CALL NO. 322

CONTRACT ID. 234302

HARLAN COUNTY

FED/STATE PROJECT NUMBER FD04 048 0421 017-022

DESCRIPTION PINE MOUNTAIN ROAD (US 421)

WORK TYPE ASPHALT SURFACE WITH GRADE & DRAIN

PRIMARY COMPLETION DATE 10/31/2023

LETTING DATE: January 26,2023

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME January 26,2023. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

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

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PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 11

CONTRACT ID - 234302

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COUNTY - HARLAN

PCN - 1104804212201
FD04 048 0421 017-022

PINE MOUNTAIN ROAD (US 421) (MP 17.107) FROM THE INTERSECTION OF US 421 AND US 119 EXTENDING NORTH TO THE INTERSECTION OF US 421 AND KY 1679 (MP 21.061), A DISTANCE OF 03.95 MILES.ASPHALT SURFACE WITH GRADE & DRAIN SYP NO. 11-09020.00.

GEOGRAPHIC COORDINATES LATITUDE 36:52:52.36 LONGITUDE 83:18:50.27

ADT 1,915

COMPLETION DATE(S):

COMPLETED BY 10/31/2023 APPLIES TO ENTIRE PROJECT

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) 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. 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). 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.

BUILD AMERICA, BUY AMERICA ACT (BABA)

On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act (IIJA), Pub. L. No. 117-58, includes the Build America, Buy America Act ("the Act"). Pub. L. No. 117-58, §§70901-52. The Act strengthens the Buy America preference to include "construction materials." The current temporary waiver for **"construction materials"** will expire on November 10, 2022.

The Act will apply to construction materials as outlined in the guidance issued in OMB M-22-11.

Construction Materials – Includes an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives – that is or consists primarily of:

- Non-ferrous metals
- Plastic/polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- Glass (including optic glass);
- Lumber; or
- Drywall.

Construction Materials only applies to items, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project.

Construction Materials does not apply to tools, equipment or supplies brought to the jobsite and removed before completion.

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 23.5 feet.

The Department estimates the total mainline area to be surfaced to be 49,439 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 to be 4,208 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.

FUEL AND ASPHALT PAY ADJUSTMENT

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

OPTION A

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

Special Notes Applicable to Project
GENERAL NOTES and DESCRIPTION OF WORK

Except as specified herein, perform all work in accordance with the Department's Standard Specifications, Supplemental Specifications, applicable Special Notes and Special Provisions, and applicable Standard and Sepia Drawings, current editions. Section references are to the Standard Specifications.

CAUTION – PROPOSAL INFORMATION IS APPROXIMATE – PERFORM AN ON-SITE INSPECTION

Potential bidders are cautioned that the information within this proposal is approximate only and is not to be taken as an exact evaluation of the bid quantities, nor the materials and conditions that may be encountered during construction. As such, before submitting a bid, potential bidders shall make a thorough inspection of the site to examine the conditions to be encountered per Section 104.07. Furthermore, during the execution of the work, the Engineer reserves the right to make changes to the bid item quantities and/or alterations in the work when necessary to complete the project satisfactorily per Section 104.02.
NOTE: The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

STATIONING

The contractor is advised that the planned locations of work were established from a beginning station number which is STA 903+25 which is the intersection of US 421 and US 119 in Harlan County. Milepoints were established from a beginning Milepoint which is MP 17.107 which is the intersection of US 421 and US 119. The existing mile marker signs may not correspond to the proposed work locations.

ON-SITE INSPECTION

Before submitting a bid for the work, make a thorough inspection of the site and determine existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid to be evidence of this inspection having been made. The Department will not honor any claims for money or time extension resulting from site conditions.

RIGHT OF WAY LIMITS

The Department has not established the exact limits of the Right-of-Way. Unless a consent and release is obtained from the adjoining property owner, limit work activities to the obvious Right-of-Way and staging areas secured and environmentally cleared by the Contractor at no additional cost to the Department. In the event that private improvements (i.e. fences, buildings, etc.) encroach upon the Right-of-Way, the contractor shall notify the Engineer and limit work activities in order to NOT disturb the improvements. If they become necessary, the Department will secure consent and releases from property owners through the Engineer. Be responsible for all encroachments onto private lands.

CONTROL

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

Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of,

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

DESCRIPTION OF WORK

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

Pavement Resurfacing. The existing roadway is to be resurfaced from Station 922+75 to Station 1112+02. Other items that may be associated with the pavement resurfacing include construction of edge keys, installation of rumble strips, and application of pavement markings. Refer to the rumble strip Standard Drawings for recommended placement of rumble strips.

Guardrail. Several locations within the project are set up for guardrail replacement. The approximate locations and estimated quantities are noted on the Guardrail Summary. Refer to the Special Note for Guardrail and Plan Sheets for more detail and information on this item of work. A quantity of 100 each Extra Length Guardrail Posts has been included in the contract. The Engineer will make the final determination as to the placement of Extra Length Guardrail Posts. **NOTE:** When the plans call for a Type 1 or Type 4 End Treatment, a MASH eligibility letter from FHWA is required for these end terminals. When a MASH tested eligibility letter is not available for the end terminal being utilized, the most recent NCHRP 350 eligibility letter from the FHWA for that terminal will apply. Acceptance of the terminal will be at the discretion of the Engineer.

Roadside Regrading. Areas have been identified along the route for Roadside Regrading. The overall intent of the Roadside Regrading work operation is to improve the existing roadside by constructing a proposed width of earth shoulder and regrading the roadside fill slopes, ditch foreslopes, and/or ditch backslopes as flat as possible within the Right-of-Way (or any work areas the Department has obtained through Consent & Release), while NOT disturbing any sensitive obstructions (i.e. fences, buildings, utilities, etc.). A variety of information is included in the proposal to communicate the proposed Roadside Regrading.

- The Special Note for Roadside Regrading provides information on:
  - The required materials and construction methods.
  - How roadside regrading is measured and paid.
- The ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS includes:
  - 11 different Figures that show the common conditions and situations that may be encountered when performing Roadside Regrading.
  - Notes that provide guidance on how to adjust the proposed shoulder and/or roadside dimensions so that Roadside Regrading work operations will remain within the Right-of-Way (or Consent & Release work area) and/or not impact a sensitive obstruction.
- The Typical Section(s) show:
  - The desired dimensions of the proposed shoulder, ditch, and/or roadside slopes.
  - NOTE: There may situations where the desired shoulder, ditch, and/or roadside dimensions must be modified based on existing site conditions. When situations arise

where the desired roadside dimensions need to be adjusted, the Contractor and Engineer should work together to determine the final dimensions for the proposed shoulder, ditch, and/or roadside slopes. The notes within the ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS provide guidance on ways to adjust the Roadside Regrading when common site conditions and constraints are encountered.

- The Roadside Regrading Summary:
  - Lists the locations where Roadside Regrading is to be performed. While the Department anticipates the limits of Roadside Regrading shown on the Roadside Regrading Summary are accurate, it is always possible the condition of the existing shoulders and existing ditches could change between the Design phase and Construction phase of the project. Therefore, the Contractor and the Engineer are to work together to review the limits of Roadside Regrading and make alterations per Section 104.02.
  - Lists estimated volumes of excavation and embankment for each Roadside Regrading location to help indicate the approximate level of effort of each Roadside Regrading location. NOTE: the estimated volumes of excavation and embankment are provided for informational purposes only and final payment for Roadside Regrading will be made based on the actual LF of Roadside Regrading performed.
  - Indicates which Figure reference within the ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS is the closest representation of each proposed Roadside Regrading location.
  - Lists the Targeted Fill Slope (or Ditch Foreslope) and, if applicable, the Targeted Backslope for each Roadside Regrading location.
  - Indicates if there is a need for Embankment Benching, a DGA Wedge, and Channel Lining for each Roadside Regrading location.
  - If applicable, lists the estimated quantities of DGA, Asphalt Seal Coat, Asphalt Seal Aggregate, Channel Lining, and Geotextile Fabric for each Roadside Regrading location.
  - Summarizes the quantities of the bid items associated with the Roadside Regrading work operation.

Channel Lining Class II. A quantity of 4,956 tons has been included in the contract for use as identified in the Channel Lining Summary and Cribbing Summary. A quantity of 477 cubic yards of Grout has been included in the Channel Lining Summary for use in ditches as identified in the Summary. Quantities are based on a grout depth of 3". The Engineer will make the final determination as to the placement of Channel Lining Class II and Grout.

Drilled Railroad Rails and Cribbing. There are locations within the project where embankment slide repairs using drilled railroad rails and cribbing is proposed. Locations are noted on the Cribbing Summary. Refer to the Special Note for Embankment Slide Repair and the associated detail sheets for more information.

Removal of Existing Signs and Installation of Proposed Signs. A quantity of "Remove Sign" has been included for removal of existing signs along the corridor as identified in the Remove Sign Summary. An estimated quantity of new signing and sign post is included on the Signing Summary. The Contractor and Engineer will work with the District Traffic Section to determine the final signing layout and sign types prior to installation of the proposed signing. Refer to the Special Note for Signing and the Special Note for Signage for more details concerning the procedures for determining and staking the final layout and installation of the signing.

General Notes
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Temporary Pavement Striping. A quantity of 38,000 linear feet of Pave Striping – Temp Paint – 4 in has been included in the contract. The Contractor and Engineer should work together to determine any locations throughout the project requiring temporary pavement striping. The Engineer will make the final determination as to the placement of temporary pavement striping.

Remove-Store and Reinstall Signs. A quantity of 10 each of "Remove-Store and Reinstall Sign" has been included in the contract for existing sheet signs that may obstruct or interfere with proposed construction activities. Do not remove an existing sign until just prior to working in the vicinity of the sign. Reinstall the sign as soon as possible once the construction activities in the vicinity of the sign has reached a stage that the sign will no longer be an obstruction or interfere with the work. The intent is for the sign to be "down" the minimum length of time necessary.

Special Note for Staking

Perform Contractor Staking according to Section 201; except, in addition to the requirements of Section 201, perform the following:

1. Contrary to Section 201.03.01, perform items 1 & 2 usually performed by the Engineer.
2. Using stakes, paint marks on the pavement, mag nails, and/or any other means approved by the Engineer, the Contractor shall mark and/or stake the proposed sign locations in the field. NOTE: The proposed signs are listed in the proposal by approximate location and are NOT to be taken as the exact location for the signs. During staking operations the Contractor shall review the signing layout and existing field conditions and look for potential conflicts, including but not limited to utilities, driveways, visual obstructions, etc. When conflicts are found, adjust the staked location of signs to mitigate conflicts. Because the sign locations in the proposal are approximate and the location of some signs may need to be adjusted due to conflicts, during staking operations the Contractor shall refer to and utilize the information in the Manual on Uniform on Traffic Control Devices (MUTCD), current edition. The MUTCD cover items such as: appropriate sign location, advance placement distances, and spacing requirements for signing. The intent is for the proposed signs to be consistent with, and meet the requirements of, the MUTCD. Once the proposed sign locations have been staked, notify and coordinate with the District Traffic Engineer, and perform a review of the staked locations. Adjust the staked locations, as directed by the District Traffic Engineer and obtain approval of the final staked locations. This review will also be used to determine if there are any existing signs that require removal and/or relocation. Provide the District Traffic Engineer with 2 weeks of notice when a route will be ready for a review of the staked locations. NOTE: The District Traffic Engineer may determine that the proposed signing, including sign types and messages, needs to be adjusted and/or modified from what is shown in the proposal. Therefore, the Contractor shall not order any sign material for a route until the route has been staked and final sign location approval has been given by the District Traffic Engineer.
3. Using paint marks on the pavement, and/or any other means approved by the Engineer, the Contractor shall layout and pre-mark the proposed striping, pavement markings, etc. Adjust as necessary to accommodate the existing site conditions and to provide proper alignment of the proposed thru and turning lanes. Obtain approval of the pre-marked layout from the Engineer and/or District Traffic Engineer prior to installing the striping and/or pavement markings.
4. Prior to incorporating into the work, obtain the Engineers approval of all revisions determined by the Contractor.
5. Perform any and all other staking operations required to control and construct the work.

Special Note for Erosion Control

I. DESCRIPTION

Perform all erosion and water pollution control work in accordance with any other notes in the Proposal, the Department's Standard and Interim Supplemental Specifications, the Special Provisions and Special Notes, and the Standard and Sepia Drawings, current editions, or 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, applicable Special Provisions and Special Notes, and the 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 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, the construction phasing, methods, and the 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 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 Provisions 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 steam.

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. All silt control devices shall be sized to retain a volume of 3,600 cubic feet per disturbed contributing acre. 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 the Special Provision for Waste and Borrow Sites.

As work progresses, add or remove erosion control measures as required by the BMP, applicable to the Contractor's project phasing, 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.

The required volume at each Silt Trap shall be computed based on the Up Gradient Contributing Areas that are disturbed and/or stabilized to the satisfaction of the Engineer. The required volume calculation for each Silt Trap shall be determined by the Contractor and verified by the Engineer. The required volume at each Silt Trap may be reduced by the following amounts:

- Up Gradient Areas not disturbed (acres)
- Up Gradient Areas that have been reclaimed and protected by Erosion Control Blanket or other ground protection material such as Temporary Mulch (acres)
- Up Gradient Areas that have been protected by Silt Fence (acres) – Areas protected by Silt Fence shall be computed at a maximum rate of 100 square feet per linear foot of Silt Fence
- Up Gradient Areas that have been protected by Silt Traps (acres)

The use of Temporary Mulch is encouraged.

Silt Trap Type B shall always be placed at the collection point prior to discharging into a Blue Line Stream or onto an adjacent Property Owner. Where overland flow exists, a Silt Fence or other filter devices may be used.

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

The Department will measure the various erosion control items according to Section 212.04 and Section 213.04, as applicable.

V. Basis of Payment

The Department will make payment for the various erosion control items according to Section 212.04 and Section 213.04, as applicable.

Special Note for Roadside Regrading

I. DESCRIPTION

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

(1) Maintaining and Controlling Traffic; (2) Site Preparation; (3) Roadside Regrading; (4) Constructing Embankments, Embankment Benching, and/or Excavation; (5) Erosion Control; and (6) Any other work as specified in this Contract.

II. MATERIALS

All materials shall be sampled and tested in accordance with the Department's Sampling Manual and the materials shall be available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these Notes.

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

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

C. Channel Lining, Class II. When listed as a bid item, furnish Channel Lining, Class II as per Section 805.

D. Geotextile Fabric Class 1. When listed as a bid item, furnish Geotextile Fabric Class 1 as per Section 843.

III. CONSTRUCTION METHODS

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

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

C. Site Preparation. Be responsible for all site preparation including, but not limited to: staking; clearing, grubbing, and removal of all obstructions or any other items; excavation, embankment benching, compacting embankment in place; temporary pollution and erosion control; disposal of excess, waste, and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the Engineer.

D. Staking. See Special Note for Staking.

E. Roadside Regrading. Perform Roadside Regrading at the approximate locations listed on the Summary Sheets and/or Plan Sheets, or at locations as directed by the Engineer. All work shall be completed as specified in the ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS, the Typical Sections, the Plan Sheets, or as directed by the Engineer. Roadside Regrading shall consist of any necessary clearing, grubbing, grading, and/or reshaping of the existing shoulder, ditch, and/or roadside to achieve the proposed shoulder, ditch, and/or roadside dimensions detailed on the Typical Sections. Depending on the existing conditions encountered and to achieve the dimensions as detailed in the Typical Sections, Roadside Regrading may also include, but is not limited to: embankment benching, excavating and removing excess material, excavation of rock, providing additional earth material suitable for vegetation growth and grading, shaping, and compacting the earth material.

Provide positive drainage of ditches and slopes at all times during and upon completion of construction. When asphalt surfacing or resurfacing is included in the contract, perform all Roadside Regrading operations as is practical before beginning final surfacing operations.

F. Embankment Benching. Embankment Benching shall be required when the existing groundline has an incline greater than 15%. Any and all required embankment benching shall be incidental to the bid item ROADSIDE REGRADING. For more information refer to the ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS.

G. Channel Lining. Install Class II Channel Lining along any sections of ditches, fill slopes, or ditch backslopes identified in the Proposal, or any other locations the Engineer directs for slope protection or erosion control. When Channel Lining is proposed to be installed along a steep fill slope in order to establish a width of shoulder (as shown in Figure 5 of the ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS), the Channel Lining is to be capped with Geotextile Fabric Class 1 and 4” of Crushed Stone Base. In lieu of 4” of Crushed Stone Base, 4” of DGA and a Double Asphalt Seal Coat may be specified in the Proposal. Install whichever aggregate capping material the Proposal specifies, or as directed by the Engineer.

H. Right-of-Way Limits. The Department has not established exact limits of the Right-of-Way. Unless a consent and release form is obtained from the adjoining property owner, limit work activities to the obvious Right-of-Way and staging areas secured by the Contractor at no additional cost to the Department. In the event that private improvements (i.e. fences, buildings, etc.) encroach upon the Right-of-Way, the contractor shall notify the Engineer and limit work activities in order to NOT disturb the improvements. If they become necessary, the Department will secure consent and releases from property owners through the Engineer. Be responsible for all encroachments onto private lands.

I. Property Damage. The Contractor shall be responsible for all damage to public and/or private property resulting from the Contractor’s activities. Repair or replace damaged roadway features in like kind materials and design as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.

J. 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 due to the Contractor's operations at no additional cost to the Department. 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 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 as specified.

K. Caution. The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

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

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

M. Clean Up, Disposal of Waste. Clean up the project area as work progresses. Dispose of all removed excess material, debris, and other waste at approved sites off the Right of Way obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

N. Final Dressing, Seeding and Protection. Grade all disturbed areas to blend with the adjacent roadways features and to provide a suitable seed bed. Apply Class A Final Dressing to all disturbed

areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

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 payment, but shall be incidental to the project bid items.

D. Staking. See Special Note for Staking.

E. Roadside Regrading. The Department will measure the bid item ROADSIDE REGRADING in linear feet along the centerline of the roadway as the length of the actual Roadside Regrading work performed. Further, this measurement will only include one side of the roadway. Therefore, for areas where roadside regrading occurs on both sides of the road, the Department will measure each side independently. The Department will not measure cleaning pipe structures 36 inches or less in diameter or reshaping any deformed ends on metal entrance pipes that are to remain in place, as these operations are considered incidental to the bid item ROADSIDE REGRADING.

F. Embankment Benching. The Department will not measure Embankment Benching for payment. Any and all required embankment benching shall be incidental to the bid item ROADSIDE REGRADING.

G. Channel Lining, Class II. When listed as a bid item, Class II Channel Lining shall be measured according to Section 703.04.

H. Geotextile Fabric, Class 1. When listed as a bid item, Geotextile Fabric, Class 1 shall be measured according to Section 214.04.

I. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection. The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental to the project bid items. Seeding and Protection shall be measured according to Section 212.

V. BASIS OF PAYMENT

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. Roadside Regrading. The Department will make payment for the completed and accepted quantities under the bid item ROADSIDE REGRADING. The Department will consider payment full compensation for furnishing all labor, materials, equipment, and incidentals necessary to perform Roadside Regrading as required by these notes, at the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.

E. Channel Lining, Class II. When listed as a bid item, the Department will make payment for Class II Channel Lining according to Section 703.05.

F. Geotextile Fabric, Class 1. When listed as a bid item, the Department will make payment for Geotextile Fabric, Class 1 according to Section 214.05.

Special Note for Embankment Slide Repair

I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's 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) Furnish and install railroad rails; (3) Install cribbing**;** (4) Excavate, place geotextile material, and backfill the area around the railroad rails and on the fill slope; (5) Reconstruct shoulder area; (6) Install guardrail; (7) Maintain and Control Traffic; and (8) any other work as specified by this contract.

Repairs using drilled railroad steel and guardrail cribbing are to occur at locations indicated on the Plan Sheets and/or Summary Sheets. Begin and End limits at each area are to be field verified with approval from the Engineer.

II. MATERIALS

All materials shall be sampled and tested in accordance with the Department's Sampling Manual and the materials shall be available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these Notes.

A. Railroad Rails. Use recycled (used) railroad rails classified with a nominal weight of 130 lb/yd (pounds per yard) size or greater. Use only visibly straight recycled railroad rails with no splices. The Engineer will verify rail nominal weights (Manufacturer's Stamp with lb/yd, date, etc.) Provide Certification for nominal weight if the Manufacturer's Stamp is unidentifiable.

B. Wall Cribbing. Use recycled (used) steel "W" beam guardrail. Cribbing material will be furnished by the Department of Highways. Wall cribbing will be located at the ***Bailey Bridge Yard in Frankfort, KY*****.** The Contractor will be responsible for picking up the cribbing material and delivering it to the project site as an incidental item.

C. Backfill Material for Drilled Sockets. Use the following for backfill material for Drilled sockets: concrete, free flowing sand, pea gravel, crushed limestone, or crushed sandstone. Use backfill material with one hundred percent (100%) passing a one-half (1/2) inch sieve. Do not use auger tailings. Engineer will use visual inspection and/or material testing, as applicable to determine acceptability.

D. Fill Material for Cribbing. Use one of the following backfill materials: Kentucky Aggregate Gradation No. 2's or larger. Backfill material shall meet requirements of Section 805. The Engineer will use visual inspection and/or material testing, as applicable, to determine acceptability.

E. DGA. Furnish DGA as per Section 805. Do not use Crushed Stone Base.

F. Final Dressing, Seed and Protection. Use seed mixture(s) according to Section 212.

G. Geotextile Fabric. Furnish Geotextile Fabric Class 2 as per Section 843.

H. Erosion Control. See Special Note for Erosion Control.

III. CONSTRUCTION METHODS

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

B. Staking. Establish proper slope elevations and ratios, shoulder widths, existing ditch profile and final ditch profile to insure positive drainage. Be responsible for field layout. Positive drainage is required upon completion of the project and is the responsibility of the Contractor.

C. Site Preparation. Prepare repair sites. This includes clearing and grubbing, if necessary. Remove all obstructions. Sweep and remove debris, if necessary. The area to be cleared has not been measured by the Department and the bidder must draw his own conclusions. Construct silt checks, temporary silt fence, or other erosion control devices, as necessary to satisfy the BMP, at locations directed by the engineer. The engineer shall approve all site preparation. The Department will not make direct payment for site preparation.

D. Installation of Railroad Rails. See attached summary for site locations and estimated quantities of materials required. The depth to rock shown on the summary is approximate. No geotechnical borings were advanced, and, as such, rock depths may differ from those estimated. Therefore, the contractor is responsible for determining actual depth to rock and providing to the Department to be approved by the Engineer. The embankment failures at these sites are caused by erosion from steep slopes and poor drainage.

NOTE TO ENGINEER AND CONTRACTOR: ABSOLUTELY NO CHANGE IN SCOPE OF WORK OR INCREASE IN QUANTITIES WILL BE ALLOWED ON THIS PROJECT WITHOUT PRIOR WRITTEN APPROVAL FROM THE TEBM (Transportation Engineering Branch Manager) OR HIS REPRESENTATIVE IN THE DISTRICT OFFICE.

THE DEPARTMENT SHALL NOT BE LIABLE FOR PAYMENTS DUE TO ADDITIONAL WORK THAT HAS NOT BEEN AUTHORIZED BY THE AFOREMENTIONED PERSONS.

Install used railroad rail piling in drilled sockets in rock or stable material under the landslides (see Figure 1) or the eroded areas (see Figure 2) as project location dictates or as directed by the Engineer.

Drill the socket, furnish, and install the railroad rails into holes at slide locations. If the Engineer determines from sounding obtained at a drilled socket that railroad rail piling cannot be used in that socket, the depth of the socket shall be measured and 50% of the depth shall be paid as “Railroad Rail-Drilled”. Drill sockets into solid rock, if possible. The Department will monitor each hole, which will serve as a sounding for the rail to be installed in it. Embed the railroad rail into

solid rock no less than one-half the free end length of the rail. (See Figure 1 and Figure 2). If solid rock cannot be obtained, the Engineer will determine the length of embedment required in other stable foundation. Allow adequate size of the drilled socket to allow free insertion of the railroad rail, but the maximum socket size is 1 foot in diameter.

After each hole is drilled, install railroad rail immediately with the flanges positioned perpendicular to the direction of the landslide or break (see Figure 3). Determine the height of rail that is needed to reestablish pavement and shoulder typical section. Cut off excess rail flush with the proposed ground line that is not needed. Use cutoffs elsewhere in the project if possible; unusable cutoffs remain the property of the Contractor.

After railroad rail is installed, immediately backfill the drilled hole with the approved materials. Shovel the backfill material into the hole in small amounts. Avoid bridging between the rail and the sides of the hole. Do not us Auger tailings as backfill material.

When double or triple rows are required, stagger the rows to obtain the required spacing. Keep the spacing between the rows of rails as close as is practical; do not space between the rows of more than 2 feet, if possible. See Figure 3 (Case II and Case III) for the diagrams showing two (2) or three (3) rows of rails. Select the spacing as per Table 1 for all 130 pound per yard rail or greater. The Department shall approve the selection prior to work being performed.

Crib any exposed portion of railroad rail before placing backfill.

E. Excavation and Backfill. Excavate each repair area to provide a platform for drilling the used railroad rails, if necessary. Excavate for roadway ditches as necessary for slope, shoulder, and pavement drainage. Place geotextile fabric, then construct embankment behind railroad rails, cribbing, and on slope, as per Section 206. Construct embankment up to the approximate existing pavement elevation.

Reconstruct the shoulder area with DGA up to the approximate existing elevation and width of the surrounding typical section or to a minimum width of 2 Feet at each slide location. Do not pond water on the shoulder area or at the shoulder edge. Reconstruct the shoulder before installing guardrail.

DO NOT USE EXCAVATED MATERIAL FROM THE SITE AS FILL MATERIAL. Excess excavation may be wasted at sites on the Right-of-Way, ONLY if approved by the Engineer. Material may NOT be wasted in flood prone areas or in streams.

If the Engineer deems no suitable sites are available within the right-of-way, the Contractor will be required to waste excess material off the right-of-way at sites obtained by the Contractor at no cost to the Department.

F. Installation of Wall Cribbing. Install Cribbing as shown on Figure 1 or Figure 2 as slide location dictates or as directed by the Engineer. Extend wall cribbing 2 feet below the existing ground line. If bedded rock is encountered, install the cribbing to the bedded rock only. If necessary, the Engineer will direct changes to this procedure. Furnish all labor and equipment to deliver and

install wall cribbing on the recycled (used) railroad rail piling. Wall cribbing shall be lapped, bolted, and attached solid to the drilled railroad rails.

G. Final Dressing, Seeding and Protection. Apply Final Dressing, Class A to all disturbed areas, both on and off the right-of-way. Sow with Seed Mixture No. 1. The Department will NOT make direct payment for final dressing, or seeding and protection, but shall be incidental to Erosion Control.

H. On-Site Inspection. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize themselves with the existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made.

I. Right-of-Way Limits. The Department has not established exact limits of the Right-of-Way. The Contractor shall make every effort to limit his activities to obvious right-of-way and permanent or temporary easements and shall be responsible for encroachments onto private lands.

J. Property Damage. The Contractor will be responsible for all damage to public and/or private property resulting from his work.

K. Erosion Control. See Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

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

B. Staking. See Special Note for Staking.

C. Site Preparation. Other than the bid items listed, site preparation will NOT be measured for payment, but shall be incidental to the bid item Excavation and Backfill.

D. Railroad Rail-Drilled. The Department will measure the finished in-place length of this item in Linear Feet. Laps, cutoffs, excess, and waste will NOT be measured for payment. If the Engineer determines from the sounding obtained at a drilled socket that railroad rail piling cannot be used in that socket, the depth of the socket shall be measured and 50% of the depth shall be paid as Railroad Rail-Drilled.

E. Excavation and Backfill. The Department will measure this item in cubic yards. The Department will measure the quantity in the field as per Section 204 (Roadway Excavation) or other accepted methods of measurement as directed by the Engineer.

F. Wall Cribbing. The Department will measure this item in square feet finished in placed area. Laps, cutoffs, excess and waste will not be measured for payment.

G. Geotextile Fabric. The Department will measure Geotextile Fabric Class 2 according to Section 214.

H. DGA. The Department will measure according to Section 302.

I. Clean Up, Disposal of Waste. The Department will NOT measure for payment the operation of Clean Up and Disposal of Waste. These activities shall be incidental to project bid items.

J. Final Dressing, Seeding and Protection. The Department will NOT measure for payment the operation of Final Dressing. This shall be incidental. The Department will measure Seeding and Protection according to Section 212.

K. Erosion Control. See Special Note for Erosion Control.

V. BASIS OF PAYMENT

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

B. Staking. See Special Note for Staking.

C. Railroad Rail-Drilled. The Department will make payment for the completed and accepted quantities under the bid item: Railroad Rail-Drilled. The Department will consider payment full compensation for all work required in these notes and elsewhere in the Contract.

D. Excavation and Backfill. The Department will make payment for the completed and accepted quantities under the bid item: Excavation and Backfill. Payment will be based on quantity measured in the field. The Department will consider payment full compensation for all work and incidentals necessary to excavate and backfill the areas indicated on the plans or as directed by the Engineer.

E. Wall Cribbing. The Department will make payment for the completed and accepted quantities under the bid item: Cribbing. Payment will be based on the quantity installed in the field. The Department will not make separate payment for the hauling of the wall cribbing to the project site(s). The Department will consider payment full compensation for all work required on the project.

F. Geotextile Fabric. The Department will make payment of Geotextile Fabric Class 2 according to Section 214.

G. DGA. The Department will make payment according to Section 302.

H. Erosion Control. See Special Note for Erosion Control.

Special Note for Signage

All sign sheeting shall be from the Cabinet's List of Approved Materials.

All permanent signs and sign components shall be fabricated using Type XI sheeting.

The following signs and sign components shall be fabricated using Type XI fluorescent yellow sheeting:

- Horizontal Alignment Signs and Plaques, including signs shown in Figure 2C-1 of the MUTCD
- All Advisory Speed (W13-1P) plaques

The following signs shall be fabricated using Type XI fluorescent yellow-green sheeting:

- School and school bus warning signs, including the fluorescent yellow-green signs shown in Figures 7B-1 and 7B-6 of the MUTCD and other school-related warning signs that are not included in the MUTCD.
- Bicycle Warning (W11-1) signs and SHARE THE ROAD (W16-1P) plaques or diagonal downward pointing arrow (W16-7P) plaques that supplement Bicycle Warning signs.
- Pedestrian Warning signs and diagonal downward pointing arrow plaques that supplement Pedestrian Warning signs.
- In-Street Pedestrian Crossing (R1-6) signs and Overhead pedestrian Crossing (R1-9) signs
- Supplemental plaques to any of the previously listed signs

Special Note for Signing

I. DESCRIPTION

Except as provided herein, this work shall be performed in accordance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD), the Department's current Standard Specifications and Interim Supplemental Specifications, applicable Standard and Sepia Drawings, and applicable Special Provisions. Article references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

(1) Maintaining and Controlling Traffic; (2) Furnish, Fabricate, and Erect Signs; and (3) All other work specified in the Contract.

II. MATERIALS

All materials shall be sampled and tested in accordance with the Department's Sampling Manual and the materials shall be available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these Notes.

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

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

III. CONSTRUCTION METHODS

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

B. Site Preparation. Be responsible for all site preparation including, but not limited to: clearing and grubbing, staking, excavation, backfill, and removal of obstructions or any other material not covered by other items. Perform all site preparation only as approved or directed by the Engineer.

C. Staking. See Special Note for Staking.

D. Signs and Posts. Before beginning installation, the Contractor shall furnish to the Engineer drawings, descriptions, manufacturer’s cuts, etc. describing and/or detailing all material to be used. Mill test reports for beams, steel panels, and each different gauge of aluminum or steel sheeting used must be submitted to the Division of Construction and approved prior to erection.

Fabricate sheet signs from .080 or .125 gauge aluminum alloy 5052-H38 or 6061-T6, in accordance with ASTM B-209, and to the size and shape specified. Prepare the side of the aluminum sheet to receive the retroreflective background material according to the recommendations of the sheeting and retroreflective material manufacturer(s). Sheeting used as background material for sign faces is to be the color specified and visually in accordance with the standard requirements of ASTM D-4956 and meet the requirements of Section 830 of the Standard Specifications. Contrary to Section 830.02.06, only the types and colors of sheeting as specified in the proposal will be accepted. All

retroreflective material shall be fabricated and assembled in accordance with the specifications and/or recommendations of the manufacturer(s).

All hardware for the erection of sheeting signs shall be rust resistant: stainless steel, zinc coated, aluminum, or an Engineer approved material. All beams and sign posts shall be of sufficient lengths so that a single, continuous length of sign post extends from the top of the sign to the required embedment in the anchor. Splicing of the sign post shall NOT be allowed. For installations in soil, Type I steel posts shall be mounted on either a standard anchor, with soil stabilizer plate, or on a Type D breakaway sign support. Refer to Sheeting Sign Detail Sheet 1 of 2 for installation details for a standard anchor with soil stabilizer plate. When installing a standard anchor with soil stabilizer plate, if solid rock is encountered, the Contractor shall drill a hole to the required depth into the rock, install the anchor into the hole, and backfill the anchor post with concrete, or other method approved by the Engineer. The cost shall be incidental to Type I steel post, and a soil stabilizer plate will not be required. Refer to Standard Drawing RGX-065, current edition, for installation details of Type D breakaway sign supports. Approved manufacturers for Type D breakaway sign supports have been placed on the list of approved materials. For installations on existing concrete, such as a sidewalk, concrete median, etc., or installations on existing asphalt, such as flush medians, Type I steel posts shall be mounted on a Type D Surface Mount. For Type D Surface Mounts use only Kleen Break Model 425 by Xcessories Squared of Auburn, IL. If the Surface Mount is to be installed on sufficiently cured concrete, use part number XKBSM42520-G. If the Surface Mount is to be installed on asphalt surface, use part numbers XKB42520-G and AXT225-36-G. Prior to installation, the Contractor shall submit to the Engineer shop drawings of the Type D Surface Mount(s). Install the Type D Surface Mount(s) according to all the applicable requirements of the manufacturer (see shop drawings). All steel post shall meet the requirements of Section 832. All hardware including, but not limited to, sign post anchors, soil stabilizer plates, nuts, bolts, washers, fasteners, fittings, and bracing, or any other incidentals necessary to erect the signs shall be furnished by the Contractor and will be incidental to the work.

New concrete bases, posts, support anchors, signs, etc. are to be installed prior to dismantling any existing sign(s). The removal of existing signs, posts, and support anchors is to be performed concurrently with the installation of new signs, posts, and support anchors, under the same lane closure during the same work shift. Completely remove existing sign support anchors or remove them to a minimum depth of six (6) inches below existing ground line and backfill the disturbed area to the existing ground line.

When listed on the plans and/or summaries, fabricate Reflective Sign Post Panels from .080 gauge aluminum alloy 5052-H38 or 6061-T6, in accordance with ASTM B-209 and to the size(s) specified. Prepare the side of the aluminum sheet to receive the retroreflective background material according to the recommendations of the sheeting and retroreflective material manufacturer(s). Sheeting for the Reflective Sign Post Panels shall be the same Type and color as the sign installed on the post. Examples include:

- Red, fluorescent yellow, and fluorescent yellow-green (Type XI Sheeting)
- White and yellow (Type XI Sheeting)

Reflective Sign Post Panels shall be 2 inches wide and will typically have a height of 60 inches for rural installations and typically have a height of 84 inches for urban installations. There will be certain instances where a proposed Reflective Sign Post Panel will have a height dimension less than 60

inches; typically, this will be when the bottom of the bottom-most sign is mounted lower than the standard 5 ft minimum mounting height (e.g. 3 ft or 4 ft mount heights). In those cases, the height of the Reflective Sign Post Panel is expected to closely match (within 1-2 inches) the distance between the top of the anchor or support to the bottom edge of the bottom-most sign. Reflective Sign Post Panels shall have three 3/8" holes (one hole in the top 3", one hole near the center, and one hole in the bottom 3") that align with the holes on the Type I steel post.

All manufactured sheeting signs shall be free of visual defects including, but not limited to: cracks, tears, ridges, humps, discoloration, etc., and defective signs shall be replaced at no additional cost to the Department.

All sign blanks shall be hole punched by the manufacturer for either horizontal or vertical installation. Attach all aluminum sheeting signs to square post with 3/8" all steel rivets and nylon washers. Use bracing as indicated on the plans, summaries, and/or standard signing detail sheets, and/or when directed by the Engineer and/or District Traffic Engineer.

All sign posts shall be attached to anchors with 5/16" corner bolts and 5/16" flanged nuts, and all post and anchor cuts shall be treated with a Cold Galvanizing Compound spray.

Sign posts shall be erected vertically by using a bubble level. The tolerance shall be a two (2) degree angle in any direction. For locations where more than one sign is mounted beside each other, the posts shall be spaced to provide approximately six inches (6") of spacing between signs.

