erosion Control.** See Special Note for Erosion Control.

**C. Guardrail.** Furnish guardrail system components according to section 814 and the Standard and Sepia Drawings; except use steel posts only, no alternates.

**D. Delineators for Guardrail.** Furnish white and/or yellow Delineators for Guardrail according to the Delineators for Guardrail Sepia Drawing.

### III. CONSTRUCTION METHODS

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

**B. Erosion Control.** See Special Note for Erosion Control.

**C. Site Preparation.** Remove existing guardrail system including the guardrail end treatments, Bridge End connectors and all other elements of the existing guardrail system as per Section 719, except that the Contractor will take possession of all concrete posts and all concrete associated with existing bridge and/or guardrail end treatments. Locate all disposal areas off the Right of Way. Be responsible for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all

## Guardrail Page 2 of 3

obstructions or any other items; regrading, reshaping, adding and compacting of suitable materials on the existing shoulders to provide proper template or foundation for the guardrail; filling voids left as the result of removing existing guardrail and guard posts with dry sand; temporary pollution and erosion control; disposal, of excess and waste materials and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the engineer.

**D. Remove Guardrail.** See Section 719.03.03 and 719.02.07.

**E. Guardrail.** Except as specified herein, construct guardrail system according to Section 719 and the Standard and Sepia Drawings. Consider locations listed on the summary and/or shown on the drawings to be approximate only. The Engineer will determine the exact termini for individual guardrail installations at the time of construction. Unless directed otherwise by the Engineer, provide a minimum two (2) foot shoulder width. Construct radii at entrances and road intersections as directed by the Engineer.

Erect guardrail to the lines and grades shown on current Standard or Sepia Drawings or as directed by the Engineer by any method approved by the Engineer which allows construction of the guardrail to the true grade without apparent sags.

When removing existing guardrail and installing new guardrail, do not leave the blunt end exposed where it would be hazardous to the public. When it is not practical to complete the construction of the guardrail and the permanent end treatments and terminal sections first, provide a temporary end by connecting at least 25 feet of rail to the last post, and by slightly flaring, and burying the end of the rail completely into the existing shoulder. If left overnight, place a drum with bridge panel in advance of the guardrail end and maintain during use.

**F. Delineators for Guardrail.** Construct Delineators for Guardrail according to the Delineators for Guardrail Sepia Drawing.

**G. Property Damage.** Be responsible for all damage to public and/or private property resulting from the work. Restore damaged roadway features and private property at no additional cost to the Department.

**H. Coordination with Utility Companies.** Locate all underground, above ground and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any 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. Be responsible for repairing all utility damage that occurs as a result of guardrail operations at no additional cost to the Department.

Guardrail  
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**I. Right of Way Limits.** The Department has not established exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements, and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

**J. Disposal of Waste.** Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See Special; Note for Waste and Borrow.

**K. Final Dressing, Clean Up, and Seeding and Protection.** Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas according to the Special Notes for Erosion Control.

**IV. METHOD OF MEASUREMENT**

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

**B. Erosion Control.** See Special Note for Erosion Control.

**C. Site preparation.** Other than the bid items listed, the Department will not measure Site Preparation for separate payment but shall be incidental to Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections as applicable.

**D. Remove Guardrail.** See Section 719.04.08.

**E. Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections.** See Sections 719.04.01, 719.04.02, 719..04.04, and 719.04.06.

**F. Delineators for Guardrail.** See Delineators for Guardrail Sepia Drawing.

**V. BASIS OF PAYMENT**

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

**B. Remove Guardrail.** See Section 719.05

**C. Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections.** See Section 719.05.

**D. Delineators for Guardrail.** See Delineators for Guardrail Sepia Drawing.

**SPECIAL NOTE FOR  
ASPHALT MILLING AND TEXTURING**

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Mill as shown on the typical sections. Take possession of the millings and recycle the millings or dispose of the millings off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department.



### **SPECIAL NOTE FOR PRIME**

Prior to constructing asphalt base, apply Asphalt Material for Tack for prime at a rate of 1 lb/sy of undiluted asphalt residue. If an acceptable prime coat is not consistently achieved, the Engineer may require dilution with an equal amount of water and application of the diluted material at the rate of 2 lbs/sy. Except as specified herein, apply prime according to Section 406. The Department will not measure Asphalt Material for Tack for prime, but shall be incidental to the asphalt courses.

1-3715 Prime  
01/02/2012

### **SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS**

Consider the dimensions shown on the typical sections for pavement and shoulder widths and thickness' to be nominal or typical dimensions. The Engineer may direct or approve varying the actual dimensions to be constructed to fit existing conditions. Do not widen existing pavement or shoulders unless specified elsewhere in this proposal or directed by the engineer.

1-3725 Typical Section Dimensions  
01/02/2012

## **TRAFFIC CONTROL PLAN**

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### **TRAFFIC CONTROL GENERAL**

Except as provided herein, maintain and control traffic in accordance with the 2012 Standard and Supplemental Specifications and the Standard and Sepia Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

Contrary to Section 106.01, furnish new, or used in like new condition, traffic control devices at the beginning of the work and maintain in like new condition until completion of the work.

### **PROJECT PHASING & CONSTRUCTION PROCEDURES**

The Contractor may close road to through traffic during construction.

When road is not closed to through traffic, the contractor may construct single lane closures as required for the work in progress, maintaining alternating one way traffic during construction. Provide a minimum clear lane width of 10 (ten) feet. If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, make provisions for the passage of the bus as quickly as possible.

The Engineer may specify days and hours when lane closures will not be allowed.

### **ROAD CLOSURE**

Be responsible for the road closure and signing at the project site. Upon award, informally partner with the Engineer to develop a work schedule that requires the shortest length of time of closure as practical. Once closed, perform work every working day so that the road may be reopened as soon as possible.

The Department will be responsible for advance signing and signing a detour. The Contractor shall furnish Portable Changeable Message signs as directed by the Engineer to provide advance warning of the road closure,

The department will provide public notification. Notify the Engineer immediately and obtain the Engineer's approval of any deviations from the approved schedule

### **LANE CLOSURES**

When the road is not closed, do not leave lane closures in place during non-working hours.

Traffic Control Plan  
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## **SIGNS**

The Engineer may require additional signing and/or traffic control devices in addition to the items shown on the Standard Drawings. Sign posts and splices shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. Signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations. Contrary to section 112.04.02, the Department will measure only long term signs (signs intended to be continuously in place for more than 3 days) for payment. The Department will not measure; short term signs (signs intended to be left in place for 3 days or less) for payment, but shall be incidental to Maintain and Control Traffic. Contrary to Section 112.04.02, the Department will measure individual signs only once for payment, regardless of how many times they are erected or relocated. The Department will not measure replacements for damaged signs directed by the Engineer to be replaced due to poor condition or reflectivity.

## **CHANGEABLE MESSAGE SIGNS**

Provide changeable message signs in advance of the work at locations determined by the Engineer. The Engineer may vary the designated locations as the work progresses. The Engineer will determine the messages to be displayed. In the event of damage or mechanical/electrical failure, repair or replace the Changeable Message Sign within 24 hours. The Department will measure for payment the maximum number of Changeable Message Signs in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Changeable Message Signs only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged Changeable Message Signs or for signs the Engineer directs be replaced due to poor condition or readability. Retain possession of the Changeable Message Signs upon completion of construction.

## **BARRICADES**

The Department will not measure barricades used in lieu of barrels and cones for channelization or delineation, but shall be incidental to Maintain and Control Traffic according to Section 112.04.01.

The Department will measure barricades used for road closures and to protect pavement removal areas in individual units Each. The Department will measure for payment the maximum number of barricades in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual barricades only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged barricades the Engineer directs to be replaced due to poor condition or reflectivity. Retain possession of the Barricades upon completion of construction.

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## **TRAFFIC SIGNALS**

When the contractor erects the road closure, the Department will remove temporary traffic signals from the project site. The Engineer will coordinate the Department's operations with the Contractor's work. Allow sufficient time for the Department's available resources to complete this phase of the work. Delays due to inclement weather, shortage of materials, or other unforeseen causes may affect the Department's ability to complete the signals removal. Consider these factors when submitting a bid and scheduling work. The Department will not grant any time extension or monetary consideration, and will not consider any claims if the Department's forces are delayed in removing the signals.

## **PAVEMENT MARKINGS**

If there is to be a deviation from the existing striping plan, the Engineer will furnish the Contractor a striping plan prior to placement of the final surface course.

Install Temporary Striping according to Section 112 with the following exception:

1. If the Contractor's operations or phasing requires temporary markings that must subsequently be removed from the final surface course, use an approved removable lane tape; however, the Department will not measure removable lane tape for separate payment, but will measure and pay for removable lane tape as temporary striping.
2. Place Temporary Striping before opening a closed lane to traffic.

## **PAVEMENT EDGE DROP-OFFS**

Do not allow a pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation with an elevation difference greater than 1½". Place Warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and unresurfaced areas which traffic may cross with asphalt mixture for leveling and wedging. Remove the wedges prior to placement of the final surface course.

Protect pavement edges that traffic is not expected to cross, except accidentally, as follows:

Less than 2" - No protection required.

2" to 4" - Place plastic drums, vertical panels, or barricades every 50 feet. During daylight working hours only, the Engineer will allow the Contractor to use cones in lieu of plastic drums, panels, and barricades. Wedge the drop-off with DGA or asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight

## Traffic Control Plan

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hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area.

Greater than 4' - Protect drop-offs greater than 4 inches within 10 feet of traffic by placing drums, vertical panels, or barricades every 25 feet. The Engineer will not allow the use of cones in lieu of drums, vertical panels, or barricades for drop-offs greater than 4". Place Type III Barricades directly in front of the drop-off facing on coming traffic in both directions of travel. Provide warning signs as shown on the Standard Drawings or as directed by the Engineer

Pedestrians & Bicycles - Protect pedestrian and bicycle traffic as directed by the engineer.

## USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

The following policy is based upon current Changeable Message Signs (CMS) standards and practice from many sources, including the Federal Highway Administration (FHWA), other State Departments of Transportation, and Traffic Safety Associations. It is understood that each CMS installation or use requires individual consideration due to the specific location or purpose. However, there will be elements that are constant in nearly all applications. Accordingly these recommended guidelines bring a level of uniformity, while still being open to regional experience and engineering judgment.

### Application

The primary purpose of CMS is to advise the driver of unexpected traffic and routing situations. Examples of applications where CMS can be effective include:

- Closures (road, lane, bridge, ramp, shoulder, interstate)
- Changes in alignment or surface conditions
- Significant delays, congestion
- Construction/maintenance activities (delays, future activities)
- Detours/alternative routes
- Special events with traffic and safety implications
- Crash/incidents
- Vehicle restrictions (width, height, weight, flammable)
- Advance notice of new traffic control devices
- Real-time traffic conditions (must be kept up to date)
- Weather /driving conditions, environmental conditions, Roadway Weather Information Systems
- Emergency Situations
- Referral to Highway Advisory Radio (if available)
- Messages as approved by the County Engineer's Office

### **CMS should not be used for:**

- Replacement of static signs (e.g. road work ahead), regulatory signage (e.g. speed limits), pavement markings, standard traffic control devices, conventional warning or guide signs.
- Replacement of lighted arrow board
- Advertising (Don't advertise the event unless clarifying "action" to be taken by driver – e.g. Speedway traffic next exit)
- Generic messages
- Test messages (portable signs only)
- Describe recurrent congestion (e.g. rush hour)
- Public service announcements (not traffic related)

Traffic Control Plan  
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**Messages**

Basic principles that are important to providing proper messages and insuring the proper operation of a CMS are:

- Visible for at least ½ mile under ideal daytime and nighttime conditions
- Legible from all lanes a minimum of 650 feet
- Entire message readable twice while traveling at the posted speed
- Nor more than two message panels should be used (three panels may be used on roadways where vehicles are traveling less than 45 mph). A panel is the message that fits on the face of the sign without flipping or scrolling.
- Each panel should convey a single thought; short and concise
- Do not use two unrelated panels on a sign
- Do not use the sign for two unrelated messages
- Should not scroll text horizontally or vertically
- Should not contain both the words left and right
- Use standardized abbreviations and messages
- Should be accurate and timely
- Avoid filler/unnecessary words and periods (hazardous, a, an, the)
- Avoid use of speed limits
- Use words (not numbers) for dates

**Placement**

Placement of the CMS is important to insure that the signs is visible to the driver and provides ample time to take any necessary action. Some of the following principles may only be applicable to controlled access roadways. The basic principles of placement for a CMS are:

- When 2 signs are needed, place on same side of roadway and at least 1,000 feet apart
- Place behind semi-rigid/rigid protection (guardrail, barrier) or outside of the clear zone
- Place 1,000 feet in advance of work zone; at least one mile ahead of decision point
- Normally place on right side of roadway; but should be placed closest to the affected lane so that either side is acceptable
- Signs should not be dual mounted (one on each side of roadway facing same direction)
- Point trailer hitch downstream
- Secure to immovable object to prevent thief (if necessary)
- Do not place in sags or just beyond crest
- Check for reflection of sun to prevent the blinding of motorist
- Should be turned ~3 degrees outward from perpendicular to the edge of pavement
- Bottom of sign should be 7 feet above the elevation of edge of roadway
- Should be removed when not in use



### Standard Abbreviations

The following is a list of standard abbreviations to be used on CMS.

<u>Word</u>	<u>Abbrev.</u>	<u>Example</u>
Access	ACCS	ACCIDENT AHEAD/USE ACCS RD NEXT RIGHT
Alternate	ALT	ACCIDENT AHEAD/USE ALT RTE NEXT RIGHT
Avenue	AVE	FIFTH AVE CLOSED/DETOUR NEXT LEFT
Blocked	BLKD	FIFTH AVE BLKD/MERGE LEFT
Boulevard	BLVD	MAIN BLVD CLOSED/USE ALT RTE
Bridge	BRDG	SMITH BRDG CLOSED/USE ALT RTE
Cardinal Directions	N, S, E, W	N I75 CLOSED/ DETOUR EXIT 30
Center	CNTR	CNTR LANE CLOSED/MERGE LEFT
Commercial	COMM	OVRSZ COMM VEH/USE I275
Condition	COND	ICY COND POSSIBLE
Congested	CONG	HVY CONG NEXT 3 MI
Construction	CONST	CONST WORK AHEAD/EXPECT DELAYS
Downtown	DWNTN	DWNTN TRAF USE EX 40
Eastbound	E-BND	E-BND I64 CLOSED/DETOUR EXIT 20
Emergency	EMER	EMER VEH AHEAD/PREPARE TO STOP
Entrance, Enter	EX, EXT	DWNTN TRAF USE EX 40
Expressway	EXPWY	WTRSN EXPWY CLOSED/DETOUR EXIT 10
Freeway	FRWY, FWY	GN SYNDR FWY CLOSED/DETOUR EXIT 15
Hazardous Materials	HAZMAT	HAZMAT IN ROADWAY/ALL TRAF EXIT 25
Highway	HWY	ACCIDENT ON AA HWY/EXPECT DELAYS
Hour	HR	ACCIDENT ON AA HWY/2 HR DELAY
Information	INFO	TRAF INFO TUNE TO 1240 AM
Interstate	I	E-BND I64 CLOSED/DETOUR EXIT 20
Lane	LN	LN CLOSED/MERGE LEFT
Left	LFT	LANE CLOSED/MERGE LFT
Local	LOC	LOC TRAF USE ALT RTE

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Maintenance	MAINT	MAINT WRK ON BRDG/SLOW
Major	MAJ	MAJ DELWAYS I75/USE ALT RTE
Mile	MI	ACCIDENT 3 MI AHEAD/ USE ALT RTE
Minor	MNR	ACCIDENT 3 MI MNR DELAY
Minutes	MIN	ACCIDENT 3 MI/30 MIN DELAY
Northbound	N-BND	N-BND I75 CLOSED/ DETOUR EXIT 50
Oversized	OVRSZ	OVRSZ COMM VEH/USE I275 NEXT RIGHT
Parking	PKING	EVENT PKING NEXT RGT
Parkway	PKWY	CUM PKWAY TRAF/DETOUR EXIT 60
Prepare	PREP	ACCIDENT 3 MIL/PREP TO STOP
Right	RGT	EVENT PKING NEXT RGT
Road	RD	HAZMAT IN RD/ALL TRAF EXIT 25
Roadwork	RDWK	RDWK NEXT 4 MI/POSSIBLE DELAYS
Route	RTE	MAJ DELAYS I75/USE ALT RTE
Shoulder	SHLDR	SHLDR CLOSED NEXT 5 MI
Slippery	SLIP	SLIP COND POSSIBLE/ SLOW SPD
Southbound	S-BND	S-BND I75 CLOSED/DETOUR EXIT 50
Speed	SPD	SLIP COND POSSIBLE/ SLOW SPD
Street	ST	MAIN ST CLOSED/USE ALT RTE
Traffic	TRAF	CUM PKWAY TRAF/DETOUR EXIT 60
Vehicle	VEH	OVRSZ COMM VEH/USE I275 NEXT RIGHT
Westbound	W-BND	W-BND I64 CLOSED/DETOUR EXIT 50
Work	WRK	CONST WRK 2MI/POSSIBLE DELAYS

Certain abbreviations are prone to inviting confusion because another word is abbreviated or could be abbreviated in the same way. DO NO USE THESE ABBREVIATIONS.

<u>Abbrev.</u>	<u>Intended Word</u>	<u>Word Erroneously Given</u>
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (merge)
LOC	Local	Location
LT	Light (traffic)	Left
PARK	Parking	Park
POLL	Pollution (index)	Poll

Traffic Control Plan  
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RED	Reduce	Red
STAD	Stadium	Standard
TEMP	Temporary	Temperature
WRNG	Warning	Wrong

**TYPICAL MESSAGES**

The following is a list of typical messages used on CMS. The list consists of the reason or problem that you want the driver to be aware of and the action that you want the driver to take.

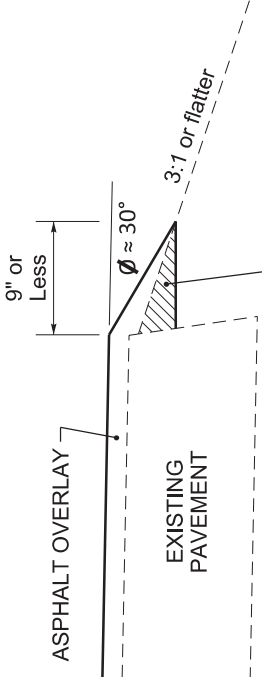
<u>Reason/Problem</u>	Action
ACCIDENT	ALL TRAFFIC EXIT RT
ACCIDENT/XX MILES	AVOID DELAY USE XX
XX ROAD CLOSED	CONSIDER ALT ROUTE
XX EXIT CLOSED	DETOUR
BRIDGE CLOSED	DETOUR XX MILES
BRIDGE/(SLIPPERY, ICE, ETC.)	DO NOT PASS
CENTER/LANE/CLOSED	EXPECT DELAYS
DELAY(S), MAJOR/DELAYS	FOLLOW ALT ROUTE
DEBRIS AHEAD	KEEP LEFT
DENSE FOG	KEEP RIGHT
DISABLED/VEHICLE	MERGE XX MILES
EMER/VEHICLES/ONLY	MERGE LEFT
EVENT PARKING	MERGE RIGHT
EXIT XX CLOSED	ONE-WAY TRAFFIC
FLAGGER XX MILES	PASS TO LEFT
FOG XX MILES	PASS TO RIGHT
FREEWAY CLOSED	PREPARE TO STOP
FRESH OIL	REDUCE SPEED
HAZMAT SPILL	SLOW
ICE	SLOW DOWN
INCIDENT AHEAD	STAY IN LANE
LANES (NARROW, SHIFT, MERGE, ETC.)	STOP AHEAD
LEFT LANE CLOSED	STOP XX MILES
LEFT LANE NARROWS	TUNE RADIO 1610 AM
LEFT 2 LANES CLOSED	USE NN ROAD
LEFT SHOULDER CLOSED	USE CENTER LANE
LOOSE GRAVEL	USE DETOUR ROUTE
MEDIAN WORK XX MILES	USE LEFT TURN LANE
MOVING WORK ZONE, WORKERS IN ROADWAY	USE NEXT EXIT
NEXT EXIT CLOSED	USE RIGHT LANE
NO OVERSIZED LOADS	WATCH FOR FLAGGER
NO PASSING	

Traffic Control Plan  
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NO SHOULDER  
ONE LANE BRIDGE  
PEOPLE CROSSING  
RAMP CLOSED  
RAMP (SLIPPERY, ICE, ETC.)  
RIGHT LANE CLOSED  
RIGHT LANE NARROWS  
RIGHT SHOULDER CLOSED  
ROAD CLOSED  
ROAD CLOSED XX MILES  
ROAD (SLIPPERY, ICE, ETC.)  
ROAD WORK  
ROAD WORK (OR CONSTRUCTION) (TONIGHT, TODAY, TOMORROW, DATE)  
ROAD WORK XX MILES  
SHOULDER (SLIPPERY, ICE, SOFT, BLOCKED, ETC.)  
NEW SIGNAL XX MILES  
SLOW 1 (OR 2) - WAY TRAFFIC  
SOFT SHOULDER  
STALLED VEHICLES AHEAD  
TRAFFIC BACKUP  
TRAFFIC SLOWS  
TRUCK CROSSING  
TRUCKS ENTERING  
TOW TRUCK AHEAD  
UNEVEN LANES  
WATER ON ROAD  
WET PAINT  
WORK ZONE XX MILES  
WORKERS AHEAD

DURABLE PAVEMENT EDGE DETAIL

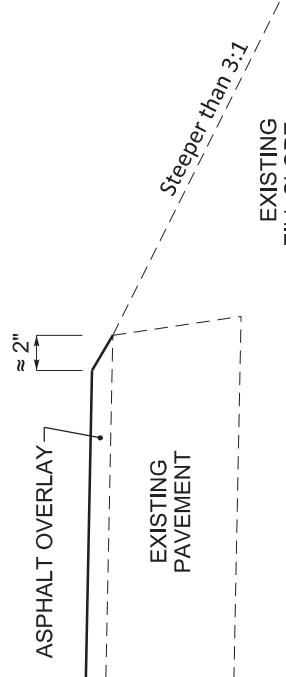
(Resurfacing adjacent to fill slope or ditch foreslope that is 3:1 or less)



PREPARE SHOULDER ACCORDING TO STANDARD SPECIFICATIONS

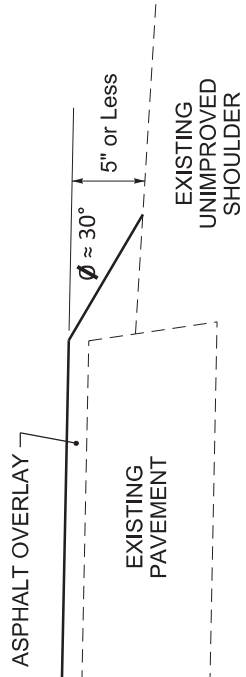
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to fill slope or ditch foreslope that is steeper than 3:1)



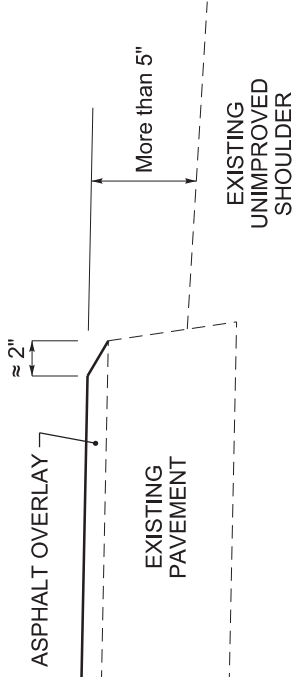
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to low shoulder with dropoff of 5 inches or less)



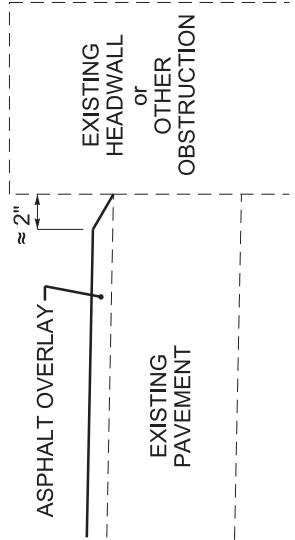
DURABLE PAVEMENT EDGE DETAIL

(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)



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.

DRAWING NOT TO SCALE

DURABLE PAVEMENT EDGE DETAILS

## **SPECIAL NOTE FOR EROSION CONTROL**

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### **I. DESCRIPTION**

Perform all erosion and water pollution control work in accordance with the Department's Standard and Interim Supplemental Specifications, Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions, and as directed by the Engineer. Section references are to the Standard Specifications. This work shall consist of:

(1) Developing and preparing a Best Management Practices Plan (BMP) tailored to suit the specific construction phasing for each site within the project; (2) Preparing the project site for construction, including locating, furnishing, installing, and maintaining temporary and/or permanent erosion and water pollution control measures as required by the BMP prior to beginning any earth disturbing activity on the project site; (3) Clearing and grubbing and removal of all obstructions as required for construction; (4) Removing all erosion control devices when no longer needed; (5) Restoring all disturbed areas as nearly as possible to their original condition; (6) Preparing seedbeds and permanently seeding all disturbed areas; (7) Providing a Kentucky Erosion Prevention and Sediment Control Program (KEPSC) qualified inspector; and (8) Performing any other work to prevent erosion and/or water pollution as specified by this contract, required by the BMP, or as directed by the Engineer.

### **II. MATERIALS**

Furnish materials in accordance with these notes, the Standard Specifications and Interim Supplemental Specifications, and applicable Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions. Provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual. Unless directed otherwise by the Engineer, make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

### **III. CONSTRUCTION**

Be advised, these Erosion Control Plan Notes do not constitute a BMP plan for the project. Jointly with the Engineer, prepare a site specific BMP plan for each drainage area within the project in accordance with Section 213. Provide a unique BMP at each project site using good engineering practices taking into account existing site conditions, the type of work to be performed, and the construction phasing, methods and techniques to be utilized to complete the work. Be responsible for all erosion prevention, sediment control, and water pollution prevention measures required by the BMP for each site. Represent and warrant compliance with the Clean Water Act (33 USC Section 1251 et seq.), the 404 Permit, the 401 Water Quality Certification, and applicable state and

## Erosion Control Page 2 of 4

local government agency laws, regulations, rules, specifications, and permits. Contrary to Section 105.05, in case of discrepancy between these notes, the Standard Specifications, Interim Supplemental Specifications, Special and Special Notes, Standard and Sepia Drawings, and such state and local government agency requirements, adhere to the most restrictive requirement.

Conduct operations in such a manner as to minimize the amount of disturbed ground during each phase of the construction and limit the haul roads to the minimum required to perform the work. Preserve existing vegetation not required to be removed by the work or the contract. Seed and/or mulch disturbed areas at the earliest opportunity. Use silt fence, silt traps, temporary ditches, brush barriers, erosion control blankets, sodding, channel lining, and other erosion control measures in a timely manner as required by the BMP and as directed or approved by the Engineer. Prevent sediment laden water from leaving the project, entering an existing drainage structure, or entering a stream.

Provide for erosion control measures to be in place and functioning prior to any earth disturbance within a drainage area. Compute the volume and size of silt control devices necessary to control sediment during each phase of construction. Remove sediment from silt traps before they become a maximum of ½ full. Maintain silt fence by removing accumulated trappings and/or replacing the geotextile fabric when it becomes clogged, damaged, or deteriorated, or when directed by the Engineer. Properly dispose of all materials trapped by erosion control devices at approved sites off the right of way obtained by the Contractor at no additional cost to the Department (See Special Note for Waste and Borrow).

As work progresses, add or remove erosion control measures as required by the BMP applicable to the Contractor's project phasing and construction methods and techniques. Update the volume calculations and modify the BMP as necessary throughout the duration of the project. Ensure that an updated BMP is kept on site and available for public inspection throughout the life of the project.

After all construction is complete, restore all disturbed areas in accordance with Section 212. Completely remove all temporary erosion control devices not required as part of the permanent erosion control from the construction site. Prior to removal, obtain the Engineer's concurrence of items to be removed. Grade the remaining exposed earth (both on and off the Right of-Way) as nearly as possible to its original condition, or as directed by the Engineer. Prepare the seed bed areas and sow all exposed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

#### IV. MEASUREMENT

**Erosion Control Blanket.** If required by the BMP, the Department will measure Erosion Control Blanket according to Section 212.04.07.

**Sodding.** If required by the BMP, the Department will measure Sodding according to Section 212.04.08.

Erosion Control  
Page 3 of 4

**Channel Lining.** The Department will measure Channel Lining according to Sections 703.04.04.

**Erosion Control.** Contrary to Sections 212.04, 213.04, and 703.04 other than Erosion Control Blankets, Sodding, and Channel Lining, the Department will measure Erosion Control as one lump sum. The Department will not measure developing, updating, and maintaining a BMP plan for each site; providing a KEPSC qualified inspector; locating, furnishing, installing, inspecting, maintaining, and removing erosion and water pollution control items; Roadway Excavation, Borrow Excavation, Embankment In Place, Topsoil Furnished and Placed, and Spreading Stockpiled Topsoil; Topdressing Fertilizer, Temporary and Permanent Seeding and Protection, Special Seeding Crown Vetch, and Temporary Mulch; Sedimentation Basin and Clean Sedimentation Basin, Silt Trap Type "A" and Clean Silt Trap Type "A"; Silt Trap Type "B" and Clean Silt Trap Type "B"; Silt Trap Type "C" and Clean Silt Trap Type "C"; Temporary Silt Fence and Clean Temporary Silt Fence; Plants, Vines, Shrubs, and Trees; Gabion and Dumped Stone Deflectors and Riffle Structures; Boulders; Temporary Ditches and clean Temporary Ditches; Geotextile Fabric, and all other erosion and water pollution control items required by the BMP or the Engineer, but shall be incidental to Erosion Control.

## V. Basis of Payment

**Erosion Control Blanket.** If not listed as a bid item, but required by the BMP, the Department will pay for Erosion Control Blankets as Extra Work according to Sections 104.03 and 109.04.

**Sodding.** If not listed as a bid item, but required by the BMP, the Department will pay for Sodding as Extra Work according to Sections 104.03 and 109.04.

**Channel Lining.** The Department will pay for Channel Lining as according to Section 703.05.

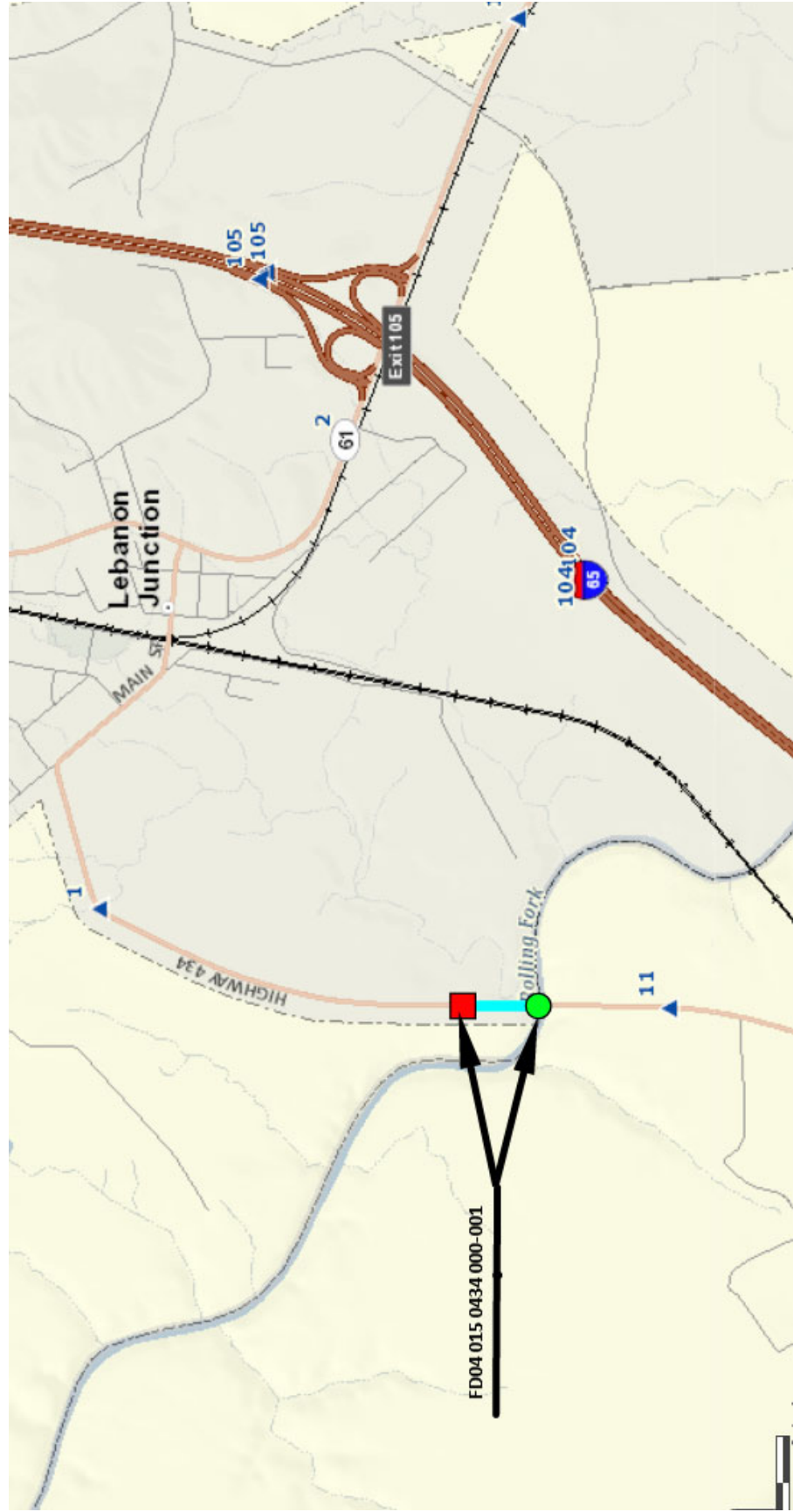
**Erosion Control.** Contrary to Sections 212.05 and 213.05, other than Erosion Control Blanket, Sodding, and Channel Lining, accept payment at the Contract lump sum price for Erosion Control as full compensation for all materials, equipment, labor and incidentals necessary to complete the erosion and water pollution control work as specified in these notes, Sections 212 and 213, the Supplemental Specifications, applicable Special Provisions and Special Notes, and Standard and Sepia Drawings, including but not limited to developing, updating, and maintaining a BMP plan for each site; providing a KEPSC-RI qualified inspector; locating, furnishing, installing, inspecting, maintaining, and removing erosion and water pollution control items; Roadway Excavation, Borrow Excavation, Embankment In Place, Topsoil Furnished and Placed, and Spreading Stockpiled Topsoil; Topdressing Fertilizer, Temporary and Permanent Seeding and Protection, Special Seeding Crown Vetch, and Temporary Mulch; Sedimentation Basin and Clean Sedimentation Basin, Silt Trap Type "A" and Clean Silt Trap Type "A"; Silt Trap Type "B" and Clean Silt Trap



Erosion Control  
Page 4 of 4

Type "B"; Silt Trap Type "C" and Clean Silt Trap Type "C"; Temporary Silt Fence and Clean Temporary Silt Fence; Plants, Vines, Shrubs, and Trees; Gabion and Dumped Stone Deflectors and Riffle Structures; Boulders; Temporary Ditches and clean Temporary Ditches; Geotextile Fabric and all other erosion and water pollution control items required by the BMP or the Engineer.