E. Remove & Relocate Sheet Signs. When listed on the plans and/or summaries, and/or as directed by the Engineer and/or District Traffic Engineer, remove the specified existing sheet sign(s) from the existing post(s) and reinstall on a new sign post. Once the specified existing sheet sign(s) have been removed and relocated, and if the existing sign post(s) are no longer needed to support other existing signs, removal of the existing sign post(s) will be paid under the bid item REMOVE SIGN. If any of the existing hardware components (bracing, brackets, bolts, rivets, etc.) are found to have pre-existing damage or are damaged during the Contractor's removal and reinstallation efforts, the Contractor shall provide the necessary replacement hardware for proper re-installation of the sheet sign. These components shall be incidental to the bid item REMOVE AND RELOCATE SHEET SIGNS.

Prior to removing and reinstalling a sheet sign, the Contractor shall first review the existing sheet sign for damage. It is the Contractor's responsibility to notify the Engineer of any existing sheet sign damage prior to removal and relocation of the sheet sign, so that it can be documented that the existing sheet sign had pre-existing damage. If the Contractor does not make the Engineer aware of pre-existing damage prior to detaching the sheet sign from its existing post, the Department will assume the damage was the result of the Contractor's removal and reinstallation efforts. The Contractor shall replace any sheet signs that are damaged during the removal and reinstallation efforts. Replacement of sheet signs damaged by the Contractor shall be incidental to the bid item REMOVE AND RELOCATE SHEET SIGNS.

If the existing sheet sign is found to have pre-existing damage, the Department will provide the Contractor with a new sheet sign to replace the sheet sign with pre-existing damage. Detaching the

existing, damaged sheet sign from the existing post and attaching the new, Department-provided sheet sign to the new sign post shall be incidental the bid item REMOVE AND RELOCATE SHEET SIGNS.

F. Remove & Relocate Sign Assemblies. When listed on the plans and/or summaries, and/or as directed by the Engineer and/or District Traffic Engineer, remove the specified existing sign assemblies from the existing location and reinstall in a new location. The Department will consider all signs attached to one or more connected posts as a single sign assembly, no matter how many signs are attached to the existing sign assembly. If any of the existing hardware components (bracing, brackets, bolts, rivets, etc.) are found to have pre-existing damage or are damaged during the Contractor's removal and reinstallation efforts, the Contractor shall provide the necessary replacement hardware for proper re-installation of the sign assembly. These components shall be incidental to the bid item REMOVE AND RELOCATE SIGN ASSEMBLY.

Prior to removing and relocating a sign assembly, the Contractor shall review the existing sign(s) and sign post(s) for damage. It is the Contractor's responsibility to notify the Engineer of any sign or sign post damage prior to removal and relocation of the sign assembly, so that it can be documented that the existing sign and/or sign post had pre-existing damage. If the Contractor does not make the Department aware of pre-existing damage prior to removing a sign assembly from its existing location, the Department will assume the damage was the result of the Contractor's removal and reinstallation efforts. The Contractor shall replace any components of a sign assembly that are damaged during removal and relocation. Replacement of any components damaged by the Contractor shall be incidental to the bid item REMOVE AND RELOCATE SIGN ASSEMBLY.

If an existing sign that is part of a sign assembly to be removed and relocated is found to have pre-existing damage, the Department will provide the Contractor with a new sign to replace the sign with pre-existing damage. Detaching the existing, damaged sign from the existing post and attaching the new, Department-provided sign to the relocated existing post shall be incidental to the bid item REMOVE AND RELOCATE SIGN ASSEMBLY.

If an existing sign assembly that is to be removed and relocated is found to not have an existing soil stabilizer plate, or if the soil stabilizer plate and/or anchor is damaged during removal, then a new soil stabilizer plate and/or anchor shall be provided by the Contractor and shall be incidental to the bid item REMOVE AND RELOCATE SIGN ASSEMBLY.

If an existing sign assembly that is being relocated is not currently mounted on a Type D breakaway sign support, but the plans and/or summaries indicate, or wind load standards dictate, a Type D breakaway sign support or a Type D Surface Mount is required, provide and install the specified Type D support as part of the removal and reinstallation efforts. Type D breakaway sign supports shall be paid under the bid item GMSS TYPE D and Type D Surface Mount supports shall be paid under the bid item GMSS TYPE D (SURFACE MOUNT).

If an existing sign that is being relocated is found to have pre-existing damage to one or more of the sign post, the Department will <u>NOT</u> utilize the bid item REMOVE AND RELOCATE SIGN ASSEMBLY for removing and relocating such a sign assembly. Instead, the Department will require the Contractor to install a new sign post(s) at the new location, and pay for the new post(s) under the bid item STEEL POST TYPE I. Detaching the existing sign(s) from the existing, damaged post(s) and attaching the

existing sign(s) to the new sign post(s) shall be incidental to the bid item STEEL POST TYPE I. Any hardware that is needed to complete the installation shall also be incidental to the bid item STEEL POST TYPE I. Removal of the existing damaged post(s) and any other sign components not needed will be paid under the bid item REMOVE SIGN.

G. Property Damage. The Contractor shall be responsible for all damage to public and/or private property resulting from the Contractor's activities. Repair or replace damaged roadway features in like kind materials and design as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.

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 due to the Contractor's operations at no additional cost to the Department. 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 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 as specified.

I. Caution. The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

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

Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various

parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and the Engineer's decision shall be final and binding upon the Contractor.

K. Clean Up, Disposal of Waste. Clean up the project area as work progresses. Dispose of all removed concrete, debris, and other waste as per Section 204.03.08. The Department will incur no cost to obtain the disposal sites. The Department will NOT make direct payment for disposal of waste and debris from the project. Existing anchors, signs, posts, and any other hardware or material removed from the site are to become the property of the Contractor. See Special Provision for Waste and Borrow Sites.

L. Final Dressing, Seeding and Protection. Grade all disturbed areas to blend with the adjacent roadways features and to provide a suitable seed bed. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

M. Erosion Control. See Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

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

B. Site Preparation. Other than the bid items listed, the Department will NOT measure Site Preparation for payment, but shall be incidental to the project bid items.

C. Signs and Reflective Sign Post Panels. The Department will measure the finished in-place area of signs in Square Feet.

D. Sign Posts. The Department will measure the finished in-place length of sign posts in Linear Feet, from the top of the anchor, or top of the sign support, to the top of the sign post. Laps, cutoffs, excess, and waste will NOT be measured for payment.

E. Type D Breakaway Sign Supports. The Department will measure Type D breakaway sign supports as Each support installed.

F. Type D Surface Mounts. The Department will measure Type D Surface Mounts as Each surface mount installed.

G. Class A Concrete for Signs. The Department will measure the Class A Concrete used in conjunction with Type D breakaway sign support installations in Cubic Yards. Any concrete that is required as backfill due to hitting rock during a standard installation shall be incidental to the bid item STEEL POST TYPE I, and soil stabilizers will not be required.

H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection. The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection shall be measured according to Section 212.

I. Erosion Control. See Special Note for Erosion Control.

J. Remove Sign. The Department will consider all signs attached to one or more connected posts as a single sign. The Department will measure as Each sign assembly removed and NOT each individual sign removed.

K. Remove & Relocate Sheet Signs. The Department will measure sheet signs removed from an existing sign post and reinstalled on a new sign post as Each sheet sign removed and reinstalled. as indicated in the contract documents, or as directed by the Engineer. The new sign post shall be measured as indicated in paragraph D. of this section.

L. Remove & Relocate Sign Assemblies. The Department will consider all signs attached to one or more connected posts as a single sign assembly. When the contract documents indicate that an existing sign assembly is to be removed from its existing location and reinstalled in a new location, the Department will measure and pay for "Remove and Relocate Sign Assembly" as each sign assembly removed and relocated; NOT each individual sign removed and relocated.

M. Items Provided by KYTC. The Department will NOT measure for payment the installation of signs and/or surface mounts provided by KYTC. These activities shall be incidental to the bid item STEEL POST TYPE I.

V. BASIS OF PAYMENT

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

B. Signs and Reflective Sign Post Panels. The Department will make payment for the completed and accepted quantities under the bid item SBM ALUM SHEET SIGNS .125 IN or .080 IN. The Department will consider payment full compensation for all work and incidentals necessary to install the signs, as required by these notes and the details found elsewhere in the plans/proposal, at the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.

C. Sign Posts. The Department will make payment for the completed and accepted quantities under the bid item STEEL POST TYPE I. The Department will consider payment full compensation for all work and incidentals necessary to install the sign posts as required by these notes and the details found elsewhere in the plans/proposal.

D. Type D Breakaway Sign Supports. The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D. The Department will consider payment full compensation for all work and incidentals necessary to install the Type D breakaway sign supports as required by Standard Drawing RGX-065, current edition.

E. Type D Surface Mounts. The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D (SURFACE MOUNT). The Department will consider

payment full compensation for all work and incidentals necessary to install the Type D surface mounts according to all applicable manufacturer requirements.
NOTE: The permissible Type D Surface Mount alternative is: Kleen Break Model 425 for Surface Mount Concrete Installations by Xcessories Squared of Auburn, IL

F. Class A Concrete for Signs. The Department will make payment for the completed and accepted quantities, used in conjunction with Type D breakaway sign support installations, under the bid item CLASS A CONCRETE FOR SIGNS. The Department will consider payment full compensation for all work and incidentals necessary to install the concrete as required by Standard Drawing RGX-065, current edition.

G. Remove Sign. The Department will make payment for the completed and accepted quantities under the bid item REMOVE SIGN. The Department will consider payment full compensation for all work and incidentals necessary to remove the existing signs, posts, anchors, and any other sign material or hardware, from the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.

H. Remove & Relocate Sheet Signs. The Department will make payment for the completed and accepted quantities under the bid item REMOVE AND RELOCATE SHEET SIGNS. Any hardware that is needed to complete the removal and reinstallation shall be incidental. The Department will consider payment full compensation for all work and incidentals necessary to remove and reinstall the existing sheet signs as indicated on the plans, summaries, and/or as directed by the Engineer.

I. Remove & Relocate Sign Assemblies. The Department will make payment for the completed and accepted quantities under the bid item REMOVE AND RELOCATE SIGN ASSEMBLY. Any hardware that is needed to complete the removal and reinstallation shall be incidental. The Department will consider payment full compensation for all work and incidentals necessary to remove and reinstall the existing sign assembly as indicated on the plans, summaries, and/or as directed by the Engineer

J. Erosion Control. See Special Note for Erosion Control.

Special Note for Experimental Cl 4 Asphalt Surface 0.38A

1.0 General

1.1 **Description**. Furnish all materials, equipment, acceptances testing, and construction equipment concerning production and placement of the experimental Cl 4 Asphalt Surface 0.38A as according to Kentucky Standard Specifications except described herein. Perform acceptance testing and all equipment for the experimental bituminous surface mixture as described herein.

2.0 Materials

2.1 **Mix Design**. The mix design that is listed in the proposal shall be used for the experimental Cl4 Asph Surf 0.38A for the mainline paving. Aggregate sources shall be the same as listed on the mix design except for the rap source and shall be used during production. The rap source shall be a limestone rap and shall meet the requirements of section 409 of the Kentucky Standard Specifications. Provide the mix design on the Department's AMAW spreadsheet along with sampled aggregates, rap, warm mix additive, and binder as according to Kentucky Methods section KM 64-443-22 to the Division of Materials. The experimental Cl 4 Asphalt Surface 0.38A mix design requires the use of Evotherm P25 at the set dosage rate of 0.5% as a warm mix additive. An equivalent to Evotherm P25 is permissible and must be preapproved along with dosage rate by the Division of Materials. The mix design, along with the aggregates, rap, binder, and warm mix additive shall be submitted four weeks prior to the production of the bituminous mixture for approval. The Department shall witness the correction factor for the ignition oven that will be used for acceptance. A minimum of three tests shall be performed to determine the average that will be used during the acceptance testing for asphalt content during production.

3.0 Acceptance

3.1 **Production Testing**. Perform all acceptance testing as according to section 402 of the Kentucky Standard Specifications along with additional acceptance testing listed herein. Perform a minimum of two cold feeds checks daily, one in the morning and one in the afternoon no matter the tonnage that is being produced. Also, perform all testing as according to the Special Note for Experimental KYCT and Hamburg Testing.

3.2 **Acceptance Testing**. If any sublot falls below 2.5% for air voids, make adjustments as necessary and immediately perform the test again. If the second round of test falls below 2.5% for air voids, cease all shipments to the project. Make procedure or adjustments to obtain air voids above 2.5% and document the results and production of the mixture can restart to the project.

When performing cold feed checks as according to Kentucky Method section 64-401-05, if the total polish resistant aggregates is outside of ±5%, make adjustments as necessary and immediately perform the cold feed check again. If the second round exceeds ±5%, cease all shipments to the project. Make procedure or adjustments to be within the 5% for the total polish resistant aggregates as compared to the design.

Determine the asphalt content as according to Kentucky Standard Specifications section 402.03.02 D). When an asphalt content is outside the range of ±0.3% form the design, make adjustments as necessary and immediately perform the test again. If the second round of test is not within the range of ±0.3% of the design asphalt content, cease all shipments to the project. Make procedure or adjustments to obtain the asphalt content to be within ±0.3% of the design. Once the asphalt content is within the range of ±0.3% of the design asphalt content, document what corrections were made, and production of the mixture can resume for the project.

When a sublot average for lane density falls below 90% and higher than 97.5%, the Department may require removal and replacement or payment of 65% for the sublot of material.

4.0 **Setup Period**. The setup period is the first 1000 tons of production to the project. Perform all acceptance testing as according to section 402 for the first and last 500 tons during the setup period along with cold feed checks. If the air voids fall below 2.5%, the cold feed checks are not in the range of ±5%, and/or asphalt content is outside the range of ±0.3% from the design then cease all shipments to the project. Make procedure or adjustments to the bituminous mixture and document the results and resume production to the project once the thresholds have been met. Any adjustments to the mix design shall have prior approval by the Division of Materials after the setup period.

5.0 **Preconstruction Meeting**. Department has several different Divisions and outside agencies that are very interested in the project and has played some role concerning the project. A preconstruction meeting will be required prior to production and starting the project. Notify the District that is administering the contract so that the all the parties that are involved has an opportunity to listen and provide comments during the preconstruction meeting.

6.0 **Payment**. Contrary to section 402.05 lot pay adjustment shall not be applied and shall be paid at a 100%.

February 2020
Ver 11.2

Kentucky Transportation Cabinet, Department of Highways, Division of Materials
Asphalt Mixtures Testing Section
1227 Wilkinson Boulevard, Frankfort, KY 40601-1226

Asphalt-Mixture-Design Results

CONTRACT ID: 999999 **LETTING DATE:** 1/1/23 **CONTACT PHONE:** 502-564-3160 **TYPE OF MIX:** 00342 CL4 ASPH SURF 0.38A PG76-22

SM ID NUM.: **MIX ID NUM.:** **COUNTY:** Harlan ☐ Performance Specimens (KYCT/Hamburg) **SUBMITTAL TYPE:** New Mix Design

FED/STATE #: 999999 **LAB UNIT:** **TEST METHOD:** AASHTO M323 & R35 **TOTAL TONS:** 3689 **GRADATION:**
(must equal sum on Project Items tab)

PROJ. (ITEM): Enter Project(s) & Line Item(s) On 'Project Items' Tab. **DATE REC.:** **CNTR. & LOC.:** Mountain Enterprises @ Harlan **CNTR. PROD. #:** AMP110101

BINDER SOURCE & LOC. Marathon Petroleum @ Big Sandy **DATE REL.:** **SUBMITTED BY:** tsallee **MIX MAT. CODE:** 20500

BINDER GRADE: PG76-22 **BIND. PROD. #:** LAP101002 **MIX/COMP TEMP:** 290/275 (deg. F)

Recycle selected: Use PG 76-22 virgin binder. **Corr. Factor:** N/A **Serial Number:** N/A

BINDER CODE: 60200 **ESAL CLASS:** 4 **DEPTH (mm):** 0

Reference Mixture Change Options: ☐ Binder Source ☐ Binder Grade ☐ Plant Location ☐ Ref. Mix Req. 1-Pt. Des.

☑ WMA ☐ HMA with Chemical Add./Water

Sieve	JMF	"WeighUp"
2 "	100	100
1 1/2 "	100	
1 "	100	
3/4 "	100	
1/2 "	100	
3/8 "	90	
1/4 "	N / A	N / A
#4	54	
#8	32	
#16	24	
#30	19	
#50	16	
#100	9	
#200	6.0	

Please Indicate Polish-Resistant Source(s) by Checkboxes ↓

AGG. PROD. NO.	PRODUCER NAME	MAT. CODE	AGG. TYPE	G_{sb}	%
AGP012301	☑ Mountain Aggregates @ Elkhorn City	10400	Sandst. #8's Class A	2.50	34
AGP016501	☐ Gaddie Shamrock @ Columbia	10313	LSS (Unwashed)	2.74	16
AGP012301	☑ Mountain Aggregates @ Elkhorn City	10310	dst. Sand (Washed) Cla	2.57	17
AGP011001	☐ Menifee Stone @ Mt Sterling	10297	LS #11's (Unwashed)	2.66	23
AMP110101	☐ Mountain Enterprises @ Harlan	24033	Fine RAP	2.64	10
	☐				

Gravity Info.

G_{sb} = **2.60**
G_{se} = **2.623**
G_b = **1.030**

Max. Specific Gravity Info.

%AC	MSG's
5.9	2.404
	2.404
	2.404
Average:	**2.404**

Fill in Recycle Info. on 'Recycle Data' sheet and the Backcalculated Gsb will be automatically utilized for the Agg. Gravity for Recycle.

Sample #	% AC (Mix)	Weight (g) (Air)	(Water)	(SSD)	Bulk Vol. (g)	BSG @ N_{des}	Unit Wt. @ N_{des} (pcf)	Max Spec Gravity	% Voids @ N_{des}	% Abs. AC (Mix)	% Eff. AC	% VMA @ N_{des}	% VFA @ N_{des}	Film Th. (µm)	$\%G_{mm}$ @ N_{ini}	D/A Ratio	Height @ N_{ini} (mm)	Height @ N_{des} (mm)
1																		
2																		
Average																		
3																		
4																		
Average																		
5																		
6																		
Average																		
7																		
8																		
Average																		

Specimens at optimum AC:

Sample #	% AC (Mix)	Weight (g) (Air)	(Water)	(SSD)	Bulk Vol. (g)	BSG @ N_{des}	Unit Wt. @ N_{des} (pcf)	Max Spec Gravity	% Voids @ N_{des}	% Abs. AC (Mix)	% Eff. AC	% VMA @ N_{des}	% VFA @ N_{des}	Film Th. (µm)	$\%G_{mm}$ @ N_{ini}	D/A Ratio	Height @ N_{ini} (mm)	Height @ N_{des} (mm)	Height @ N_{max} (mm)	$\%G_{mm}$ @ N_{max}
A																				
B																				
Average																				

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

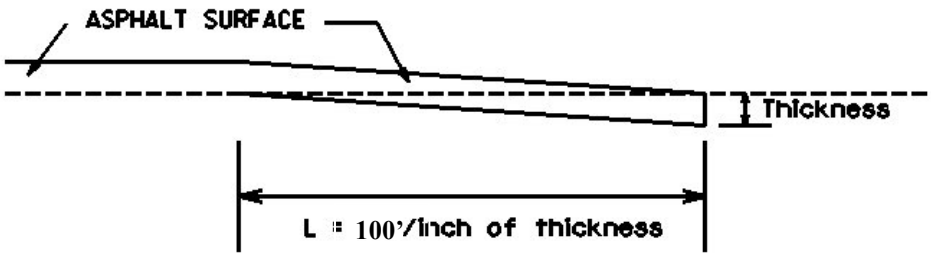
Be advised, there may be an active project(s) adjacent to or within this project. The Engineer will coordinate the work of the Contractors. See Section 105.06.

1-3193 Coordination Contracts
01/02/2012

SPECIAL NOTE FOR EDGE KEY

Construct Edge Keys at the beginning of project, end of project, at railroad crossings, and at intersections with ramps, as applicable. Unless specified in the Contract or directed by the Engineer, do not construct edge keys at intersecting streets, roads, alleys, or entrances. Cut out the existing asphalt surface to the required depth and width shown on the drawing and heel the new surface into the existing surface. The Department will measure the Edge Key at the joint as the width of the pavement perpendicular to the centerline in linear feet. The Department will pay for this work at the Contract unit price per linear foot, which shall be full compensation for all labor, materials, equipment, and incidentals for removal and disposal of the existing asphalt surface required to construct the edge key.

EDGE KEY



Thickness = 1.25 Inches

L = 125 LF

L = Length of Edge Key

SPECIAL NOTES FOR GUARDRAIL

I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's Standard and Supplemental Specifications, Special Notes and Special Provisions, and the 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, Guardrail with Extra Length Post, 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. Guardrail. Furnish guardrail system components according to Section 814 and the Standard and Sepia Drawings; except use steel posts only, no alternates. Furnish approximately 100 Extra Length Post (9 foot length, steel, no alternates).

C. Delineators for Guardrail. Furnish white and/or yellow Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.

D. DGA. Furnish Dense Graded Aggregate as per Section 805.

E. Erosion Control. See the Special Note for Erosion Control.

III. CONSTRUCTION METHODS

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

B. 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 the 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 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, waste materials, and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the engineer.

C. Guardrail. Except as specified herein, construct guardrail system according to Section 719 and the Standard and Sepia Drawings, current editions. Locations listed on the summary and/or shown on the drawings are approximate only. The Engineer will determine the exact termini for individual guardrail installations and locations for Extra Length Posts 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 the current Standard and 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.

D. DGA. Place and compact DGA along and under the guardrail as shown on the Typical Section(s) or as directed by the Engineer. Place a Double Asphalt Seal Coat over the entire width of the DGA along and under the guardrail. See the Special Note for Double Asphalt Seal Coat.

E. Delineators for Guardrail. Construct Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.

F. 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.

G. 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 utilities to 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.

H. Right of Way Limits. The Department has not established the 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.

I. Clean Up, 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 the Special Provision for Waste and Borrow Sites.

J. Final Dressing, 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 with the applicable seed mixture(s) according to Section 212.03.03.

K. Erosion Control. See the Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

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

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

C. Guardrail, Extra Length Post, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail. The Department will measure according to Section 719.04.

D. DGA. The Department will measure according to Section 302.04.

E. Delineators for Guardrail. See Standard Drawing RBR-055 – Delineators for Guardrail.

F. Clean Up, Disposal of Waste, Final Dressing, and Seeding and Protection. The Department will NOT measure for payment the operations of: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection will be measured according to Section 212.

G. Erosion Control. See the Special Note for Erosion Control.

V. BASIS OF PAYMENT

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

B. Guardrail, Extra Length Post, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail. The Department will make payment according to Section 719.05.

C. DGA. The Department will make payment according to Section 302.05.

D. Delineators for Guardrail. See Standard Drawing RBR-055 – Delineators for Guardrail.

E. Erosion Control. See the Special Note for Erosion Control.

SPECIAL NOTE FOR BASE FAILURE REPAIR

Repair locations listed on the summary are approximate only. The Engineer will determine actual repair locations and dimensions at the time of construction. Prior to milling and/or resurfacing, saw cut the existing pavement, asphalt surface, base, DGA, and PCC pavement (if present). Excavate to an approximate depth of 13 inches below the existing pavement surface level. Use all possible care to avoid damaging existing culvert pipes and any existing underground utilities. Repair or restore any damaged items at no additional cost to the Department. Waste all removed materials off the Right of Way at sites obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

On the same day trench is excavated, backfill the excavated area with 6 inches of Crushed Limestone Size No. 23, wrapped on the bottom and sides in Class 2 Geotextile Fabric, and 7 inches of Class 2 Asphalt Base 1.00D PG64-22, in 3.5 inch maximum courses, up to the existing pavement surface. Compact the asphalt base to the proper compaction as required by Section 403. Seal the asphalt base with leveling and wedging. Perform all base failure repairs in such a manner that removal and replacement are completed on the same day. Do this work as one of the Contractor's first operations in order to allow further compaction by traffic. Do not mill or place new asphalt surface over repaired base failure areas until a minimum of 14 calendar days have elapsed after placement of the final course of asphalt base. After the 14 calendar day waiting period, and/or when the Engineer determines the base failure repair areas have sufficiently stabilized, begin milling and/or resurfacing operations. Prior to milling and/or constructing the new asphalt surface, level and wedge any settlement of the repair areas.

The bidder must draw his or her own conclusions as to the conditions to be encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation of the materials encountered that are not in accord with the classification shown.

Accept payment at the Contract unit prices per square yard for Base Failure Repair and per ton for Leveling and Wedging as full compensation for all labor, materials, equipment, and incidentals for saw cutting pavement and excavating and disposing of all materials; furnishing and placing crushed limestone stone wrapped in geotextile fabric; furnishing and placing asphalt base up to the pavement boundary; leveling and wedging until the repair areas stabilize; and all other items necessary to complete the work according to these notes to the satisfaction of the Engineer.

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

TRAFFIC CONTROL GENERAL

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

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition, at the beginning of the work and maintained in like new condition until completion of the work. Any temporary traffic control items, devices, materials, and incidentals shall remain the property of the contractor unless otherwise addressed, when no longer needed.

PROJECT PHASING & CONSTRUCTION PROCEDURES

Maintain alternating one-way traffic during construction. Provide a minimum clear lane width of 10 feet; however, provide for passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus or emergency vehicle on an official run arrives on the scene, make provisions for the passage of the school bus or emergency vehicle as quickly as possible.

Take these restrictions into account in submitting bid. The Department will not consider any claims for money or grant contract time extensions for any delays to the Contractor as a result of these restrictions.

Unless otherwise approved by the Engineer, no lane closures will be allowed during the following times:

Thanksgiving Holiday	3 pm Wednesday, November 23, 2022 – 8 pm Sunday, November 27, 2022
Christmas Holiday	3 pm Friday, December 23, 2022 – 8 pm Sunday, December 25, 2022
New Year's Day Holiday	7 am Saturday, December 31, 2022 – 8 pm Sunday, January 1, 2023
Easter Weekend	3 pm Friday, April 7, 2023 – 8 pm Sunday, April 9, 2023
Memorial Day Weekend	3 pm Friday, May 26, 2023 – 8 pm Monday, May 29, 2023
Independence Day	7 am Saturday, July 1, 2023 – 11 pm Tuesday, July 4, 2023
Labor Day Weekend	3 pm Friday, September 1, 2023 – 8 pm Monday, September 4, 2023
Thanksgiving Holiday	3 pm Wednesday, November 22, 2023 – 8 pm Sunday, November 26, 2023
Christmas Holiday	3 pm Friday, December 22, 2023 – 8 pm Monday, December 25, 2023
New Year's Day Holiday	7 am Saturday, December 30, 2023 – 8 pm Monday, January 1, 2024

At the discretion of the Engineer, additional days and hours may be specified when lane closures will not be allowed.

TEMPORARY SIGNAL

A temporary signal may be used if presented to the District, preferably at the preconstruction meeting, and approved by the Engineer.

LANE CLOSURES

Long term lane closures shall not be allowed; therefore, lane closures will not be measured for payment. Do not leave lane closures in place during non-working hours and prohibited periods.

TEMPORARY SIGNS

Temporary signposts 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. Temporary signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations. Contrary to section 112.04.02, only long-term temporary signs (temporary signs intended to be continuously in place for more than 3 days) will be measured for payment. Short-term temporary signs (temporary signs intended to be left in place for 3 days or less) will not be measured for payment but will be incidental to Maintain and Control Traffic.

CHANGEABLE MESSAGE SIGNS

Provide changeable message signs 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 8 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 for payment any replacements for damaged Changeable Message Signs or any changeable message signs the Engineer directs to be replaced due to poor condition or readability. Retain possession of the Changeable Message Signs upon completion of the work.

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.

TEMPORARY ENTRANCES

The Engineer will not require the Contractor to provide continuous access to farms, single family, duplex, or triplex residential properties during working hours; however, provide reasonable egress and ingress to each such property when actual operations are not in progress at that location. Limit the time during which a farm or residential entrance is blocked to the minimum length of time required for actual operations, not extended for the Contractor's convenience, and in no case exceeding six (6) hours. Notify all residents twenty-four hours in advance of any driveway or entrance closings and make any accommodations necessary to meet the access needs of disabled residents.

Except as allowed by the Phasing as specified above, maintain direct access to all side streets and roads, schools, churches, commercial properties, and apartments or apartment complexes of four or more units at all times. Access to fire hydrants must also be maintained at all times

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:

> 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.

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 un-resurfaced 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 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 oncoming 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)

Messages

Basic principles that are important to providing proper messages and ensuring 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
- No 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 ensure that the sign 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 theft (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

Traffic Control Plan
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Standard Abbreviations

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

Word	Abbrev	Example
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
Maintenance	MAINT	MAINT WRK ON BRDG/ SLOW
Major	MAJ	MAJ DELAYS 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 MI/ 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

Traffic Control Plan
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Standard Abbreviations (cont)

Word	Abbrev	Example
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:

Abbrev	Intended Word	Word Erroneously Given
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
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.

Reason/Problem	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

Traffic Control Plan
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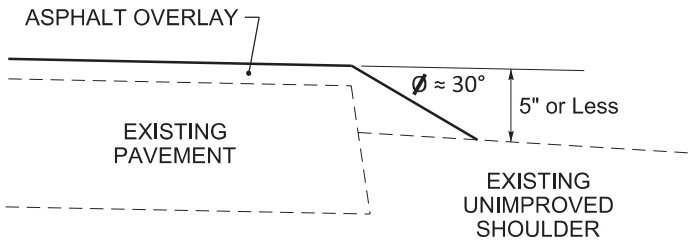
Typical Messages (cont)

Reason/Problem	**Action**
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	
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	

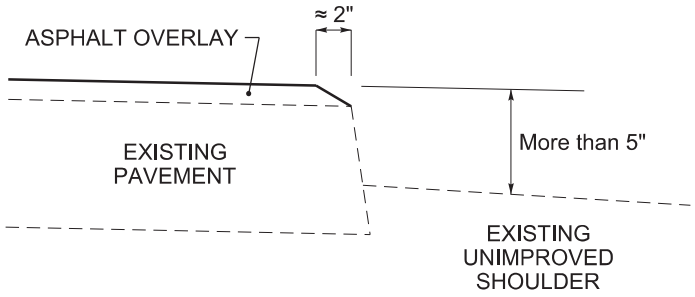
DURABLE PAVEMENT EDGE DETAIL

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



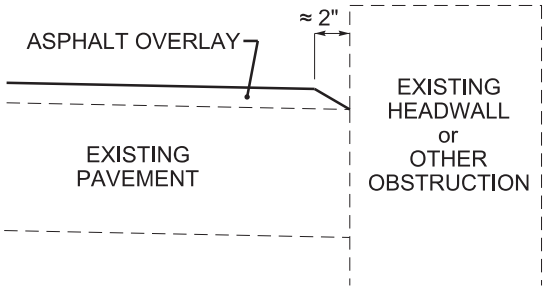
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to low shoulder with dropoff of more than 5 inches)



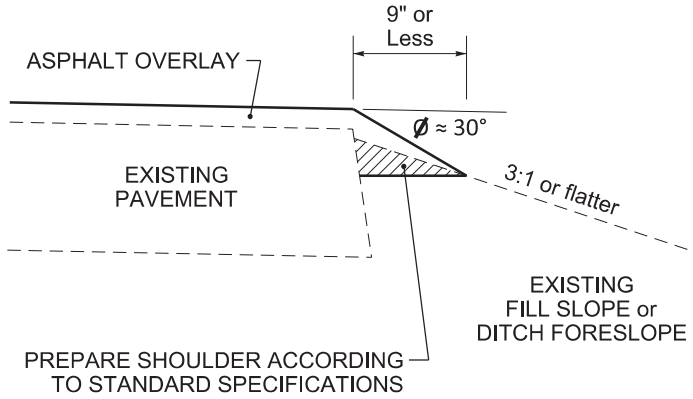
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to an obstruction, such as an existing headwall)



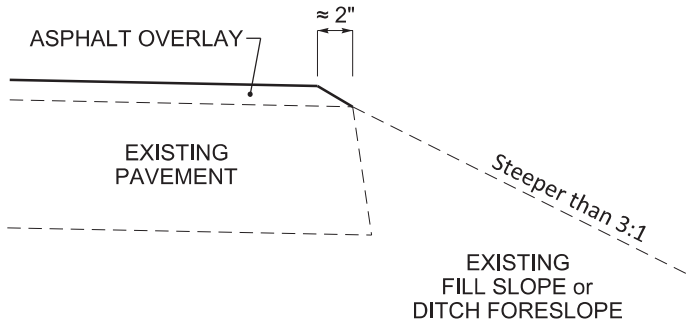
DURABLE PAVEMENT EDGE DETAIL

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



DURABLE PAVEMENT EDGE DETAIL

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



NOTES

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

DRAWING NOT TO SCALE

DURABLE PAVEMENT EDGE DETAILS

KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF RIGHT OF WAY & UTILITIES

TC 62-226
Rev. 01/2016
Page 1 of 1

RIGHT OF WAY CERTIFICATION

☒ **Original** ☐ **Re-Certification** — **RIGHT OF WAY CERTIFICATION**

ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
11-9020.00	Harlan	FD52 048 0421 017-022	HSIP 4211052

PROJECT DESCRIPTION

Perform Low Cost Safety Improvements on US 421

☒ **No Additional Right of Way Required**

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

☐ **Condition # 1 (Additional Right of Way Required and Cleared)**

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

☐ **Condition # 2 (Additional Right of Way Required with Exception)**

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

☐ **Condition # 3 (Additional Right of Way Required with Exception)**

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

Total Number of Parcels on Project	0	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed			
Condemnation			
Signed ROE			

Notes/ Comments (Text is limited. Use additional sheet if necessary.)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Greg Combs
Signature		Signature	Greg Combs Digitally signed by Greg Combs Date: 2022.10.12 13:58:38 -04'00'
Date		Date	

Right of Way Director		FHWA	
Printed Name	2022.10.12	Printed Name	
Signature	14:55:44	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date	-04'00'	Date	

UTILITIES AND RAIL CERTIFICATION NOTE

Harlan County
FD04 048 0421 017-022
Safety Improvements along US 421 from MP 17.107 to MP 21.061
Item No. 11-9020.00

GENERAL PROJECT NOTES ON UTILITIES

For all projects over 2000 linear feet, which are defined as a "Large Project" in KRS 367.4903(18), the awarded contractor shall initially mark the first 2000 linear feet minimally of proposed excavation or construction boundaries of the project to be worked using the procedure set forth in KRS 367.4909(9)(k). This temporary field locating of the project excavation boundary shall take place prior to submitting an excavation location request to the underground utility protection Kentucky Contact Center. For large projects, the awarded contractor shall work with the impacted utilities to determine when additional white lining of the remainder of the project site will take place. This provision shall not alter or relieve the awarded contractor from complying with requirements of KRS 367.4905 to 367.4917 in their entirety.

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

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his/her activities. The contractor will coordinate his/her activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs. The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

UTILITIES AND RAIL CERTIFICATION NOTE

Harlan County
FD04 048 0421 017-022
Safety Improvements along US 421 from MP 17.107 to MP 21.061
Item No. 11-9020.00

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

There are no known utility relocations within the project limits. If an unknown utility is encountered, the contractor will be responsible for arranging an on-site meeting with the utility owner/representative(s) and the Engineer to discuss potential impacts and solutions to either avoid the utility or relocate the utility. Depending on the solution selected, the Engineer will determine whether or not additional contract time is appropriate.

- Water Main on left and right side of US 421 along length of project
- Sanitary Sewer on right side of US 421, crossing under US 421 at approx. Sta. 927+30
- Utility poles on left and right side of US 421 along length of project

The Contractor is fully responsible for protection of all utilities listed above

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

None

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

None

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

None

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

☒ **No Rail Involvement** ☐ **Rail Involved** ☐ **Rail Adjacent**

UTILITIES AND RAIL CERTIFICATION NOTE

Harlan County
FD04 048 0421 017-022
Safety Improvements along US 421 from MP 17.107 to MP 21.061
Item No. 11-9020.00

AREA UTILITIES CONTACT LIST

Utility Company/Agency	Contact Name	Contact Information
1. KU	David Luan	David.Luan@lge-ku.com 606-864-2821
2. AT&T	Jack Salyer	Js2299@att.com 606-874-2715
3. Cumberland Valley Electric		
4. TDS Telecom Hyden		
5. Black Mountain Utility District	Grant Cooper	blackmt@harlanonline.net 606-573-1277

NOTE: The Utilities Contact List is provided as informational only, and may not be a complete list of all Utility Companies with facilities in the project area.

Kentucky Transportation Cabinet

Highway District 11

And

_____(2), Construction

Kentucky Pollutant Discharge Elimination System Permit KYR10 Best Management Practices (BMP) plan

Groundwater protection plan

For Highway Construction Activities

For

Highway Safety Improvement Project on US 421 in Harlan County

Project: CID 22 - 4206

Revised 3/4/2016

KYTC BMP Plan for Project CID **22 - 4206**

Project information

Note – (1) = Design (2) = Construction (3) = Contractor

1. Owner – Kentucky Transportation Cabinet, District 11
2. Resident Engineer: (2)
3. Contractor name: (2)
   Address: (2)

   Phone number: (2)
   Contact: (2)
   Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number: (2)
5. Route (Address): US 421
6. Latitude/Longitude (project mid-point): 36° 52’ 53”, -83° 18’ 50”
7. County (project mid-point): Harlan
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KYTC BMP Plan for Project CID **22 - 4206**

A. Site description:

1. Nature of Construction Activity (from letting project description): Safety improvements to US 421 from MP 17.107 to MP 21.061 in Harlan County

2. Order of major soil disturbing activities: (2) and (3)

3. Projected volume of material to be moved: 1,510 LF Ditching & Shouldering

4. Estimate of total project area (acres): 28.8

5. Estimate of area to be disturbed (acres): 17.7

6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information.