BULLITT COUNTY

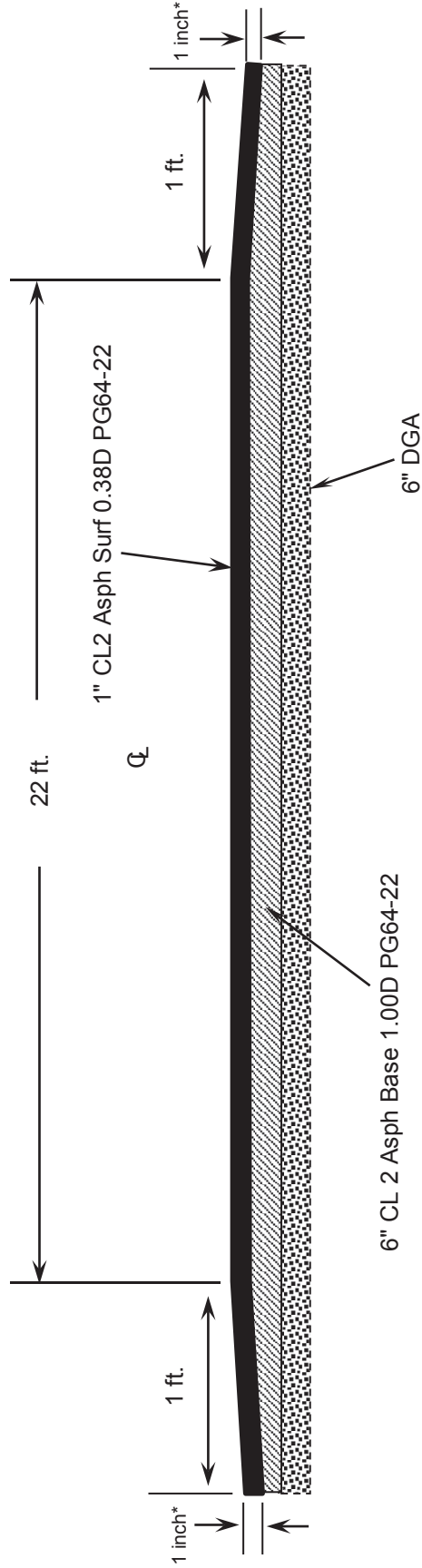


**GUARDRAIL SUMMARY**

NEW GUARDRAIL						REMOVE GUARDRAIL						
LANE	END TREAT.	BEGIN MILEPOINT	END MILEPOINT	END TREAT.	LIN FEET	REMARKS	LANE	BEGIN MILEPOINT	END MILEPOINT	LIN FEET	REMARKS	
NB	Bridge End Connector Type C	0.033	0.163	Radius & Terminal Section No.1	600.0		NB	0.033	0.163	600.0		
SB	Bridge End Connector Type C	0.033	0.163	End Treatment Type 7	600.0		SB	0.033	0.163	600.0		
<b>Totals</b>						<b>1200.0</b>	<b>Totals</b>					<b>1200.0</b>

**TYPICAL SECTION**

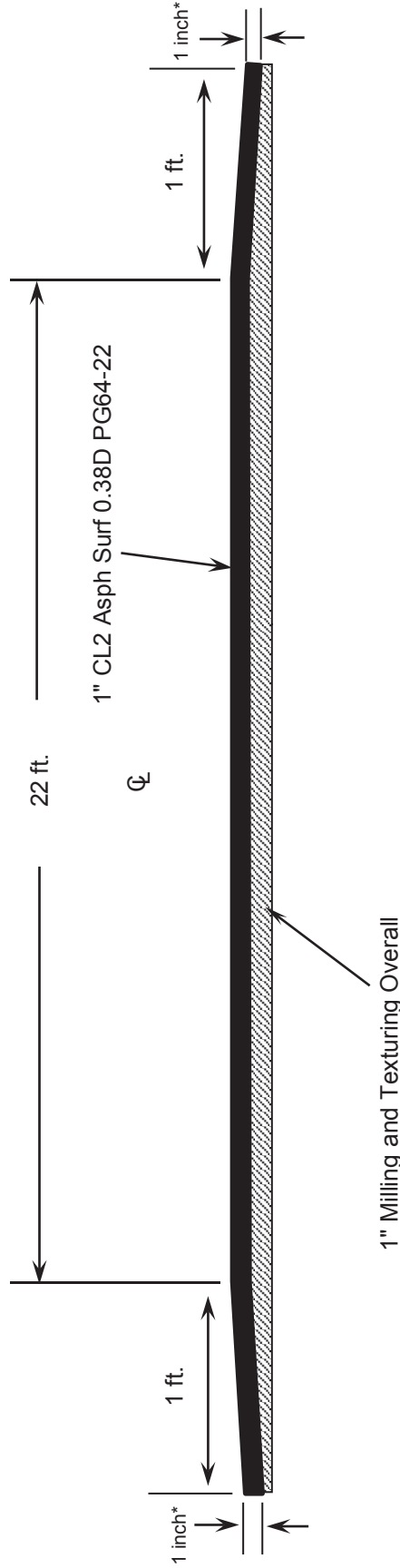
**MILEPOINT 0.033-0.071**



**\* 1 INCH MAXIMUM DROP-OFF AS SITE CONDITIONS ALLOW**

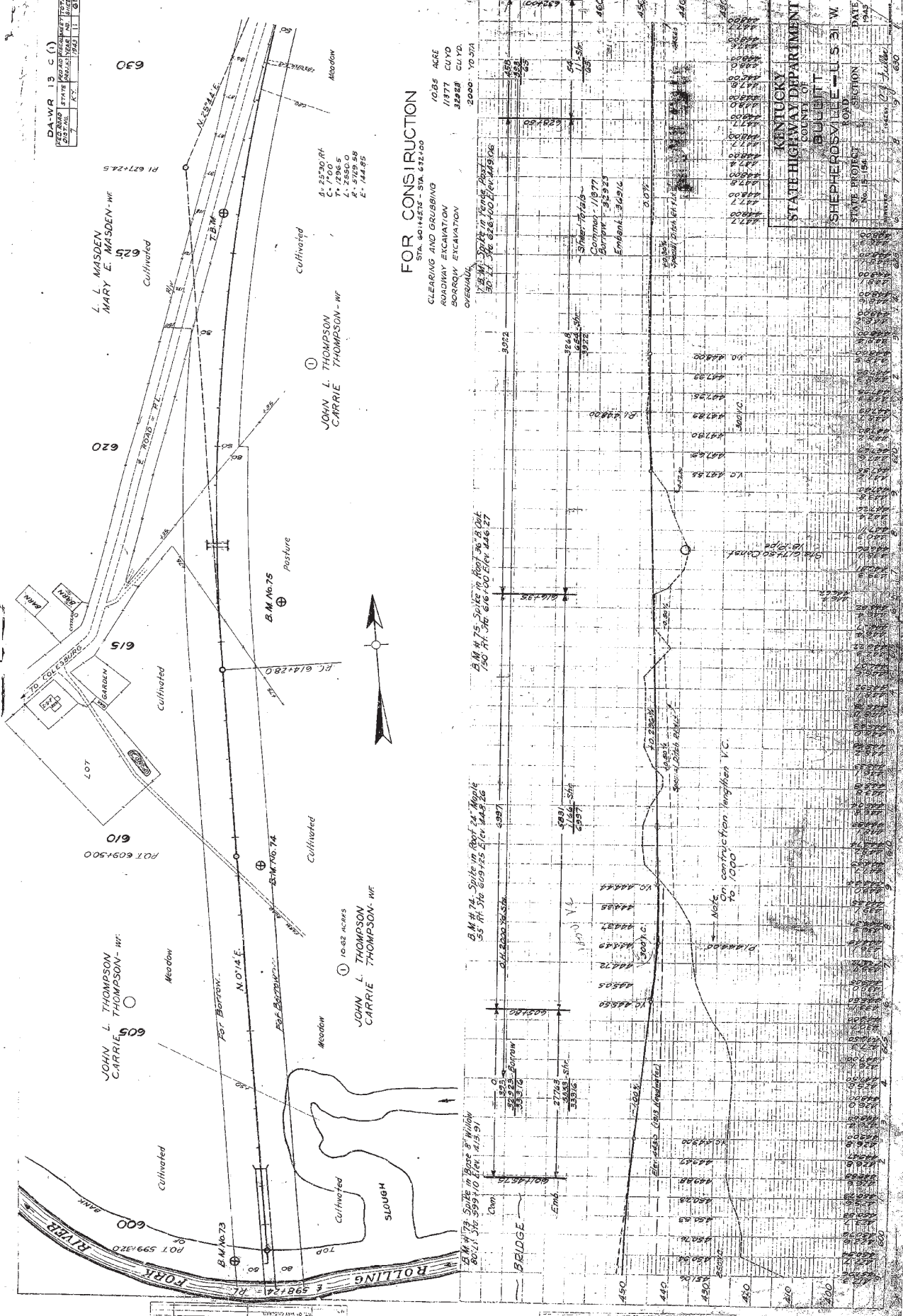
**TYPICAL SECTION**

**MILEPOINT 0.071-0.163**



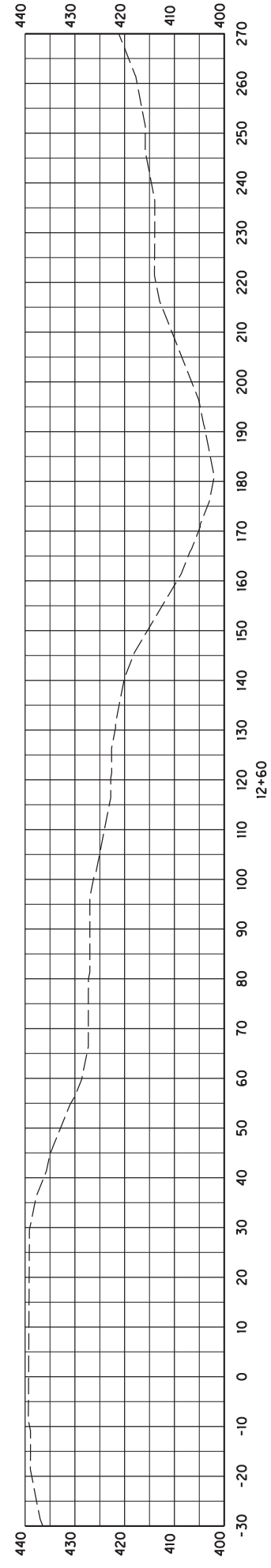
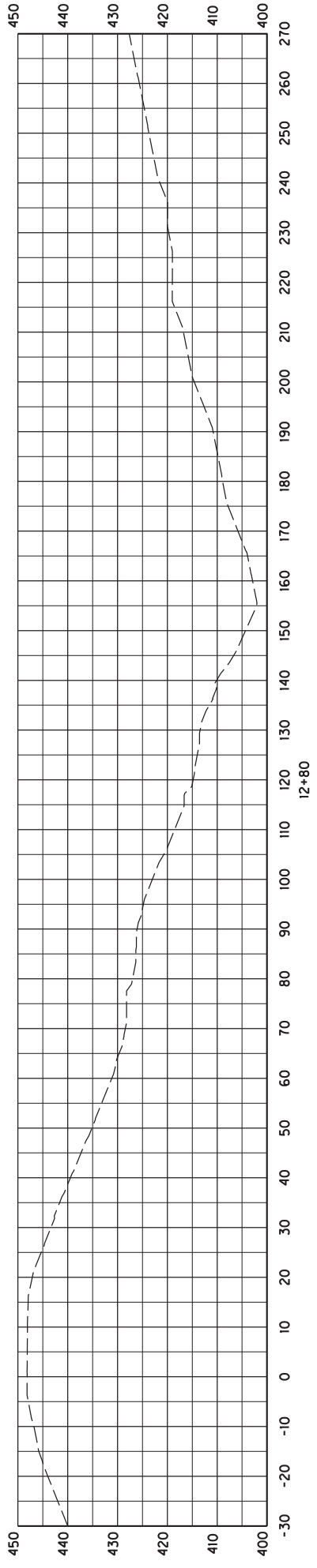
**\* 1 INCH MAXIMUM DROP-OFF AS SITE CONDITIONS ALLOW**

DA-WR 13 C (1)	
NO. ROAD	13
STATE	KY.
SECTION	7
TOWNSHIP	12 S
RANGE	12 E
TOTAL ACRES	10.85



KENTUCKY	
STATE HIGHWAY DEPARTMENT	
COUNTY OF BULLITT	
SHEPHERDVILLE - U.S. 51 W	
STATE PROJECT No. 15156	SECTION 7
DATE 1945	BY [Signature]

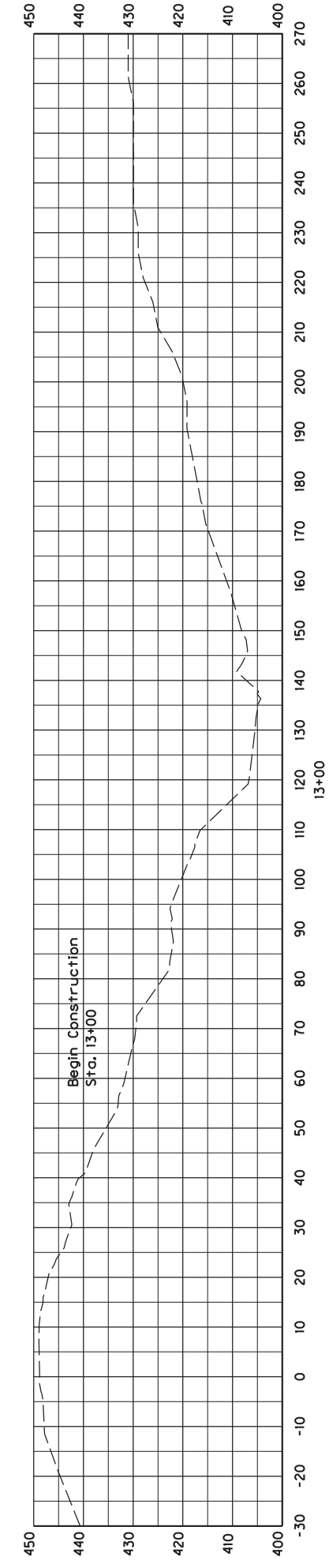
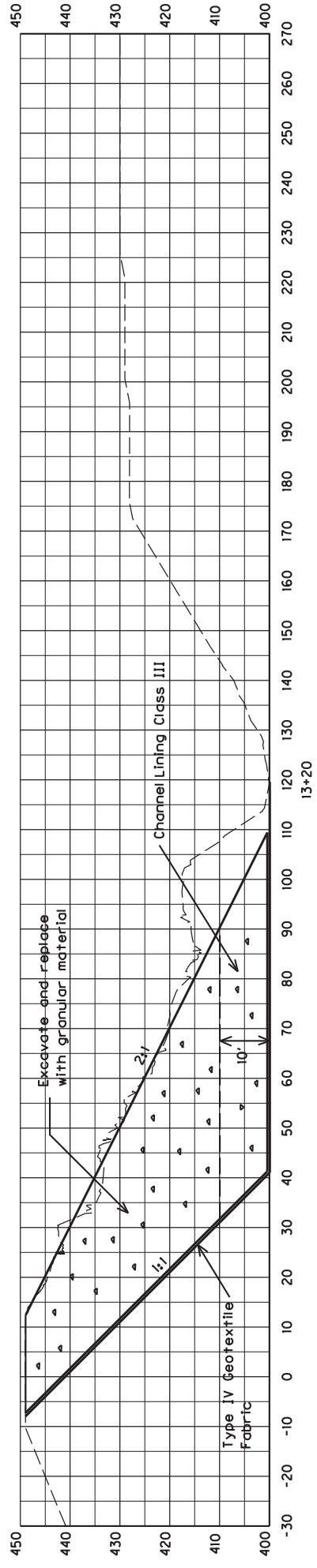
COUNTY OF	ITEM NO.
BULLITT	



SCALE: 1" = 40' HORIZONTAL  
1" = 10' VERTICAL

STA. 12+60 TO STA. 12+80

COUNTY OF	ITEM NO.
BULLITT	

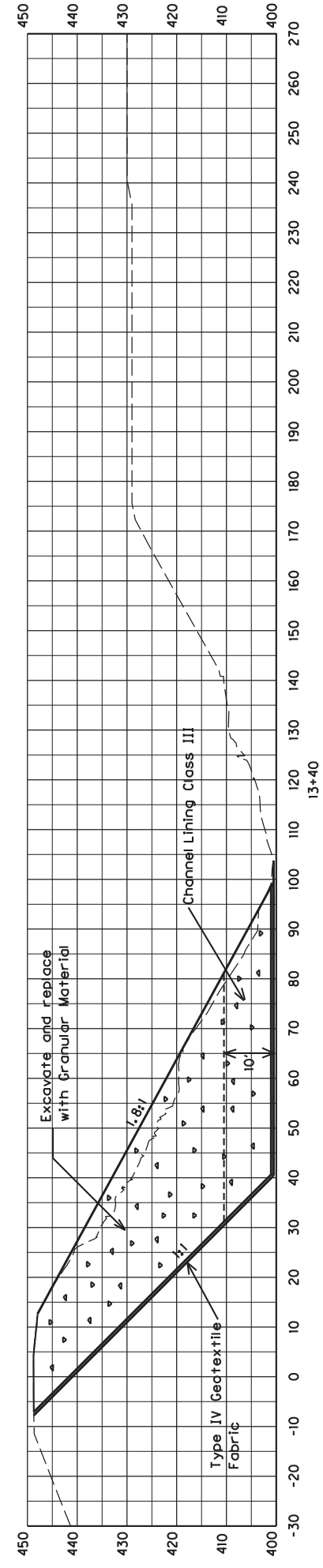
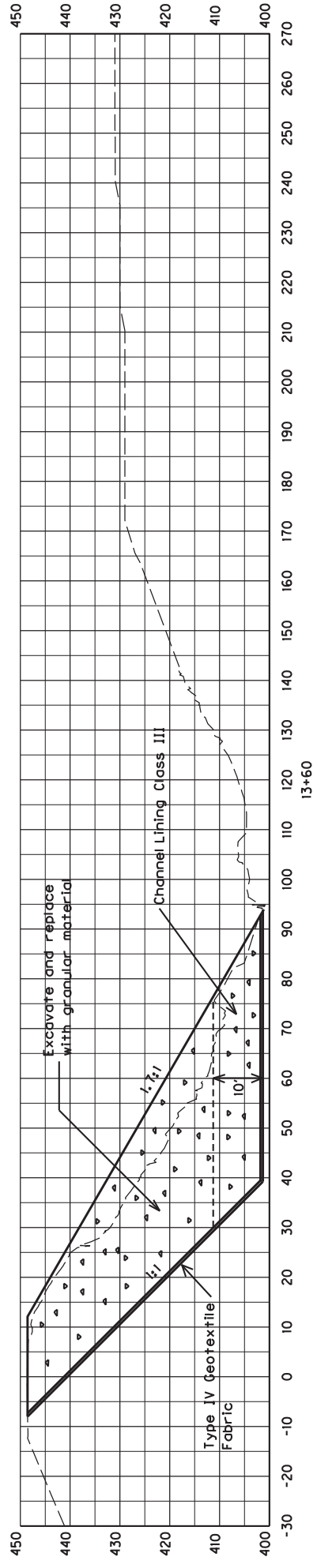


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1" = 10' VERTICAL

STA. 13+00 TO STA. 13+20



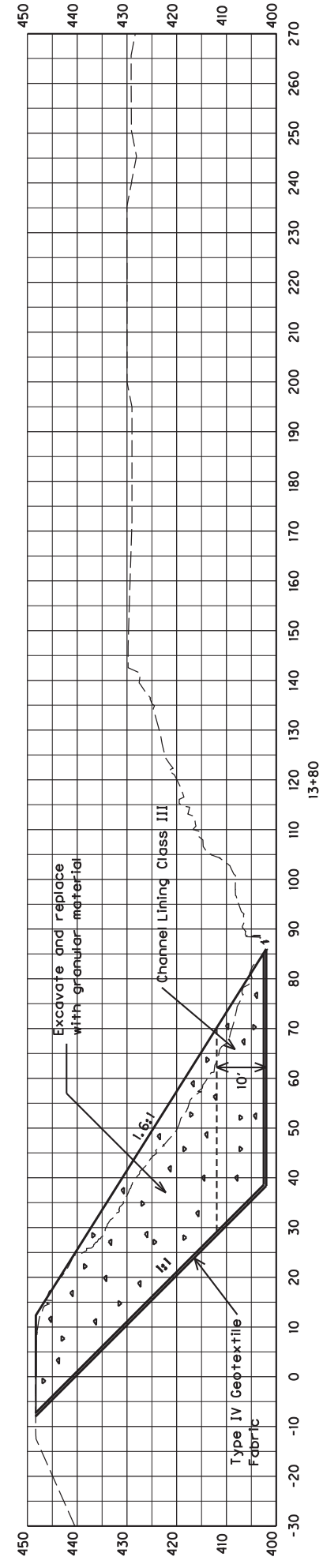
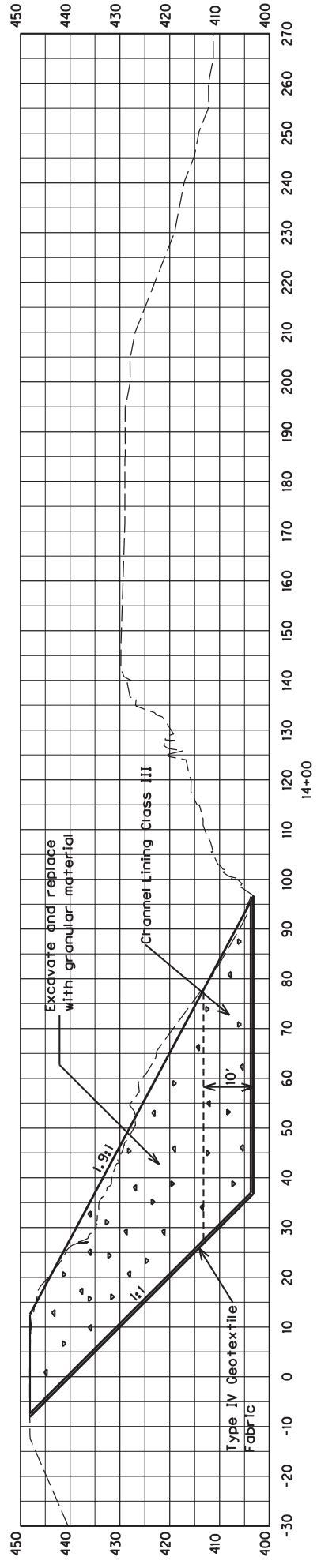
COUNTY OF	ITEM NO.
BULLITT	



SCALE: 1" = 10' HORIZONTAL  
1" = 10' VERTICAL

STA. 13+40 TO STA. 13+60

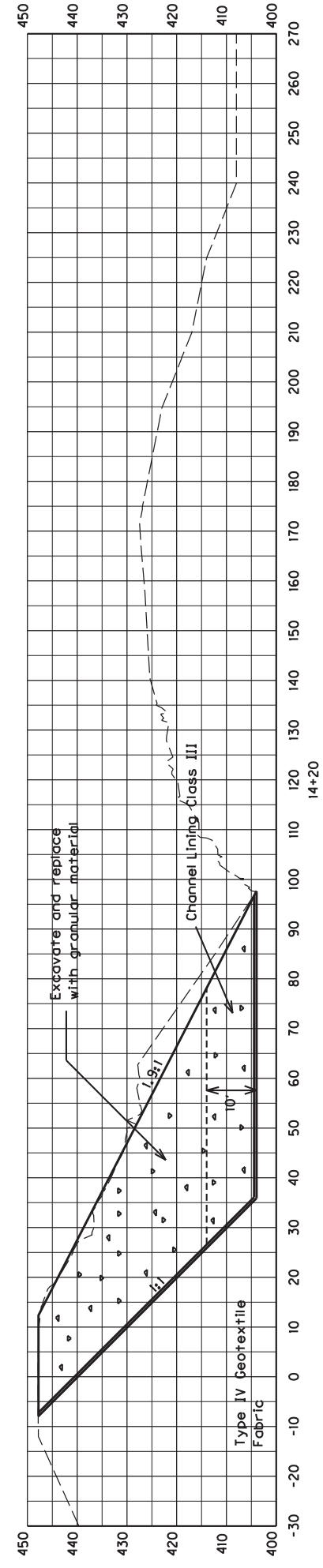
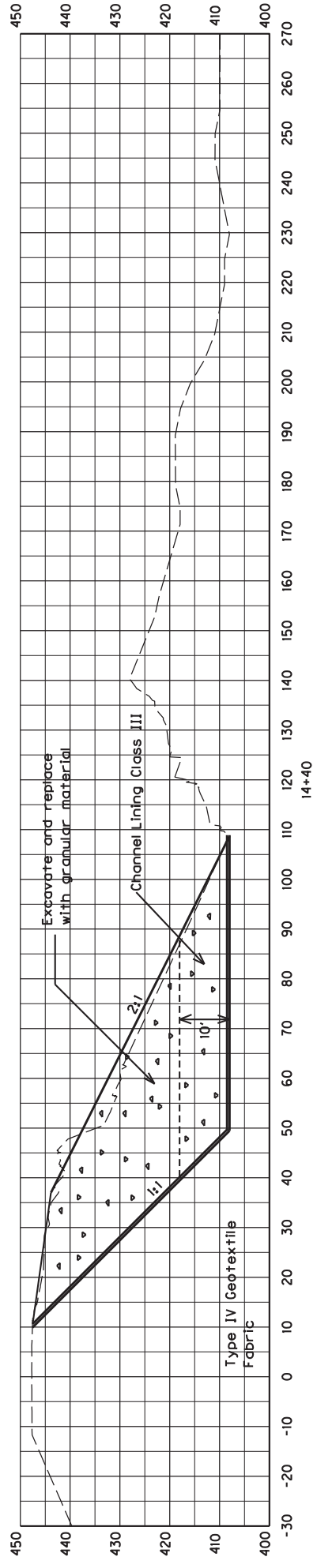
COUNTY OF	ITEM NO.
BULLITT	



SCALE: 1" = 10' HORIZONTAL  
1" = 10' VERTICAL

STA. 13+80 TO STA. 14+00

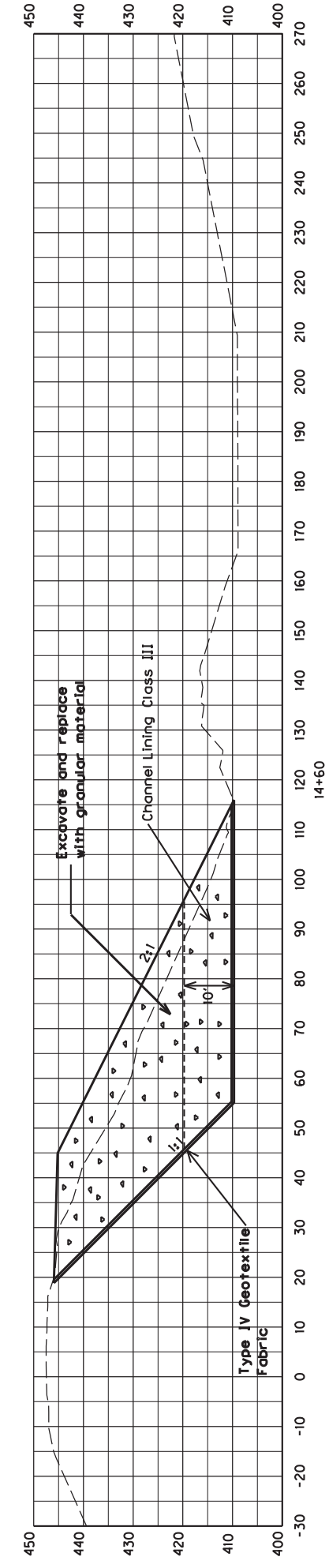
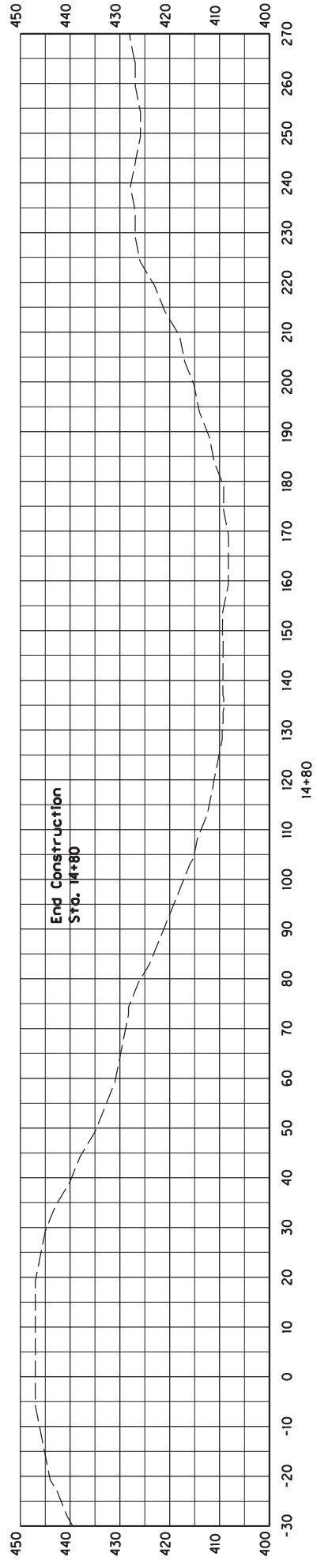
COUNTY OF	ITEM NO.
BULLITT	



SCALE: 1" = 10' HORIZONTAL  
1" = 4' VERTICAL

STA. 14+20 TO STA. 14+40

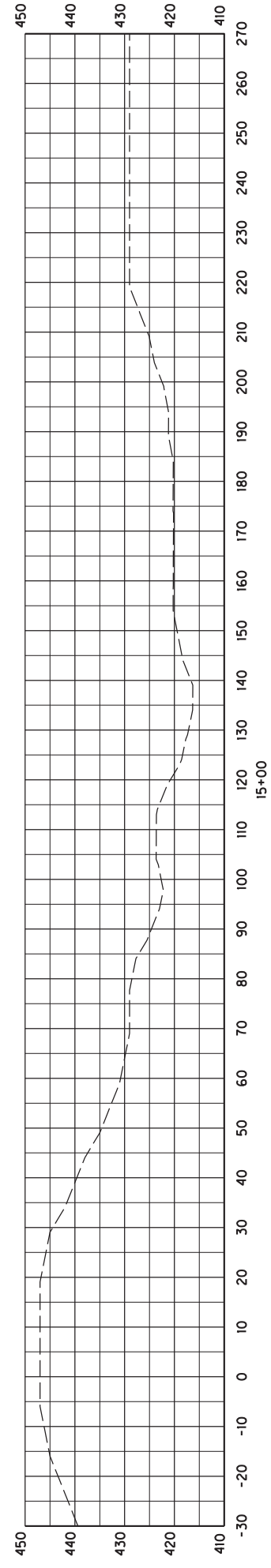
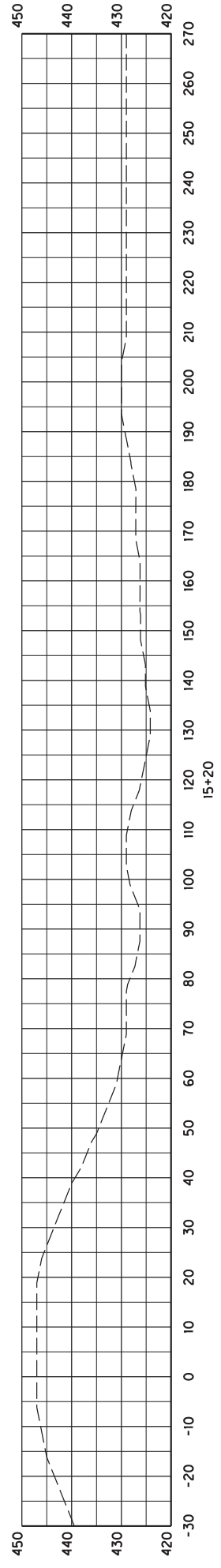
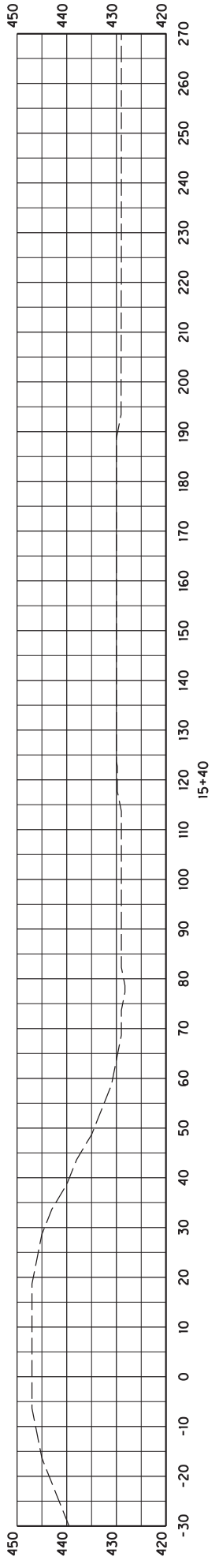
COUNTY OF	ITEM NO.
BULLITT	