7. Data describing existing soil condition: (1) & (2)

8. Data describing existing discharge water quality (if any): (1) & (2)

9. Receiving water name: Nolan Branch, Sam Howard Branch, Poor Fork Cumberland River, Tom Jones Branch

10. TMDLs and Pollutants of Concern in Receiving Waters: *No TDML's were involved on this project.*

11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.

12. Potential sources of pollutants:
The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

B. Sediment and Erosion Control Measures:

1. Plans for highway construction projects will include erosion control sheets that depict Disturbed Drainage Areas (DDAs) and related information. These plan sheets will show the existing project conditions with areas delineated by DDA within the right of way limits, the discharge points and the areas that drain to each discharge point. Project managers and designers will analyze the DDAs and identify Best Management Practices (BMPs) that are site specific. The balance of the BMPs for the project will be listed in the bid documents for selection and use by the contractor on the project with approval by the resident engineer.

   Projects that do not have DDAs annotated on the erosion control sheets will employ the same concepts for development and managing BMP plans.

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as “Do Not Disturb” until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP’s shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. <u>All DDA’s will have adequate BMP’s in place before being disturbed.</u>

3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:

   - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.
   - At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.
   - Clearing and Grubbing – The following BMP’s will be considered and used where appropriate.

KYTC BMP Plan for Project CID **22 - 4206**

- Leaving areas undisturbed when possible.
- Silt basins to provide silt volume for large areas.
- Silt Traps Type A for small areas.
- Silt Traps Type C in front of existing pipes and drop inlets which are to be saved
- Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
- Brush and/or other barriers to slow and/or divert runoff.
- Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
- Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
- Non-standard or innovative methods.

➢ Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
  - Silt Traps Type B in ditches and/or drainways as they are completed
  - Silt Traps Type C in front of pipes and drop inlets after they are placed
  - Channel Lining
  - Erosion Control Blanket
  - Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
  - Non-standard or innovative methods

➢ Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
  - Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
  - Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
  - Additional Channel Lining and/or Erosion Control Blanket.
  - Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
  - Special BMP's such as Karst Policy

➢ Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probable changes include:
  - Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
  - Permanent Seeding and Protection

- Placing Sod
- Planting trees and/or shrubs where they are included in the project

➢ BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are: *This project does not include storm water BMPs or flow controls for post-construction use.*

C. Other Control Measures

1. No solid materials, including building materials, shall be discharged to waters of the commonwealth, except as authorized by a Section 404 permit.

2. Waste Materials

All waste materials that may leach pollutants (paint and paint containers, caulk tubes, oil/grease containers, liquids of any kind, soluble materials, etc.) will be collected and stored in appropriate covered waste containers. Waste containers shall be removed from the project site on a sufficiently frequent basis as to not allow wastes to become a source of pollution. All personnel will be instructed regarding the correct procedure for waste disposal. Wastes will be disposed in accordance with appropriate regulations. Notices stating these practices will be posted in the office.

3. Hazardous Waste

All hazardous waste materials will be managed and disposed of in the manner specified by local or state regulation. The contractor shall notify the Section Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

4. Spill Prevention

The following material management practices will be used to reduce the risk of spills or other exposure of materials and substances to the weather and/or runoff.

➢ **Good Housekeeping:**

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The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure
- Products will be kept in their original containers with the original manufacturer's label
- Substances will not be mixed with one another unless recommended by the manufacturer
- Whenever possible, all of the product will be used up before disposing of the container
- Manufacturers' recommendations for proper use and disposal will be followed
- The site contractor will inspect daily to ensure proper use and disposal of materials onsite

➢ **Hazardous Products:**

These practices will be used to reduce the risks associated with any and all hazardous materials.

- Products will be kept in original containers unless they are not resealable
- Original labels and material safety data sheets (MSDS) will be reviewed and retained
- Contractor will follow procedures recommended by the manufacturer when handling hazardous materials
- If surplus product must be disposed of, manufacturers' or state/local recommended methods for proper disposal will be followed

The following product-specific practices will be followed onsite:

➢ **Petroleum Products:**

Vehicles and equipment that are fueled and maintained on site will be monitored for leaks, and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products onsite will be stored in tightly sealed containers, which are clearly labeled and will be protected from exposure to weather.

The contractor shall prepare an Oil Pollution Spill Prevention Control and Countermeasure plan when the project that involves the storage of petroleum products in 55 gallon or larger containers with a total combined storage capacity of 1,320 gallons. This is a requirement of 40 CFR 112.

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This project (will / will not) (3) have over 1,320 gallons of petroleum products with a total capacity, sum of all containers 55 gallon capacity and larger.

- **Fertilizers:**

Fertilizers will be applied at rates prescribed by the contract, standard specifications or as directed by the resident engineer. Once applied, fertilizer will be covered with mulch or blankets or worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

- **Paints:**

All containers will be tightly sealed and stored indoors or under roof when not being used. Excess paint or paint wash water will not be discharged to the drainage or storm sewer system but will be properly disposed of according to manufacturers' instructions or state and local regulations.

- **Concrete Truck Washout:**

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a shallow earthen wash basin will be excavated away from ditches to receive the wash water

- **Spill Control Practices**

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup**:**

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contract with a hazardous substance.

- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill cleanup will be disposed in accordance with appropriate regulations.

D. Other State and Local Plans

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. *There are no other local (MS4) requirements that are expected to be necessary for this project.*

E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.

- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.

- Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. *There are no such BMP's for this project.*

F. Inspections

Inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by individuals that have successfully completed the KEPSC-RI course as required by Section 213.02.02 of the Standard Specifications for Road and Bridge Construction, current edition.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

It is expected that non-storm water discharges may occur from the site during the construction period. Examples of non-storm water discharges include:

- Water from water line flushings.
- Water form cleaning concrete trucks and equipment.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater and rain water (from dewatering during excavation).

All non-storm water discharges will be directed to the sediment basin or to a filter fence enclosure in a flat vegetated infiltration area or be filtered via another approved commercial product.

H. Groundwater Protection Plan (3)

This plan serves as the groundwater protection plan as required by 401 KAR 5:037.

- Contractors statement: (3)

The following activities, as enumerated by 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan, will or may be may be conducted as part of this construction project:

_____ 2. (e) land treatment or land disposal of a pollutant;

_____ 2. (f) Storing, …, or related handling of hazardous waste, solid waste or special waste, …, in tanks, drums, or other containers, or in piles, (This does not include wastes managed in a container placed for collection and removal of municipal solid waste for disposal off site);

_____ 2. (g) …. Handling of materials in bulk quantities (equal or greater than 55 gallons or 100 pounds net dry weight transported held in an individual container) that, if released to the environment, would be a pollutant;

_____ 2. (j) Storing or related handling of road oils, dust suppressants, …., at a central location;

_____ 2. (k) Application or related handling of road oils, dust suppressants or deicing materials, (does not include use of chloride-based deicing materials applied to roads or parking lots);

_____ 2. (m) Installation, construction, operation, or abandonment of wells, bore holes, or core holes, (this does not include bore holes for the purpose of explosive demolition);

Or, check the following only if there are no qualifying activities

_____ There are no activities for this project as listed in 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan.

The contractor is responsible for the preparation of a plan that addresses the 401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

KYTC BMP Plan for Project CID **22 - 4206**

(a) General information about this project is covered in the Project information;
(b) Activities that require a groundwater protection plan have been identified above;
(c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
(d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
(e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job function(s). Training will be accomplished within one week of employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.
(f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections
(g) Certification (see signature page.)

KYTC BMP Plan for Project CID **22 - 4206**

Contractor and Resident Engineer Plan certification

The contractor that is responsible for implementing this BMP plan is identified in the Project Information section of this plan.

The following certification applies to all parties that are signatory to this BMP plan:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, this plan complies with the requirements of 401 KAR 5:037. By this certification, the undersigned state that the individuals signing the plan have reviewed the terms of the plan and will implement its provisions as they pertain to ground water protection.

Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

Signed _____title_____, _____
Typed or printed name[2] signature

(3) Signed _____title_____, _____
Typed or printed name[1] signature

1. Contractors Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

2. KyTC note: to be signed by the Chief District Engineer or a person designated to have the authority to sign reports by such a person (usually the resident engineer) in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601 Reference the Project Control Number (PCN) and KPDES number when one has been issued.

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Sub-Contractor Certification

The following sub-contractor shall be made aware of the BMP plan and responsible for implementation of BMPs identified in this plan as follows:

Subcontractor

Name:
Address:
Address:

Phone:

The part of BMP plan this subcontractor is responsible to implement is:

I certify under penalty of law that I understand the terms and conditions of the general Kentucky Pollutant Discharge Elimination System permit that authorizes the storm water discharges, the BMP plan that has been developed to manage the quality of water to be discharged as a result of storm events associated with the construction site activity and management of non-storm water pollutant sources identified as part of this certification.

Signed _____title_____, _____
Typed or printed name[1] signature

1. Sub Contractor Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENT PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

January 5, 2022

Chris Jones
Kentucky Transportation Cabinet - District 11
603 Railroad Ave
Manchester, KY 40962

RE: **KYR10 Coverage Acknowledgement**
KPDES No.**:** KYR10Q023
11-9020: Roadway Departure Safety Improvement Project
Permit Type: Construction
AI ID: 15711
Harlan County, Kentucky

Dear Chris Jones:

The discharges associated with the Notice of Intent you submitted have been approved for coverage under the "Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Storm Water Discharges Associated with Construction Activities (KYR100000)" master general permit. Your coverage becomes effective on the date of this letter, and will automatically terminate two years from the effective date of your coverage unless an extension is requested prior to the termination date, until the KYR100000 master general permit expires on November 30, 2024, or the Division of Water revokes coverage, whichever comes first. During this period of coverage all discharges shall comply with the conditions of the KYR100000 master general permit. This permit and links to the eNOI (and permit coverage extension) and eNOT forms can be found on our website: https://eec.ky.gov/Environmental-Protection/Water/PermitCert/KPDES/Documents/KYR10PermitPage.pdf.

Any person aggrieved by the issuance of a permit final decision may demand a hearing pursuant to KRS 224.10-420(2) within thirty (30) days from the date of the issuance of this letter. Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470, and the regulations promulgated thereto. The request for hearing should be submitted in writing to the Energy and Environment Cabinet, Office of Administrative Hearings, 211 Sower Boulevard, Frankfort, Kentucky 40601 and the Commonwealth of Kentucky, Energy and Environment Cabinet, Division of Water, 300 Sower Boulevard, Frankfort, Kentucky 40601. For your record keeping purposes, it is recommended that these requests be sent by certified mail. The written request must conform to the appropriate statutes referenced above.

Any questions concerning the general permit and its requirements should be directed to me at 502-782-9695 or email me at Justinm.smith@ky.gov

Construction Site GPS Coordinates: 36.881211º, -83.31396º
Receiving Waters: Tom Jones Branch, Poor Fork Cumberland River. Nolan Branch, & Sam Howard Branch – Harlan County

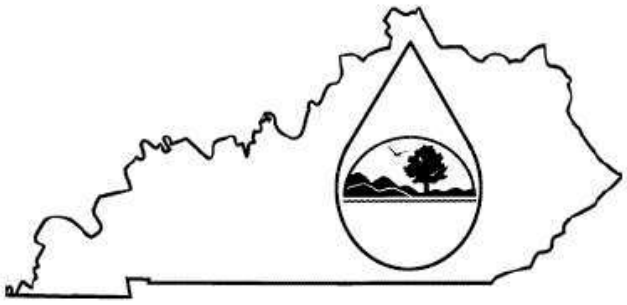
Sincerely,

Justin Smith
Surface Water Permits Branch
Division of Water

cc: Joshua Higgins, eNOI Preparer
Robert Miller, London Regional Office

Thank you for submitting your information via the Kentucky Department for Environmental Protection eForms website. Please save a copy of this submittal for your records. We recommend saving a copy as a .mht, .html, or .htm file.
The Submittal ID for this transaction is 266957 and was submitted on December 20, 2021 11:03 AM Eastern Time. If you need to contact EEC regarding your submission, please reference your Submittal ID.

The eForm Submittal ID allows you to use the data from this submittal as a template and/or download a copy of your submittal.



KENTUCKY POLLUTION DISCHARGE ELIMINATION SYSTEM (KPDES)

Notice of Intent (NOI) for coverage of Storm Water Discharge Associated with Construction Activities Under the KPDES Storm Water General Permit KYR100000

Click here for Instructions (Controls/KPDES_FormKYR10_Instructions.l

Click here to obtain information and a copy of the KPDES General Permit. (http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf

(*) indicates a required field; (✓) indicates a field may be required based on user input or is an optionally required field

Reason for Submittal:(*)	Agency Interest ID:	Permit Number:(✓)
Application for New Perm	Agency Interest ID	KPDES Permit Number

If change to existing permit coverage is requested, describe the changes for which modification of coverage is being sought: (✓)

ELIGIBILITY:
Stormwater discharges associated with construction activities disturbing individually one (1) acre or more, including, in the case of a common plan of development, contiguous construction activities that cumulatively equal one (1) acre or more of disturbance.

EXCLUSIONS:
The following are excluded from coverage under this general permit:
1) Are conducted at or on properties that have obtained an individual KPDES permit for the discharge of other wastewaters which requires the development and implementation of a Best Management Practices (BMP) plan;
2) Any operation that the DOW determines an individual permit would better address the discharges from that operation;
3) Any project that discharges to an Impaired Water listed in the most recent Integrated Report, §305(b) as impaired for sediment and for which an approved TMDL has been developed.

SECTION I -- FACILITY OPERATOR INFORMATION (PERMITTEE)

Company Name:(✓)	First Name:(✓)	M.I.:	Last Name:(✓)
Kentucky Transportation Cabinet - D	Chris	J	Jones

Mailing Address:(*)	City:(*)	State:(*)	Zip:(*)
603 Railroad Ave.	Manchester	Kentucky	40962

eMail Address:(*)	Business Phone:(*)	Alternate Phone:
chrisj.jones@ky.gov	6065982145	Phone

SECTION II -- GENERAL SITE LOCATION INFORMATION

Project Name:(*)	Status of Owner/Operator(*)	SIC Code(*)
11-9020: Roadway Departure Safety Improv	State Governme	1611 Highway a

Company Name:(✓)	First Name:(✓)	M.I.:	Last Name:(✓)
Kentucky Transportation Cabinet - D	Chris	J	Jones

Site Physical Address:(*)
US-421, Mile Point 17.107 - 21.061

City:(*)	State:(*)	Zip:(*)
Baxter	Kentucky	40806

County:(*)	Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal)	Longitude(decimal degrees)(*)
Harlan	36.881211	-83.31396

SECTION III -- SPECIFIC SITE ACTIVITY INFORMATION

Section III requires part A or part B to be completed.

Project Description:(*)
Roadway Departure Safety Improvement Project

a. For single projects provide the following information

Total Number of Acres in Project:(✓)	Total Number of Acres Disturbed:(✓)
28.8	17.7
Anticipated Start Date:(✓)	**Anticipated Completion Date:(✓)**
5/2/2022	5/2/2024

b. For common plans of development provide the following information

Total Number of Acres in Project:(✓)	Total Number of Acres Disturbed:(✓)
# Acre(s)	# Acre(s)
Number of individual lots in development, if applicable:(✓)	**Number of lots in development:(✓)**
# lot(s)	# lot(s)
Total acreage of lots intended to be developed:(✓)	**Number of acres intended to be disturbed at any one time:(✓)**
Project Acres	Disturbed Acres
Anticipated Start Date:(✓)	**Anticipated Completion Date:(✓)**

List Building Contractor(s) at the time of Application:(*)
Company Name

SECTION IV -- IF THE PERMITTED SITE DISCHARGES TO A WATER BODY THE FOLLOWING INFORMATION IS REQUIRED

Complete the following table if the permitted site discharges to a water body. Please note that if you enter a row in hte below table, all columns are required to be filled out.
Unnamed Tributary?: Does discharge enter an unnamed tributary prior to entering a named receiving water?
Latitude in decimal degrees: Format must be between 36.490000 and 39.150000, with a minimum of 5 decimal points of accuracy.

Longitude in decimal degrees: Format must be between -89.580000 and -81.960000, with a minimum of 5 decimal points of accuracy.
Receiving Water Name: Recieving water name must be from the following list of possible receiving waters.(click here for a list (Controls/ReceivingStream.htm)). If the discharge flows into an unnamed tributary, please enter the first "named" receiving water for which the unnamed tributary(ies) eventually flows into.

Discharge Point(s):

Unnamed Tributary?	Latitude	Longitude	Receiving Water Name
No	36.883485	-83.30826	Tom Jones Branch
No	36.883429	-83.30841	Tom Jones Branch
No	36.884152	-83.30853	Tom Jones Branch
Yes	36.882004	-83.30859	Poor Fork Cumberland River
Yes	36.882108	-83.30870	Poor Fork Cumberland River
No	36.884129	-83.30870	Tom Jones Branch
No	36.885080	-83.30887	Tom Jones Branch
No	36.885630	-83.30905	Tom Jones Branch
No	36.886267	-83.30926	Tom Jones Branch
Yes	36.881530	-83.30943	Poor Fork Cumberland River
No	36.894905	-83.30944	Tom Jones Branch
No	36.887458	-83.30965	Tom Jones Branch
No	36.888107	-83.30991	Tom Jones Branch
No	36.894339	-83.30993	Tom Jones Branch
No	36.894436	-83.30999	Tom Jones Branch
No	36.897587	-83.31004	Tom Jones Branch
No	36.896053	-83.31012	Tom Jones Branch
No	36.896643	-83.31017	Tom Jones Branch
No	36.889288	-83.31031	Tom Jones Branch
Yes	36.881258	-83.31038	Poor Fork Cumberland River
No	36.893627	-83.31070	Tom Jones Branch
Yes	36.881375	-83.31103	Poor Fork Cumberland River
No	36.893075	-83.31144	Tom Jones Branch
No	36.892762	-83.31231	Tom Jones Branch
Yes	36.881674	-83.31285	Poor Fork Cumberland River
No	36.892726	-83.31311	Tom Jones Branch
Yes	36.881951	-83.31341	Poor Fork Cumberland River
No	36.892647	-83.31363	Tom Jones Branch
Yes	36.878646	-83.31371	Poor Fork Cumberland River
No	36.892793	-83.31373	Tom Jones Branch
Yes	36.877778	-83.31377	Poor Fork Cumberland River
Yes	36.879765	-83.31408	Poor Fork Cumberland River
Yes	36.880787	-83.31408	Poor Fork Cumberland River
Yes	36.876871	-83.31421	Poor Fork Cumberland

			River
No	36.891740	-83.31443	Tom Jones Branch
Yes	36.882293	-83.31454	Poor Fork Cumberland River
No	36.891823	-83.31454	Tom Jones Branch
Yes	36.876412	-83.31457	Poor Fork Cumberland River
Yes	36.882423	-83.31466	Poor Fork Cumberland River
Yes	36.876550	-83.31470	Poor Fork Cumberland River
Yes	36.876414	-83.31626	Poor Fork Cumberland River
Yes	36.876261	-83.31780	Poor Fork Cumberland River
Yes	36.875951	-83.31843	Poor Fork Cumberland River
Yes	36.872849	-83.31951	Poor Fork Cumberland River
No	36.871404	-83.31954	Nolan Branch
Yes	36.876782	-83.31960	Poor Fork Cumberland River
No	36.871486	-83.31969	Nolan Branch
Yes	36.872787	-83.31970	Poor Fork Cumberland River
Yes	36.875897	-83.32104	Poor Fork Cumberland River
No	36.871285	-83.32173	Sam Howard Branch
No	36.871365	-83.32267	Sam Howard Branch
No	36.868969	-83.32275	Nolan Branch
No	36.870659	-83.32306	Sam Howard Branch

SECTION V -- IF THE PERMITTED SITE DISCHARGES TO A MS4 THE FOLLOWING INFORMATION IS REQUIRED

List all MS4 Discharge Points
Latitude in decimal degrees. Format must be between 36.490000 and 39.150000, with a minimum of 5 decimal points of accuracy.
Longitude in decimal degrees. Format must be between -89.580000 and -81.960000, with a minimum of 5 decimal points of accuracy.

Name of MS4:

Date of application/notification to the MS4 for construction site permit coverage:

Date

Discharge Point(s):(*)

Latitude	Longitude

SECTION VI -- WILL THE PROJECT REQUIRE CONSTRUCTION ACTIVITIES IN A WATER BODY OR THE RIPARIAN ZONE?

Will the project require construction activities in a water body or the riparian zone?:(*)

No

If Yes, describe scope of activity: (✓)

describe scope of activity

Is a Clean Water Act 404 permit required?:(*)	**No**
Is a Clean Water Act 401 Water Quality Certification required?:(*)	**No**

SECTION VII -- NOI PREPARER INFORMATION

First Name:(*)	M.I.:	Last Name:(*)	Company Name:(*)
Joshua	J	Higgins	Kentucky Transportation Cabinet - D

Mailing Address:(*)	City:(*)	State:(*)	Zip:(*)
603 Railroad Ave.	Manchester	Kentucky	40962

eMail Address:(*)	Business Phone:(*)	Alternate Phone:
joshuaj.higgins@ky.gov	6065982145	Phone

SECTION VIII -- ATTACHMENTS

Facility Location Map:(*)	Upload file
Supplemental Information:	Upload file

SECTION IX -- CERTIFICATION

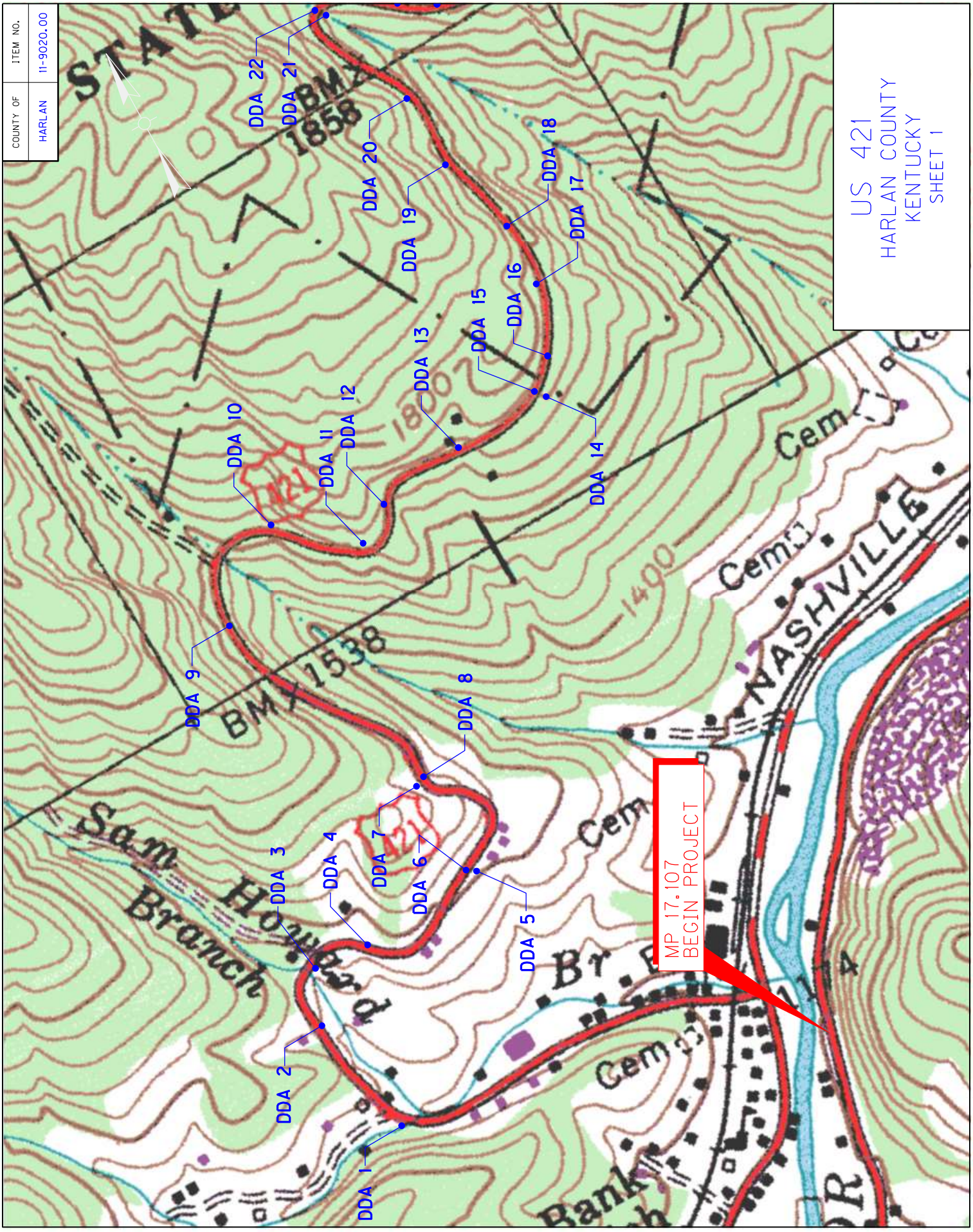
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

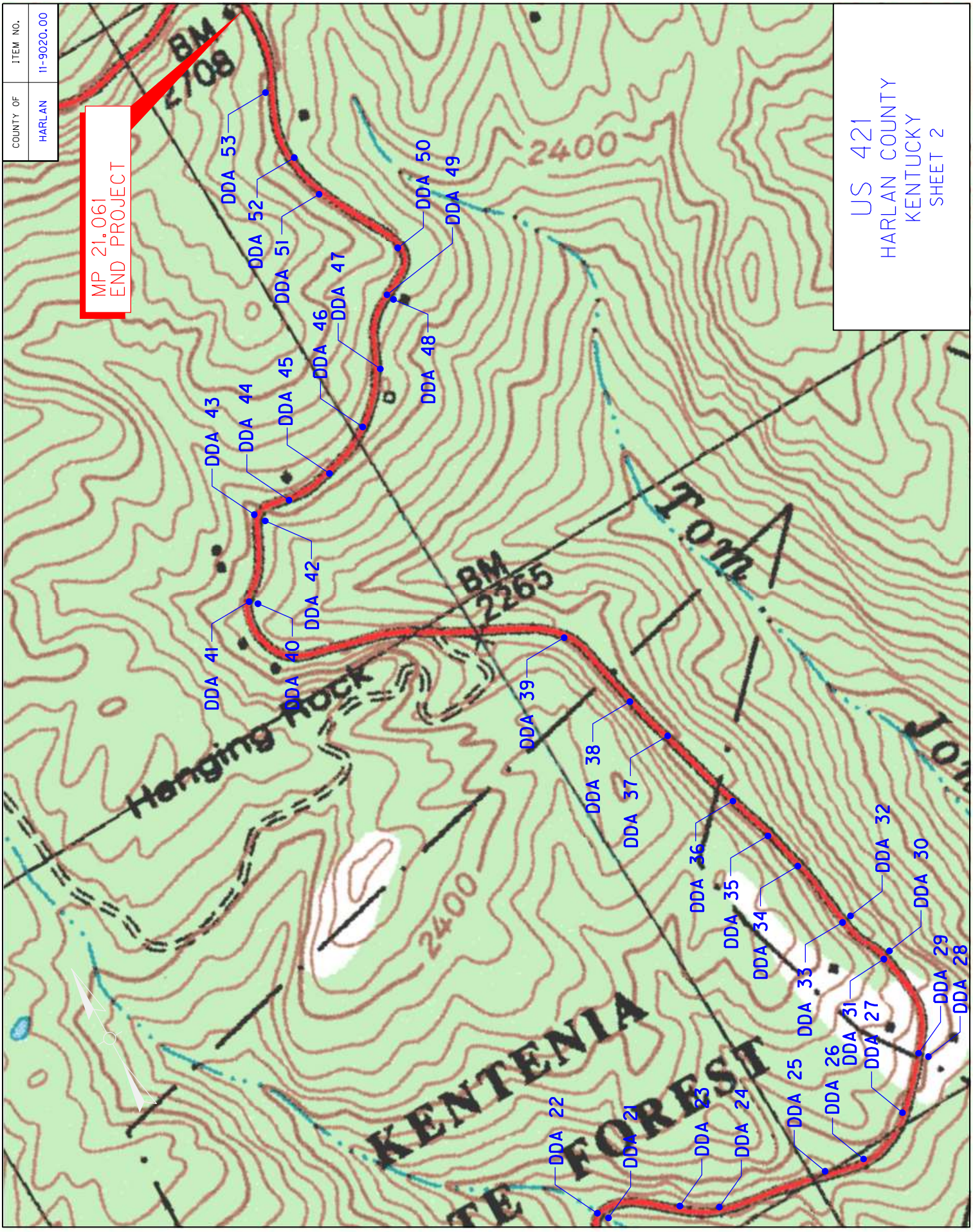
Signature:(*)	Title:(*)
Chris J. Jones	Chief District Engineer

First Name:(*)	M.I.:	Last Name:(*)
Chris	J	Jones

eMail Address:(*)	Business Phone:(*)	Alternate Phone:	Signature Date:(*)
chrisj.jones@ky.gov	6065982145	Phone	12/20/20

Click to Save Values for Future Retrieval | Click to Submit to EEC


COUNTY OF
HARLAN
ITEM NO.
11-9020.00
US 421
HARLAN COUNTY
KENTUCKY
SHEET 1
MP 17.107
BEGIN PROJECT
DDA 1
DDA 2
DDA 3
DDA 4
DDA 5
DDA 6
DDA 7
DDA 8
DDA 9
DDA 10
DDA 11
DDA 12
DDA 13
DDA 14
DDA 15
DDA 16
DDA 17
DDA 18
DDA 19
DDA 20
DDA 21
DDA 22
BM 1858
BM 7538
1800
1490
NASHVILLE
Cem
Sam Howard Branch


COUNTY OF
HARLAN
ITEM NO.
11-9020.00
MP 21.061
END PROJECT
US 421
HARLAN COUNTY
KENTUCKY
SHEET 2
BM 2708
BM 2265
2400
2400
Hanging Rock
KENTENIA
FOREST
DDA 53
DDA 52
DDA 51
DDA 50
DDA 49
DDA 48
DDA 47
DDA 46
DDA 45
DDA 44
DDA 43
DDA 42
DDA 41
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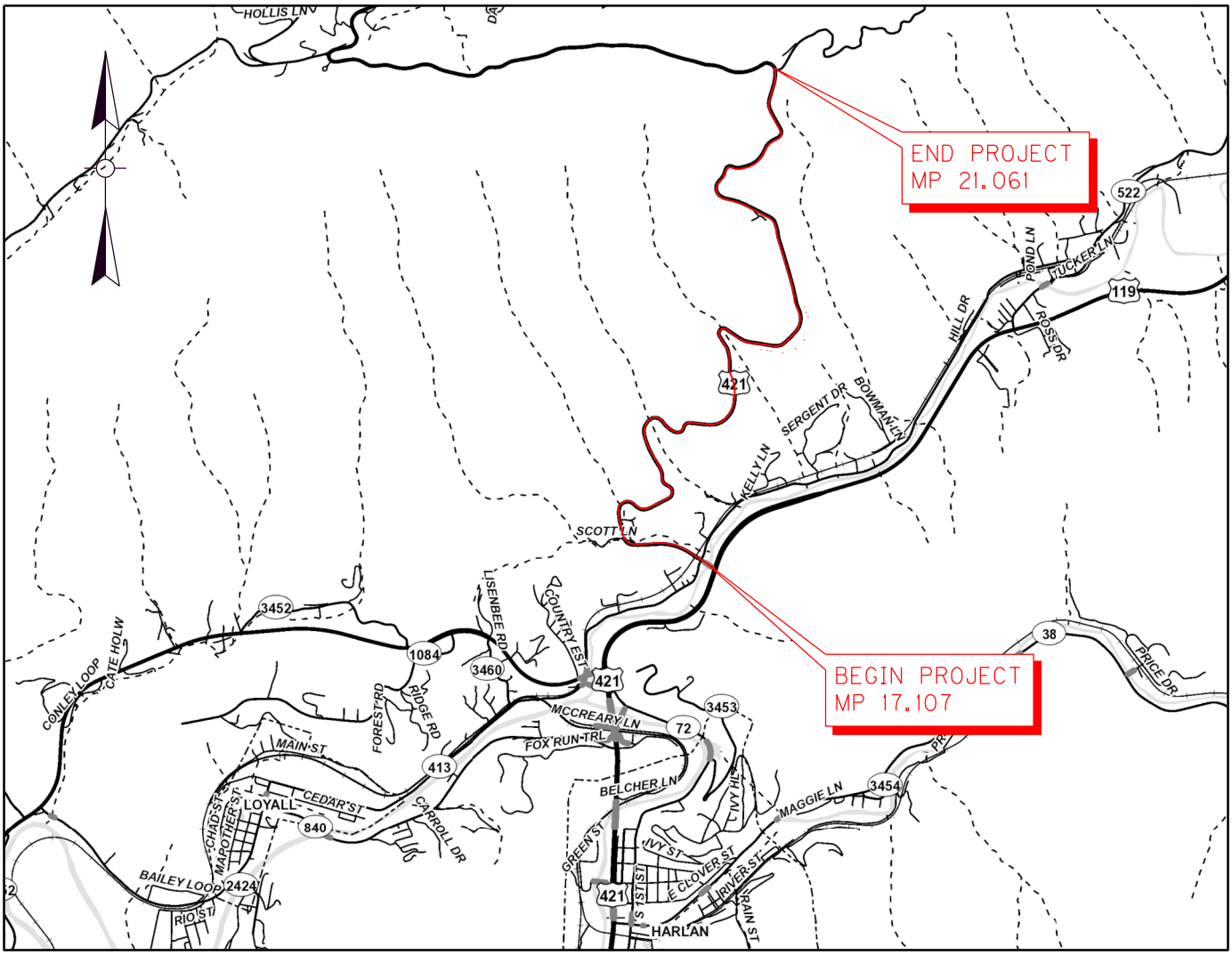
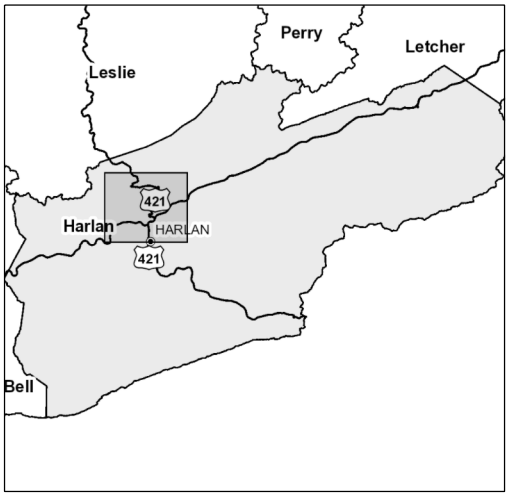
DDA 22
DDA 21

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

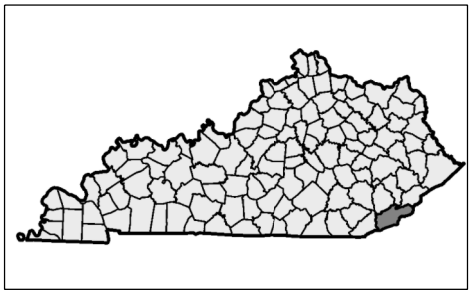
HARLAN COUNTY

US 421





KENTUCKY TRANSPORTATION CABINET



US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT	QUANTITY
1	DGA BASE (2)	TON	669
100	ASPHALT SEAL AGGREGATE (2)	TON	52
103	ASPHALT SEAL COAT (2)	TON	6.3
190	LEVELING & WEDGING PG64-22 (5)	TON	15
342	CL4 ASPH SURF 0.38A PG76-22 (1)	TON	3689
356	ASPHALT MATERIAL FOR TACK (1)	TON	23
1984	DELINEATOR FOR BARRIER - WHITE	EACH	6
1987	DELINEATOR FOR GUARDRAIL B/W (2)	EACH	671
2159	TEMP DITCH	LF	10458
2160	CLEAN TEMP DITCH	LF	5229
2360	GUARDRAIL TERMINAL SECTION NO 1 (2)	EACH	16
2367	GUARDRAIL END TREATMENT TYPE 1 (2)	EACH	15
2381	REMOVE GUARDRAIL (2)	LF	9655
2391	GUARDRAIL END TREATMENT TYPE 4A (2)	EACH	22
2399	EXTRA LENGTH GUARDRAIL POST (9) (2)	EACH	100
2483	CHANNEL LINING CLASS II (4) (5)	TON	4956
2562	TEMPORARY SIGNS	SQFT	288
2569	DEMOBILIZATION	LS	1
2585	EDGE KEY (1)	LF	50
2603	GEOTEXTILE FABRIC CLASS 2 (5)	SQYD	200
2650	MAINTAIN & CONTROL TRAFFIC	LS	1
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	2
2697	EDGELINE RUMBLE STRIPS (1)	LF	37868
2701	TEMP SILT FENCE	LF	10458
2703	SILT TRAP TYPE A	EACH	18
2704	SILT TRAP TYPE B	EACH	18
2705	SILT TRAP TYPE C	EACH	18
2706	CLEAN SILT TRAP TYPE A	EACH	18
2707	CLEAN SILT TRAP TYPE B	EACH	18
2708	CLEAN SILT TRAP TYPE C	EACH	18
2726	STAKING	LS	1
3240	BASE FAILURE REPAIR (5)	SQYD	72
3234	RAILROAD RAILS-DRILLED (5)	LF	1520
3235	EXCAVATION AND BACKFILL (5)	CUYD	210
3236	CRIBBING (5)	SQFT	1800
5950	EROSION CONTROL BLANKET (3)	SQYD	740
5952	TEMP MULCH	SQYD	57140
5953	TEMP SEEDING AND PROTECTION	SQYD	42834
5963	INITIAL FERTILIZER	TON	1.6
5964	MAINTENANCE FERTILIZER	TON	1.0

(1) QUANTITY CARRIED OVER FROM PAVING SUMMARY
(2) QUANTITY CARRIED OVER FROM GUARDRAIL SUMMARY
(3) QUANTITY CARRIED OVER FROM ROADSIDE REGRADING SUMMARY
(4) QUANTITY CARRIED OVER FROM CHANNEL LINING SUMMARY
(5) QUANTITY CARRIED OVER FROM CRIBBING SUMMARY
(6) QUANTITY CARRIED OVER FROM STRIPING SUMMARY
(7) QUANTITY CARRIED OVER FROM SIGNING SUMMARY
(8) QUANTITY CARRIED OVER FROM REMOVE SIGN SUMMARY
(9) FOR USE AS DIRECTED BY ENGINEER

US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT	QUANTITY
5985	SEEDING AND PROTECTION	SQYD	29900
5992	AGRICULTURAL LIMESTONE	TON	19
6406	SBM ALUM SHEET SIGNS .080 IN (7)	SQFT	179.25
6410	STEEL POST TYPE 1 (7)	LF	231
6510	PAVE STRIPING-TEMP PAINT-4 IN (9)	LF	38000
6542	PAVE STRIPING-THERMO-6 IN W (6)	LF	37854
6543	PAVE STRIPING-THERMO-6 IN Y (6)	LF	36767
10020NS	FUEL ADJUSTMENT	DOLL	6006
10030NS	ASPHALT ADJUSTMENT	DOLL	14481
20458ES403	CENTERLINE RUMBLE STRIPS (1)	EACH	18927
20191ED	OBJECT MARKER TYPE 3 (2)	EACH	37
21134ND	REMOVE-STORE AND REINSTALL SIGN (9)	EACH	10
21373ND	REMOVE SIGN (8)	EACH	3
21802EN	G/R STEEL W BEAM S-FACE (7 FT POST) (2)	LF	8376
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN (6)	LF	24
23266ES717	PAVE MARK TY 1 TAPE R/R X BUCKS-16 IN (6)	LF	40
23911EC	GROUT (4)	CUYD	477
24361EC	BARCODE SIGN INVENTORY (7)	EACH	57
26175EC	ROADSIDE REGRADING (3)	LF	4010

(1) QUANTITY CARRIED OVER FROM PAVING SUMMARY
(2) QUANTITY CARRIED OVER FROM GUARDRAIL SUMMARY
(3) QUANTITY CARRIED OVER FROM ROADSIDE REGRADING SUMMARY
(4) QUANTITY CARRIED OVER FROM CHANNEL LINING SUMMARY
(5) QUANTITY CARRIED OVER FROM CRIBBING SUMMARY
(6) QUANTITY CARRIED OVER FROM STRIPING SUMMARY
(7) QUANTITY CARRIED OVER FROM SIGNING SUMMARY
(8) QUANTITY CARRIED OVER FROM REMOVE SIGN SUMMARY
(9) FOR USE AS DIRECTED BY ENGINEER

US 421 - HARLAN COUNTY ITEM NO. 11-9020.00 PAVING SUMMARY			
PAVING AREAS		**PAVING QUANTITIES**	
ITEM	**TOTAL**	**ITEM**	**TOTAL**
	SQYD		**TON**
1.25" CL4 ASPH SURF 0.38A PG76-22	53647	1.25" CL4 ASPH SURF 0.384 PG76-22	3689
ASPHALT MATERIAL FOR TACK	53647	ASPHALT MATERIAL FOR TACK	23
	LF		**LF**
EDGE KEY (BEGIN & END RESURFACING)	50	EDGE KEY	50
CENTERLINE RUMBLE STRIPS	18927	CENTERLINE RUMBLE STRIPS	18927
EDGELINE RUMBLE STRIPS	37868	EDGELINE RUMBLE STRIPS	37868

BID ITEM	DESCRIPTION	UNIT	QUANTITY	
342	CL4 ASPH SURF 0.38A PG76-22	TON	3689	*
356	ASPHALT MATERIAL FOR TACK	TON	23	
2585	EDGE KEY	LF	50	
2697	EDGELINE RUMBLE STRIPS	LF	37868	
20458ES403	CENTERLINE RUMBLE STRIPS	LF	18927	

* Estimated at 110 lbs. per SQ. YD. per inch of depth

These numbers are for estimate purposes only. Final locations and quantities will be determined by the Engineer in the field.