SCALE: 1" = 10' HORIZONTAL  
1" = 1' VERTICAL

STA. 14+60 TO STA. 14+80

COUNTY OF	ITEM NO.
BULLITT	



SCALE: 1" = 10' HORIZONTAL  
1" = 4' VERTICAL

STA. 15+00 TO STA. 15+40

HORIZONTAL  
VERTICAL

Contract ID: 192134

Page 53 of 85



# 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 2012* and *Standard Drawings, Edition of 2016*.

## **SUPPLEMENTAL SPECIFICATIONS**

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

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

### **SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS**

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

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

#### **2.0 MATERIALS.**

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

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

**2.2 Sign and Controls.** All signs must:

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

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

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

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

**2.3 Power.**

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

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

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

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

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

**4.0 MEASUREMENT.** The final quantity of Variable Message Sign will be

11

the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

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

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

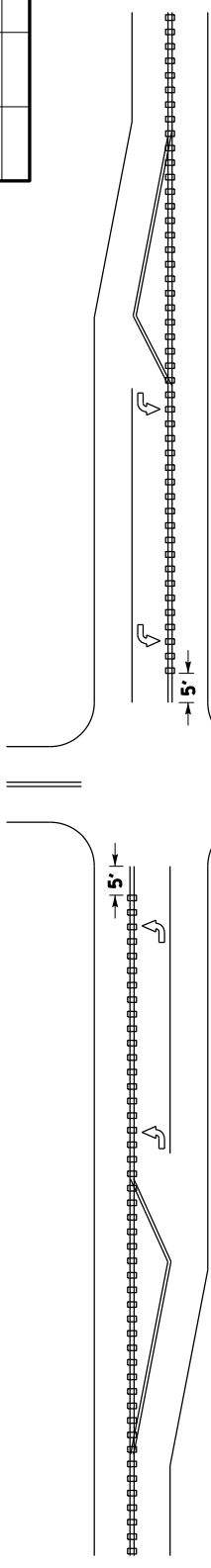
Effective June 15, 2012

## 2016 KENTUCKY APPLICABLE STANDARD DRAWINGS

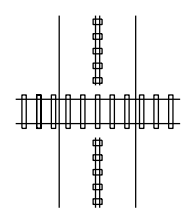
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TYPICAL GUARDRAIL INSTALLATIONS .....	RBI-002-07
GUARDRAIL COMPONENTS .....	RBR-005-11
GUARDRAIL TERMINAL SECTIONS .....	RBR-010-06
EROSION CONTROL BLANKET SLOPE INSTALLATION.....	RDI-040-01
EROSION CONTROL BLANKET CHANNEL INSTALLATION.....	RDI-041-01
TEMPORARY SILT FENCE .....	RDX-210-03
TEMPORARY SILT FENCE WITH WOVEN WIRE FENCE FABRIC .....	RDX-215-01
SILT TRAP - TYPE A .....	RDX-220-05
SILT TRAP - TYPE B .....	RDX-225-01
SILT TRAP - TYPE C .....	RDX-230-01
CURVE WIDENING AND SUPERELEVATION TRANSITIONS.....	RGS-001-07
MISCELLANEOUS STANDARDS .....	RGX-001-06
ONE POINT PROCTER FAMILY OF CURVES .....	RGX-200-01
APPROACHES, ENTRANCES, AND MAIL BOX TURNOUT.....	RPM-110-07
CENTERLINE RUMBLE STRIPS.....	TPM-150-02
CENTERLINE RUMBLE STRIP 4 INCH STRIPING .....	TPM-155-02
SHOULDER AND EDGE LINE RUMBLE STRIP DETAILS.....	TPM-165
LANE CLOSURE TWO-LANE HIGHWAY .....	TTC-100-04
SHOULDER CLOSURE.....	TTC-135-02
MOBILE OPERATION FOR PAINT STRIPING CASE I .....	TTS-100-02
MOBILE OPERATION FOR PAINT STRIPING CASE II .....	TTS-105-02

COUNTY OF	SHEET NO.
TERMIN.	

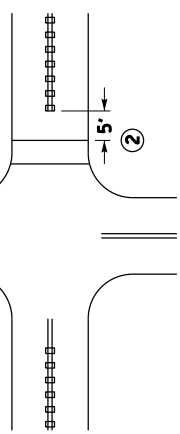


**INTERSECTIONS WITH LEFT-TURN LANES ①**

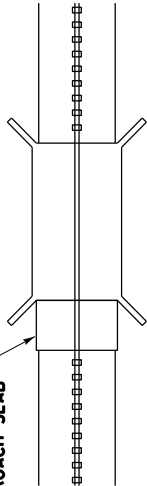


**HIGHWAY-RAIL GRADE CROSSINGS ③**

**INTERSECTIONS WITHOUT LEFT-TURN LANES ①**

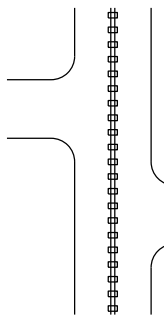


**APPROACH SLAB**



**BRIDGE DECK/APPROACH SLAB ④**

**DRIVEWAYS/MINOR COMMERCIAL ENTRANCES ⑤**



**NOTES ~**

- ① CENTERLINE RUMBLE STRIPS SHALL BE OMITTED THROUGH MAJOR INTERSECTIONS WITH, OR WITHOUT, LEFT-TURN LANES. OMIT THE CENTERLINE RUMBLE STRIPS APPROXIMATELY 5' IN ADVANCE OF THE AREA WHERE THE CENTERLINE PAVEMENT MARKINGS HAVE BEEN OMITTED (NORMALLY WHERE SIDE STREET RADIUS INTERSECTS MAINLINE).
- ② CENTERLINE RUMBLE STRIPS SHALL NOT BE INSTALLED THROUGH MARKED CROSSWALKS. OMIT THE CENTERLINE RUMBLE STRIPS APPROXIMATELY 5' IN ADVANCE OF MARKED CROSSWALKS.
- ③ CENTERLINE RUMBLE STRIPS SHALL NOT BE INSTALLED ACROSS HIGHWAY-RAIL GRADE CROSSINGS.
- ④ CENTERLINE RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS OR APPROACH SLABS.
- ⑤ CENTERLINE RUMBLE STRIPS SHALL BE INSTALLED THROUGH DRIVEWAYS & MINOR COMMERCIAL ENTRANCES.
- 6. CENTERLINE RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS, OR WHERE LANE WIDTHS ARE LESS THAN 11 FT.

BID ITEM AND UNIT TO BID  
CENTERLINE RUMBLE STRIPS

LF

**DRAWING NOT TO SCALE**  
**USE WITH CUR. STD. DWGS. TPM-155 AND TPM-160**

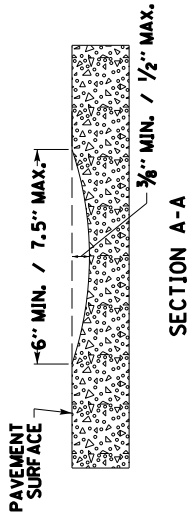
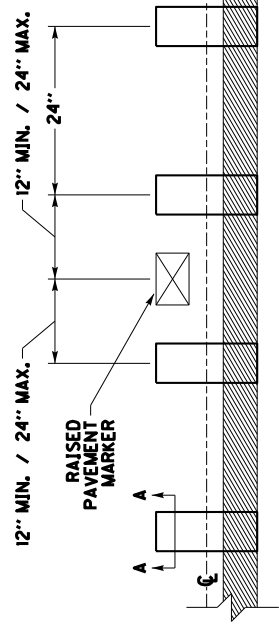
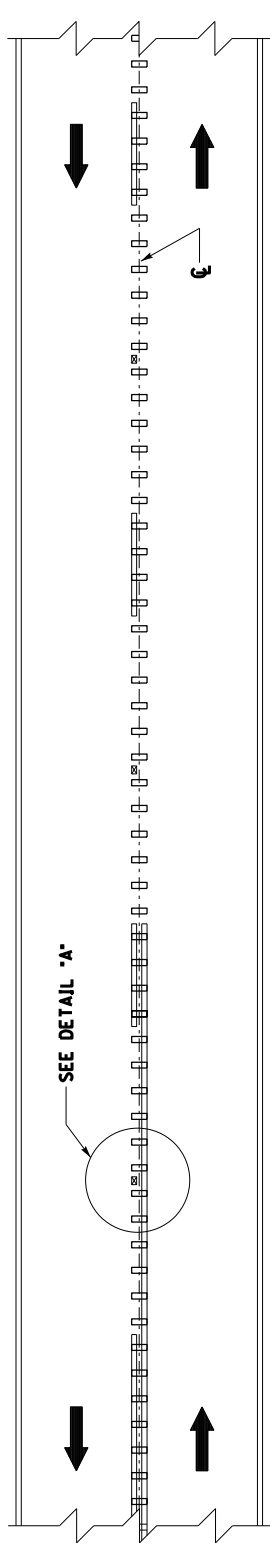
KENTUCKY  
DEPARTMENT OF HIGHWAYS  
**CENTERLINE RUMBLE STRIPS**

SUBMITTED: *B. [Signature]*  
II-23-16  
DATE  
002



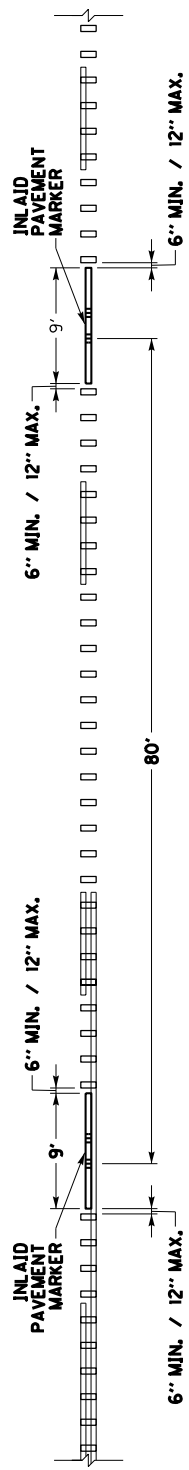
COUNTY OF	TITLING	SHEET
		003

PLAN VIEW



RUMBLE STRIP DETAIL

DETAIL 'A'



DETAIL FOR CENTERLINE RUMBLE STRIPS WITH INLAID PAVEMENT MARKERS

NOTES

1. DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE.
2. CENTERLINE RUMBLE STRIPS SHALL BE INSTALLED IN LINE WITH THE CENTER OF THE ROADWAY AS MUCH AS POSSIBLE.
3. DISCONTINUE CENTERLINE RUMBLE STRIPS AT LEAST 12" BEFORE AND AFTER THE CENTER OF EACH RAISED PAVEMENT MARKER, AND AT LEAST 6" BEFORE AND AFTER THE GROOVE FOR EACH INLAID PAVEMENT MARKER, INSTALL AS MANY RUMBLE STRIPS AS POSSIBLE BETWEEN ADJACENT PAVEMENT MARKERS WHILE MAINTAINING THE 24" CYCLE.
4. DO NOT INSTALL CENTERLINE RUMBLE STRIPS IN AREAS INDICATED ON TPM-150.
5. CENTERLINE RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS, OR WHERE LANE WIDTHS ARE LESS THAN 11 FT.

BID ITEM AND UNIT TO BID  
 CENTERLINE RUMBLE STRIPS

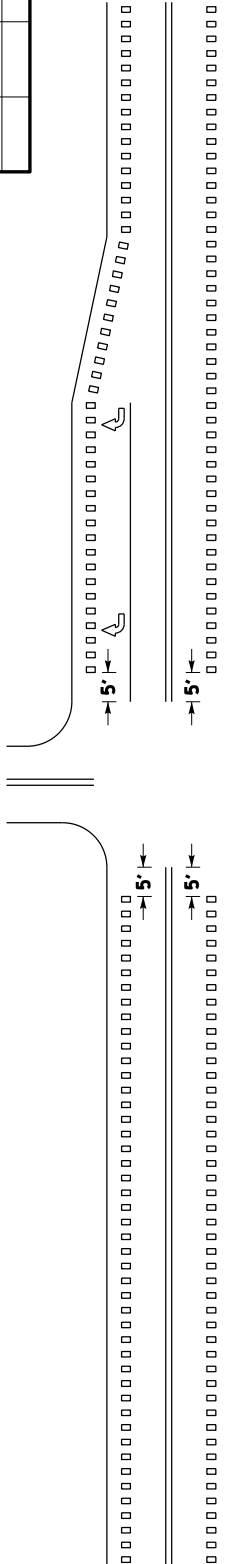
LF

DRAWING NOT TO SCALE  
 USE WITH CUR. STD. DWG.  
 TPM-150

KENTUCKY  
 DEPARTMENT OF HIGHWAYS  
 CENTERLINE  
 RUMBLE STRIPS  
 4 INCH STRIPING

SUBMITTED: *B. [Signature]*  
 11-23-16  
 DATE  
 003

COUNTY OF	SHEET
TIERING	



**INTERSECTIONS WITH OR WITHOUT  
 RIGHT TURN LANES ①**

**MARKED CROSSWALK ②**

**HIGHWAY-RAIL GRADE CROSSINGS ③**

**DRIVEWAYS/MINOR  
 COMMERCIAL ENTRANCES ⑤**

**BRIDGE DECK/APPROACH SLAB ④**

**MAILBOX TURNOUTS ⑥**

**NOTES**

- ① RUMBLE STRIPS SHALL BE OMITTED THROUGH MAJOR INTERSECTIONS WITH, OR WITHOUT, RIGHT-TURN LANES. OMIT RUMBLE STRIPS APPROXIMATELY 5' IN ADVANCE OF THE AREA WHERE EDGELINE PAVEMENT MARKINGS HAVE BEEN OMITTED (NORMALLY WHERE SIDE STREET RADIUS INTERSECTS MAINLINE).
- ② RUMBLE STRIPS SHALL NOT BE INSTALLED THROUGH MARKED CROSSWALKS. OMIT RUMBLE STRIPS APPROXIMATELY 5' IN ADVANCE OF MARKED CROSSWALKS.
- ③ RUMBLE STRIPS SHALL NOT BE INSTALLED ACROSS HIGHWAY-RAIL GRADE CROSSINGS.
- ④ RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS OR APPROACH SLABS.
- ⑤ RUMBLE STRIPS SHALL BE INSTALLED THROUGH DRIVEWAYS & MINOR COMMERCIAL ENTRANCES.
- ⑥ RUMBLE STRIPS SHALL BE INSTALLED THROUGH MAILBOX TURNOUTS.
7. RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.

**DRAWING NOT TO SCALE**

**USE WITH SEP1A 006, 007,  
 AND 008**

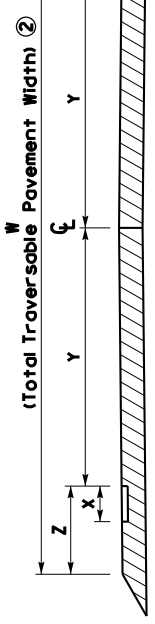
KENTUCKY  
 DEPARTMENT OF HIGHWAYS  
**SHOULDER & EDGELINE  
 RUMBLE STRIP DETAILS**

SUBMITTED: *B. [Signature]* JI-23-16  
 DATE: \_\_\_\_\_  
 005

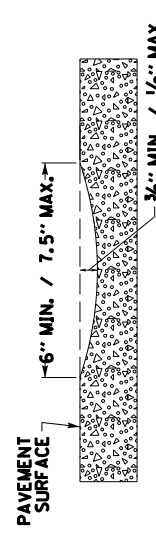
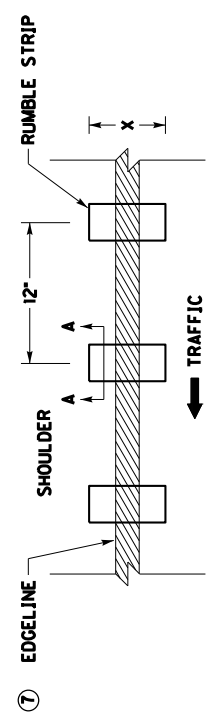
BID ITEMS AND UNIT TO BID  
 EDGELINE RUMBLE STRIPS  
 SHOULDER RUMBLE STRIPS

LF  
 LF

COUNTY OF	TIERING	SHEET
		006



**PAVEMENT CROSS-SECTION**



PAVEMENT WIDTH (W) ②	RUMBLE LENGTH (X) ⑤	ELRS ONLY		CLRS & ELRS	
		LANE WIDTH (Y) ③	SHOULDER WIDTH (Z) ④	LANE WIDTH (Y) ③	SHOULDER WIDTH (Z) ④
20'	8"	9'	1'	N/A	N/A
21'	8"	9.5'	1'	N/A	N/A
22'	8"	10'	1'	N/A	N/A
23'	8"	10'	1.5'	N/A	N/A
24'	8"	10.5'	1.5'	N/A	N/A
25'	8"	N/A	N/A	11'	1.5'
26'	8"	N/A	N/A	11'	2'
27'	8"	N/A	N/A	11.5'	2'
28'	8"	N/A	N/A	12'	2'
29'	8"	N/A	N/A	12'	2.5'
30'	8"	N/A	N/A	12'	3'
31'	8"	N/A	N/A	12'	3.5'
32'	8"	N/A	N/A	12'	4'
33'	8"	N/A	N/A	12'	4.5'

**NOTES**

1. EDGELINE RUMBLE STRIPS SHOULD BE INSTALLED ACCORDING TO THE DIMENSIONS PROPOSED ABOVE UNLESS THERE IS AN ENGINEERING BASIS THAT SUPPORTS A CHANGE IN DIMENSION. FOR EXAMPLE, IF THE EXISTING LANE WIDTH IS NARROWER THAN THE LANE WIDTH PROPOSED IN THIS DRAWING AND THE EXISTING SHOULDER PAVEMENT DEPTH IS NOT SUITABLE TO BE CONVERTED INTO A PORTION OF THE PROPOSED LANE WIDTH, THEN THE EXISTING LANE WIDTH SHOULD BE USED INSTEAD OF THE WIDTH PROPOSED IN THIS DRAWING.
2. PAVEMENT WIDTH (W) IS THE TOTAL WIDTH OF TRAVERSABLE PAVEMENT. DO NOT INCLUDE THE WIDTH OF ANY NON-TRAVERSABLE PAVEMENT, SUCH AS PAVEMENT WEDGES, WHEN MEASURING THE PAVEMENT WIDTH (W).
3. LANE WIDTH (Y) TO BE MEASURED FROM CENTER OF ROAD TO LANE SIDE EDGE OF RUMBLE STRIP.
4. PAVED SHOULDER WIDTH (Z) TO BE MEASURED FROM LANE SIDE EDGE OF RUMBLE STRIP TO OUTSIDE EDGE OF TRAVERSABLE PAVEMENT.
5. DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE. IF THE TYPICAL SECTION SHOWS A LANE WIDTH (Y) AND/OR SHOULDER WIDTH (Z) THAT DIFFERS FROM THE WIDTHS LISTED IN THIS DRAWING, THE ENGINEER SHALL DETERMINE THE LANE WIDTH (Y) AND/OR SHOULDER WIDTH (Z) AT THE TIME OF CONSTRUCTION.  
NOTE: CENTERLINE RUMBLE STRIPS SHOULD BE OMITTED WHEN THE LANE WIDTH (Y) IS LESS THAN 11 FT.
6. RUMBLE LENGTH (X) MAY BE MODIFIED AS THE ENGINEER DIRECTS. IF THE SHOULDER WIDTH (Z) IS EQUAL TO OR LESS THAN THE PROPOSED RUMBLE LENGTH (X).
7. PLACE THE EDGELINE MARKING IN THE CENTER OF THE RUMBLE STRIP.
8. EDGELINE RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.

BID ITEM AND UNIT TO BID  
EDGELINE RUMBLE STRIPS

LF

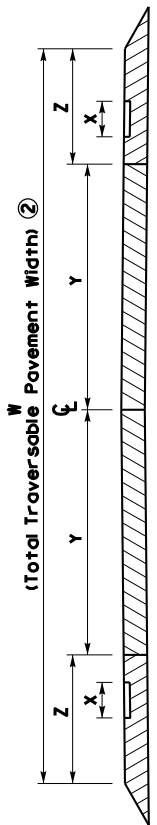
DRAWING NOT TO SCALE

USE WITH SEPIA 005

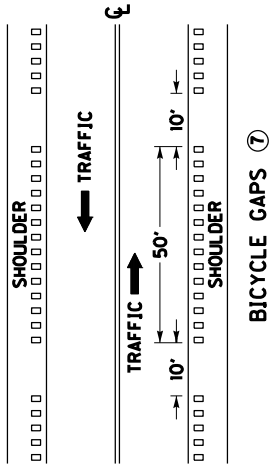
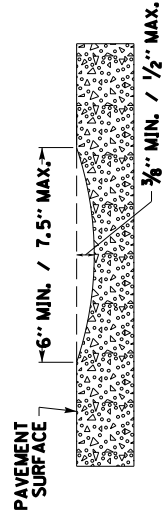
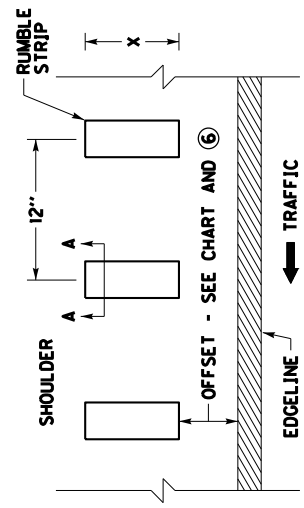
KENTUCKY DEPARTMENT OF HIGHWAYS
EDGELINE RUMBLE STRIP DETAILS TWO LANE ROADWAYS
SUBMITTED: <i>B. [Signature]</i> JL-23-16 DATE
006

COUNTY OF	TITLING	SHEET
		007

PAVEMENT WIDTH (W) ②	RUMBLE LENGTH (X) ⑤	OFFSET ⑥	CLRS & SRS	
			LANE WIDTH (Y) ③	SHOULDER WIDTH (Z) ④
34'	8"	6"	12'	5'
35'	8"	6"	12'	5.5'
36'	8"	6"	12'	6'
37'	12"	12"	12'	6.5'
38'	12"	12"	12'	7'
39'	12"	12"	12'	7.5'
>40'	16"	12"	12'	>8'



PAVEMENT CROSS-SECTION



~ NOTES ~

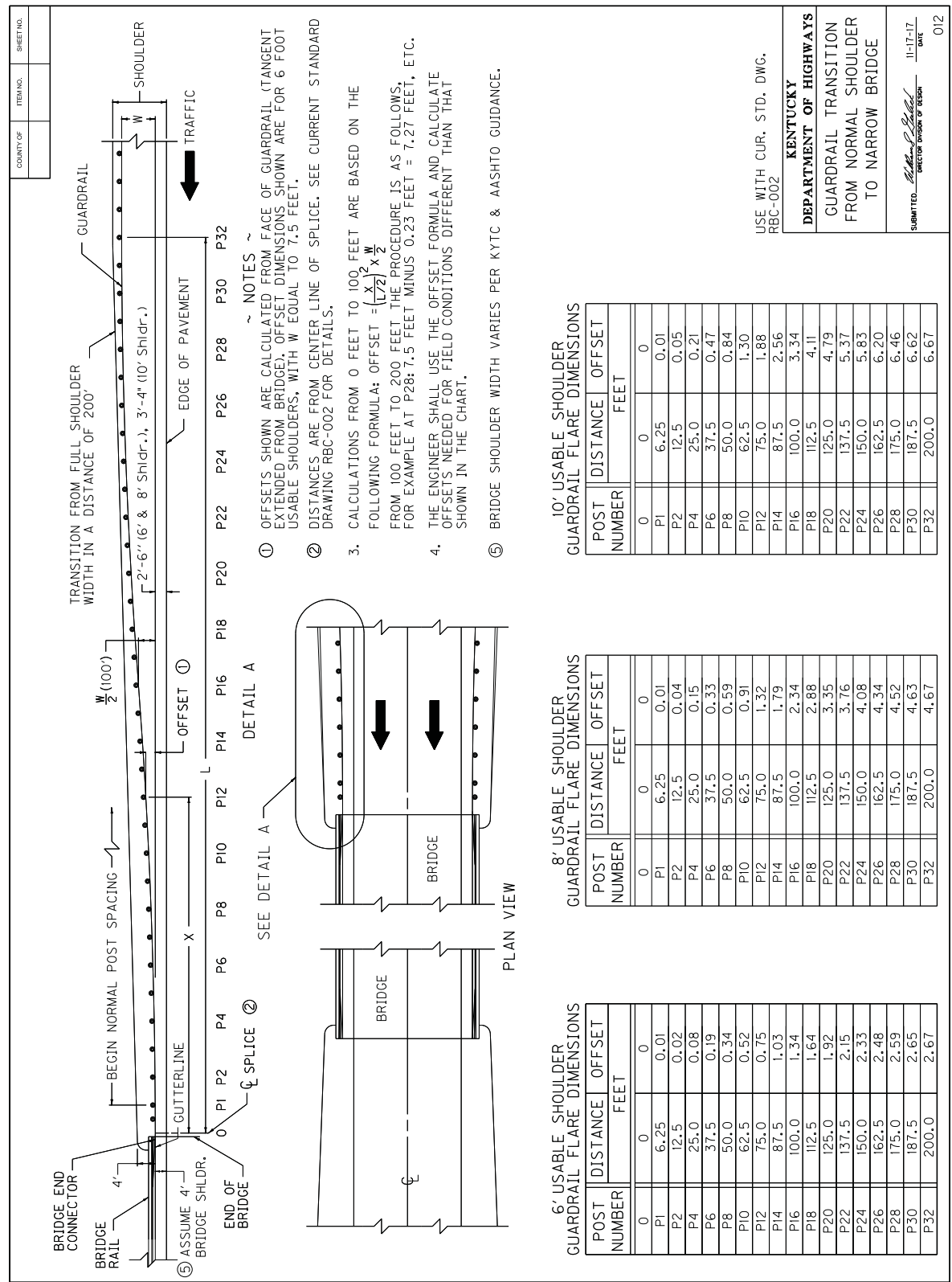
- SHOULDER RUMBLE STRIPS SHOULD BE INSTALLED ACCORDING TO THE DIMENSIONS PROPOSED ABOVE UNLESS THERE IS AN ENGINEERING BASIS THAT SUPPORTS A CHANGE IN DIMENSION. FOR EXAMPLE, IF THE EXISTING LANE WIDTH IS NARROWER THAN THE LANE WIDTH PROPOSED IN THIS DRAWING AND THE EXISTING SHOULDER PAVEMENT DEPTH IS NOT SUITABLE TO BE CONVERTED INTO A PORTION OF THE PROPOSED LANE WIDTH, THEN THE EXISTING LANE WIDTH SHOULD BE USED INSTEAD OF THE WIDTH PROPOSED IN THIS DRAWING.
- PAVEMENT WIDTH (W) IS THE TOTAL WIDTH OF TRAVERSABLE PAVEMENT. DO NOT INCLUDE THE WIDTH OF ANY NON-TRAVERSABLE PAVEMENT, SUCH AS PAVEMENT WEDGES, WHEN MEASURING THE PAVEMENT WIDTH (W).
- LANE WIDTH (Y) TO BE MEASURED FROM CENTER OF ROAD TO CENTER OF EDGELINE STRIPE.
- PAVED SHOULDER WIDTH (Z) TO BE MEASURED FROM CENTER OF EDGELINE STRIPE TO OUTSIDE EDGE OF TRAVERSABLE PAVEMENT. DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE. IF THE TYPICAL SECTION SHOWS A LANE WIDTH (Y) AND/OR SHOULDER WIDTH (Z) THAT DIFFERS FROM THE WIDTHS LISTED IN THIS DRAWING, THE ENGINEER SHALL DETERMINE THE LANE WIDTH (Y) AND/OR SHOULDER WIDTH (Z) AT THE TIME OF CONSTRUCTION.
- NOTE: CENTERLINE RUMBLE STRIPS SHOULD BE OMITTED WHEN THE LANE WIDTH (Y) IS LESS THAN 11 FT.
- RUMBLE LENGTH (X) AND/OR OFFSET DISTANCE MAY BE MODIFIED AS THE ENGINEER DIRECTS, IF THE SHOULDER WIDTH (Z) IS EQUAL TO OR LESS THAN THE COMBINED WIDTH OF THE PROPOSED RUMBLE LENGTH (X) AND OFFSET DISTANCE.
- ALL SHOULDER RUMBLE STRIPS ALONG SHOULDERS THAT ARE 5' OR WIDER SHOULD INCLUDE BICYCLE GAPS AS DETAILED.
- SHOULDER RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.

DRAWING NOT TO SCALE

USE WITH SEP1A 005  
KENTUCKY  
DEPARTMENT OF HIGHWAYS  
SHOULDER RUMBLE STRIP  
DETAILS  
TWO LANE ROADWAYS  
SUBMITTED: *B. [Signature]* JL-23-16 DATE  
007

BID ITEM AND UNIT TO BID  
SHOULDER RUMBLE STRIPS

LF



COUNTY OF	ITEM NO.	SHEET NO.

- 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:  $OFFSET = \left(\frac{x}{172}\right)^2 \times \frac{W}{2}$   
FROM 100 FEET TO 200 FEET THE PROCEDURE IS AS FOLLOWS, FOR EXAMPLE AT P28:  $7.5 \text{ FEET MINUS } 0.23 \text{ FEET} = 7.27 \text{ FEET, ETC.}$
  - 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	DISTANCE	OFFSET	FEET
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	DISTANCE	OFFSET	FEET
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	DISTANCE	OFFSET	FEET
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: *[Signature]*  
DIRECTOR, DIVISION OF DESIGN

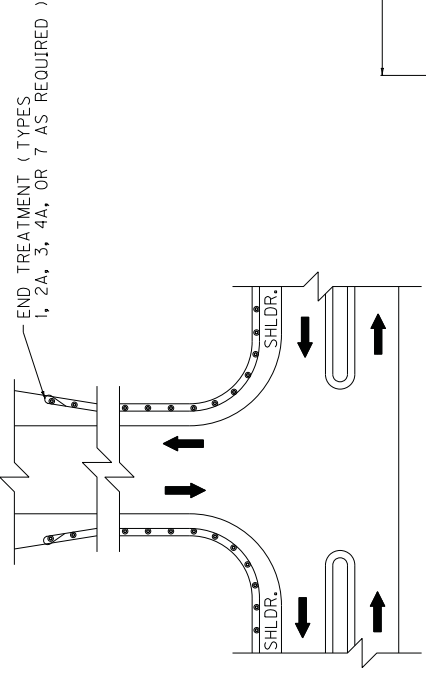
DATE: 11-17-17

012

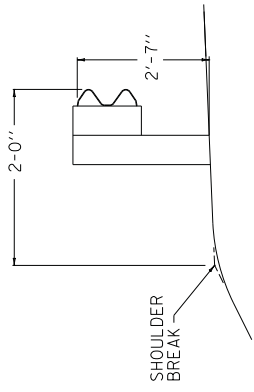
COUNTY OF	SHEET
ITEM NO.	001

~ NOTES ~

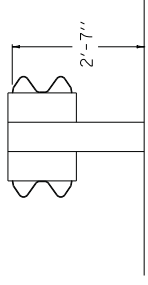
1. FOR END TREATMENT TYPE 4A USE CUR. STD. DWG. RBR-035 FOR OFFSETS.
2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET: (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).