US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
GUARDRAIL SUMMARY

Notes: Begin/End Milepoints are estimated to include the entire length of the Rail AND the End Treatments. The Engineer may adjust the proposed guardrail termini to ensure proper installation of the guardrail system.

Proposed Guardrail to be Constructed										Existing Guardrail to be Removed					
Side of Road	Proposed BEGINNING Treatment	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint	Proposed ENDING Treatment	Proposed Length (LF)	Number of Radius Rail	Remarks	Side of Road	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint	Existing Length (LF)
RT	TYPE 4A	925+00	17.519	926+00	17.538	TS 1	62.50	1	7' POSTS		924+97	17.518	926+01	17.538	104
RT	TS 1	926+55	17.548	927+50	17.566	TS 1	112.50	2	7' POSTS		926+56	17.548	927+50	17.566	124
RT	TYPE 1	929+25	17.599	930+75	17.628	TS1	112.50	1	7' POSTS		929+25	17.599	930+77	17.628	152
RT	TS 1	931+10	17.634	932+35	17.658	TYPE 4A	75.00		7' POSTS		931+14	17.635	932+30	17.657	116
RT	TYPE 4A	934+75	17.704	936+25	17.732	TYPE 4A	50.00		7' POSTS		934+80	17.705	935+91	17.726	111
LT	TYPE 4A	935+05	17.709	936+00	17.727	TS 1	50.00	1	7' POSTS		935+11	17.710	935+94	17.726	83
LT	TYPE 1	937+75	17.760	939+75	17.798	TYPE 1	100.00		7' POSTS		937+98	17.765	939+77	17.799	179
RT	TYPE 4A	938+75	17.779	939+90	17.801	TS 1	75.00		7' POSTS		938+74	17.779	939+87	17.801	113
RT	TS 1	940+20	17.807	940+75	17.817	TS 1	75.00	2	7' POSTS		940+17	17.806	940+72	17.817	64
RT	TYPE 4A	942+90	17.858	945+65	17.910	TYPE 4A	175.00		7' POSTS		942+93	17.859	945+57	17.909	264
RT	TYPE 4A	957+20	18.129	976+70	18.498	TYPE 4A	1,850.00		7' POSTS		957+29	18.130	976+69	18.498	1,940
LT	TS 1	967+75	18.329	971+00	18.390	TS 1	362.50	2	7' POSTS		967+80	18.330	971+00	18.390	363
RT	TS 1	982+55	18.609	983+20	18.621	TS 1	87.50	2	7' POSTS		982+55	18.609	983+17	18.621	62
RT	TYPE 1	992+75	18.802	994+75	18.840	TYPE 1	100.00		7' POSTS		992+70	18.801	994+57	18.837	187
RT	TYPE 4A	998+45	18.910	1001+45	18.967	TYPE 4A	200.00		7' POSTS		998+50	18.911	1001+45	18.967	295
LT	TYPE 1	1010+70	19.142	1011+95	19.166	TYPE 1	25.00		7' POSTS		1010+72	19.142	1011+76	19.162	104
RT	TYPE 4A	1010+48	19.138	1011+73	19.161	TYPE 4A	25.00		7' POSTS		1010+80	19.144	1012+01	19.167	121
RT	TYPE 4A	1014+45	19.213	1020+50	19.328	TYPE 1	512.50		7' POSTS		1014+42	19.213	1018+69	19.293	427
LT	TYPE 1	1022+20	19.360	1024+25	19.399	TS 1	162.50	1	7' POSTS		1022+24	19.361	1024+08	19.395	184
RT	TYPE 1	1022+50	19.366	1029+00	19.489	TYPE 4A	551.00		7' POSTS		1022+49	19.365	1028+94	19.488	645
RT	TYPE 1	1036+15	19.624	1042+15	19.738	TYPE 4A	500.00		7' POSTS		1036+15	19.624	1042+01	19.735	586
RT	TYPE 1	1058+25	20.043	1060+00	20.076	TYPE 1	75.00		7' POSTS		1058+26	20.043	1059+94	20.075	168
RT	TYPE 1	1061+90	20.112	1078+65	20.429	TYPE 4A	1,575.00		7' POSTS		1061+90	20.112	1078+60	20.428	1,670

US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
GUARDRAIL SUMMARY

Notes: Begin/End Milepoints are estimated to include the entire length of the Rail AND the End Treatments. The Engineer may adjust the proposed guardrail termini to ensure proper installation of the guardrail system.

Proposed Guardrail to be Constructed										Existing Guardrail to be Removed					
Side of Road	Proposed BEGINNING Treatment	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint	Proposed ENDING Treatment	Proposed Length (LF)	Number of Radius Rail	Remarks	Side of Road	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint	Existing Length (LF)
LT	TYPE 1	1062+25	20.118	1063+25	20.137	TS 1	62.50	1	7' POSTS		1062+26	20.119	1063+08	20.134	82
RT	TYPE 4A	1078+85	20.433	1086+85	20.584	TYPE 4A	700.00		7' POSTS		1078+83	20.432	1086+35	20.575	752
RT	TYPE 4A	1100+75	20.848	1104+50	20.919	TS 1	337.50	1	7' POSTS		1100+79	20.848	1104+50	20.919	371
RT	TS 1	1106+25	20.952	1110+25	21.027	TYPE 4A	362.50	1	7' POSTS		1106+20	20.951	1110+08	21.024	388

ITEM	DESCRIPTION	UNIT	QUANTITY	
1	DGA	TON	669	
100	ASPHALT SEAL AGGREGATE	TON	52.00	
103	ASPHALT SEAL COAT	TON	6.30	
1987	DELINEATOR FOR GUARDRAIL B/W	EACH	671	
2360	GUARDRAIL TERMINAL SECTION NO 1	EACH	16	
2367	GUARDRAIL END TREATMENT TYPE 1	EACH	15	
2391	GUARDRAIL END TREATMENT TYPE 4A	EACH	22	
2381	REMOVE GUARDRAIL	LF	9,655	
2399	EXTRA LENGTH GUARDRAIL POST	EACH	100	*
20191ED	OBJECT MARKER TYPE 3	EACH	37	
21802EN	G/R STEEL W BEAM-S FACE (7-FT POST)	LF	8,376	

All quantities carried over to general summary.
These numbers are for estimate purposes only. Final locations and quantities will be determined by the Engineer in the field.
Contrary to the standard drawing, guardrail delineators shall be installed at 12.5' spacing.

*For use as directed by Engineer.

US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
ROADSIDE REGRADING SUMMARY

Notes:

* The "Figure References" noted below refer to the Figure number within the Roadside Regrading Detail Sheet that is the closest representation of the intended Roadside Regrading.
** The Estimated Volumes of Excavation and Embankment are provided for informational purposes ONLY. The Department gives no guarantee to the accuracy of the estimated volumes. The Bidder must draw his/her own conclusion. Payment will be based on the Linear Footage of Roadside Regrading performed, regardless of the accuracy of the Estimated Volumes of Excavation and Embankment.

LOCATION					Length (LF)	Roadside Regrading (LF)	Estimated Excavation Volume** (CU YD)	Estimated Embankment Volume** (CU YD)	Roadside Regrading Detail Sheet Figure Ref.*	Include DGA Wedge? (Yes/No)	Erosion Control Blanket (SQYD)	Asphalt Seal Coat (TON)	Asphalt Seal Aggregate (TON)	Channel Line Ditch, Fill Slope or Cut Slope?	Channel Lining Class 2 (TONS)
Side of Road	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint											
RT	936+00	17.727	937+50	17.756	150	150	19	0	7	No	0			See Channel Lining Summary for quantities	
RT	987+90	18.710	989+00	18.731	110	110	20	0	7	No	50				
LT	938+75	17.779	942+00	17.841	325	325	84	0	7	No	45				
LT	1024+25	19.399	1030+00	19.508	575	575	85	0	7	No	0				
LT	1035+50	19.612	1039+50	19.688	400	400	59	0	7	No	230				
LT	1042+00	19.735	1049+00	19.867	700	700	181	0	7	No	0				
LT	1052+00	19.924	1060+00	20.076	800	800	104	0	7	No	200				
LT	1066+00	20.189	1068+50	20.237	250	250	32	0	7	No	115				
LT	1078+00	20.417	1079+00	20.436	100	100	15	0	7	No	0				
LT	1089+00	20.625	1092+00	20.682	300	300	44	0	5	No	0				
LT	1098+00	20.795	1103+50	20.900	550	300	0	0	7	No	100				

ITEM	DESCRIPTION	UNIT	QUANTITY
26175EC	ROADSIDE REGRADING	LF	4,010
5950	EROSION CONTROL BLANKET	SQYD	740

All quantities carried over to general summary.
These numbers are for estimate purposes only. Final locations and quantities will be determined by the Engineer in the field.

US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
CHANNEL LINING SUMMARY

LOCATION					Length (LF)	Notes	Channel Lining Class 2 (TONS)	Grout* (CUYD)
Side of Road	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint				
RT	932+50	17.661	934+75	17.704	225	Ditch stabilization	100	10
RT	936+00	17.727	937+50	17.756	150	Ditch stabilization	67	7
RT	945+00	17.898	945+50	17.907	50	Slope stabilization at pipe outlet	28	--
RT	948+00	17.955	950+00	17.992	200	Ditch stabilization	111	9
RT	1008+00	19.091	1010+50	19.138	250	Ditch stabilization	111	12
LT	933+50	17.680	935+00	17.708	150	Ditch stabilization	67	7
LT	938+75	17.779	939+75	17.798	100	Fill slope stabilization	44	--
LT	939+75	17.798	941+00	17.822	125	Ditch stabilization	56	6
LT	951+00	18.011	959+00	18.163	800	Ditch stabilization	355	37
LT	961+50	18.210	965+00	18.277	350	Ditch stabilization	155	16
LT	977+00	18.504	982+00	18.598	500	Ditch stabilization	222	23
LT	984+00	18.636	997+00	18.883	1,300	Ditch stabilization	577	60
LT	1000+00	18.939	1010+50	19.138	1,050	Ditch stabilization	466	49
LT	1012+00	19.167	1018+25	19.285	625	Ditch stabilization	278	29
LT	1024+25	19.399	1030+00	19.508	575	Ditch stabilization	255	27
LT	1030+00	19.508	1036+00	19.621	600	Ditch stabilization	266	28
LT	1040+25	19.702	1046+94	19.828	669	Ditch stabilization	297	31
LT	1046+94	19.828	1049+00	19.867	206	Ditch stabilization	114	10
LT	1055+00	19.981	1060+00	20.076	500	Ditch stabilization	222	23
LT	1077+00	20.398	1080+00	20.455	300	Ditch stabilization	133	14
LT	1080+00	20.455	1083+00	20.511	300	Ditch stabilization	200	14
LT	1083+00	20.511	1088+00	20.606	500	Ditch stabilization	222	23
LT	1089+00	20.625	1092+00	20.682	300	Ditch stabilization	133	14
LT	1098+00	20.795	1101+75	20.866	375	Ditch stabilization	104	17
LT	1104+00	20.909	1106+63	20.959	263	Ditch stabilization	73	12

ITEM	DESCRIPTION	UNIT	QUANTITY
2483	CHANNEL LINING CLASS II	TON	4656
23911EC	GROUT	CUYD	477

* Estimated at 3" of depth
These numbers are for estimate purposes only. Final locations and quantities will be determined by the Engineer in the field.
All quantities carried over to the General Summary.

US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
CRIBBING SUMMARY

Offset	Begin Station	Begin Mile Point	End Station	End Mile Point	Length	Avg. Cribbing Height	Steel Length per Rail	Number of Rails	Backfill width	Excavation & Backfill (CUYD)	Proposed Cribbing (SQFT)	Railroad Rails - Drilled (LF)	Channel Lining - Class II (Tons)	Geotextile Fabric (SQYD)
RT	999+50	18.930	1001+00	18.958	150	12	40	38	6	210	1800	1520	300	200
									TOTALS:	**210**	**1800**	**1520**	**300**	**200**

ITEM	DESCRIPTION	UNIT	QUANTITY	
190	LEVELING & WEDGING PG64-22	TON	15	*
2483	CHANNEL LINING CLASS II	TON	300	
2603	GEOTEXTILE FABRIC CLASS 2	SQYD	200	
3240	BASE FAILURE REPAIR	SQYD	72	*
3234	RAILROAD RAILS-DRILLED	LF	1520	
3235	EXCAVATION AND BACKFILL	CUYD	210	
3236	CRIBBING	SQFT	1800	

* For base failure repair, Rt. Sta. 1000+00 - 1000+80

All quantities carried over to general summary.
These numbers are for estimate purposes only. Final locations and quantities will be determined by the Engineer in the field.
See guardrail summary for guardrail quantities.

US 421 - HARLAN COUNTY ITEM NO. 11-9020.00 PAVEMENT STRIPING SUMMARY							
Begin Station	**Begin Milepoint**	**Offset**	**End Station**	**End Milepoint**	**Offset**	**Description**	**Length (LF)**
Thermo Striping - 6" White							
922+75	17.476	11' LT	1112+02	21.061	11' LT	Edgeline	18927
922+75	17.476	11' RT	1112+02	21.061	11' RT	Edgeline	18927
Thermo Striping - 6" Yellow							
922+75	17.476	0'	1040+50	19.706	0'	Double Solid	23550
1040+50	19.706	0'	1049+00	19.867	0'	Solid/Dashed (NB passing)	1063
1049+00	19.867	0'	1050+00	19.886	0'	Double Solid	200
1050+00	19.886	0'	1056+00	20.000	0'	Solid/Dashed (SB passing)	750
1056+00	20.000	0'	1112+02	21.061	0'	Double Solid	11204
Grade Crossing Pavement Marking							
905+19	17.144	0'	1040+50	19.706	0'	24" Bar	12
905+14	17.143	0'	1049+00	19.867	0'	R/R X Bucks	40
904+69	17.134	0'	1050+00	19.886	0'	24" Bar	12

BID ITEM	DESCRIPTION	UNIT	QUANTITY
6542	PAVE STRIPING-THERMO-6 IN W	LF	37854
6543	PAVE STRIPING-THERMO-6 IN Y	LF	36767
23266ES717	PAVE MARK TY 1 TAPE R/R X BUCKS-16 IN	LF	40
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	LF	24

These numbers are for estimate purposes only. Final locations and quantities will be determined by the Engineer in the field.
All quantities carried over to the General Summary.

US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
SIGN SUMMARY

SIGN LOCATION					MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)			SHEETING			SBM Alum Sheet Signs 0.080 IN (SQ FT)	Installation Type	# of Sign Posts	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Station	Approx. Mile Point	Facing Traffic Traveling							Text/ Symbol Color	Background Color	Sheeting Type					
1	LT	928+60	17.587	SB	W1-3R	Right Reverse Turn		30	x	30	Black	FL Yellow	XI	6.25	Stnd w/ Soil Plate	1	14	1
1	LT	928+60	17.587	SB	W13-1P	XX MPH (Advisory Speed)	20 MPH	18	x	18	Black	FL Yellow	XI	2.25	Stnd w/ Soil Plate			1
2	LT	933+30	17.676	NB	W1-8R	Right Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate			1
3	LT	934+10	17.691	SB	W1-8L	Left Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate	1	11	1
3	LT	934+10	17.691	NB	W1-8R	Right Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate			1
4	LT	934+90	17.706	SB	W1-8L	Left Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate	1	11	1
4	LT	934+90	17.706	NB	W1-8R	Right Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate			1
5	LT	935+70	17.722	SB	W1-8L	Left Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate	1	11	1
5	LT	935+70	17.722	NB	W1-8R	Right Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate			1
6	LT	936+50	17.737	SB	W1-8L	Left Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate	1	11	1
6	LT	936+50	17.737	NB	W1-8R	Right Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate			1
7	LT	937+30	17.752	SB	W1-8L	Left Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate	1	11	1
8	RT	938+30	17.771	NB	W1-1aL	Left Turn XX	20 MPH	36	x	36	Black	FL Yellow	XI	9.00	Stnd w/ Soil Plate	1	14	1
9	LT	939+10	17.786	SB	W1-1aL	Left Turn XX	20 MPH	36	x	36	Black	FL Yellow	XI	9.00	Stnd w/ Soil Plate	1	14	1
10	LT	943+90	17.877	SB	W1-3R	Right Reverse Turn		30	x	30	Black	FL Yellow	XI	6.25	Stnd w/ Soil Plate	1	14	1
10	LT	943+90	17.877	SB	W13-1P	XX MPH (Advisory Speed)	20 MPH	18	x	18	Black	FL Yellow	XI	2.25	Stnd w/ Soil Plate			1
11	RT	945+40	17.905	NB	W1-5L	Left Winding Road		30	x	30	Black	FL Yellow	XI	6.25	Stnd w/ Soil Plate	1	14	1
11	RT	945+40	17.905	NB	W13-1P	XX MPH (Advisory Speed)	20 MPH	18	x	18	Black	FL Yellow	XI	2.25	Stnd w/ Soil Plate			1
12	RT	948+50	17.964	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
13	RT	949+30	17.979	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
14	RT	950+20	17.996	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
15	LT	951+60	18.023	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
16	LT	952+50	18.040	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
17	RT	954+15	18.071	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
18	RT	954+90	18.085	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
19	LT	961+70	18.214	SB	W1-5R	Right Winding Road	20 MPH	30	x	30	Black	FL Yellow	XI	6.25	Stnd w/ Soil Plate	1	14	1
19	LT	961+70	18.214	SB	w13-1P	XX MPH (Advisory Speed)	20 MPH	18	x	18	Black	FL Yellow	XI	2.25	Stnd w/ Soil Plate			1
20	LT	967+95	18.332	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
21	LT	968+65	18.346	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
22	LT	969+40	18.360	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
23	LT	972+55	18.420	SB	W1-1aL	Left Turn XX	20 MPH	36	x	36	Black	FL Yellow	XI	9.00	Stnd w/ Soil Plate	1	14	1
24	LT	978+60	18.534	SB	W1-1aR	Right Turn XX	20 MPH	36	x	36	Black	FL Yellow	XI	9.00	Stnd w/ Soil Plate		14	1
25	RT	1008+00	19.091	NB	W1-11R	Right Hairpin Curve		30	x	30	Black	FL Yellow	XI	6.25	Stnd w/ Soil Plate	1	14	1
25	RT	1008+00	19.091	NB	W13-1P	XX MPH (Advisory Speed)	15 MPH	18	x	18	Black	FL Yellow	XI	2.25	Stnd w/ Soil Plate			1
26	LT	1009+30	19.116	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
27	LT	1010+00	19.129	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
28	LT	1010+45	19.137	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
29	LT	1011+00	19.148	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
30	LT	1011+60	19.159	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
31	LT	1012+30	19.172	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
32	RT	1014+90	19.222	SB	W1-11L	Left Hairpin Curve		30	x	30	Black	FL Yellow	XI	6.25	Stnd w/ Soil Plate	1	14	1
32	RT	1014+90	19.222	SB	W13-1P	XX MPH (Advisory Speed)	20 MPH	18	x	18	Black	FL Yellow	XI	2.25	Stnd w/ Soil Plate			1
33	LT	1014+90	19.222	SB	W1-11L	Left Hairpin Curve		30	x	30	Black	FL Yellow	XI	6.25	Stnd w/ Soil Plate	1	14	1
33	LT	1014+90	19.222	SB	W13-1P	XX MPH (Advisory Speed)	20 MPH	18	x	18	Black	FL Yellow	XI	2.25	Stnd w/ Soil Plate			1
34	RT	1055+90	19.998	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
35	RT	1057+00	20.019	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1

US 421 - HARLAN COUNTY
ITEM NO. 11-9020.00
SIGN SUMMARY

SIGN LOCATION					MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)			SHEETING			SBM Alum Sheet Signs 0.080 IN (SQ FT)	Installation Type	# of Sign Posts	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Station	Approx. Mile Point	Facing Traffic Traveling							Text/ Symbol Color	Background Color	Sheeting Type					
36	RT	1058+65	20.050	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
37	LT	1071+31	20.290	SB	W1-8L	Left Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate	1	11	1
37	LT	1071+31	20.290	NB	W1-8R	Right Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate			1
37	LT	1071+31	20.290	NB/SB	--	Refl. Panel on Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
38	LT	1072+21	20.307	SB	W1-8L	Left Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate	1	11	1
38	LT	1072+21	20.307	NB	W1-8R	Right Chevron		18	x	24	Black	FL Yellow	XI	3.00	Stnd w/ Soil Plate			1
38	LT	1072+21	20.307	NB/SB	--	Refl. Panel on Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
39	LT	1073+25	20.327	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
40	LT	1074+20	20.345	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
41	LT	1079+50	20.445	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1
42	LT	1080+20	20.458	NB/SB	--	Refl. Panel on Ex. Post	Both directions	2	x	60	--	FL Yellow	XI	1.67				1

ITEM	DESCRIPTION	UNIT	QUANTITY
6406	SBM ALUM SHEET SIGNS .080 IN	SQFT	179.25
6410	STEEL POST - TYPE 1	LF	231
24361EC	BARCODE SIGN INVENTORY	EACH	57

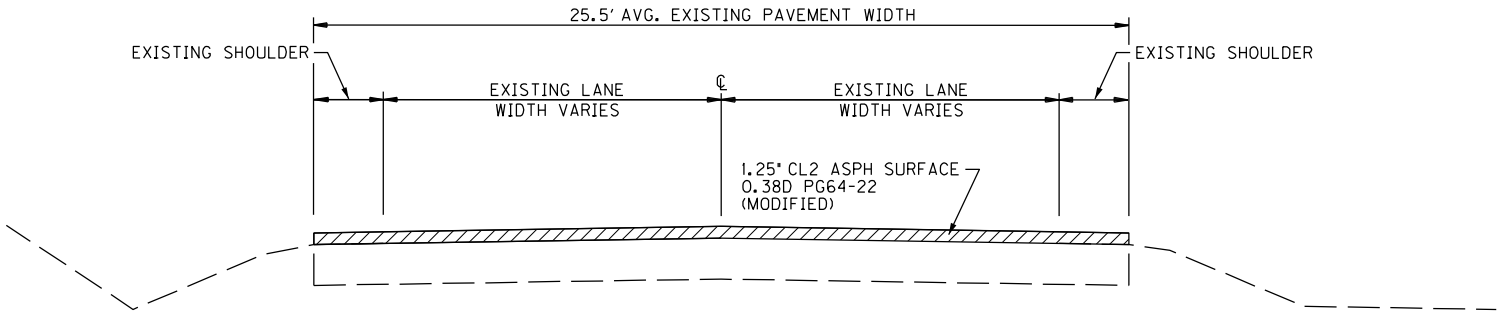
US 421 - HARLAN COUNTY ITEM NO. 11-9020.00 SIGN REMOVAL SUMMARY				
Station	**Milepoint**	**Offset**	**Description**	**Quantity**
937+30	17.752	LT	Chevron	1
1071+31	20.290	LT	Chevron	1
1072+21	20.307	LT	Chevron	1

BID ITEM	DESCRIPTION	UNIT	QUANTITY
21373ND	REMOVE SIGN	EACH	3

These numbers are for estimate purposes only. Final locations and quantities will be determined by the Engineer in the field.

All quantities carried over to the General Summary.

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

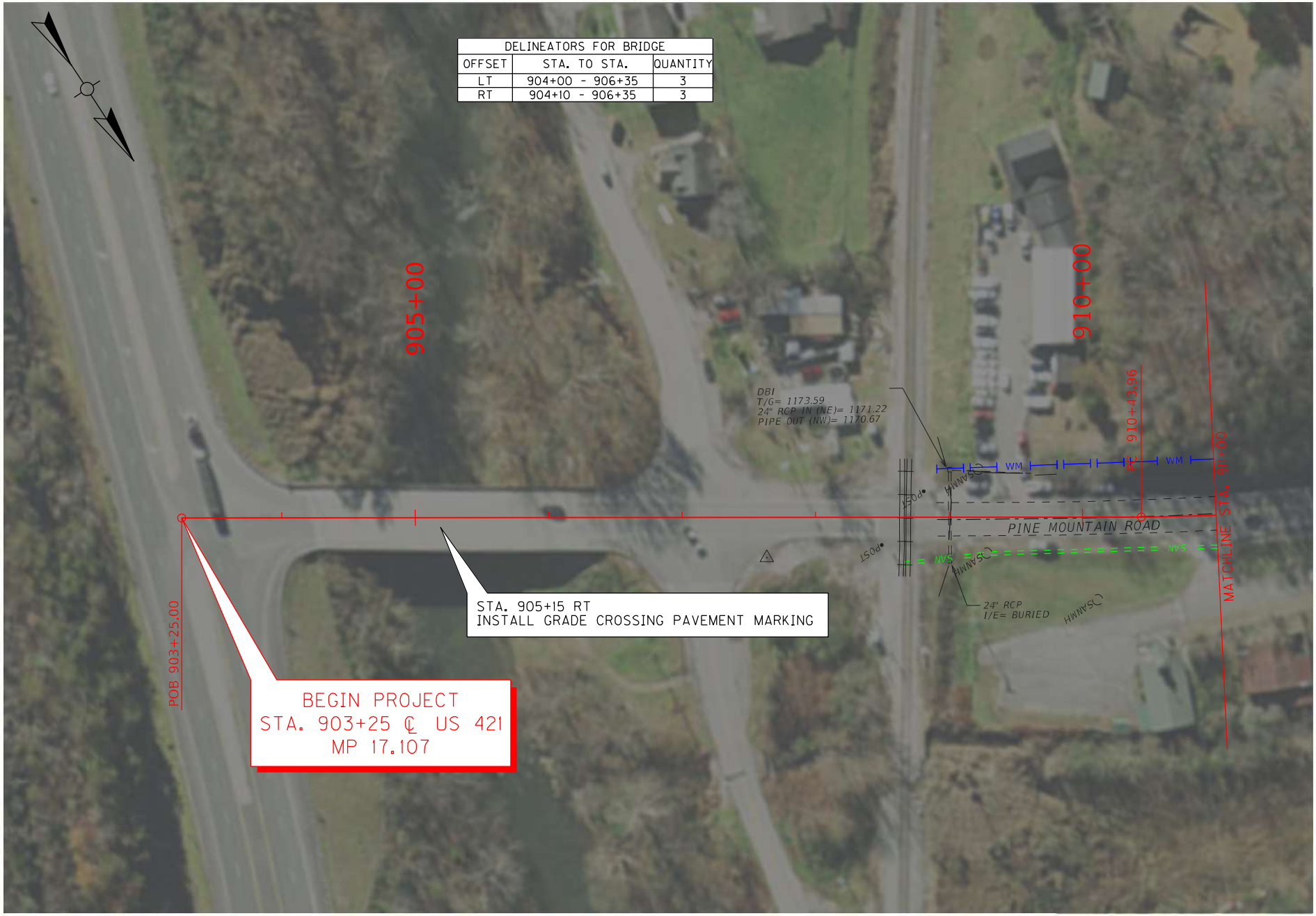


ASPHALT OVERLAY SECTION

SCALE: 1" = 100'

US 421
TYPICAL SECTIONS

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



DELINEATORS FOR BRIDGE		
OFFSET	STA. TO STA.	QUANTITY
LT	904+00 - 906+35	3
RT	904+10 - 906+35	3

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 1
BEGIN CONSTRUCTION TO STA. 911+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

US 421
PLAN SHEET 2
STA. 911+00 TO STA. 920+00

SCALE: 1" = 100'

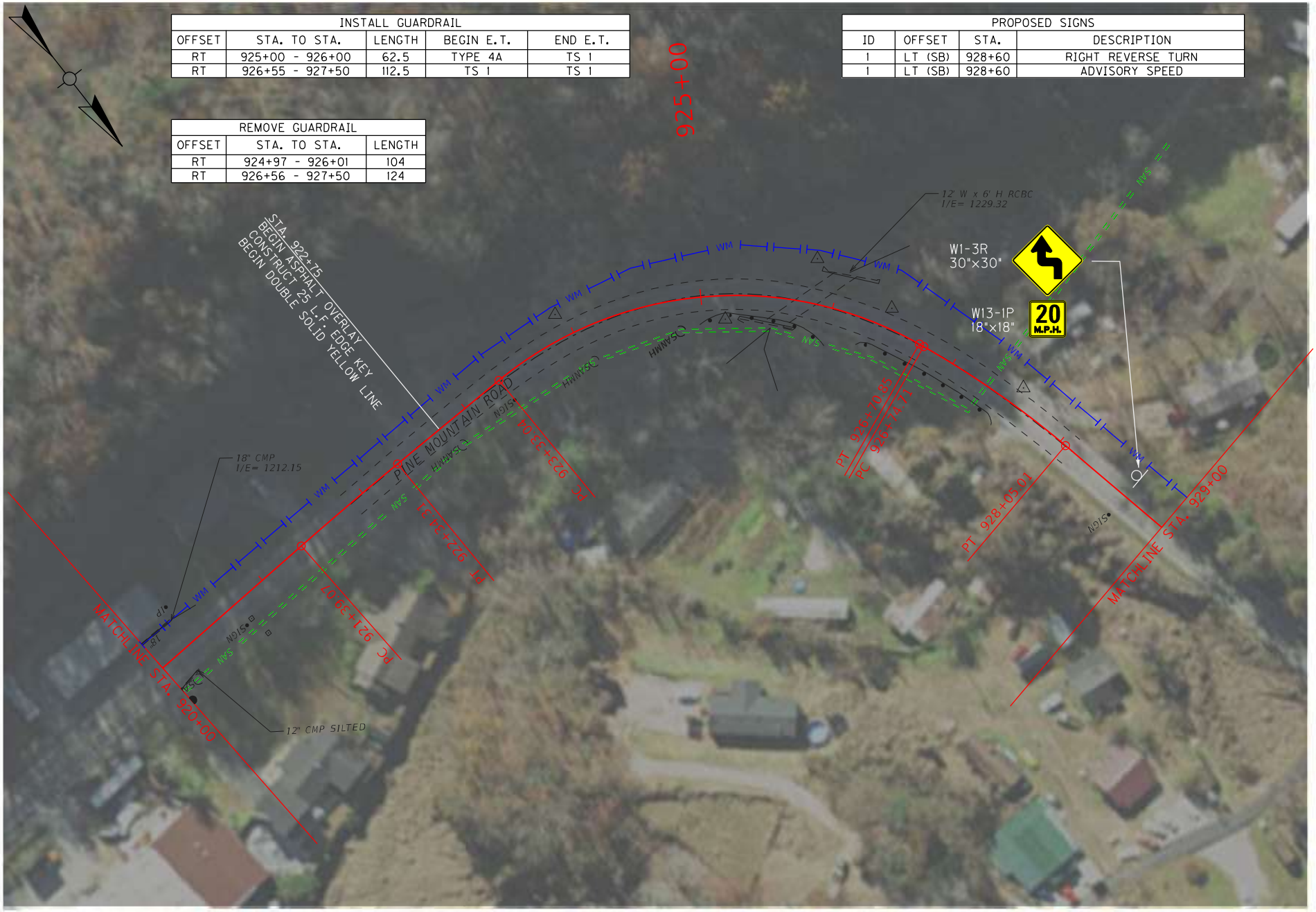
NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	925+00 - 926+00	62.5	TYPE 4A	TS 1
RT	926+55 - 927+50	112.5	TS 1	TS 1

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	924+97 - 926+01	104
RT	926+56 - 927+50	124

PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
1	LT (SB)	928+60	RIGHT REVERSE TURN
1	LT (SB)	928+60	ADVISORY SPEED

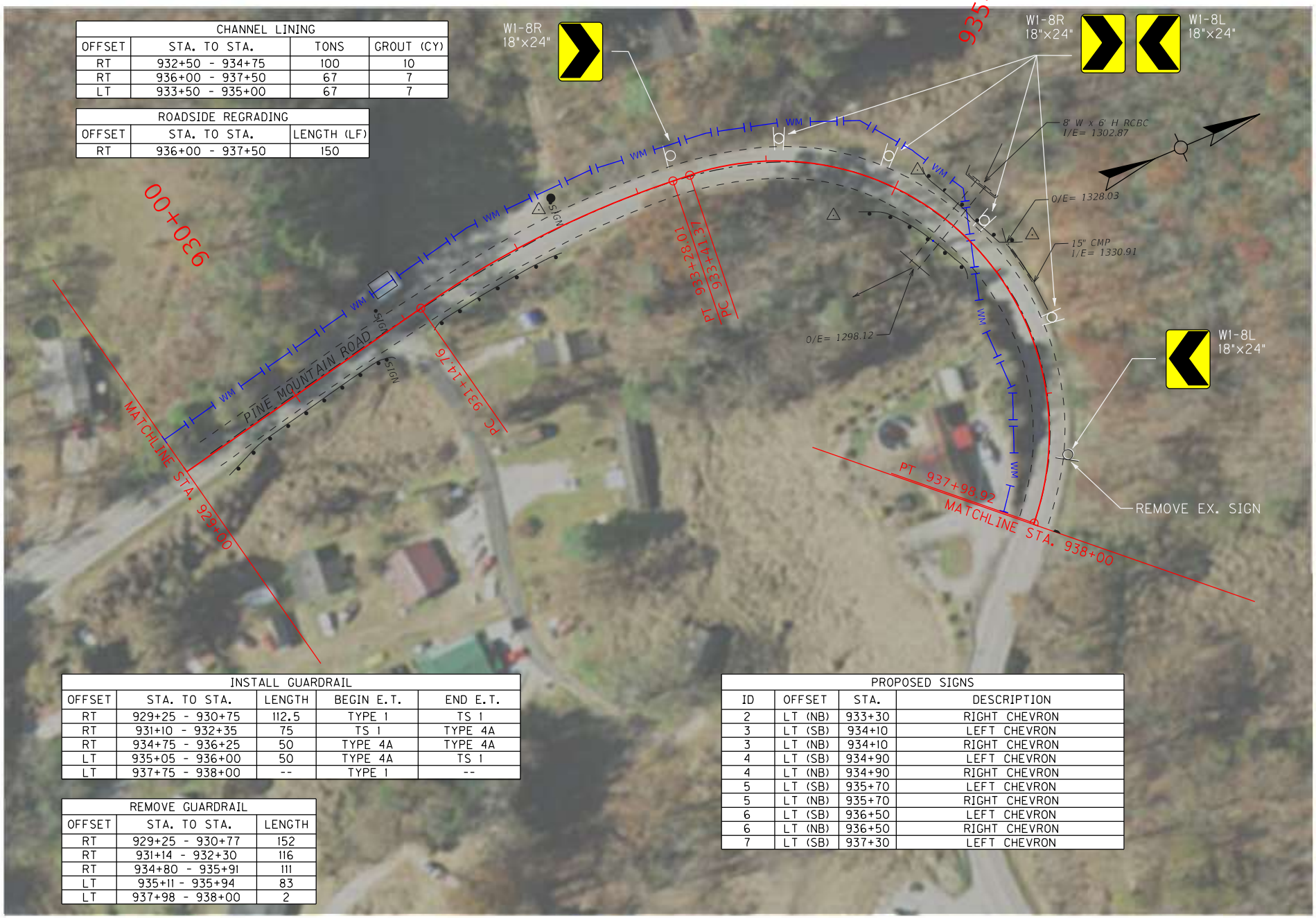


NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 3
STA. 920+00 TO STA. 929+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
RT	932+50 - 934+75	100	10
RT	936+00 - 937+50	67	7
LT	933+50 - 935+00	67	7

ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
RT	936+00 - 937+50	150

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	929+25 - 930+75	112.5	TYPE 1	TS 1
RT	931+10 - 932+35	75	TS 1	TYPE 4A
RT	934+75 - 936+25	50	TYPE 4A	TYPE 4A
LT	935+05 - 936+00	50	TYPE 4A	TS 1
LT	937+75 - 938+00	--	TYPE 1	--

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	929+25 - 930+77	152
RT	931+14 - 932+30	116
RT	934+80 - 935+91	111
LT	935+11 - 935+94	83
LT	937+98 - 938+00	2

PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
2	LT (NB)	933+30	RIGHT CHEVRON
3	LT (SB)	934+10	LEFT CHEVRON
3	LT (NB)	934+10	RIGHT CHEVRON
4	LT (SB)	934+90	LEFT CHEVRON
4	LT (NB)	934+90	RIGHT CHEVRON
5	LT (SB)	935+70	LEFT CHEVRON
5	LT (NB)	935+70	RIGHT CHEVRON
6	LT (SB)	936+50	LEFT CHEVRON
6	LT (NB)	936+50	RIGHT CHEVRON
7	LT (SB)	937+30	LEFT CHEVRON

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

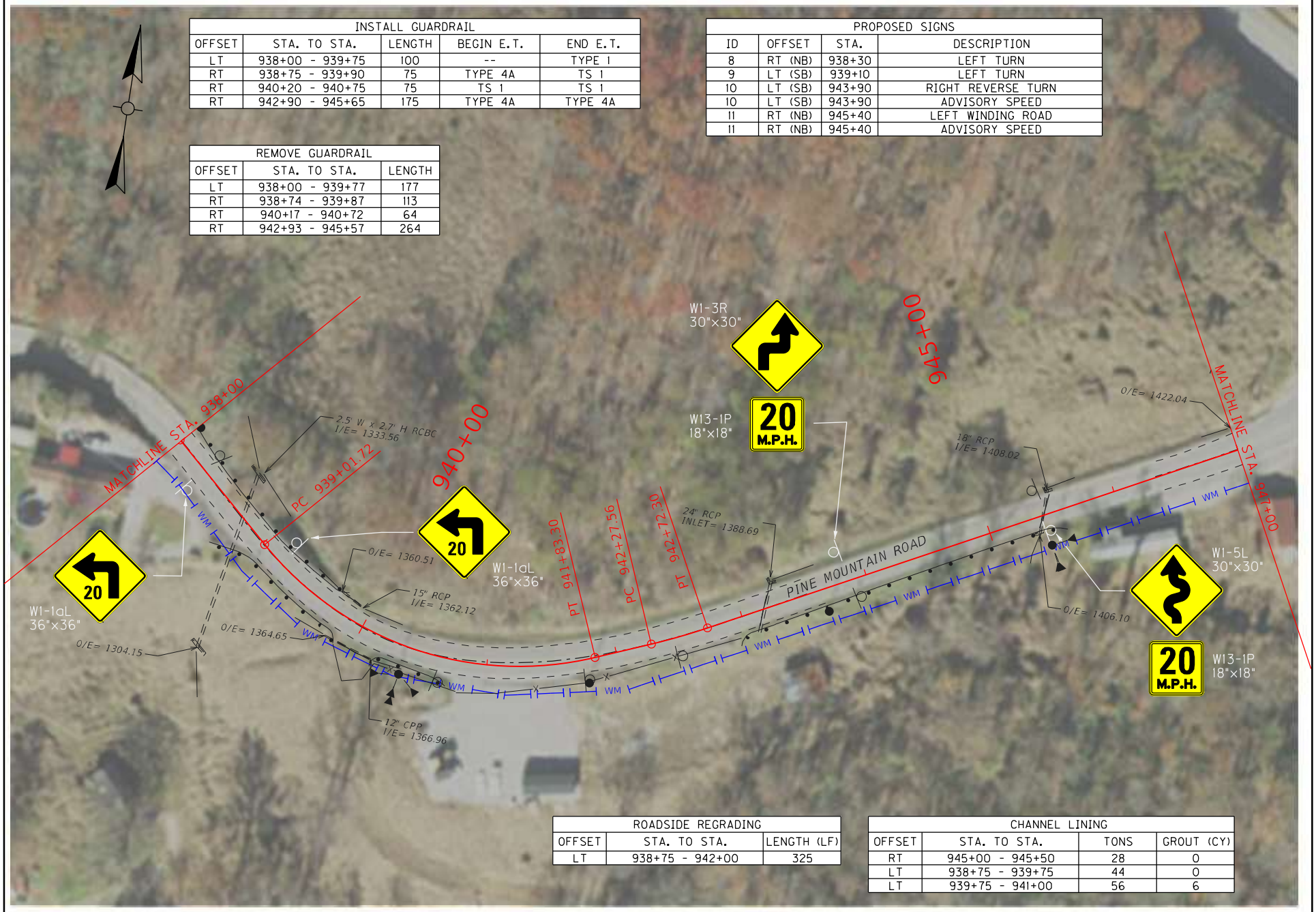
US 421
PLAN SHEET 4
STA. 929+00 TO STA. 938+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
LT	938+00 - 939+75	100	--	TYPE 1
RT	938+75 - 939+90	75	TYPE 4A	TS 1
RT	940+20 - 940+75	75	TS 1	TS 1
RT	942+90 - 945+65	175	TYPE 4A	TYPE 4A

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
LT	938+00 - 939+77	177
RT	938+74 - 939+87	113
RT	940+17 - 940+72	64
RT	942+93 - 945+57	264

PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
8	RT (NB)	938+30	LEFT TURN
9	LT (SB)	939+10	LEFT TURN
10	LT (SB)	943+90	RIGHT REVERSE TURN
10	LT (SB)	943+90	ADVISORY SPEED
11	RT (NB)	945+40	LEFT WINDING ROAD
11	RT (NB)	945+40	ADVISORY SPEED



ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
LT	938+75 - 942+00	325

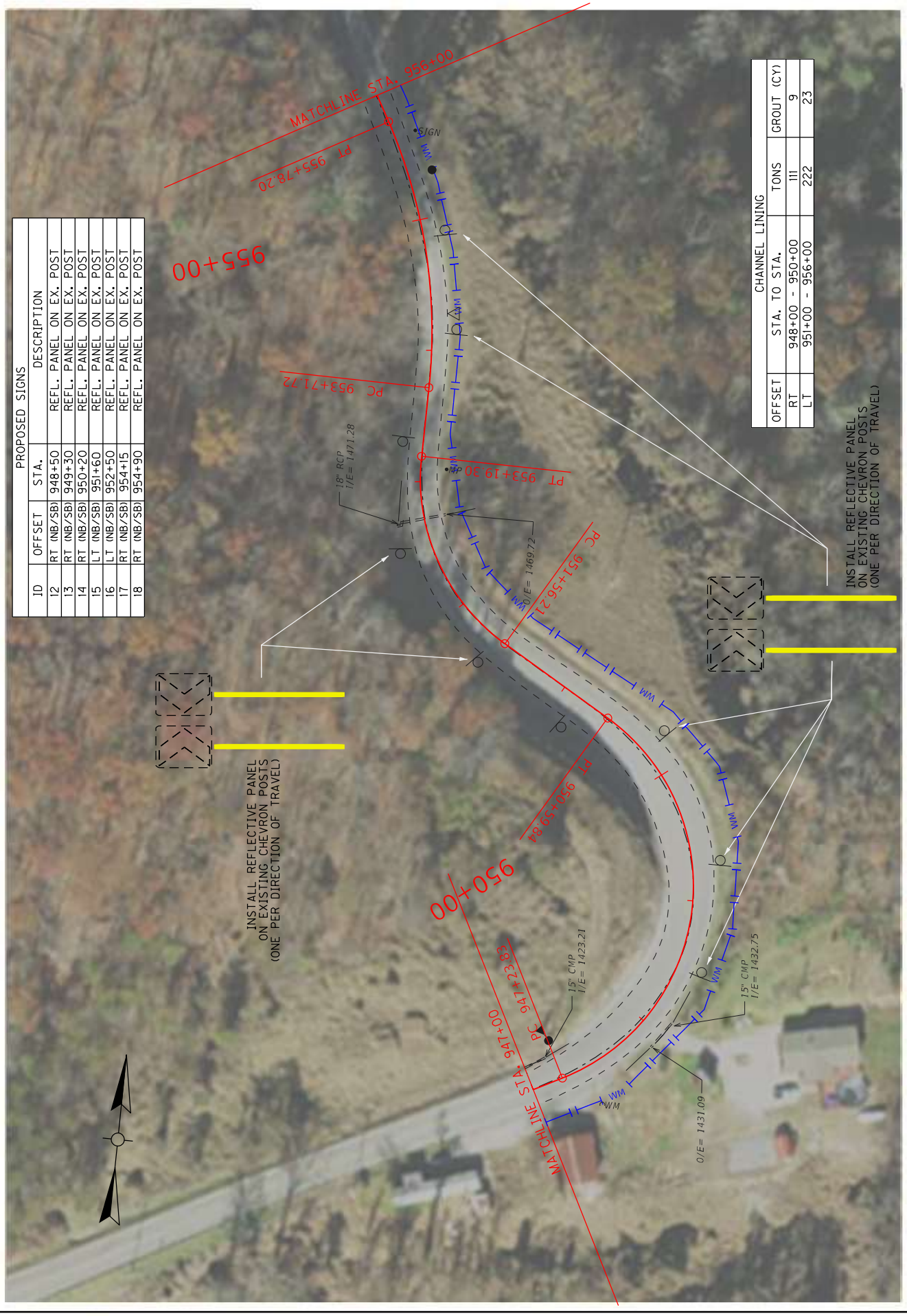
CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
RT	945+00 - 945+50	28	0
LT	938+75 - 939+75	44	0
LT	939+75 - 941+00	56	6

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 5
STA. 938+00 TO STA. 947+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



PROPOSED SIGNS

ID	OFFSET	STA.	DESCRIPTION
12	RT (NB/SB)	948+50	REFL. PANEL ON EX. POST
13	RT (NB/SB)	949+30	REFL. PANEL ON EX. POST
14	RT (NB/SB)	950+20	REFL. PANEL ON EX. POST
15	LT (NB/SB)	951+60	REFL. PANEL ON EX. POST
16	LT (NB/SB)	952+50	REFL. PANEL ON EX. POST
17	RT (NB/SB)	954+15	REFL. PANEL ON EX. POST
18	RT (NB/SB)	954+90	REFL. PANEL ON EX. POST

CHANNEL LINING

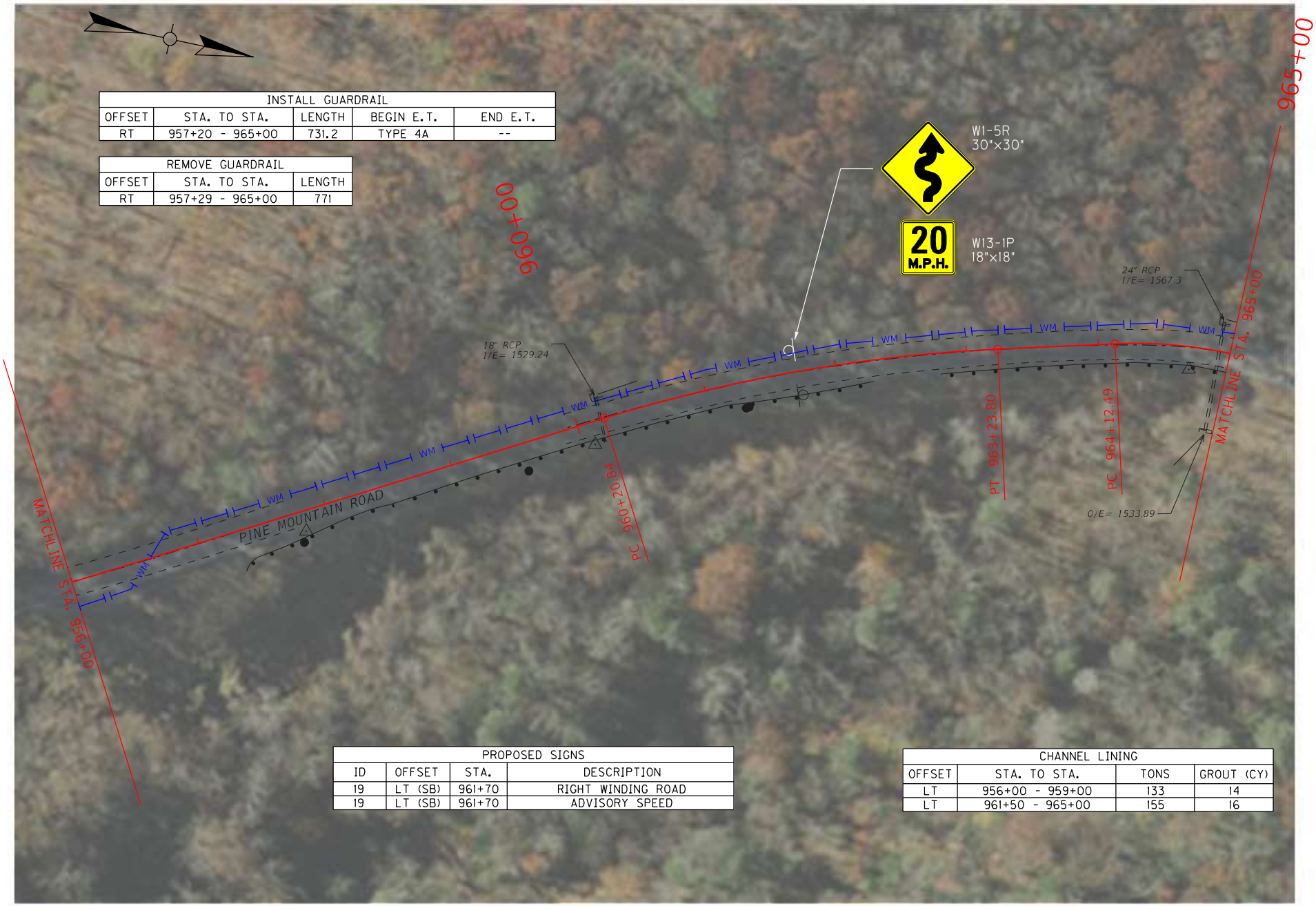
OFFSET	STA. TO STA.	TONS	GROUT (CY)
RT	948+00 - 950+00	111	9
LT	951+00 - 956+00	222	23

US 421
PLAN SHEET 6
STA. 947+00 TO STA. 956+00

SCALE: 1" = 100'

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	957+20 - 965+00	731.2	TYPE 4A	--

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	957+29 - 965+00	771

PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
19	LT (SB)	961+70	RIGHT WINDING ROAD
19	LT (SB)	961+70	ADVISORY SPEED

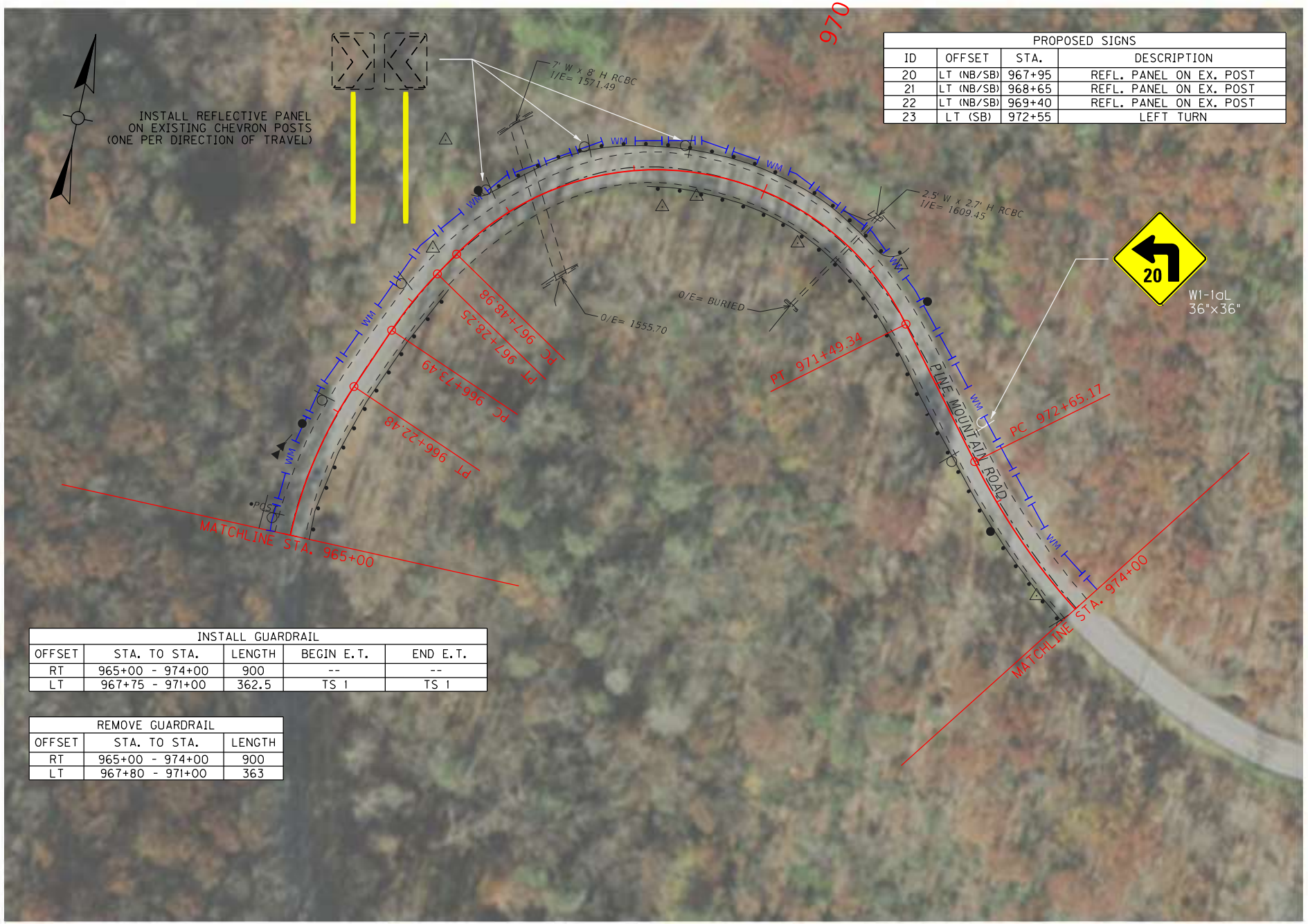
CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	956+00 - 959+00	133	14
LT	961+50 - 965+00	155	16

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 7
STA. 956+00 TO STA. 965+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
20	LT (NB/SB)	967+95	REFL. PANEL ON EX. POST
21	LT (NB/SB)	968+65	REFL. PANEL ON EX. POST
22	LT (NB/SB)	969+40	REFL. PANEL ON EX. POST
23	LT (SB)	972+55	LEFT TURN

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	965+00 - 974+00	900	--	--
LT	967+75 - 971+00	362.5	TS 1	TS 1

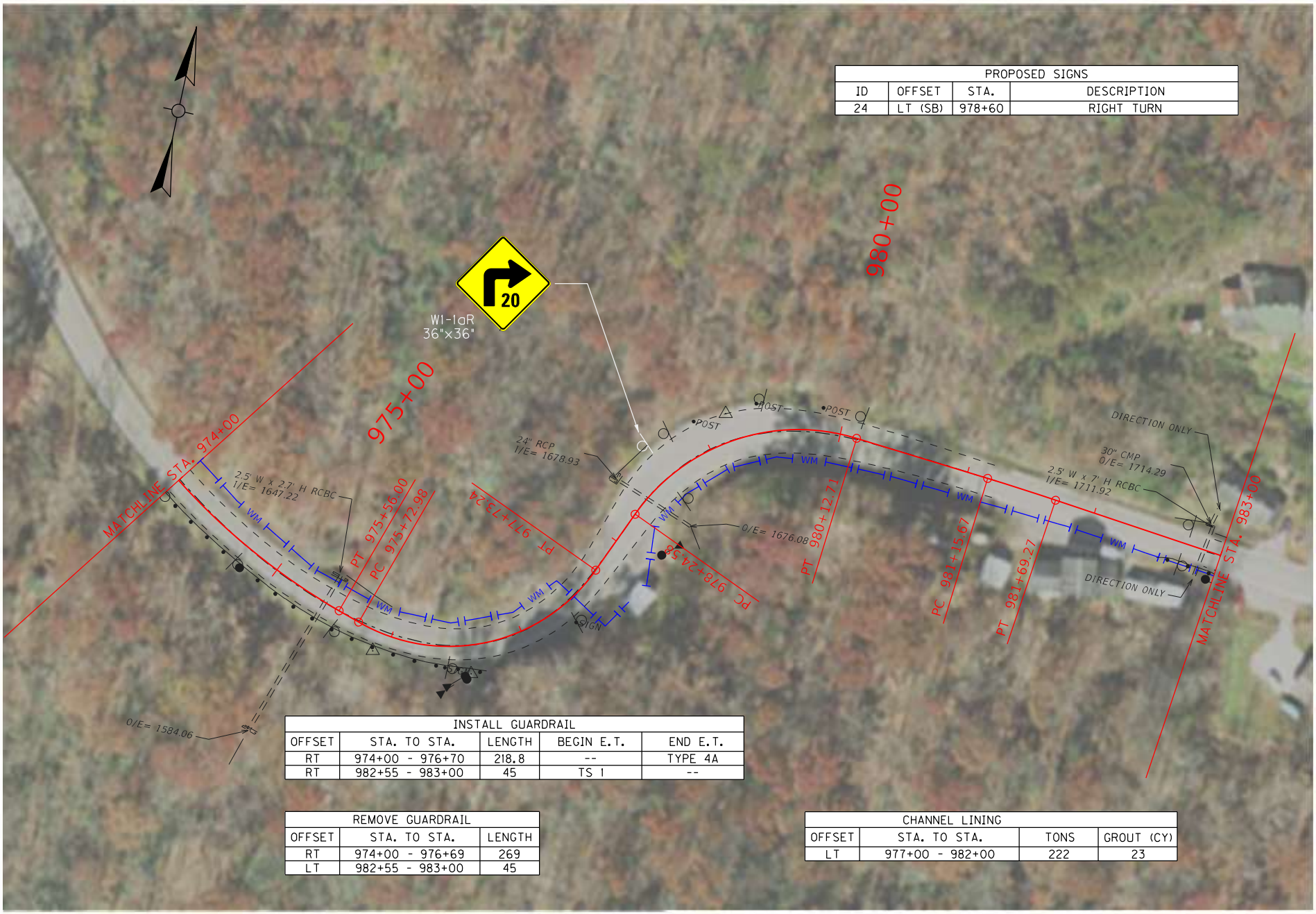
REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	965+00 - 974+00	900
LT	967+80 - 971+00	363

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 8
STA. 965+00 TO STA. 974+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
24	LT (SB)	978+60	RIGHT TURN

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	974+00 - 976+70	218.8	--	TYPE 4A
RT	982+55 - 983+00	45	TS 1	--

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	974+00 - 976+69	269
LT	982+55 - 983+00	45

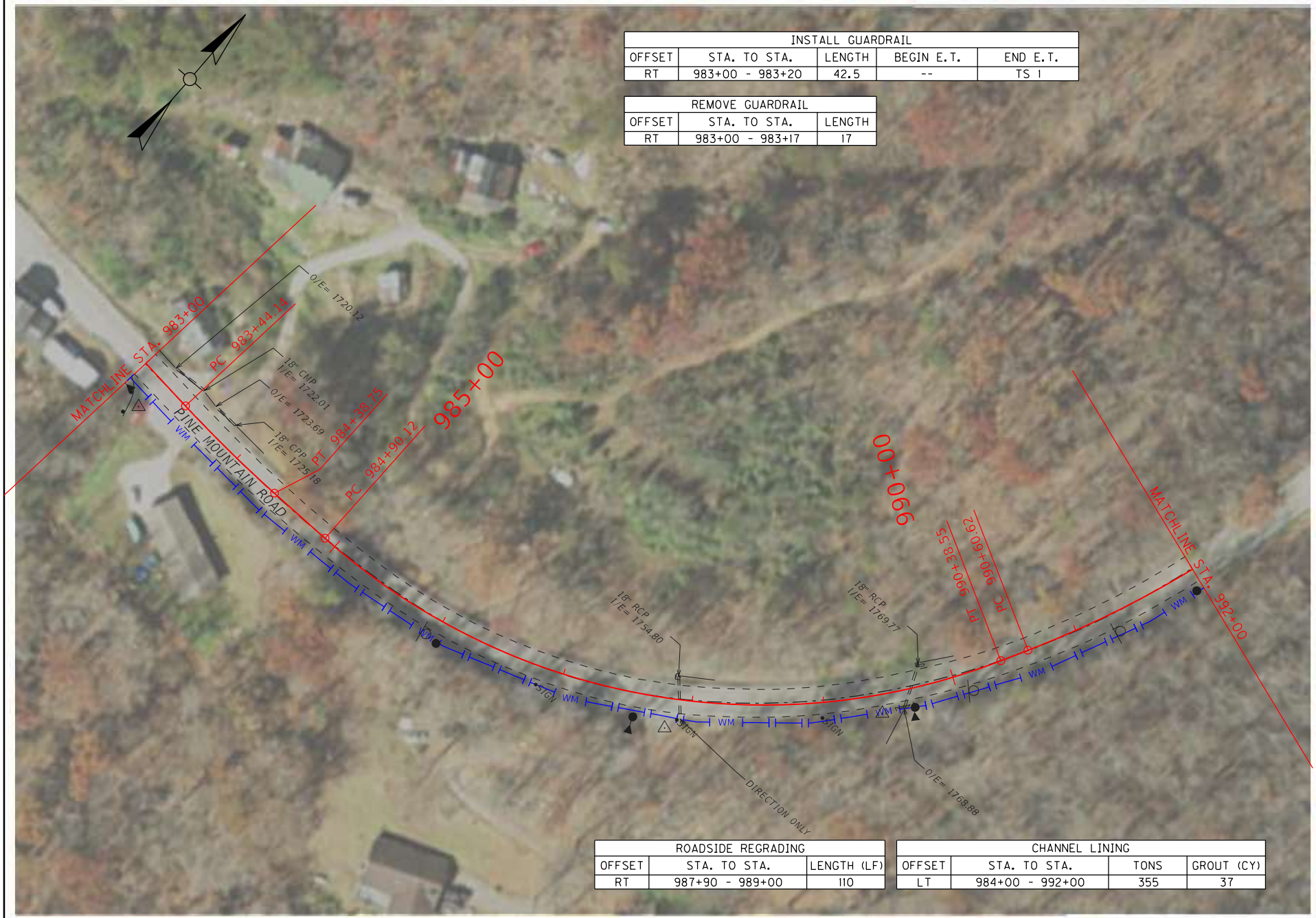
CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	977+00 - 982+00	222	23

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 9
STA. 974+00 TO STA. 983+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	983+00 - 983+20	42.5	--	TS 1

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	983+00 - 983+17	17

ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
RT	987+90 - 989+00	110

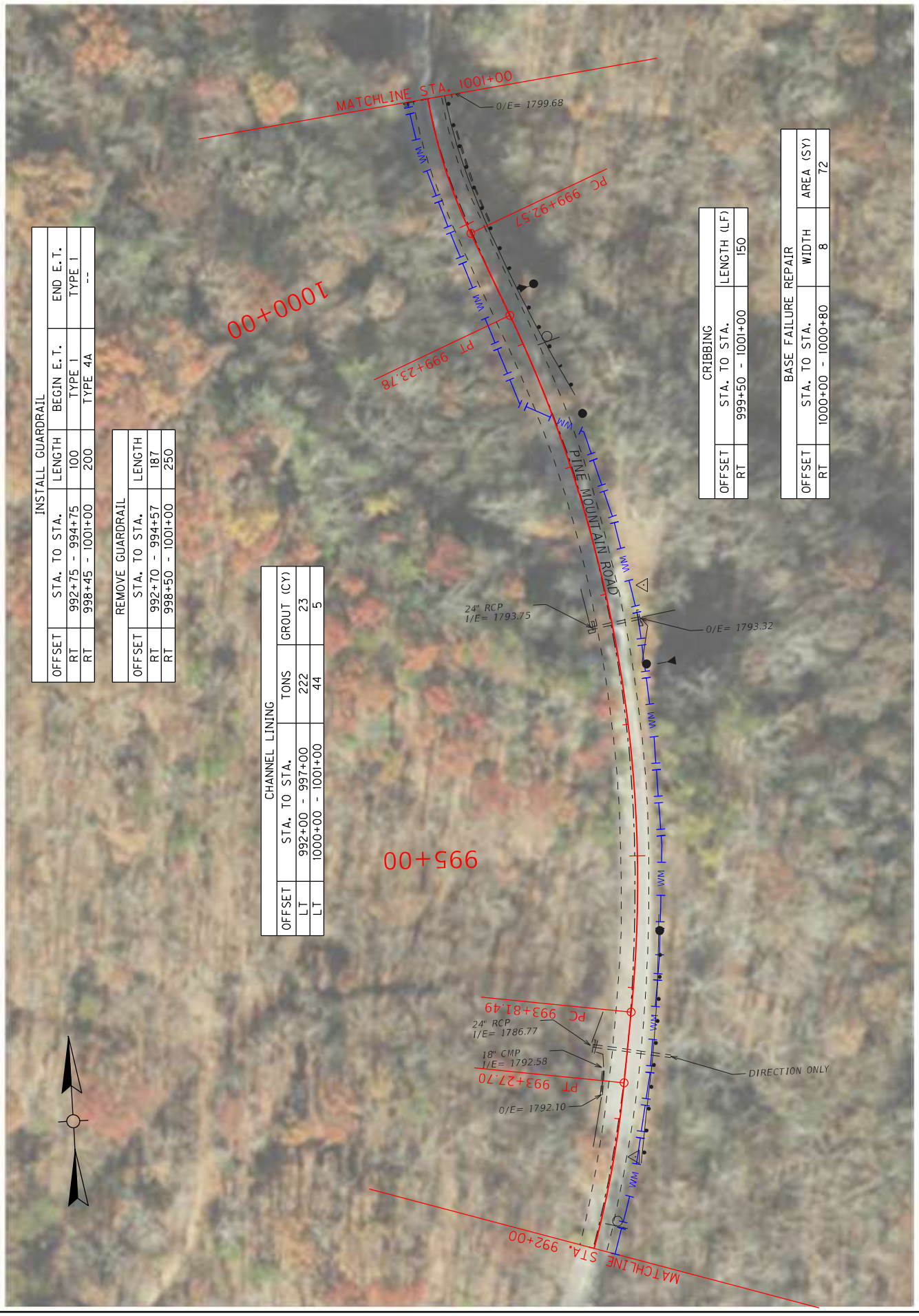
CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	984+00 - 992+00	355	37

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 10
STA. 983+00 TO STA. 992+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL

OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	992+75 - 994+75	100	TYPE 1	TYPE 1
RT	998+45 - 1001+00	200	TYPE 4A	--

REMOVE GUARDRAIL

OFFSET	STA. TO STA.	LENGTH
RT	992+70 - 994+57	187
RT	998+50 - 1001+00	250

CHANNEL LINING

OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	992+00 - 997+00	222	23
LT	1000+00 - 1001+00	44	5

CRIBBING

OFFSET	STA. TO STA.	LENGTH (LF)
RT	999+50 - 1001+00	150

BASE FAILURE REPAIR

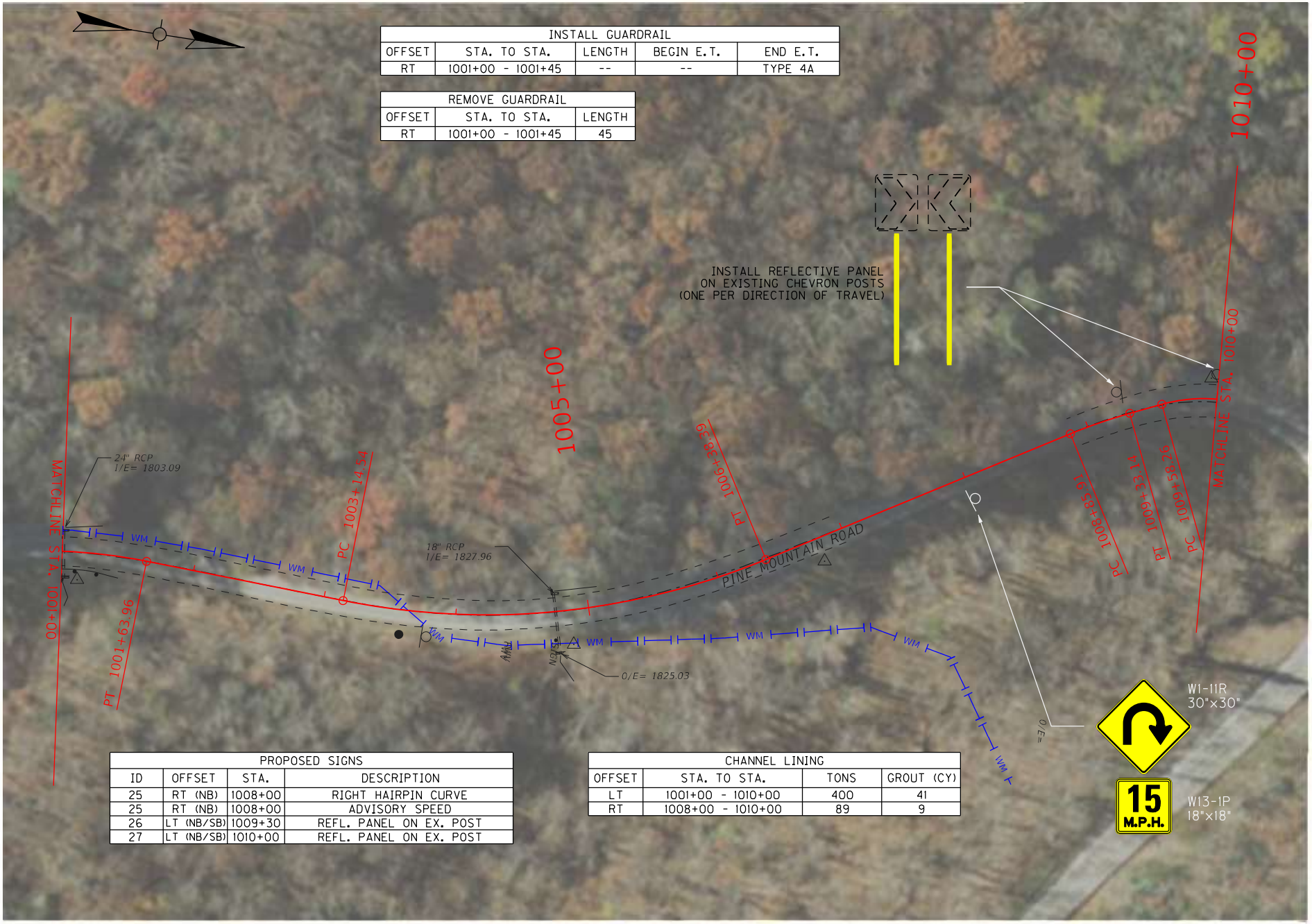
OFFSET	STA. TO STA.	WIDTH	AREA (SY)
RT	1000+00 - 1000+80	8	72