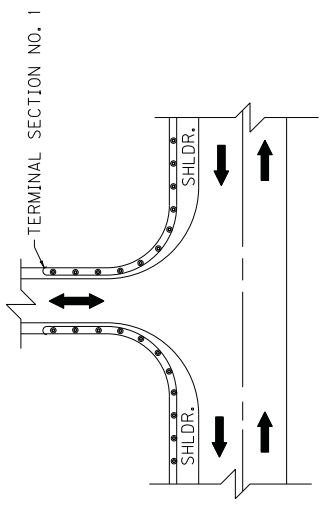
APPROACH ROADS



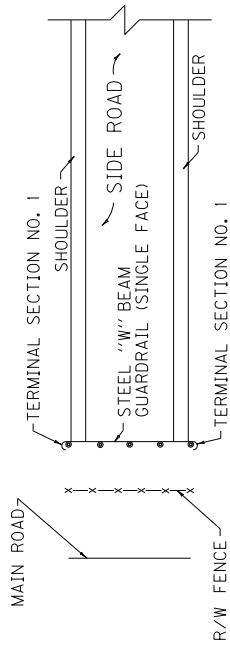
NORMAL GUARDRAIL INSTALLATION



TYPICAL DOUBLE FACE GUARDRAIL INSTALLATION



ENTRANCES



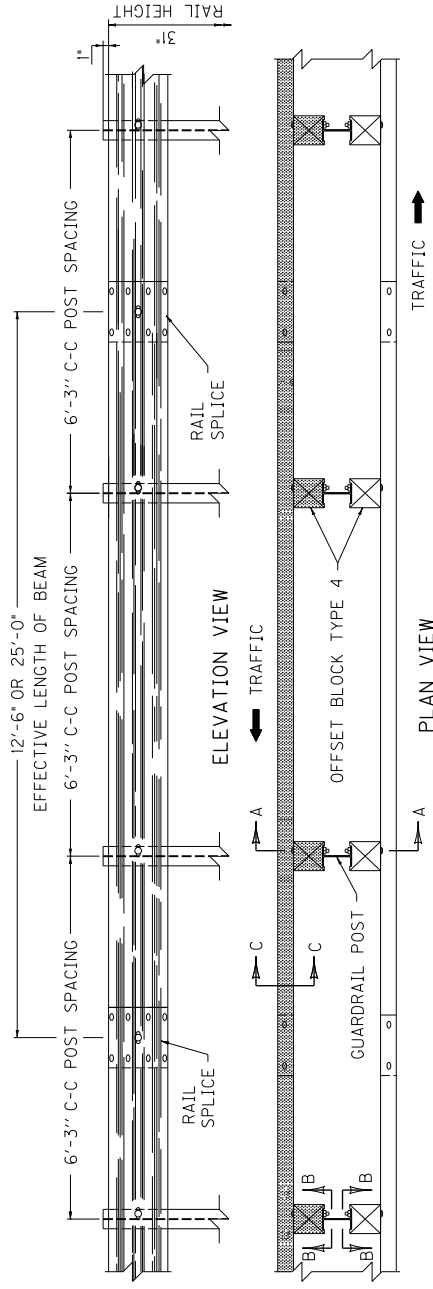
GUARDRAIL USED AS A BARRICADE

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

**KENTUCKY**  
**DEPARTMENT OF HIGHWAYS**  
TYPICAL GUARDRAIL  
INSTALLATIONS

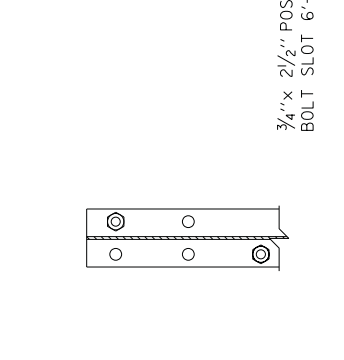
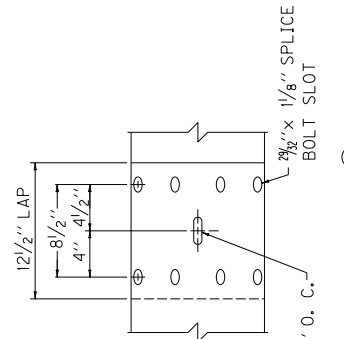
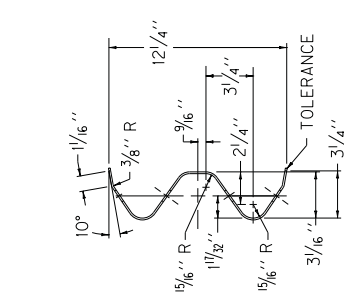
SUBMITTED: *[Signature]*  
DIRECTOR DIVISION OF DESIGN  
DATE: 11-17-17  
024

COUNTY OF	ITEM NO.	SHEET NO.



NOTES ~

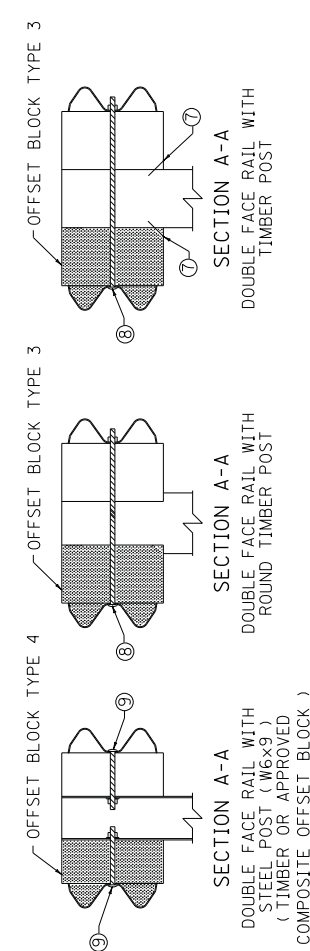
- BID ITEM AND UNIT TO BID  
GUARDRAIL-STEEL W BEAM-S FACE LF
- GUARDRAIL-STEEL W BEAM-D FACE LF
- DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
- THE RAIL ELEMENT 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 1/4" 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 10d COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
- 5/8"x 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"x8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE 3/8" 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)

RAIL SPLICE (5)

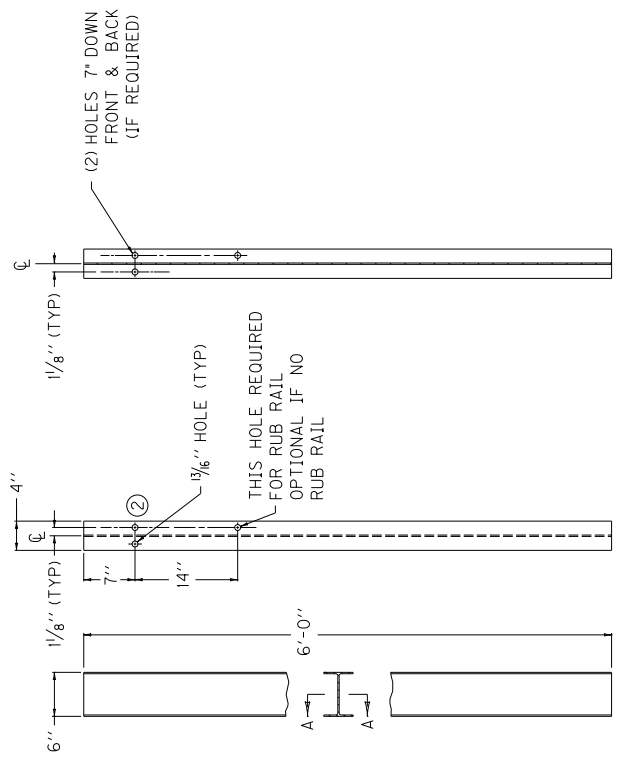
SECTION B-B



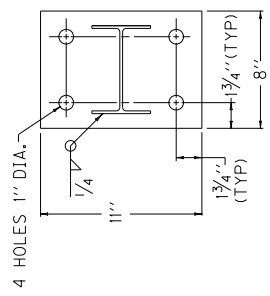
<b>KENTUCKY</b>	
<b>DEPARTMENT OF HIGHWAYS</b>	
STEEL BEAM	
GUARDRAIL	
( "W" BEAM )	
SUBMITTED: <i>Robert P. Schell</i> DIRECTOR DIVISION OF DESIGN	
DATE: 11-17-12	027

COUNTY OF	SHEET
ITEM NO.	001

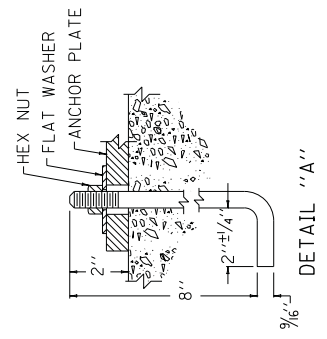
- ~ NOTES ~
- ① W6 X 8.5 IS AN ACCEPTABLE ALTERNATE.
  - ② THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.
  - ③ TIMBER OR COMPOSITE BLOCKOUTS MAY BE USED WITH STEEL POST.



~ W6 X 9.0 STEEL POST ① ~

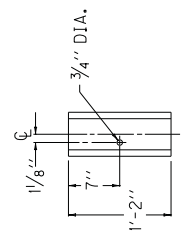


PLAN VIEW



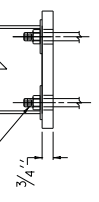
DETAIL "A"

REAR ELEVATION



REAR ELEVATION

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

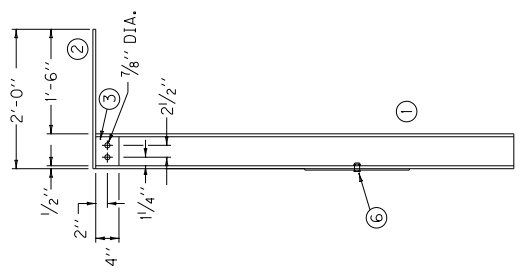


SIDE VIEW

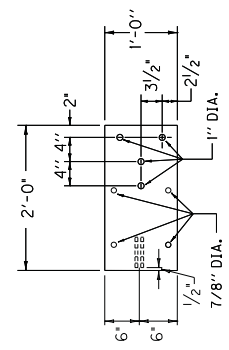
KENTUCKY DEPARTMENT OF HIGHWAYS
STEEL GUARDRAIL POSTS
SUBMITTED: <i>Mark P. Sells</i> DIRECTOR DIVISION OF DESIGN
DATE: 3-06-18
028



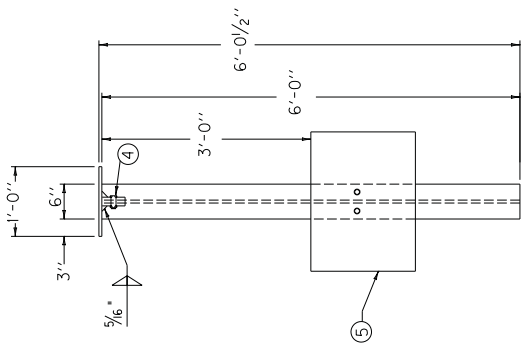
COUNTY OF	ITEM NO.	SHEET NO.



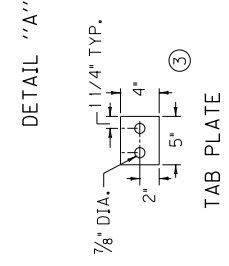
FRONT VIEW



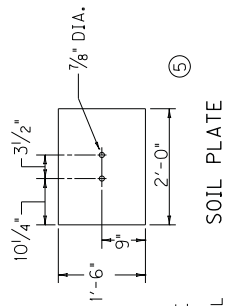
ANCHOR PLATE ASSEMBLY (2)



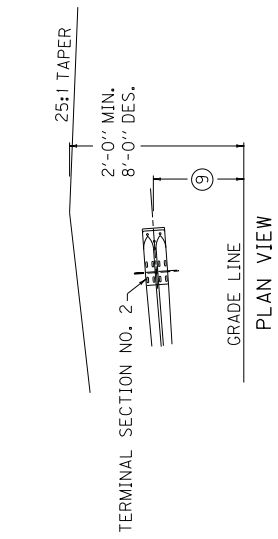
SIDE VIEW



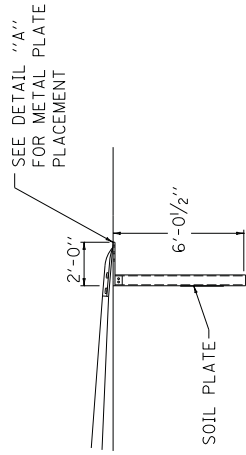
DETAIL "A"



SOIL PLATE



PLAN VIEW



ELEVATION VIEW

BILL OF MATERIAL	
NO.	DESCRIPTION
1	W6x15 W-BEAM
2	2' x 1' x 1/2" ANCHOR PLATE ASSEMBLY
3	4" x 5" x 1/2" TAB PLATE
4	3/4" DIA. x 2 1/2" HEAVY HEX HD BOLT w/NUT & (2) FLAT WASHERS
5	2' x 18" x 1/4" SOIL PLATE
6	3/4" DIA. x 2" HEAVY HEX HD BOLT w/NUT & (2) FLAT WASHERS

~ NOTES ~

- 7. GUARDRAIL END TREATMENT TYPE 7 SHALL BE TO THE PAY LIMITS AS DETAILED AND THE CONTRACT UNIT PRICE EACH SHALL INCLUDE TERMINAL SECTION NO. 2, STEEL "W" BEAM GUARDRAIL (SINGLE FACE), GUARDRAIL POSTS, MI, STEEL ANCHOR PLATE AND POST, SOIL PLATE, TAB PLATES, EXCAVATION, LABOR, HARDWARE AND ALL INCIDENTALS NECESSARY FOR THE INSTALLATION.
- 8. SPLICE BOLTS AT TERMINAL SECTION NO. 2 SHALL BE LOOSELY TIGHTENED AND CENTERED TO ALLOW MAXIMUM MOVEMENT DUE TO EXPANSION. ONE (1) 1/2" ROUND WASHER AND (1) RECTANGULAR PLATE WASHER REQUIRED FOR EACH SPLICE BOLT, AT TERMINAL SECTION NO. 2.
- 9. THE DESIRABLE OFFSET DISTANCE FROM THE NORMAL GUARDRAIL LINE SHALL BE 4'-0". THE MINIMUM OFFSET DISTANCE FROM THE NORMAL GUARDRAIL LINE IS ZERO FEET.
- 10. SEE CUR. STD. DWG. RBR-001, RBR-005, RBR-010 AND RBR-015 FOR APPLICABLE DETAILS AND SPECIFICATIONS.
- 11. LEAVE CLEARANCE IN BETWEEN TAB PLATES FOR GALVANIZED W6 x 15 W-BEAM POST.

USE WITH CUR. STD. DWG.  
RBR-001, RBR-005, RBR-010  
RBR-015, RBR-050

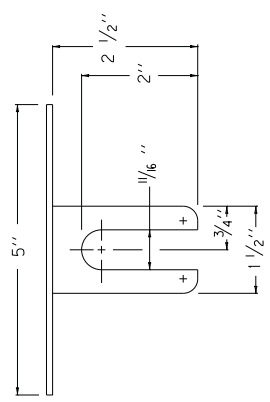
KENTUCKY  
DEPARTMENT OF HIGHWAYS  
GUARDRAIL END  
TREATMENT TYPE 7  
ALTERNATE ANCHOR

SUBMITTED: *[Signature]*  
DIRECTOR DIVISION OF DESIGN  
DATE: 11-17-17  
031

COUNTY OF	ITEM NO.	SHEET NO.

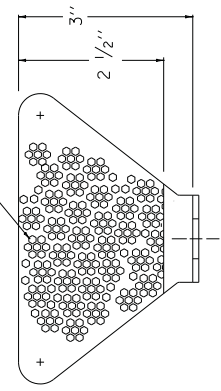
~ NOTES ~

- 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.

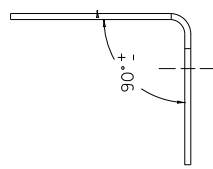


PLAN VIEW

TYPE IX SHEETING,  
YELLOW OR WHITE

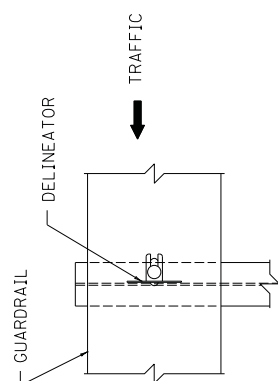


FRONT VIEW

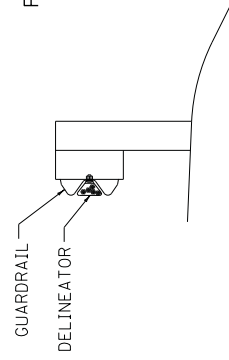


SIDE VIEW

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.