US 421
PLAN SHEET 11
STA. 992+00 TO STA. 1001+00

SCALE: 1" = 100'

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1001+00 - 1001+45	--	--	TYPE 4A

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	1001+00 - 1001+45	45

PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
25	RT (NB)	1008+00	RIGHT HAIRPIN CURVE
25	RT (NB)	1008+00	ADVISORY SPEED
26	LT (NB/SB)	1009+30	REFL. PANEL ON EX. POST
27	LT (NB/SB)	1010+00	REFL. PANEL ON EX. POST

CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1001+00 - 1010+00	400	41
RT	1008+00 - 1010+00	89	9

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

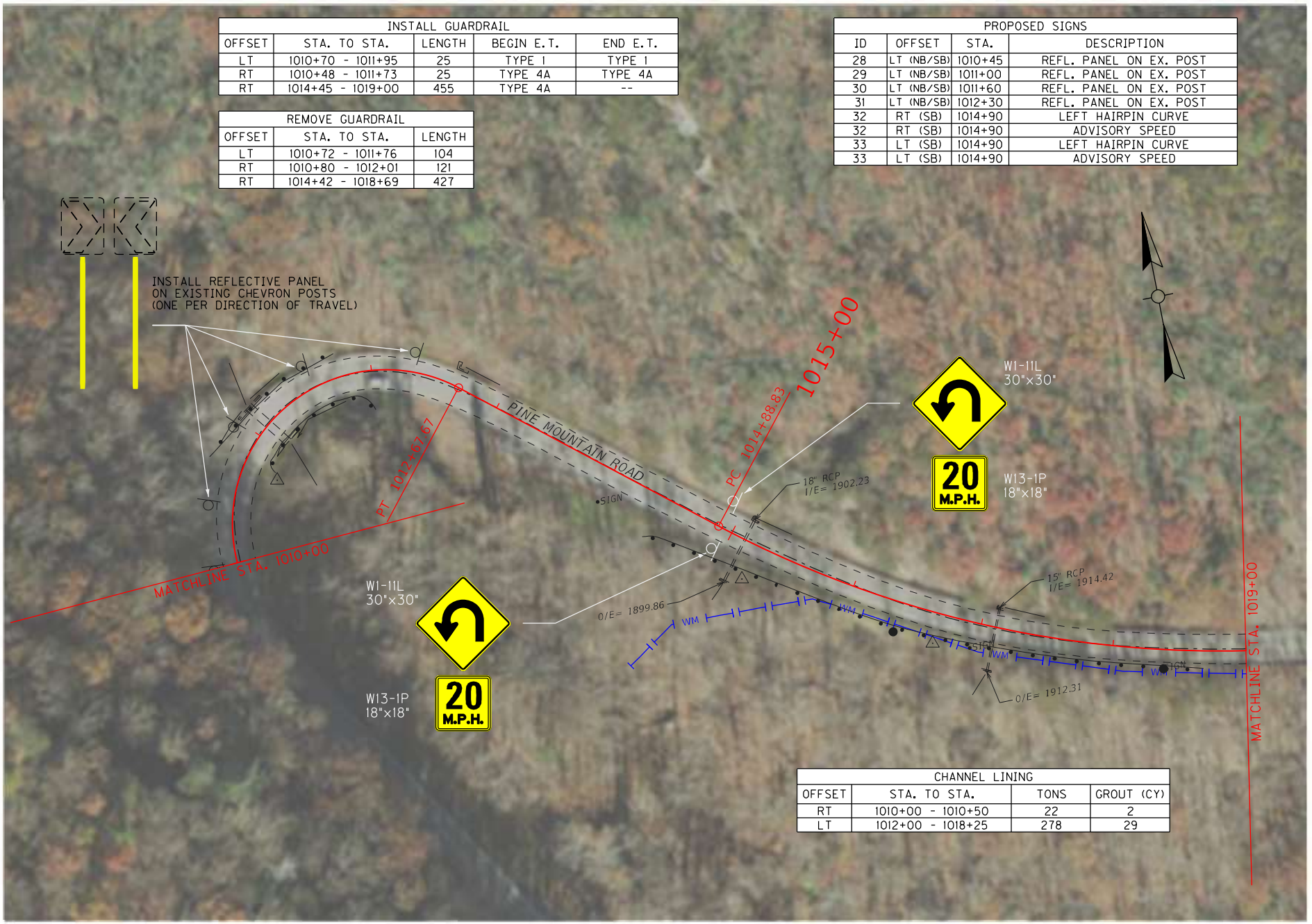
US 421
PLAN SHEET 12
STA. 1001+00 TO STA. 1010+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
LT	1010+70 - 1011+95	25	TYPE 1	TYPE 1
RT	1010+48 - 1011+73	25	TYPE 4A	TYPE 4A
RT	1014+45 - 1019+00	455	TYPE 4A	--

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
LT	1010+72 - 1011+76	104
RT	1010+80 - 1012+01	121
RT	1014+42 - 1018+69	427

PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
28	LT (NB/SB)	1010+45	REFL. PANEL ON EX. POST
29	LT (NB/SB)	1011+00	REFL. PANEL ON EX. POST
30	LT (NB/SB)	1011+60	REFL. PANEL ON EX. POST
31	LT (NB/SB)	1012+30	REFL. PANEL ON EX. POST
32	RT (SB)	1014+90	LEFT HAIRPIN CURVE
32	RT (SB)	1014+90	ADVISORY SPEED
33	LT (SB)	1014+90	LEFT HAIRPIN CURVE
33	LT (SB)	1014+90	ADVISORY SPEED



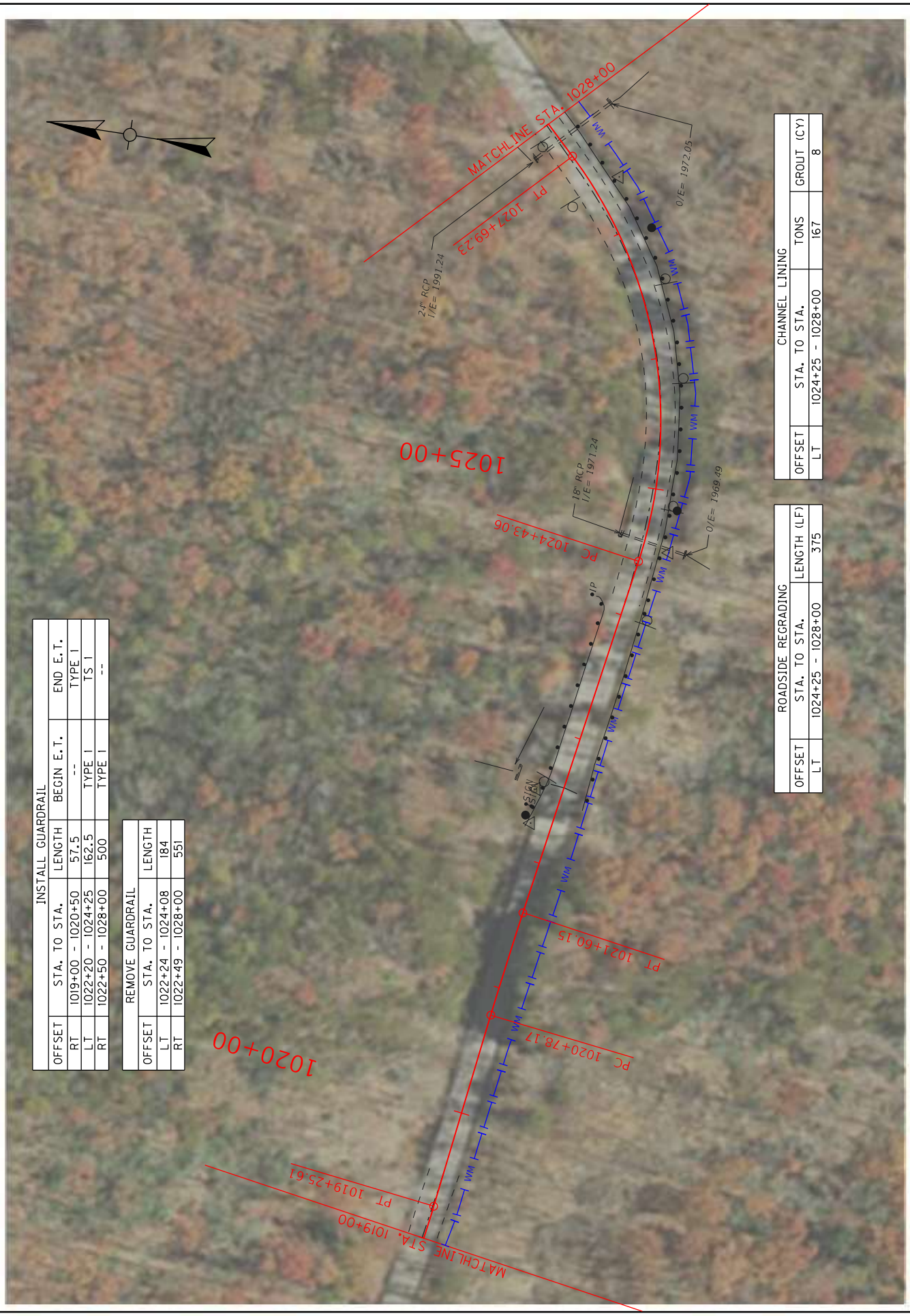
CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
RT	1010+00 - 1010+50	22	2
LT	1012+00 - 1018+25	278	29

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 13
STA. 1010+00 TO STA. 1019+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL

OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1019+00 - 1020+50	57.5	--	TYPE 1
LT	1022+20 - 1024+25	162.5	TYPE 1	TS 1
RT	1022+50 - 1028+00	500	TYPE 1	--

REMOVE GUARDRAIL

OFFSET	STA. TO STA.	LENGTH
LT	1022+24 - 1024+08	184
RT	1022+49 - 1028+00	551

ROADSIDE REGRADING

OFFSET	STA. TO STA.	LENGTH (LF)
LT	1024+25 - 1028+00	375

CHANNEL LINING

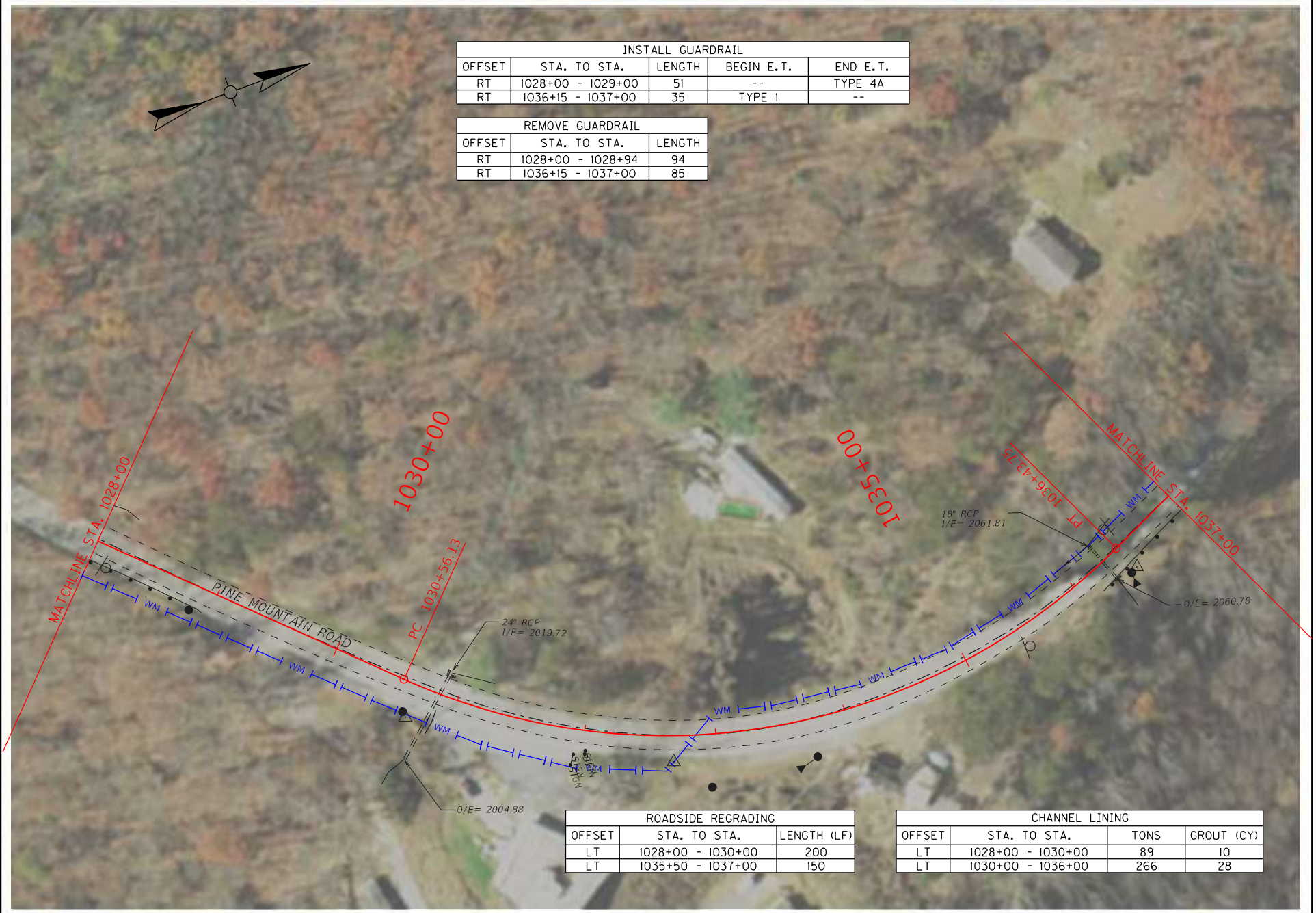
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1024+25 - 1028+00	167	8

US 421
PLAN SHEET 14
STA. 1019+00 TO STA. 1028+00

SCALE: 1" = 100'

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1028+00 - 1029+00	51	--	TYPE 4A
RT	1036+15 - 1037+00	35	TYPE 1	--

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	1028+00 - 1028+94	94
RT	1036+15 - 1037+00	85

ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
LT	1028+00 - 1030+00	200
LT	1035+50 - 1037+00	150

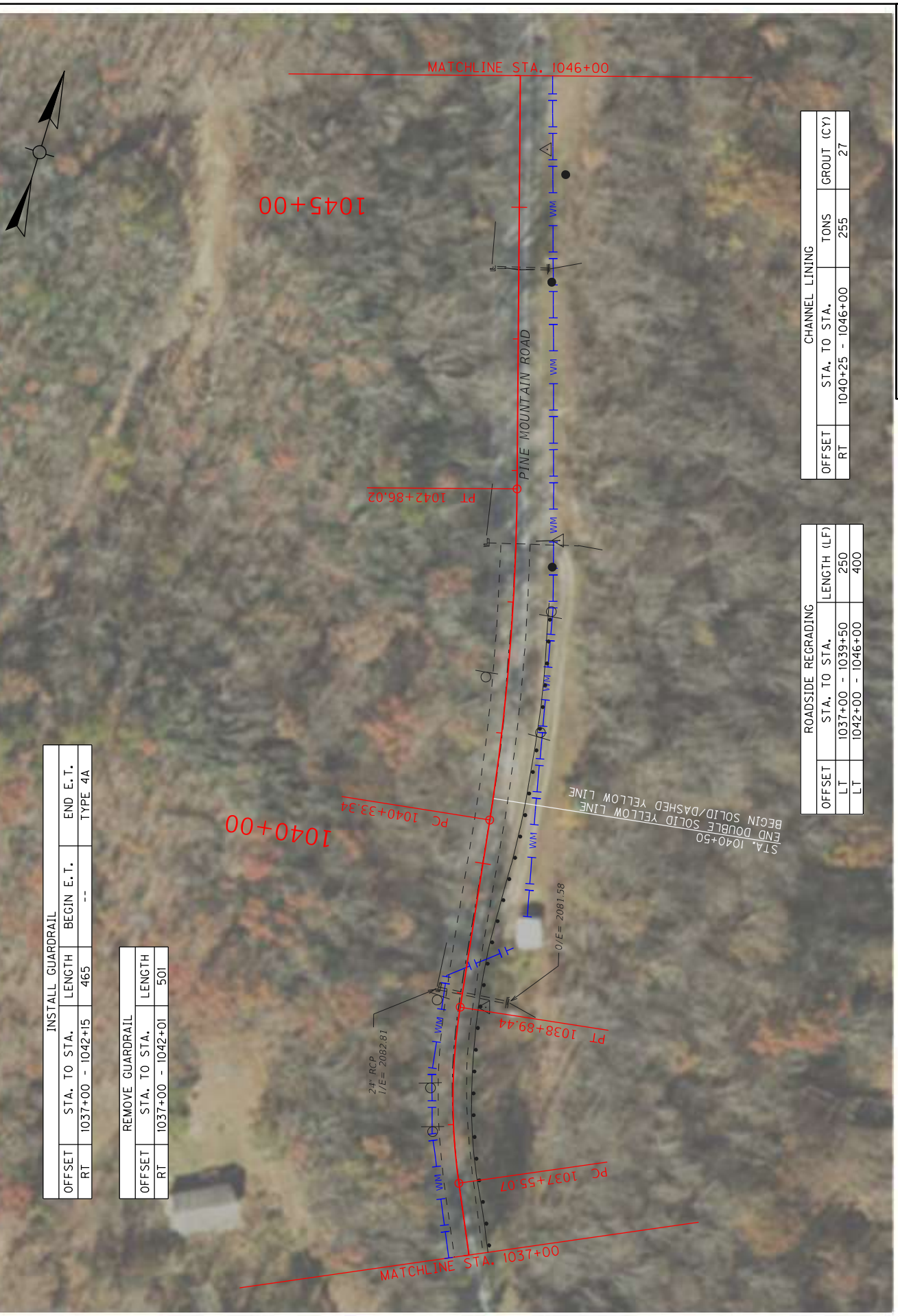
CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1028+00 - 1030+00	89	10
LT	1030+00 - 1036+00	266	28

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 15
STA. 1028+00 TO STA. 1037+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL

OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1037+00 - 1042+15	465	--	TYPE 4A

REMOVE GUARDRAIL

OFFSET	STA. TO STA.	LENGTH
RT	1037+00 - 1042+01	501

ROADSIDE REGRADING

OFFSET	STA. TO STA.	LENGTH (LF)
LT	1037+00 - 1039+50	250
LT	1042+00 - 1046+00	400

CHANNEL LINING

OFFSET	STA. TO STA.	TONS	GROUT (CY)
RT	1040+25 - 1046+00	255	27

US 421
PLAN SHEET 16
STA. 1037+00 TO STA. 1046+00

SCALE: 1" = 100'

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

CHANNEL LINING

OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1046+00 - 1046+94	42	4
LT	1046+94 - 1049+00	114	10

ROADSIDE REGRADING

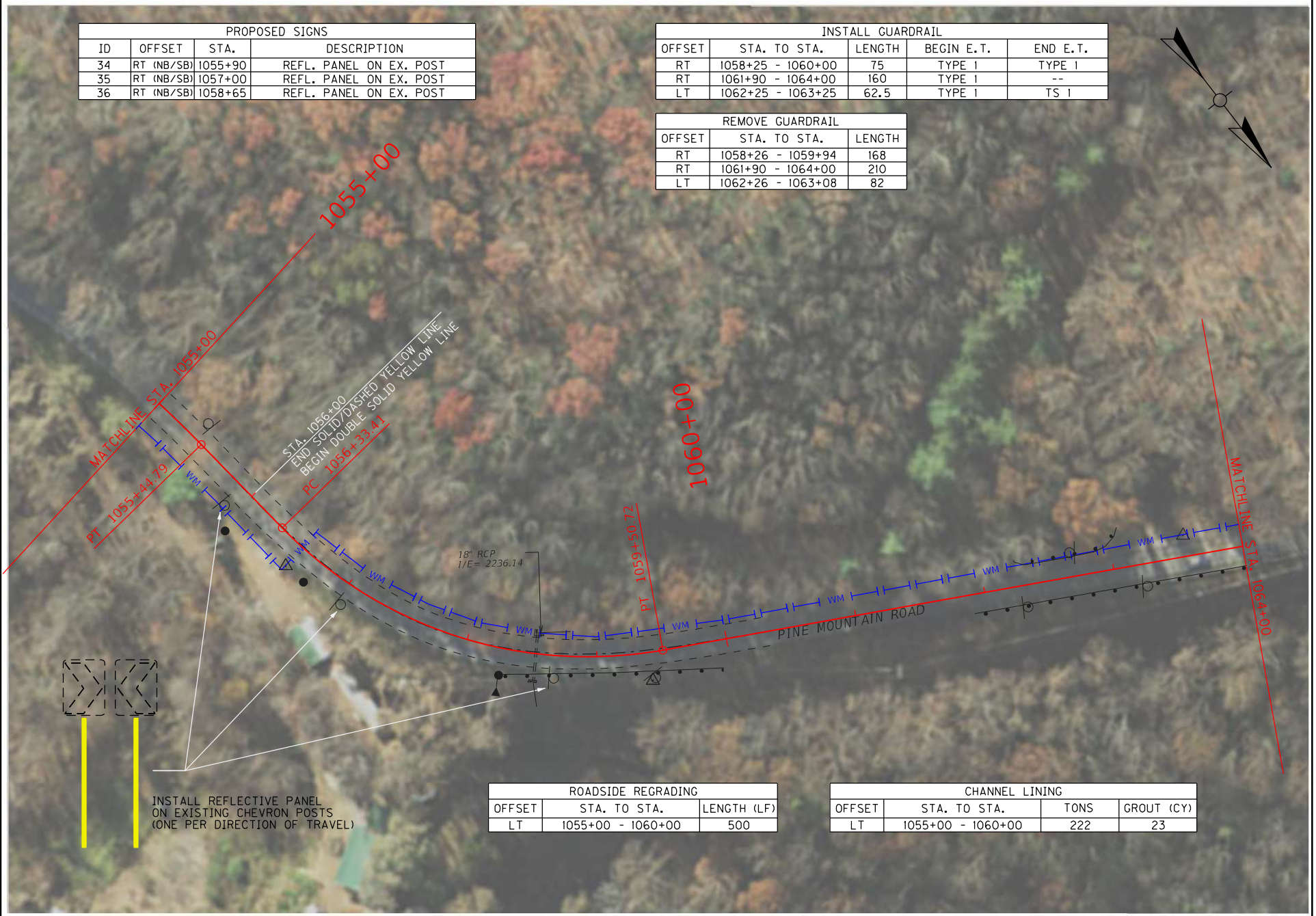
OFFSET	STA. TO STA.	LENGTH (LF)
LT	1046+00 - 1049+00	300
LT	1052+00 - 1055+00	300

US 421
PLAN SHEET 17
STA. 1046+00 TO STA. 1055+00

SCALE: 1" = 100'

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
34	RT (NB/SB)	1055+90	REFL. PANEL ON EX. POST
35	RT (NB/SB)	1057+00	REFL. PANEL ON EX. POST
36	RT (NB/SB)	1058+65	REFL. PANEL ON EX. POST

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1058+25 - 1060+00	75	TYPE 1	TYPE 1
RT	1061+90 - 1064+00	160	TYPE 1	--
LT	1062+25 - 1063+25	62.5	TYPE 1	TS 1

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	1058+26 - 1059+94	168
RT	1061+90 - 1064+00	210
LT	1062+26 - 1063+08	82

ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
LT	1055+00 - 1060+00	500

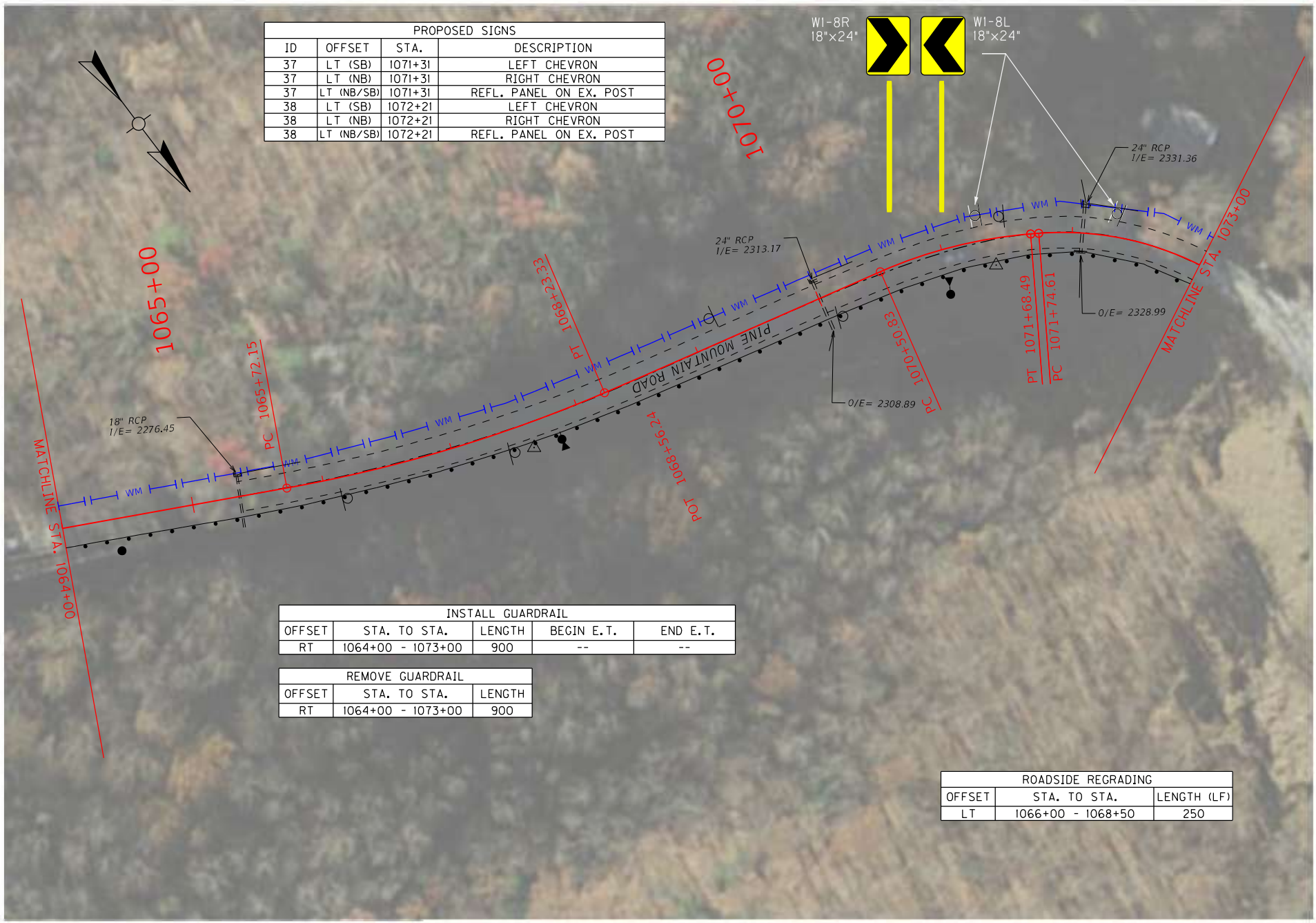
CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1055+00 - 1060+00	222	23

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 18
STA. 1055+00 TO STA. 1064+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
37	LT (SB)	1071+31	LEFT CHEVRON
37	LT (NB)	1071+31	RIGHT CHEVRON
37	LT (NB/SB)	1071+31	REFL. PANEL ON EX. POST
38	LT (SB)	1072+21	LEFT CHEVRON
38	LT (NB)	1072+21	RIGHT CHEVRON
38	LT (NB/SB)	1072+21	REFL. PANEL ON EX. POST

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1064+00 - 1073+00	900	--	--

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	1064+00 - 1073+00	900

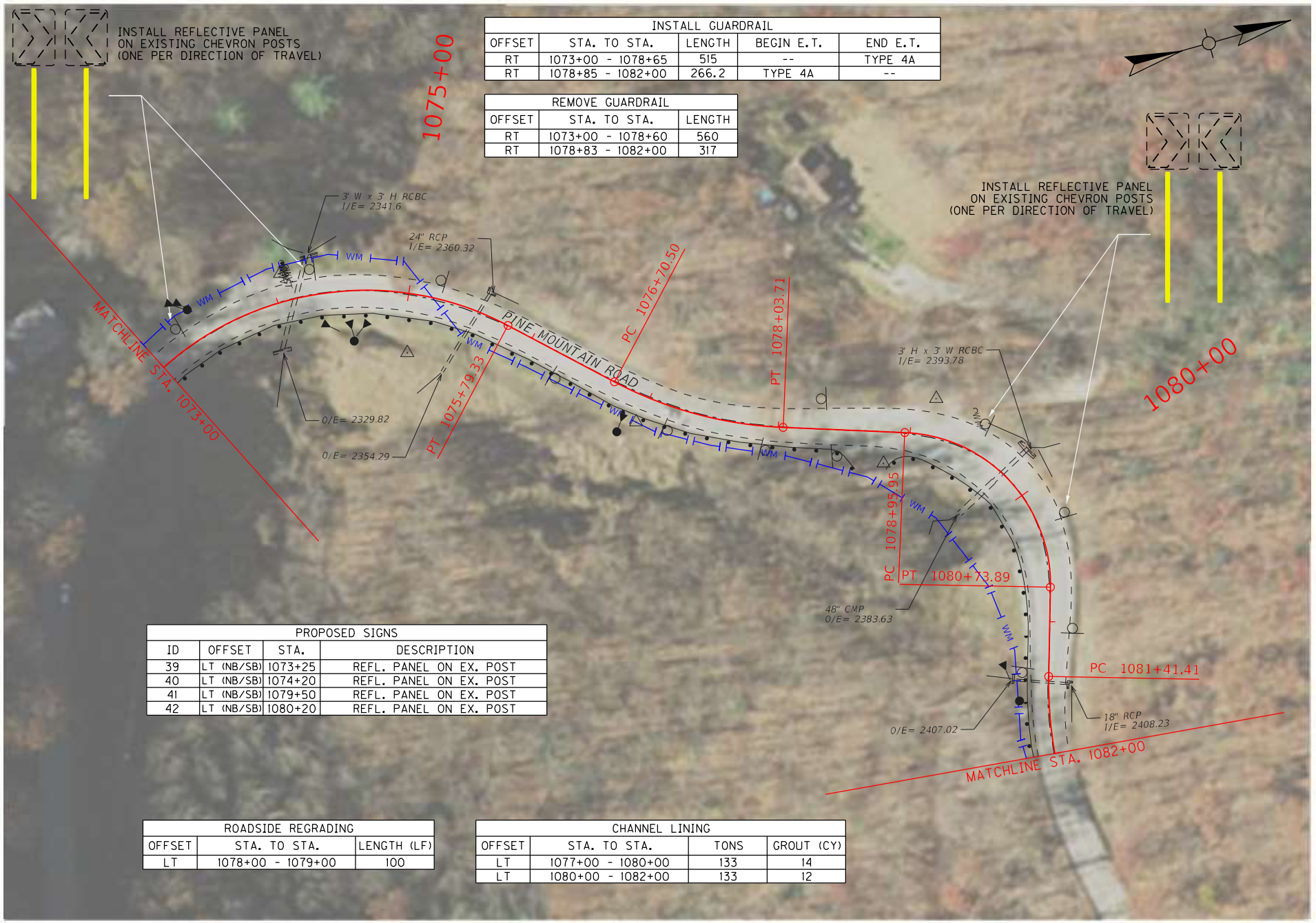
ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
LT	1066+00 - 1068+50	250

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 19
STA. 1064+00 TO STA. 1073+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1073+00 - 1078+65	515	--	TYPE 4A
RT	1078+85 - 1082+00	266.2	TYPE 4A	--

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	1073+00 - 1078+60	560
RT	1078+83 - 1082+00	317

PROPOSED SIGNS			
ID	OFFSET	STA.	DESCRIPTION
39	LT (NB/SB)	1073+25	REFL. PANEL ON EX. POST
40	LT (NB/SB)	1074+20	REFL. PANEL ON EX. POST
41	LT (NB/SB)	1079+50	REFL. PANEL ON EX. POST
42	LT (NB/SB)	1080+20	REFL. PANEL ON EX. POST

ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
LT	1078+00 - 1079+00	100

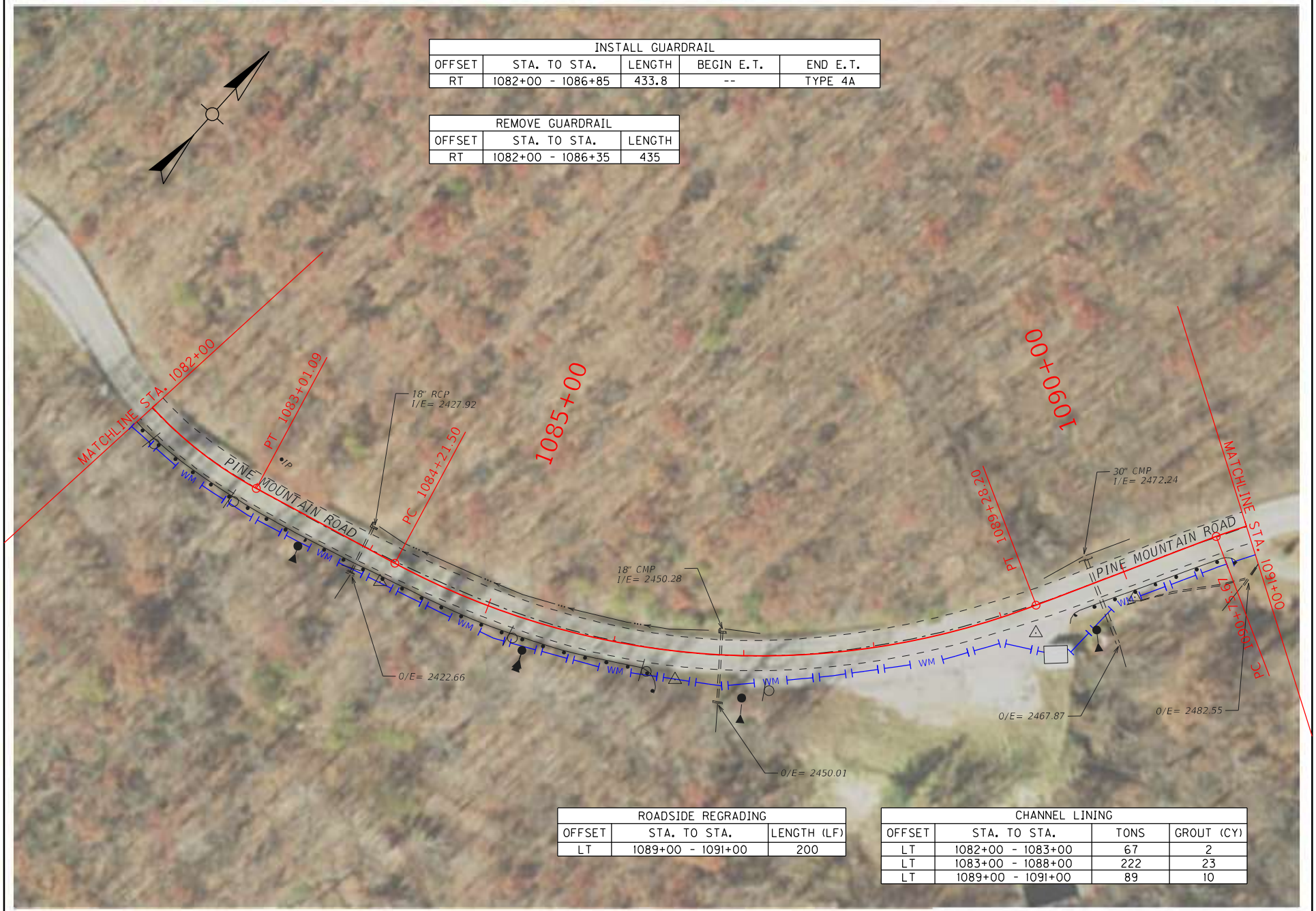
CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1077+00 - 1080+00	133	14
LT	1080+00 - 1082+00	133	12

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 20
STA. 1073+00 TO STA. 1082+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00



INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1082+00 - 1086+85	433.8	--	TYPE 4A

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	1082+00 - 1086+35	435

ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
LT	1089+00 - 1091+00	200

CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1082+00 - 1083+00	67	2
LT	1083+00 - 1088+00	222	23
LT	1089+00 - 1091+00	89	10

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 21
STA. 1082+00 TO STA. 1091+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

ROADSIDE REGRADING		
OFFSET	STA. TO STA.	LENGTH (LF)
LT	1091+00 - 1092+00	100
LT	1098+00 - 1100+00	200

CHANNEL LINING			
OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1091+00 - 1092+00	44	4
LT	1098+00 - 1100+00	56	9

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

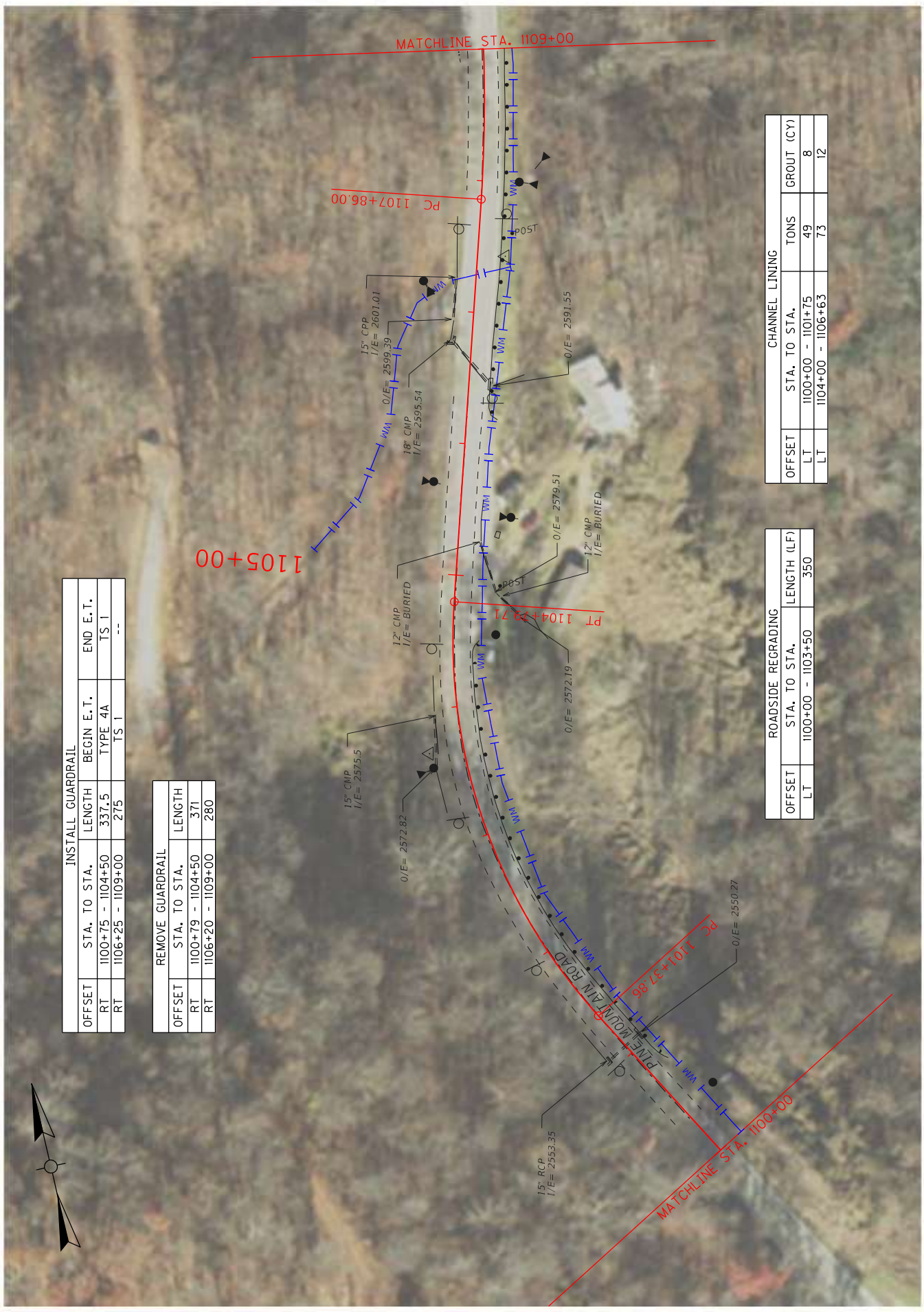
SCALE: 1" = 100'

US 421
PLAN SHEET 22
STA. 1091+00 TO STA. 1100+00

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

US 421
PLAN SHEET 23
STA. 1100+00 TO STA. 1109+00

SCALE: 1" = 100'



INSTALL GUARDRAIL

OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1100+75 - 1104+50	337.5	TYPE 4A	TS 1
RT	1106+25 - 1109+00	275	TS 1	--

REMOVE GUARDRAIL

OFFSET	STA. TO STA.	LENGTH
RT	1100+79 - 1104+50	371
RT	1106+20 - 1109+00	280

ROADSIDE REGRADING

OFFSET	STA. TO STA.	LENGTH (LF)
LT	1100+00 - 1103+50	350

CHANNEL LINING

OFFSET	STA. TO STA.	TONS	GROUT (CY)
LT	1100+00 - 1101+75	49	8
LT	1104+00 - 1106+63	73	12

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

COUNTY OF	ITEM NO.
HARLAN	11-9020.00

INSTALL GUARDRAIL				
OFFSET	STA. TO STA.	LENGTH	BEGIN E.T.	END E.T.
RT	1109+00 - 1110+25	87.5	--	TYPE 4A

REMOVE GUARDRAIL		
OFFSET	STA. TO STA.	LENGTH
RT	1109+00 - 1110+08	108

NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS WHEN PERFORMING WORK IN THESE AREAS.

SCALE: 1" = 100'

US 421
PLAN SHEET 24
STA. 1109+00 TO END CONSTRUCTION

FIGURE 1

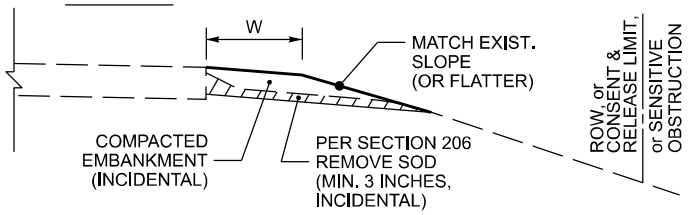


FIGURE 2

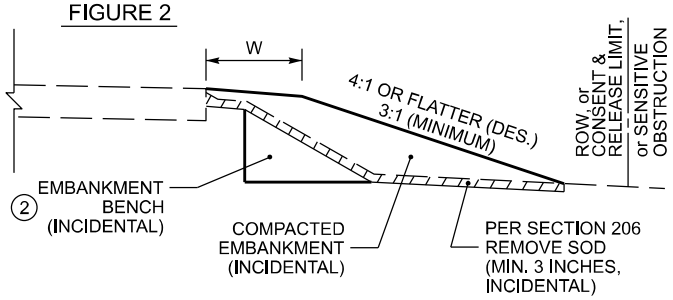


FIGURE 3

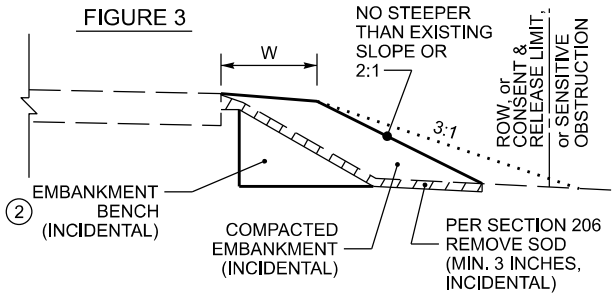


FIGURE 4

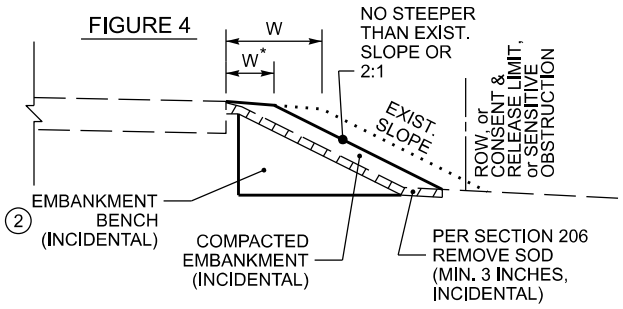


FIGURE 5

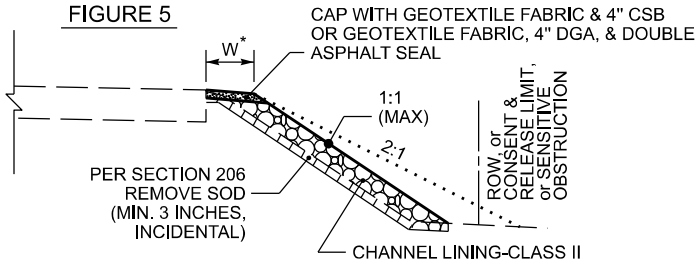
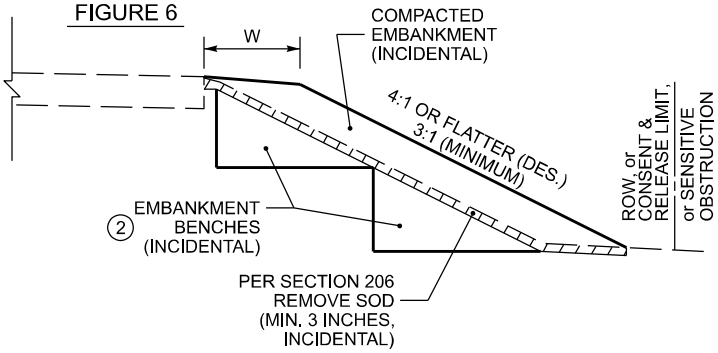


FIGURE 6



~ NOTES ~

BID ITEM AND UNIT TO BID:
26175EC - ROADSIDE REGRADING - LF

1. THE BID ITEM 'ROADSIDE REGRADING' SHALL CONSIST OF ANY AND ALL NECESSARY CLEARING & GRUBBING, GRADING, AND/OR RESHAPING OF THE EXISTING SHOULDER, DITCH, AND/OR ROADSIDE TO ACHIEVE THE PROPOSED SHOULDER, DITCH, AND/OR ROADSIDE DIMENSIONS, AS DETAILED ON THE TYPICAL SECTIONS. FINAL PAYMENT WILL BE BASED ON THE ACTUAL LINEAR FEET OF ROADSIDE REGRADING PERFORMED, AND WILL INCLUDE ALL WORK AND INCIDENTALS NECESSARY TO PERFORM THE ROADSIDE REGRADING ACCORDING TO THESE DETAILS, NOTES, AND ANY OTHER INFORMATION FOUND ELSEWHERE IN THE PROPOSAL OR STANDARD SPECIFICATIONS. IN THE CASE OF A DISCREPANCY, REFER TO SECTION 105.05 OF THE STANDARD SPECIFICATIONS. DEPENDING ON THE EXISTING CONDITIONS ENCOUNTERED, ROADSIDE REGRADING MAY ALSO INCLUDE, BUT IS NOT LIMITED TO:
   - PROVIDING ADDITIONAL EARTH MATERIAL AND GRADING, SHAPING, AND COMPACTING THE EARTH MATERIAL TO ACHIEVE THE DIMENSIONS SHOWN ON THE TYPICAL SECTIONS. COMPACT MATERIAL ACCORDING TO SECTION 206 OF THE STANDARD SPECIFICATIONS.
     NOTE: ADDITIONAL EARTH MATERIAL PROVIDED SHALL BE SUITABLE FOR VEGETATION GROWTH.
   - EXCAVATING AND REMOVING EXCESS MATERIAL TO ACHIEVE THE DIMENSIONS SHOWN ON THE TYPICAL SECTIONS
   - EMBANKMENT BENCHING

(2) EMBANKMENT BENCHING WILL BE REQUIRED WHEN THE EXISTING GROUNDLINE HAS AN INCLINE GREATER THAN 15% (APPROX. 6:1). ANY AND ALL REQUIRED EMBANKMENT BENCHING SHALL BE INCIDENTAL TO THE BID ITEM 'ROADSIDE REGRADING'. THE FOLLOWING ARE GUIDELINES FOR EMBANKMENT BENCHING USED IN CONJUNCTION WITH THE BID ITEM 'ROADSIDE REGRADING':
   - THE TYPICAL HEIGHT (OR RISE) IS 1' TO 6'
   - THE TYPICAL WIDTH (OR RUN) WILL VARY BASED ON THE HEIGHT OF THE BENCH
   - MULTIPLE SMALL BENCHES MAY BE USED, AND MAY BE MORE ADVANTAGEOUS AS THIS WILL REQUIRE PROCESSING LESS EARTHWORK AND MAY HELP AVOID ANY EXISTING UNDERGROUND UTILITIES.

3. AS SHOWN IN FIGURE 1, IN SOME SITUATIONS, MINOR SHOULDERING, WITH MINIMAL ADDITIONAL EARTH MATERIAL, MAY BE ALL THAT IS REQUIRED TO RESHAPE THE EARTH SHOULDER TO THE PROPOSED WIDTH AND BRING IT FLUSH WITH THE EDGE OF PAVEMENT.
4. AS SHOWN IN FIGURE 2, MOST SITUATIONS WILL REQUIRE ADDITIONAL EARTH MATERIAL TO ACHIEVE THE PROPOSED EARTH SHOULDER WIDTH. IT IS DESIRED THAT THE RESULTING FILL SLOPE BE INSTALLED AS FLAT AS POSSIBLE AND SHALL REMAIN WITHIN THE RIGHT-OF-WAY AND/OR ANY CONSENT & RELEASE AREAS OBTAINED BY KYTC NOTED IN THE PROPOSAL, WHILE ALSO AVOIDING ANY SENSITIVE OBSTRUCTIONS.
5. AS SHOWN IN FIGURE 3, IF A 3:1 FILL SLOPE WILL RESULT IN THE TOE OF SLOPE EXTENDING BEYOND THE RIGHT-OF-WAY OR OUTSIDE OF A CONSENT & RELEASE AREA OBTAINED BY KYTC NOTED IN THE PROPOSAL, OR WILL IMPACT A SENSITIVE OBSTRUCTION, THEN THE FILL SLOPE MAY BE INSTALLED STEEPER THAN 3:1, BUT NO STEEPER THAN THE EXISTING FILL SLOPE, OR A 2:1, WHICHEVER IS FLATTER.
6. AS SHOWN IN FIGURE 4, IF MATCHING THE EXISTING FILL SLOPE OR INSTALLING A 2:1 FILL SLOPE (WHICHEVER IS FLATTER) STILL RESULTS IN THE TOE OF SLOPE EXTENDING BEYOND THE RIGHT-OF-WAY OR OUTSIDE OF A CONSENT & RELEASE AREA OBTAINED BY KYTC NOTED IN THE PROPOSAL, OR STILL IMPACTS A SENSITIVE OBSTRUCTION, THEN THE PROPOSED EARTH SHOULDER WIDTH MAY BE REDUCED SO THAT THE RESULTING TOE OF SLOPE WILL REMAIN WITHIN THE RIGHT-OF-WAY OR CONSENT & RELEASE AREA, AND/OR NOT IMPACT THE SENSITIVE OBSTRUCTION.
7. AS SHOWN IN FIGURE 5, IF THE EXISTING FILL SLOPE IS STEEPER THAN 2:1 AND THERE IS NOT ENOUGH SPACE TO INSTALL A 2:1 FILL SLOPE WITHOUT EXTENDING BEYOND THE RIGHT-OF-WAY OR A CONSENT & RELEASE AREA OBTAINED BY KYTC NOTED IN THE PROPOSAL AND/OR IMPACTING A SENSITIVE OBSTRUCTION, THEN CLASS II CHANNEL LINING MAY BE INSTALLED ALONG THE STEEP EXISTING SLOPE IN ORDER TO ESTABLISH A WIDTH OF AGGREGATE SHOULDER. THESE LOCATIONS WILL BE NOTED IN THE PROPOSAL. THE CHANNEL LINING IS TO BE CAPPED WITH GEOTEXTILE FABRIC CLASS 1 AND 4" OF CRUSHED STONE BASE OR 4" OF DGA WITH DOUBLE ASPHALT SEAL COAT.
8. AS SHOWN IN FIGURE 6, AS THE HEIGHT OF THE FILL INCREASES, MULTIPLE EMBANKMENT BENCHES MAY BE REQUIRED. REFER TO NOTE (2) FOR MORE INFORMATION ABOUT EMBANKMENT BENCHING.

SEE SHEET 2 FOR NOTES 9 THRU 13

NOT TO SCALE

ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS (SHEET 1 OF 2)

FIGURE 7

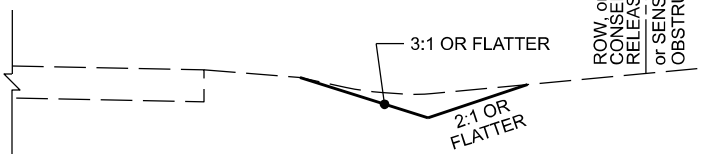


FIGURE 8

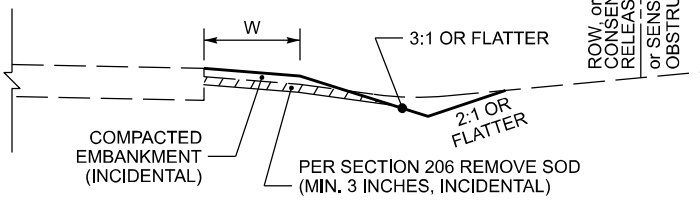


FIGURE 9

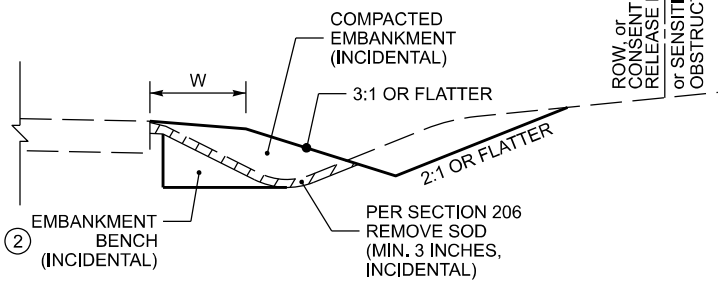


FIGURE 10

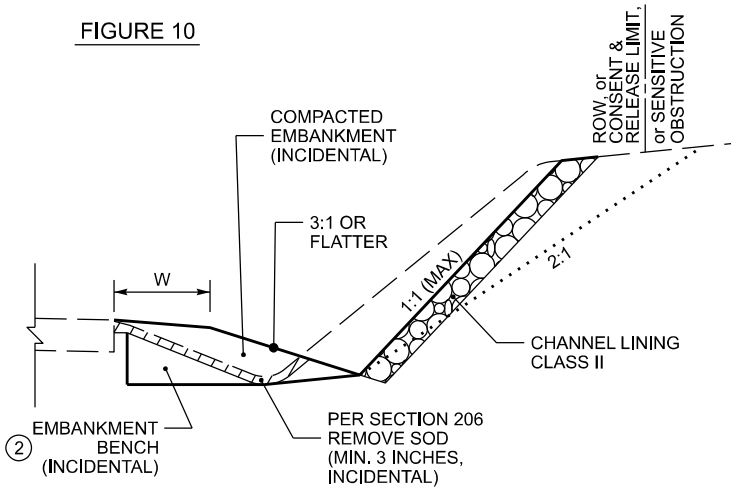
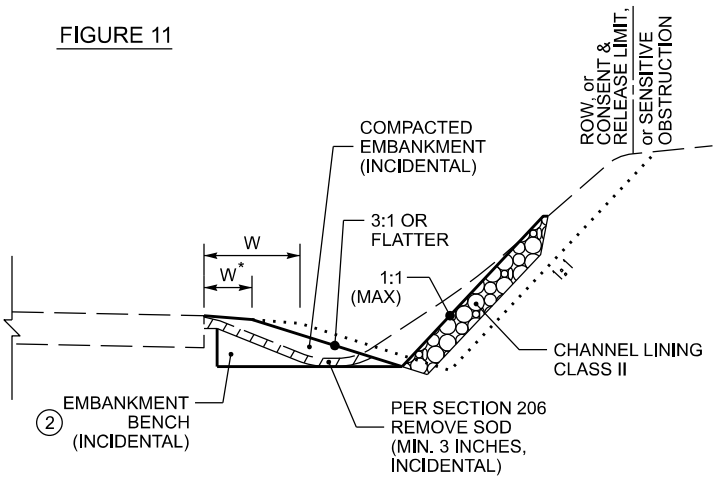


FIGURE 11



~ NOTES ~

BID ITEM AND UNIT TO BID:
26175EC - ROADSIDE REGRADING - LF

1. THE BID ITEM 'ROADSIDE REGRADING' SHALL CONSIST OF ANY AND ALL NECESSARY CLEARING & GRUBBING, GRADING, AND/OR RESHAPING OF THE EXISTING SHOULDER, DITCH, AND/OR ROADSIDE TO ACHIEVE THE PROPOSED SHOULDER, DITCH, AND/OR ROADSIDE DIMENSIONS, AS DETAILED ON THE TYPICAL SECTIONS. FINAL PAYMENT WILL BE BASED ON THE ACTUAL LINEAR FEET OF ROADSIDE REGRADING PERFORMED, AND WILL INCLUDE ALL WORK AND INCIDENTALS NECESSARY TO PERFORM THE ROADSIDE REGRADING ACCORDING TO THESE DETAILS, NOTES, AND ANY OTHER INFORMATION FOUND ELSEWHERE IN THE PROPOSAL OR STANDARD SPECIFICATIONS. IN THE CASE OF A DISCREPANCY, REFER TO SECTION 105.05 OF THE STANDARD SPECIFICATIONS. DEPENDING ON THE EXISTING CONDITIONS ENCOUNTERED, ROADSIDE REGRADING MAY ALSO INCLUDE, BUT IS NOT LIMITED TO:
   - PROVIDING ADDITIONAL EARTH MATERIAL AND GRADING, SHAPING, AND COMPACTING THE EARTH MATERIAL TO ACHIEVE THE DIMENSIONS SHOWN ON THE TYPICAL SECTIONS. COMPACT MATERIAL ACCORDING TO SECTION 206 OF THE STANDARD SPECIFICATIONS.
     NOTE: ADDITIONAL EARTH MATERIAL PROVIDED SHALL BE SUITABLE FOR VEGETATION GROWTH.
   - EXCAVATING AND REMOVING EXCESS MATERIAL TO ACHIEVE THE DIMENSIONS SHOWN ON THE TYPICAL SECTIONS
   - EMBANKMENT BENCHING

(2) EMBANKMENT BENCHING WILL BE REQUIRED WHEN THE EXISTING GROUNDLINE HAS AN INCLINE GREATER THAN 15% (APPROX. 6:1). ANY AND ALL REQUIRED EMBANKMENT BENCHING SHALL BE INCIDENTAL TO THE BID ITEM 'ROADSIDE REGRADING'. THE FOLLOWING ARE GUIDELINES FOR EMBANKMENT BENCHING USED IN CONJUNCTION WITH THE BID ITEM 'ROADSIDE REGRADING':
   - THE TYPICAL HEIGHT (OR RISE) IS 1' TO 6'
   - THE TYPICAL WIDTH (OR RUN) WILL VARY BASED ON THE HEIGHT OF THE BENCH
   - MULTIPLE SMALL BENCHES MAY BE USED, AND MAY BE MORE ADVANTAGEOUS AS THIS WILL REQUIRE PROCESSING LESS EARTHWORK AND MAY HELP AVOID ANY EXISTING UNDERGROUND UTILITIES.

SEE SHEET 1 FOR NOTES 3. THRU 8.

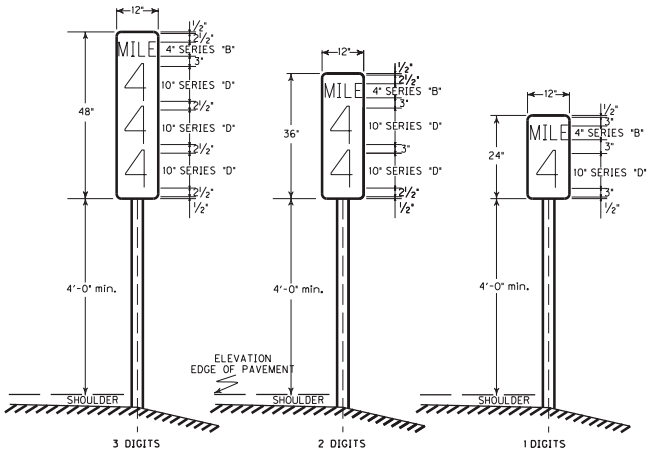
9. AS SHOWN IN FIGURE 7, IN SOME SITUATIONS, ALL THAT MAY BE REQUIRED IS TO CLEAN OUT THE EXISTING DITCH AND RESHAPE IT TO THE PROPOSED DIMENIONS. THE MATERIAL EXCAVATED FROM THE DITCH MAY BE RE-USED ELSEWHERE ON THE PROJECT, PROVIDED THE ENGINEER DETERMINES THE MATERIAL REMOVED FROM THE DITCH IS SUITABLE FOR THE INTENDED RE-USE.
10. AS SHOWN IN FIGURE 8, IN SOME SITUATIONS, THE DITCH AND SHOULDER MAY ONLY NEED MINOR REGRADING AND/OR RESHAPING. THE MATERIAL EXCAVATED FROM THE DITCH MAY BE USED TO RESHAPE THE EARTH SHOULDER, PROVIDED THE ENGINEER DETERMINES THE MATERIAL REMOVED FROM THE DITCH IS SUITABLE FOR SHOULDERING. IF THE MATERIAL IS NOT SUITABLE, ADDITIONAL EARTH MATERIAL MAY BE REQUIRED.
11. AS SHOWN IN FIGURE 9, IN MOST SITUATIONS, REGRADING AND RESHAPING THE ROADSIDE TO ACHIEVE THE PROPOSED SHOULDER, DITCH, AND/OR ROADSIDE DIMENSIONS WILL RESULT IN MOVING THE DITCH FURTHER AWAY FROM THE ROADWAY. IT IS DESIRED THAT DITCH FORESLOPES BE 3:1 OR FLATTER AND DITCH BACKSLOPES BE 2:1 OR FLATTER. IT IS ALSO DESIRED THAT THE NEW DITCH BACKSLOPE REMAIN WITHIN THE RIGHT-OF-WAY AND/OR ANY CONSENT & RELEASE AREAS OBTAINED BY KYTC NOTED IN THE PROPOSAL, WHILE ALSO AVOIDING ANY SENSITIVE OBSTRUCTIONS.
12. AS SHOWN IN FIGURE 10, IF INSTALLING A 2:1 DITCH BACKSLOPE WILL RESULT IN THE TOP OF CUT EXTENDING BEYOND THE RIGHT-OF-WAY OR OUTSIDE OF ANY CONSENT & RELEASE AREA OBTAINED BY KYTC NOTED IN THE PROPOSAL, AND/OR IMPACTING A SENSITIVE OBSTRUCTION, THEN THE DITCH BACK SLOPE MAY BE INSTALLED STEEPER THAN 2:1, UP TO 1:1 MAXIMUM. IN THIS SITUATION, THE DITCH BACKSLOPE SHALL HAVE CLASS II CHANNEL LINING INSTALLED FOR SLOPE PROTECTION.
13. AS SHOWN IN FIGURE 11, IF USING A 1:1 DITCH BACKSLOPE STILL RESULTS IN THE TOP OF CUT EXTENDING BEYOND THE RIGHT-OF-WAY OR OUTSIDE ANY CONSENT & RELEASE AREA OBTAINED BY KYTC NOTED IN THE PROPOSAL, AND/OR STILL IMPACTS A SENSITIVE OBSTRUCTION, THEN THE PROPOSED EARTH SHOULDER WIDTH MAY BE REDUCED SO THAT THE STEEP DITCH BACKSLOPE CAN BE INSTALLED WITHIN THE RIGHT-OF-WAY AND/OR TO AVOID A SENSITIVE OBSTRUCTION.

NOT TO SCALE

ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS (SHEET 2 OF 2)

COUNTY OF	ITEM NO.	SHEET NO.

MILEPOST MARKERS



TYPICAL SIGN PANEL DIMENSIONS AND MILEPOST LOCATIONS

MILE POST NUMBER	STATION NUMBER * ____ BOUND LANE (S)

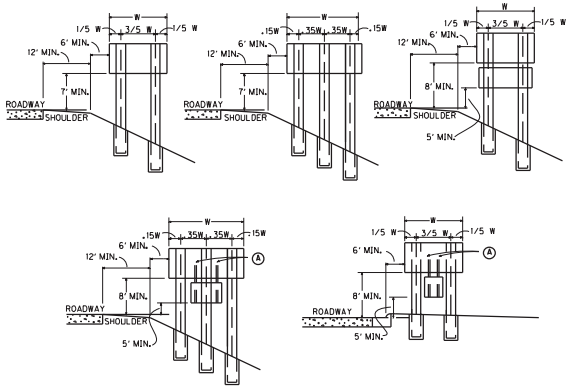
MILE POST NUMBER	STATION NUMBER * ____ BOUND LANE (S)

NOTE: STATION NUMBERS ARE GIVEN FOR NOTED DIRECTION OF TRAVEL ONLY. CORRESPONDING MILEPOST MARKERS FOR OTHER DIRECTION SHOULD BE PLACED DIRECTLY OPPOSITE THOSE FOR WHICH STATION NUMBERS ARE GIVEN.

IN JEFFERSON COUNTY, FINAL LOCATION OF MILEPOST MARKERS SHALL BE VERIFIED BY TRIMARC. NOTIFY TRIMARC AT LEAST TWO WEEKS PRIOR TO BEGINNING WORK ON THIS ITEM:

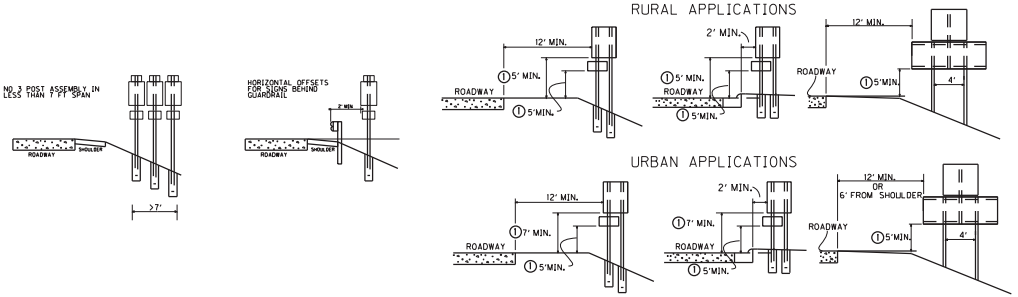
901 WEST MAIN STREET
LOUISVILLE, KY 40202
502-587-6624
270-307-7456

PANEL SIGNS



(A) ATTACHMENT OF SECONDARY SIGN TO MAJOR SIGN IS TO BE MADE WITH TWO (2) 3" X 3" X 3/8" ANGLES OF SUFFICIENT LENGTH TO EXTEND FROM THE LOWER EDGE OF THE SECONDARY SIGN TO AT LEAST THREE FEET UP THE BACK OF THE MAJOR SIGN. A MINIMUM OF ONE POST CLIP PER FOOT SHALL BE USED IN ATTACHING EXTRUSIONS TO EACH ANGLE.

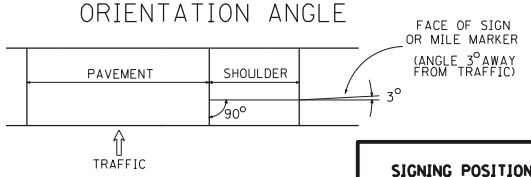
SHEETING SIGNS



NOTE: SHOULD A SIGN BE LOCATED AT A POINT WHERE GUARDRAIL IS CALLED FOR OR EXISTING, ALL SIGN SUPPORTS SHALL BE PLACED BEHIND THE GUARDRAIL AND LATERAL OFFSET SHALL BE MEASURED FROM THE GUARDRAIL.

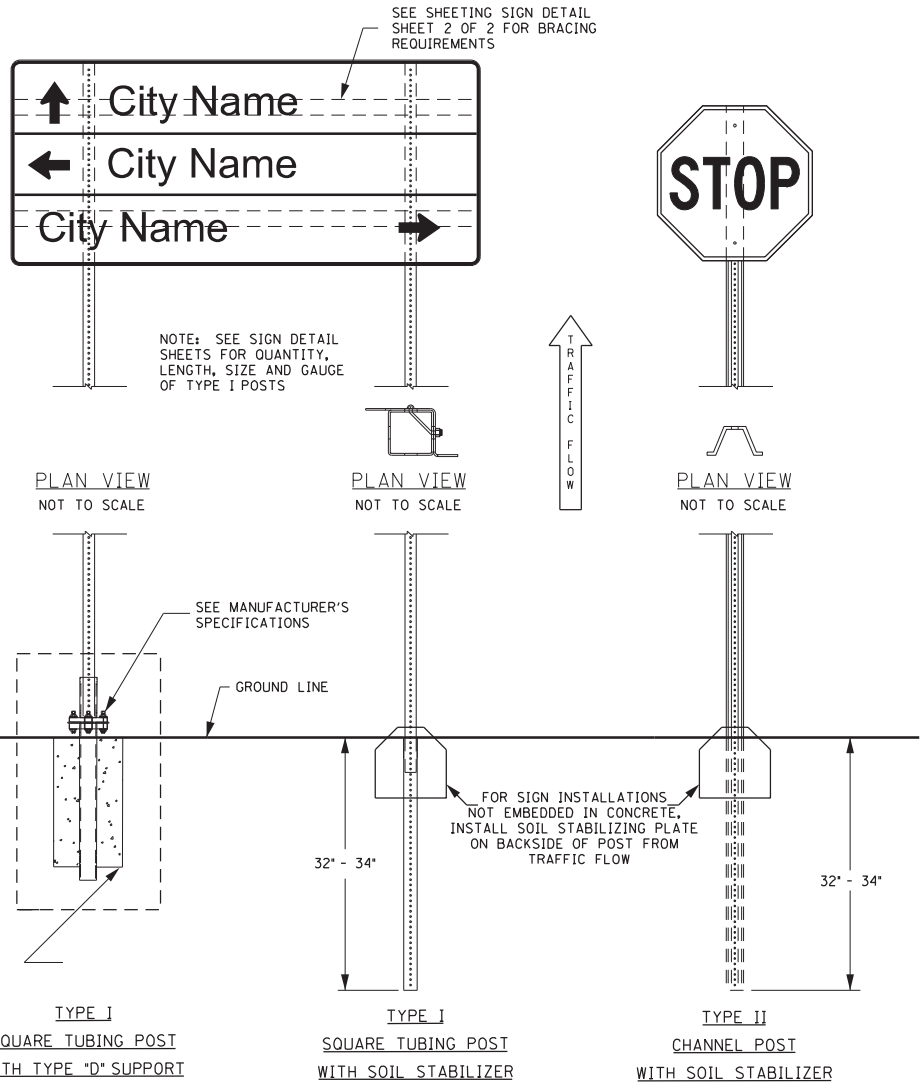
(1) NOT TO EXCEED 8' IN URBAN AREAS AND 6' IN RURAL AREAS UNLESS SPECIFIED BY THE ENGINEER

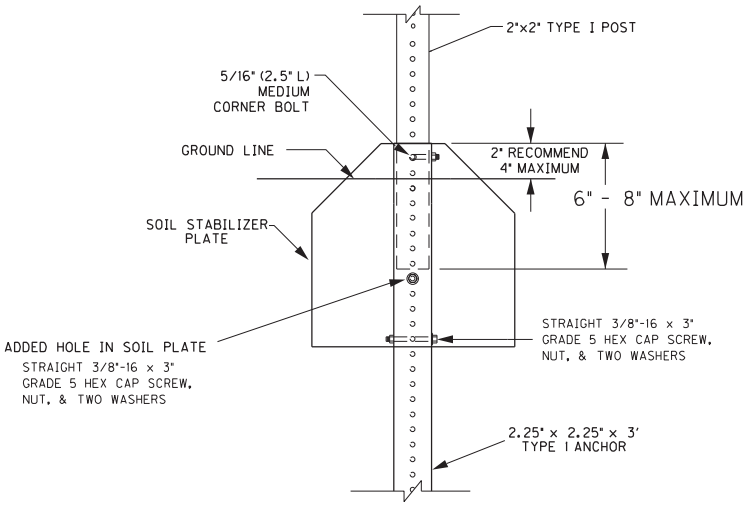
ORIENTATION ANGLE



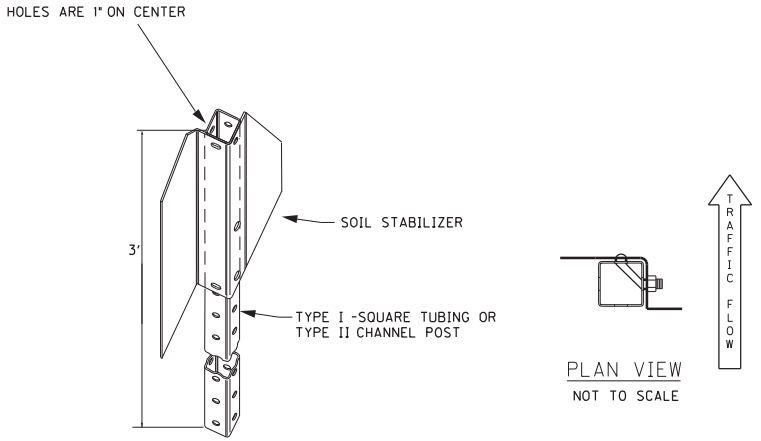
SIGNING POSITIONING DETAIL SHEET

COUNTY OF	ITEM NO.	SHEET NO.