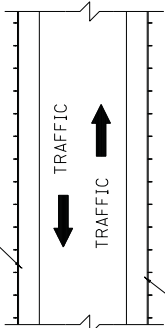


FRONT VIEW

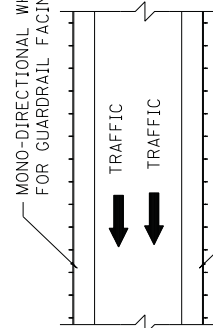


SIDE VIEW

BI-DIRECTIONAL WHITE DELINEATOR FOR GUARDRAIL FACING TRAFFIC



BI-DIRECTIONAL WHITE DELINEATOR FOR GUARDRAIL FACING TRAFFIC



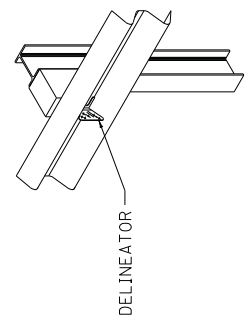
MONO-DIRECTIONAL WHITE DELINEATOR FOR GUARDRAIL FACING TRAFFIC

MONO-DIRECTIONAL YELLOW DELINEATOR FOR GUARDRAIL FACING TRAFFIC

PLACEMENT OF DELINEATORS FOR GUARDRAIL

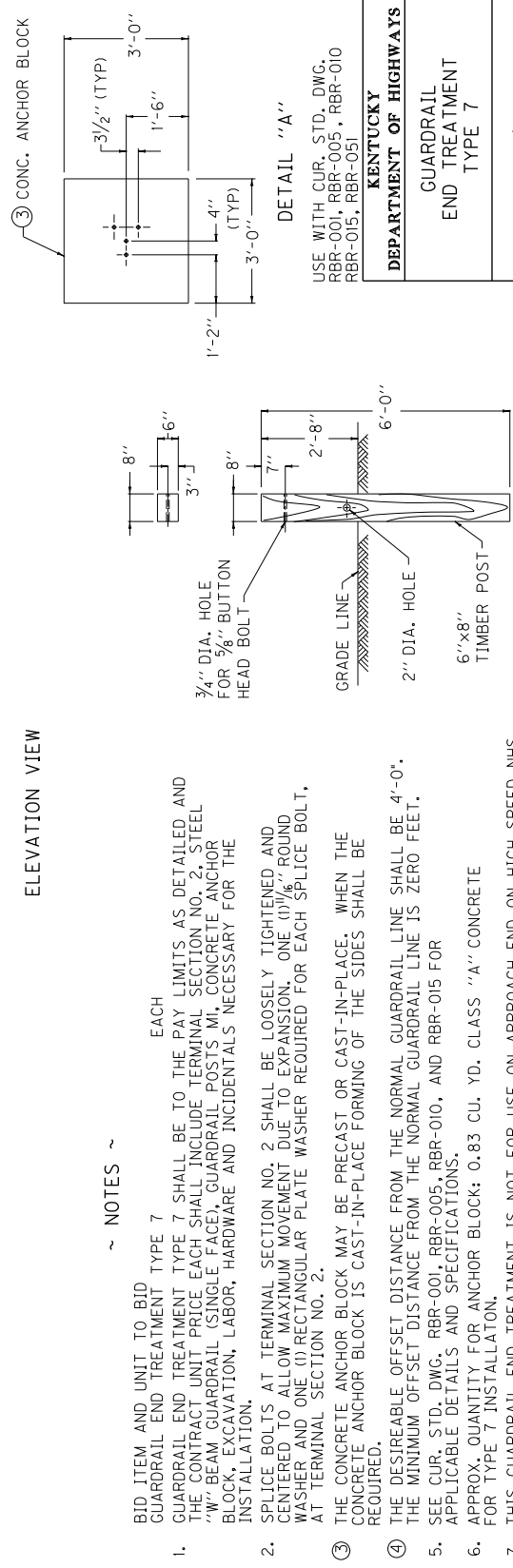
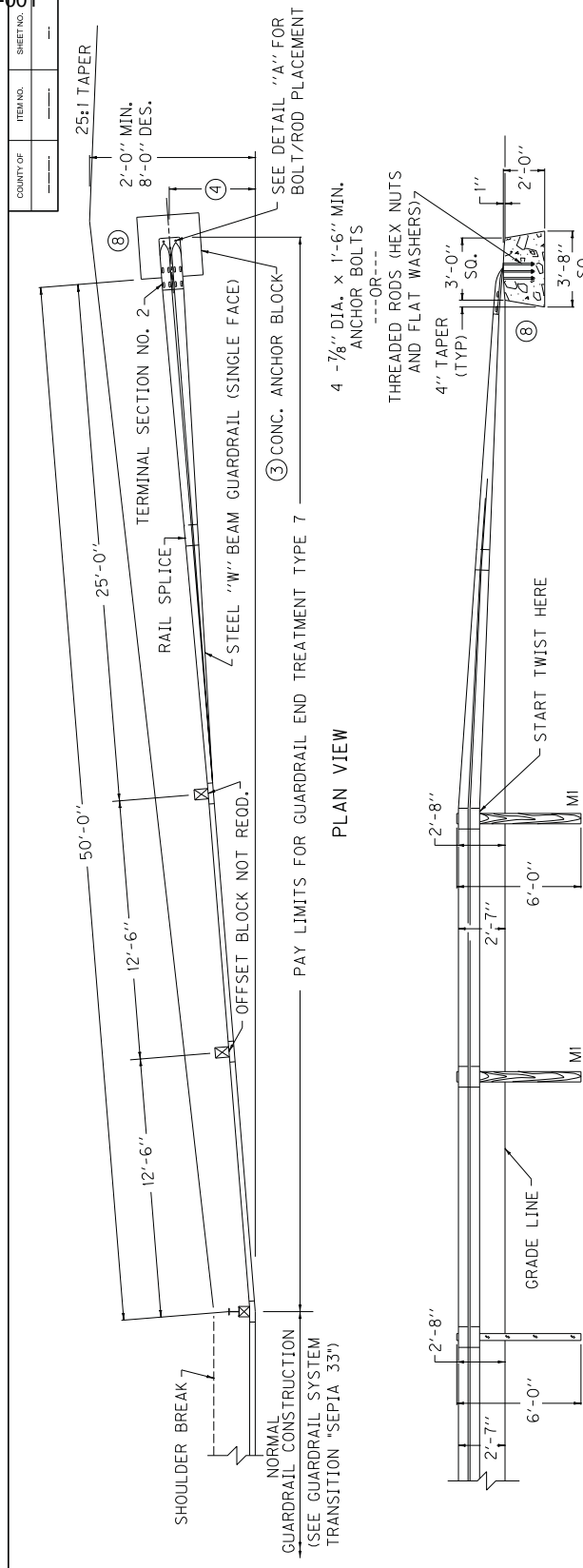
APPROXIMATE DELINEATOR SPACING	
TANGENT	100'
CURVE	50'

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



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

<b>KENTUCKY</b>	
<b>DEPARTMENT OF HIGHWAYS</b>	
DELINEATORS FOR GUARDRAIL	
SUBMITTED: <i>Mark P. Pickett</i> DIRECTOR DIVISION OF DESIGN	JL-17-17 DATE
	032

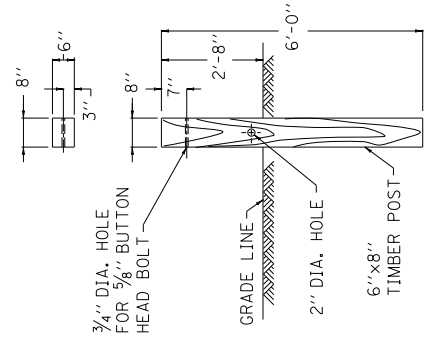
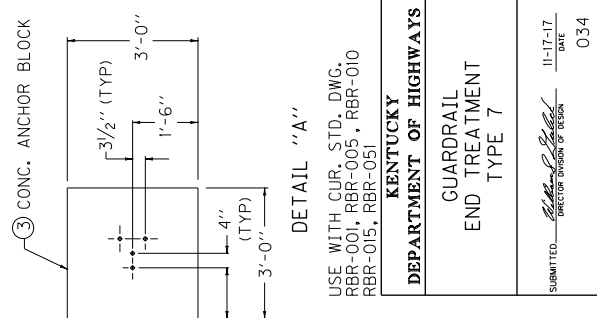


~ NOTES ~

1. BID ITEM AND UNIT TO BID GUARDRAIL END TREATMENT TYPE 7 EACH GUARDRAIL END TREATMENT TYPE 7 SHALL BE TO THE PAY LIMITS AS DETAILED AND THE CONTRACT UNIT PRICE EACH SHALL INCLUDE TERMINAL SECTION NO. 2 STEEL "W" BEAM GUARDRAIL (SINGLE FACE), GUARDRAIL POSTS MI, CONCRETE ANCHOR BLOCK, EXCAVATION, LABOR, HARDWARE AND INCIDENTALS NECESSARY FOR THE INSTALLATION.
2. SPLICE BOLTS AT TERMINAL SECTION NO. 2 SHALL BE LOOSELY TIGHTENED AND CENTERED TO ALLOW MAXIMUM MOVEMENT DUE TO EXPANSION. ONE (1) 1/8" ROUND WASHER AND ONE (1) RECTANGULAR PLATE WASHER REQUIRED FOR EACH SPLICE BOLT, AT TERMINAL SECTION NO. 2.
3. THE CONCRETE ANCHOR BLOCK MAY BE PRECAST OR CAST-IN-PLACE. WHEN THE CONCRETE ANCHOR BLOCK IS CAST-IN-PLACE FORMING OF THE SIDES SHALL BE REQUIRED.
4. THE DESIRABLE OFFSET DISTANCE FROM THE NORMAL GUARDRAIL LINE SHALL BE 4'-0". THE MINIMUM OFFSET DISTANCE FROM THE NORMAL GUARDRAIL LINE IS ZERO FEET.
5. SEE CUR. STD. DWG. RBR-001, RBR-005, RBR-010, AND RBR-015 FOR APPLICABLE DETAILS AND SPECIFICATIONS.
6. APPROX. QUANTITY FOR ANCHOR BLOCK: 0.83 CU. YD. CLASS "A" CONCRETE FOR TYPE 7 INSTALLATION.
7. THIS GUARDRAIL END TREATMENT IS NOT FOR USE ON APPROACH END ON HIGH SPEED NHS ROUTES ABOVE 35 MPH.
8. SEE CUR. STD. DWG. RBR-051 FOR ALTERNATE END ANCHOR.

ELEVATION VIEW

PLAN VIEW



COUNTY OF	ITEM NO.	SHEET NO.

USE WITH CUR. STD. DWG. RBR-001, RBR-005, RBR-010 RBR-015, RBR-051
<b>KENTUCKY</b> <b>DEPARTMENT OF HIGHWAYS</b>
GUARDRAIL END TREATMENT TYPE 7
SUBMITTED: <i>[Signature]</i> DIRECTOR DIVISION OF DESIGN DATE: 11-17-17 034

## **PART III**

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

**TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS**

**LABOR AND WAGE REQUIREMENTS  
APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS**

- I. Application
- II. Nondiscrimination of Employees (KRS 344)

I. APPLICATION

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

3. A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

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

II. NONDISCRIMINATION OF EMPLOYEES

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.

## EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

### **Kentucky Equal Employment Opportunity Act of 1978**

The requirements of the Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) shall apply to this Contract. The apparent low Bidder will be required to submit EEO forms to the Division of Construction Procurement, which will then forward to the Finance and Administration Cabinet for review and approval. No award will become effective until all forms are submitted and EEO/CC has certified compliance. The required EEO forms are as follows:

- EEO-1: Employer Information Report
- Affidavit of Intent to Comply
- Employee Data Sheet
- Subcontractor Report

These forms are available on the Finance and Administration's web page under ***Vendor Information, Standard Attachments and General Terms*** at the following address:  
**<https://www.eProcurement.ky.gov>**.

Bidders currently certified as being in compliance by the Finance and Administration Cabinet may submit a copy of their approval letter in lieu of the referenced EEO forms.

For questions or assistance please contact the Finance and Administration Cabinet by email at **[finance.contractcompliance@ky.gov](mailto:finance.contractcompliance@ky.gov)** or by phone at 502-564-2874.

# EMPLOYEE RIGHTS UNDER THE FAIR LABOR STANDARDS ACT

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

## FEDERAL MINIMUM WAGE

# \$7.25

 PER HOUR

BEGINNING JULY 24, 2009

**OVERTIME PAY** At least 1½ times your regular rate of pay for all hours worked over 40 in a workweek.

**CHILD LABOR** An employee must be at least **16** years old to work in most non-farm jobs and at least **18** to work in non-farm jobs declared hazardous by the Secretary of Labor.

Youths **14** and **15** years old may work outside school hours in various non-manufacturing, non-mining, non-hazardous jobs under the following conditions:

**No more than**

- **3** hours on a school day or **18** hours in a school week;
- **8** hours on a non-school day or **40** hours in a non-school week.

Also, work may not begin before **7 a.m.** or end after **7 p.m.**, except from June 1 through Labor Day, when evening hours are extended to **9 p.m.** Different rules apply in agricultural employment.

**TIP CREDIT** Employers of “tipped employees” must pay a cash wage of at least \$2.13 per hour if they claim a tip credit against their minimum wage obligation. If an employee’s tips combined with the employer’s cash wage of at least \$2.13 per hour do not equal the minimum hourly wage, the employer must make up the difference. Certain other conditions must also be met.

**ENFORCEMENT** The Department of Labor may recover back wages either administratively or through court action, for the employees that have been underpaid in violation of the law. Violations may result in civil or criminal action.

Employers may be assessed civil money penalties of up to \$1,100 for each willful or repeated violation of the minimum wage or overtime pay provisions of the law and up to \$11,000 for each employee who is the subject of a violation of the Act’s child labor provisions. In addition, a civil money penalty of up to \$50,000 may be assessed for each child labor violation that causes the death or serious injury of any minor employee, and such assessments may be doubled, up to \$100,000, when the violations are determined to be willful or repeated. The law also prohibits discriminating against or discharging workers who file a complaint or participate in any proceeding under the Act.

### ADDITIONAL INFORMATION

- Certain occupations and establishments are exempt from the minimum wage and/or overtime pay provisions.
- Special provisions apply to workers in American Samoa and the Commonwealth of the Northern Mariana Islands.
- Some state laws provide greater employee protections; employers must comply with both.
- The law requires employers to display this poster where employees can readily see it.
- Employees under 20 years of age may be paid \$4.25 per hour during their first 90 consecutive calendar days of employment with an employer.
- Certain full-time students, student learners, apprentices, and workers with disabilities may be paid less than the minimum wage under special certificates issued by the Department of Labor.

For additional information:



# 1-866-4-USWAGE

(1-866-487-9243) TTY: 1-877-889-5627



# WWW.WAGEHOUR.DOL.GOV



**PART IV**  
**INSURANCE**

## INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

- 1) Commercial General Liability-Occurrence form – not less than \$2,000,000 General aggregate, \$2,000,000 Products & Completed Aggregate, \$1,000,000 Personal & Advertising, \$1,000,000 each occurrence.
- 2) Automobile Liability- \$1,000,000 per accident
- 3) Employers Liability:
  - a) \$100,000 Each Accident Bodily Injury
  - b) \$500,000 Policy limit Bodily Injury by Disease
  - c) \$100,000 Each Employee Bodily Injury by Disease
- 4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
  - a) "policy contains no deductible clauses."
  - b) "policy contains \_\_\_\_\_ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."
- 5) KENTUCKY WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

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

## PROPOSAL BID ITEMS

192134

Page 1 of 2

Report Date 3/13/19

### Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	200.00	TON		\$	
0020	00212		CL2 ASPH BASE 1.00D PG64-22	175.00	TON		\$	
0030	00301		CL2 ASPH SURF 0.38D PG64-22	100.00	TON		\$	
0040	00356		ASPHALT MATERIAL FOR TACK	2.50	TON		\$	
0050	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0060	02677		ASPHALT PAVE MILLING & TEXTURING	55.00	TON		\$	
0070	02697		EDGE LINE RUMBLE STRIPS	1,200.00	LF		\$	
0080	20458ES403		CENTERLINE RUMBLE STRIPS	600.00	LF		\$	

### Section: 0002 - SITE PREPARATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0090	00080		CRUSHED AGGREGATE SIZE NO 23 (LIMESTONE)	12,000.00	TON		\$	
0100	02484		CHANNEL LINING CLASS III	5,000.00	TON		\$	
0110	02599		FABRIC-GEOTEXTILE TYPE IV	2,500.00	SQYD		\$	
0120	20196ED		EARTHWORK	1.00	LS		\$	
0130	21415ND		EROSION CONTROL	1.00	LS		\$	
0140	23055N		REMOVE SOIL NAILS AND MICROPILES	1.00	LS		\$	

### Section: 0003 - GUARDRAIL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0150	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	14.00	EACH		\$	
0160	02351		GUARDRAIL-STEEL W BEAM-S FACE	1,200.00	LF		\$	
0170	02360		GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH		\$	
0180	02371		GUARDRAIL END TREATMENT TYPE 7	1.00	EACH		\$	
0190	02377		GUARDRAIL CONNECTOR TO BRIDGE END TY C	2.00	EACH		\$	
0200	02381		REMOVE GUARDRAIL	1,200.00	LF		\$	

### Section: 0004 - MAINTAIN & CONTROL TRAFFIC

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0210	02014		BARRICADE-TYPE III	8.00	EACH		\$	
0220	02562		TEMPORARY SIGNS	200.00	SQFT		\$	
0230	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0240	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0250	06510		PAVE STRIPING-TEMP PAINT-4 IN	1,350.00	LF		\$	
0260	06514		PAVE STRIPING-PERM PAINT-4 IN	1,350.00	LF		\$	

### PROPOSAL BID ITEMS

192134

Page 2 of 2

Report Date 3/13/19

#### Section: 0005 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0270	02569		DEMOBILIZATION	1.00	LS		\$	