SOIL STABILIZER DETAIL
FOR TYPE I POST



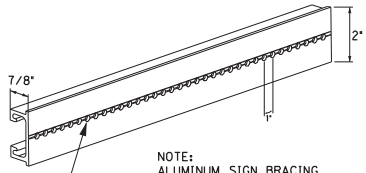
SOIL STABILIZER DETAIL

NOT TO SCALE

SHEETING SIGN DETAIL
SHEET 1 OF 2

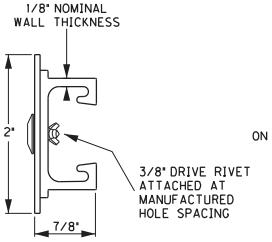
COUNTY OF	ITEM NO.	SHEET NO.

FOR ATTACHMENT OF SIGNS
LESS THAN 72" IN WIDTH
USING MANUFACTURED 3/8" HOLES
ACCORDING TO 2004 STANDARD
HIGHWAY SIGNS BLANK
STANDARDS
PGS 7-1 THRU 7-6

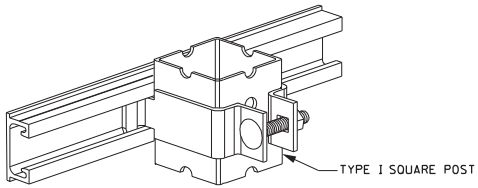


NOTE:
ALUMINUM SIGN BRACING
2" MOUNTING SURFACE x 7/8" DEPTH x 1/8"
NOMINAL WALL THICKNESS

6061-T6 ALUMINUM ALLOY, PUNCHED WITH
3/8" DIAMETER HOLES ON 1" CENTERS FOR
ATTACHMENT OF SIGN SUBSTRATE
USING 3/8" DRIVE RIVETS



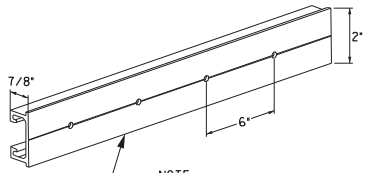
SIGN BRACE



SQUARE POST CLAMP & BRACE

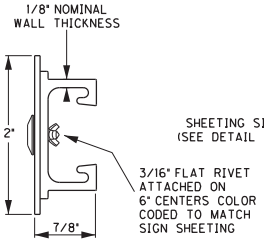
FOR ATTACHMENT OF SIGNS
GREATER THAN, OR EQUAL TO,
72" IN WIDTH.

RIVETS SHALL BE COLOR CODED
TO MATCH SHEETING IN ORDER
TO MINIMIZE GLARE FROM RIVETS



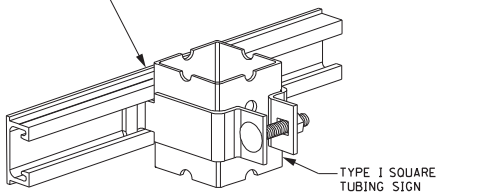
NOTE:
ALUMINUM SIGN BRACING
2" MOUNTING SURFACE x 7/8" DEPTH x 1/8"
NOMINAL WALL THICKNESS

6061-T6 ALUMINUM ALLOY, PUNCHED WITH
3/16" DIAMETER HOLES ON 6" CENTERS FOR
ATTACHMENT OF SIGN SUBSTRATE USING RIVETS

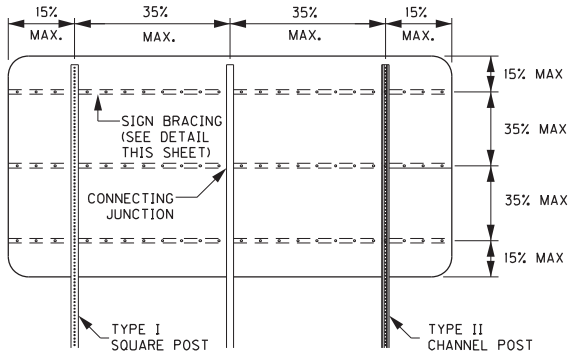


SHEETING SIGN BRACING
(SEE DETAIL THIS SHEET)

SIGN BRACE



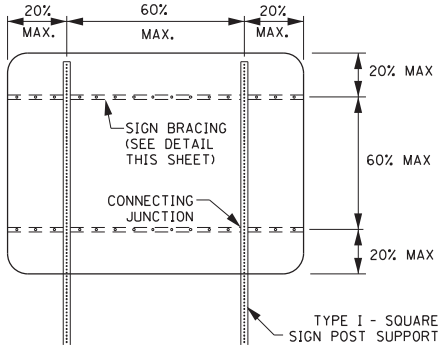
SQUARE POST CLAMP & BRACE



3 POST - BRACING DIAGRAM

NOTE:
1. MAXIMUM AREA
PER CONNECTING
JUNCTION = 16 SQ. FT.

2. BRACING SHOULD NOT BE
SPLICED WITHIN 6" OF A BRACE
TO POST JUNCTION.



2 POST - BRACING DIAGRAM

NOTE:
USE OF SIGN BRACING NOT SHOWN ON THIS SHEET MAY BE PERMITTED
BY PROJECT ENGINEER AND/OR DISTRICT TRAFFIC ENGINEER.

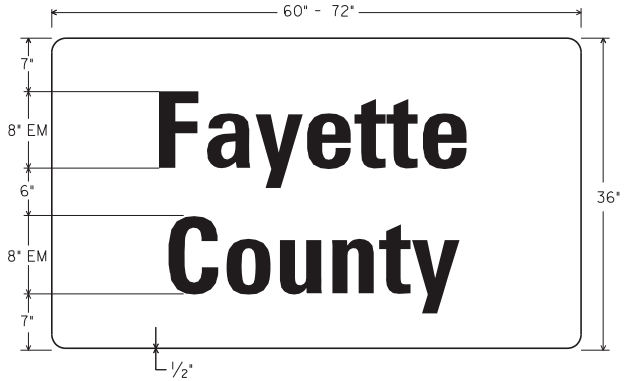
NOT TO SCALE

SHEETING SIGN DETAIL

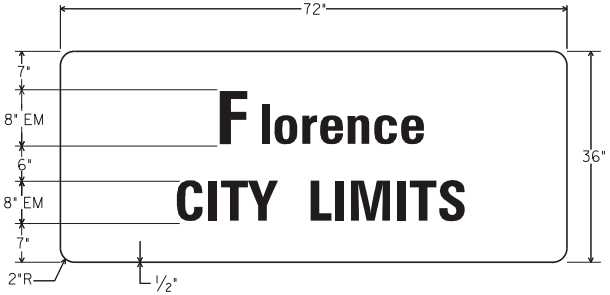
SHEET 2 OF 2

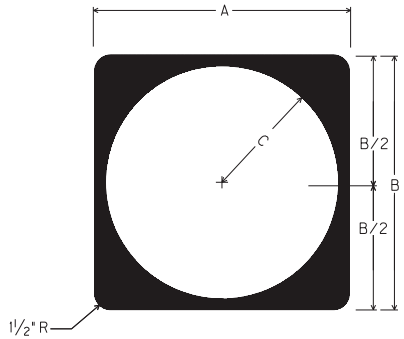
COUNTY OF	ITEM NO.	SHEET NO.

T-1



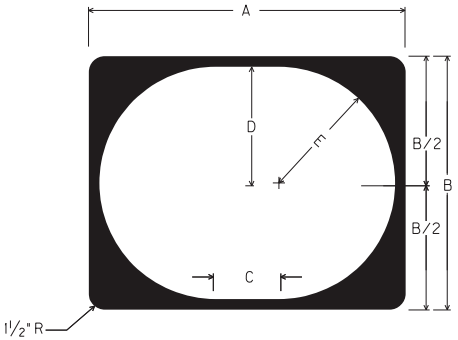
T-2





M1-5 (1 OR 2 DIGIT)

	A	B	C	FONT
CONVENTIONAL	24"	24"	11"	12D
EXPRESSWAY/ FREEWAY	36"	36"	17"	18D



M1-5 (3 OR 4 DIGIT)

	A	B	C	D	E	FONT	
						3 DIGIT	4 DIGIT
CONVENTIONAL	30"	24"	6"	11"	11"	12D	12B
EXPRESSWAY/ FREEWAY	45"	36"	9"	16.5"	16.5"	18D	18B

S-1

NOTE: FOR ROUTE MARKERS, IF NECESSARY, ADJUSTMENTS TO THE DIGIT LAYOUT AND/OR FONT TYPE MAY BE MADE TO ENSURE VISUAL ACUITY

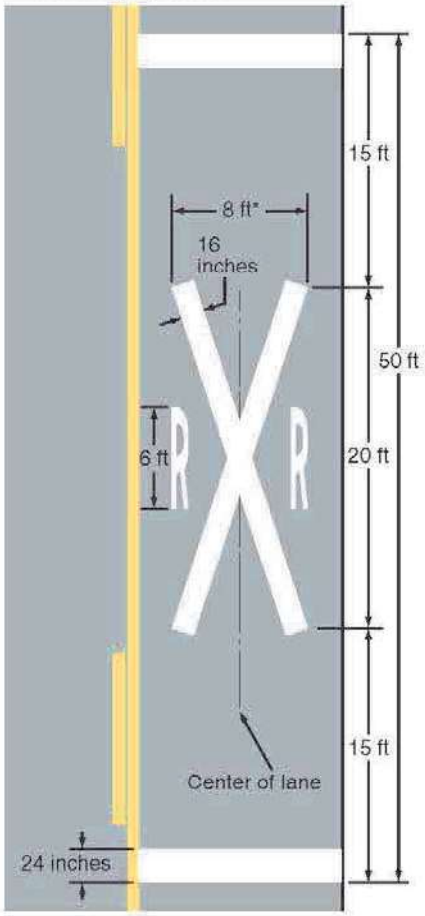
NOTE: EXPRESSWAY/FREEWAY DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL OR FULL CONTROL OF ACCESS

NOT TO SCALE

TYPICAL SIGNS

Figure 8B-7. Grade Crossing Pavement Markings

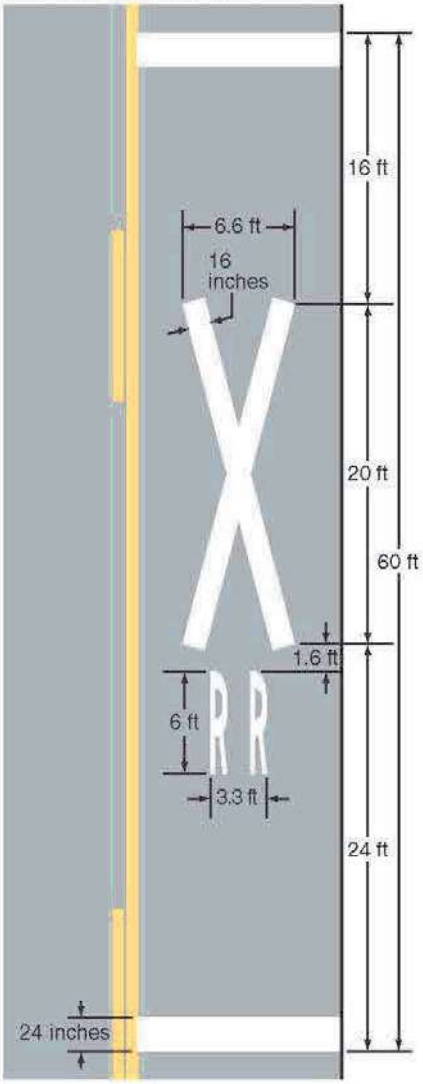
A - Grade crossing pavement marking symbol



*Width may vary according to lane width

Note: Refer to Figure 8B-6 for placement

B - Grade crossing alternative (narrow) pavement marking symbol



TYPICAL SECTION DEPICTING INSTALLATION OF RECYCLED RAILROAD RAIL PLACED IN DRILLED SOCKET FOR LANDSLIDE CORRECTION

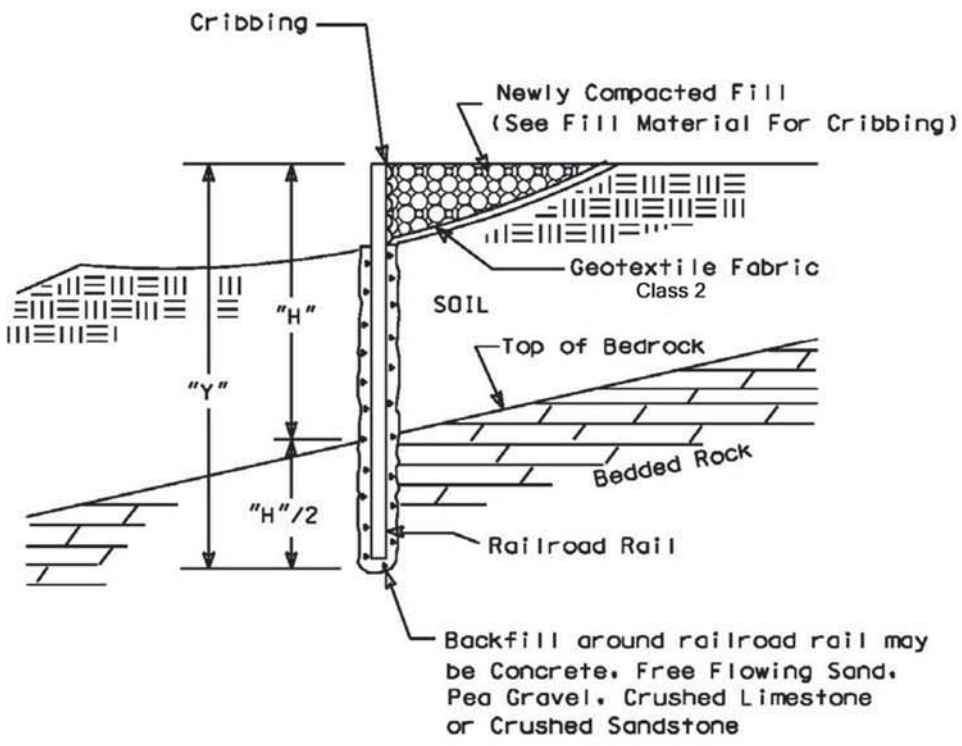
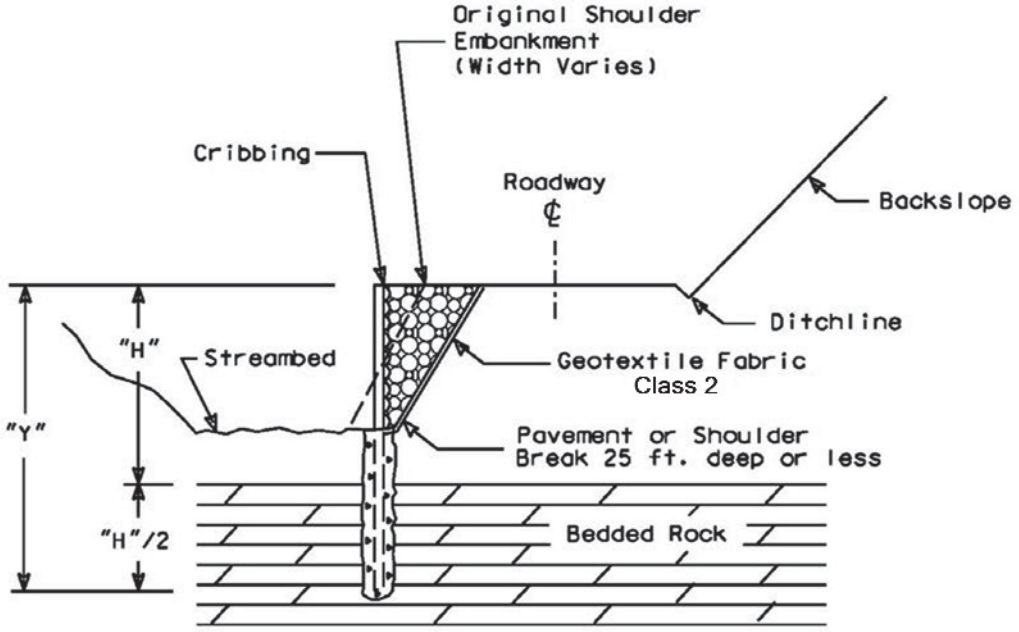


Figure 1

TYPICAL CROSS SECTION OF ROADWAY REPAIRS UTILIZING RECYCLED RAILROAD RAILS IN DRILLED SOCKETS FOR EMBANKMENT EROSION CORRECTION

NOTE:
Spacing from edge to edge of drilled socket : 3 ft. max.



NOTE :
"H"/2 Depth of Rail into bedded rock = 1/3 total length where rock is present.

Figure 2

ALTERNATE SCHEMES FOR INSTALLING RAILROAD RAILS IN DRILLED SOCKETS

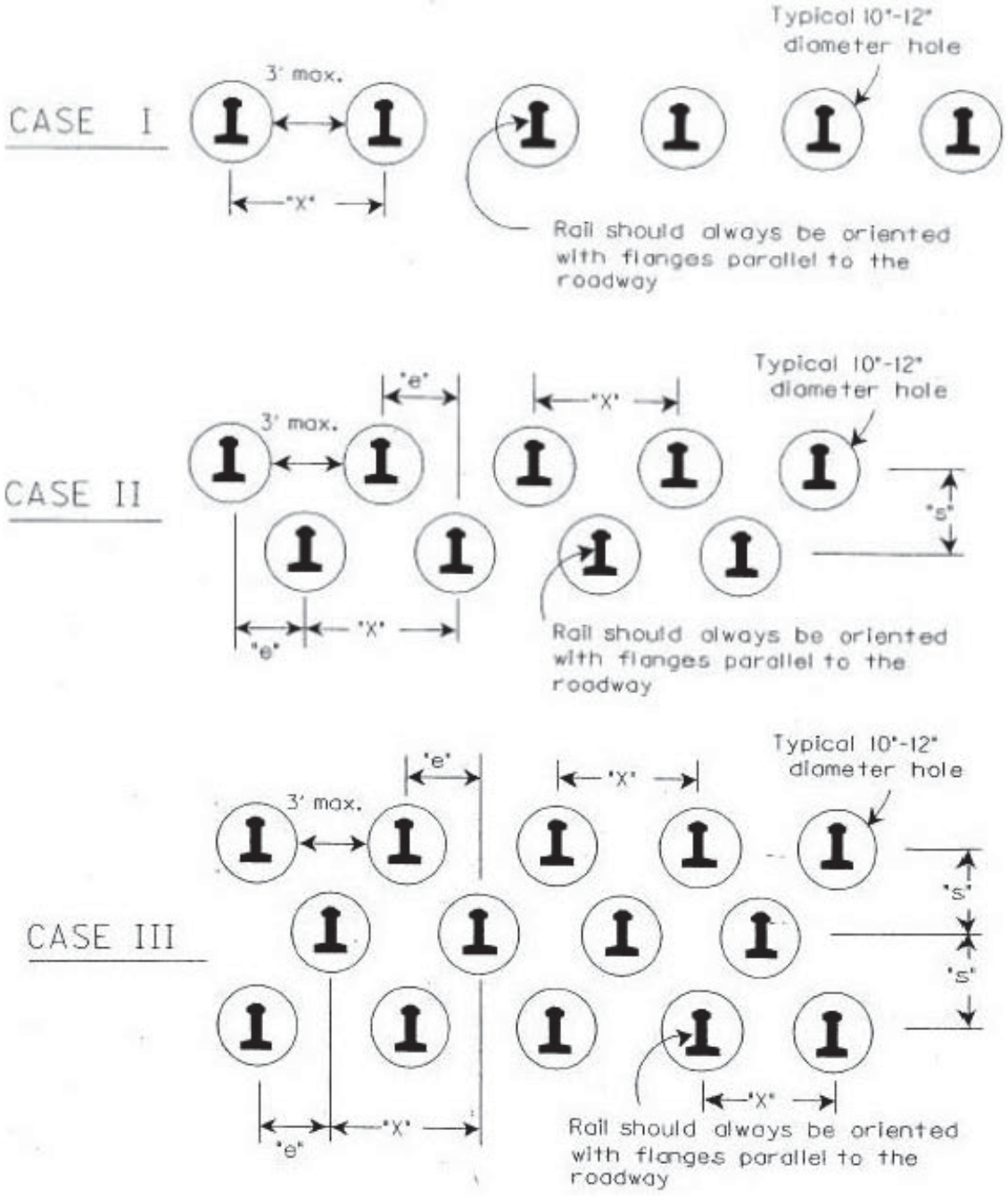


FIGURE 3

DESIGN CHART FOR 130LBS/YD TO 133 LBS/YD RECYCLED (USED) RAILROAD RAILS FACTOR OF SAFETY = 1

Soil Depth to Bedded Rock "H" (Feet)	Minimum Embedment into Bedded Rock "H/2" (Feet)	Total Length of Installed Railroad Rail "Y" (Feet)	Required Number of Rows	Maximum Spacing Between Rails "X" (Max. 48") (Inches)	Effective Spacing Between Rows of Rails "e'" (Inches)
8	4	12	1	48	N/A
9	4.5	13.5	1	48	N/A
10	5	15	1	48	N/A
11	5.5	16.5	1	48	N/A
12	6	18	1	48	N/A
13	6.5	19.5	1	48	N/A
14	7	21	1	32	N/A
15	7.5	22.5	2	48	24
16	8	24	2	44	22
17	8.5	25.5	2	36	18
18	9	27	2	28	14
19	9.5	28.5	2	24	12
20	10	30	3	33	11
21	10.5	31.5	3	28.5	9.5
>21	N/A	N/A	N/A	N/A	N/A

NOTES: 1. REFER TO FIGURES 1, 2, & 3 FOR DIMENSIONS SHOWN
2. FOR SOIL DEPTHS "H" GREATER THAN 21 FEET CONTACT THE ENGINEER.

TABLE I

IDENTIFICATION OF RAILROAD RAIL SIZES

1. Typically classified in units of lbs-per-yard.

   Examples :

   155 lbs/yd, 140 lbs/yd, 132 lbs/yd, 90 lbs/yd

2. Each rail has a classification stamped in web:

   Example :

   112 25 RE OH ILLINOIS USA 1935 IIIIII

   Weight in lbs/yd

GUARDRAIL DELIVERY VERIFICATION SHEET

Contract Id: _____ **Contractor: _____**

Section Engineer: _____ **District & County: _____**

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

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

Printed Section Engineer's Representative_____ & Date_____

Signature Section Engineer's Representative_____& Date_____

Printed Contractor's Representative_____& Date_____

Signature Contractor's Representative_____& Date_____

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

Printed Bailey Bridge Yard Representative_____ & Date_____

Signature Bailey Bridge Yard Representative_____& Date_____

Printed Contractor's Representative_____& Date_____

Signature Contractor's Representative_____& Date_____

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

Completed Form Submitted to Section Engineer Date: _____ By: _____

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2020.*

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

1I

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.

1I

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

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

2.3 Power.

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

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

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

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

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

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

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

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

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

1.0 DESCRIPTION. Install barcode label on sheeting signs. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

2.0 MATERIALS. The Department will provide the Contractor with a 2 inch x 1 inch foil barcode label for each permanent sheeting sign. A unique number will be assigned to each barcode label.

The Contractor shall contact the Operations and Pavement Management Branch in the Division of Maintenance at (502) 564-4556 to obtain the barcode labels.

3.0 CONSTRUCTION. Apply foil barcode label in the lower right quadrant of the sign back. Signs where the bottom edge is not parallel to the ground, the lowest corner of the sign shall serve as the location to place the barcode label. The barcode label shall be placed no less than one-inch and no more than three inches from any edge of the sign. The barcode must be placed so that the sign post does not cover the barcode label.

Barcodes shall be applied in an indoor setting with a minimum air temperature of 50°F or higher. Prior to application of the barcode label, the back of the sign must be clean and free of dust, oil, etc. If the sign is not clean, an alcohol swab shall be used to clean the area. The area must be allowed to dry prior to placement of the barcode label.

Data for each sign shall include the barcode number, MUTCD reference number, sheeting manufacturer, sheeting type, manufacture date, color of primary reflective surface, installation date, latitude and longitude using the North American Datum of 1983 (NAD83) or the State Plane Coordinates using an x and y ordinate of the installed location.

Data should be provided electronically on the TC 71-229 Sign Details Information and TC 71-230 Sign Assembly Information forms. The Contractor may choose to present the data in a different format provided that the information submitted to the Department is equivalent to the information required on the Department TC forms. The forms must be submitted in electronic format regardless of which type of form is used. The Department will not accept PDF or handwritten forms. These completed forms must be submitted to the Department prior to final inspection of the signs. The Department will not issue formal acceptance for the project until the TC 71-229 and TC-230 electronic forms are completed for all signs and sign assemblies on the project.

4.0 MEASUREMENT. The Department will measure all work required for the installation of the barcode label and all work associated with completion and submission of the sign inventory data (TC 71-229 and TC 71-230).

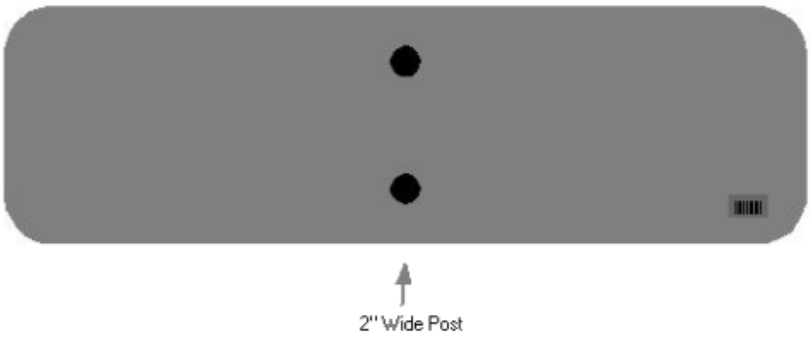
The installation of the permanent sign will be measured in accordance to Section 715.

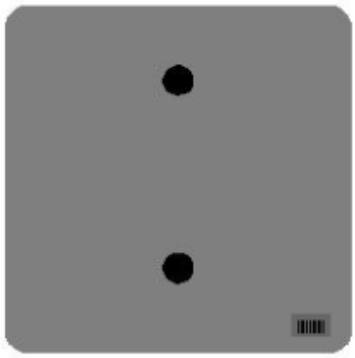
5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
24631EC	Barcode Sign Inventory	Each

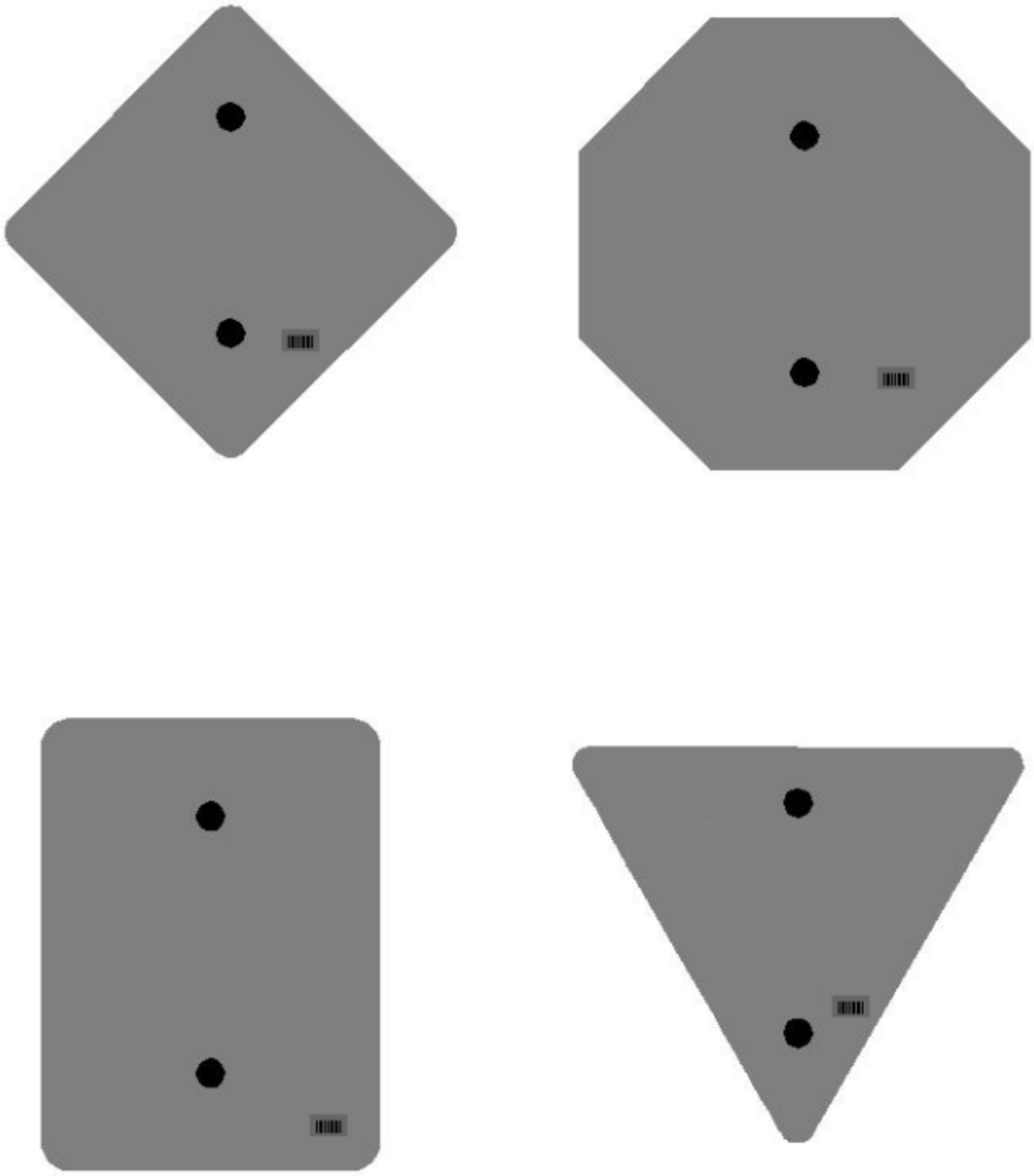
The Department will not make payment for this item until all barcodes are installed and sign inventory is complete on every permanent sign installed on the project. The Department will make payment for installation of the permanent sign in accordance to Section 715. The Department will consider payment as full compensation for all work required under this special note.

One Sign Post

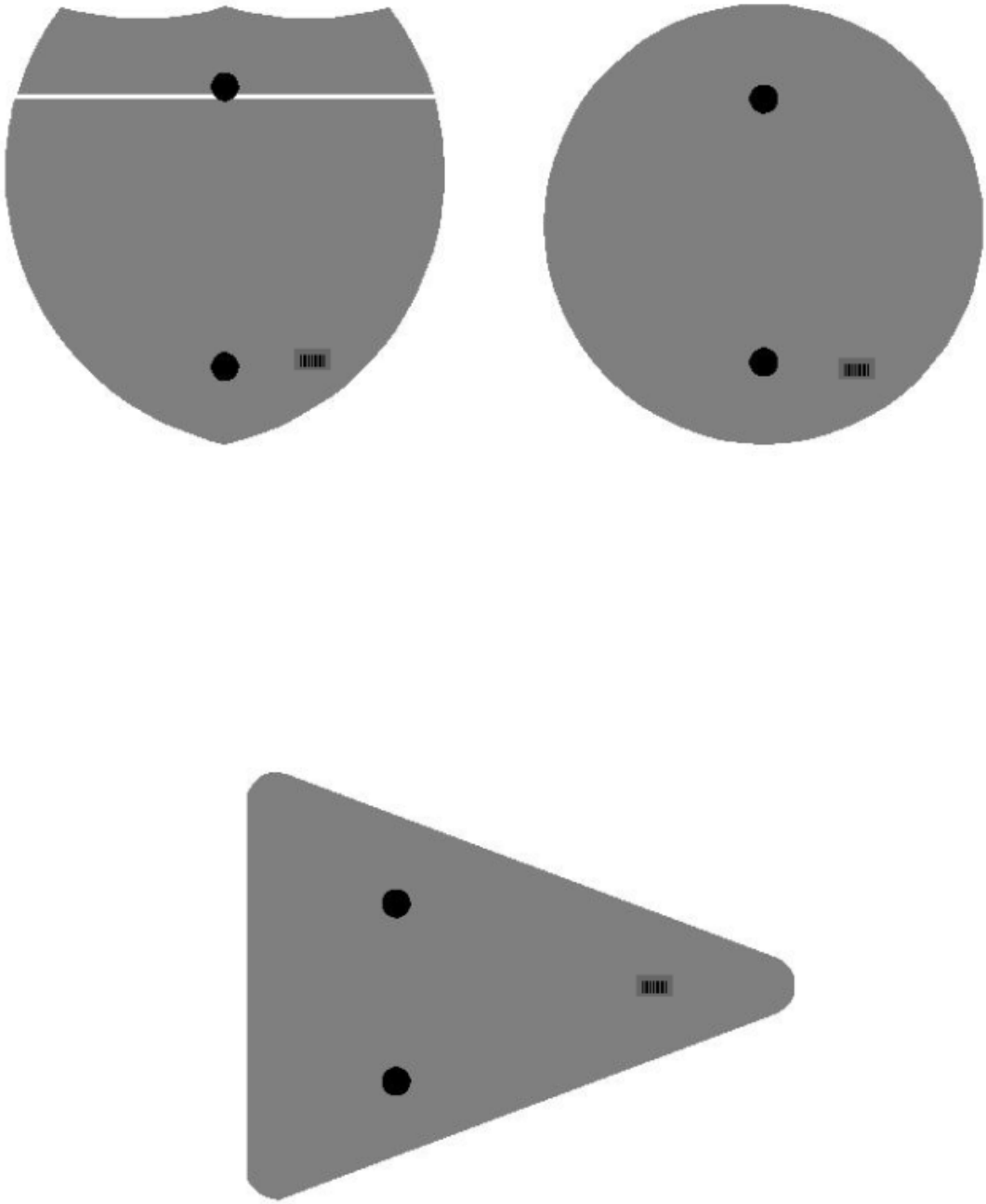




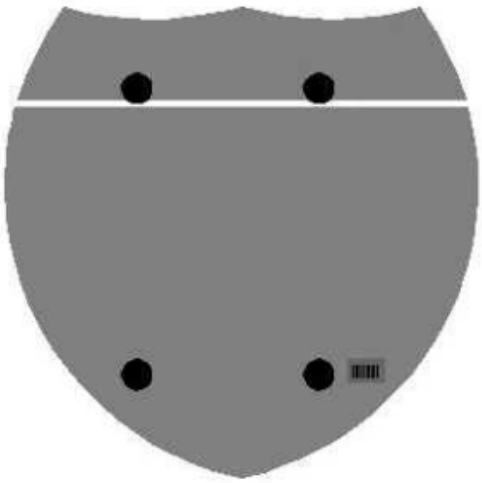
One Sign Post



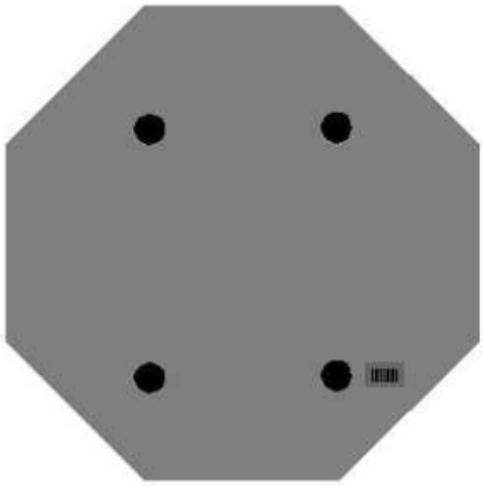
One Sign Post



Double Sign Post

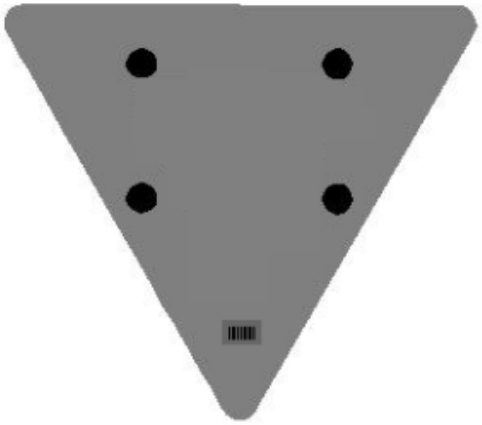


Interstate
Shield



48" Stop

2 Post Signs



2020 STANDARD DRAWINGS THAT APPLY

ROADWAY

~ BARRIERS ~

TYPICAL BARRIER INSTALLATIONS

TYPICAL GUARDRAIL INSTALLATIONS RBI-001-12
TYPICAL GUARDRAIL INSTALLATIONS RBI-002-07
INSTALLATION OF GUARDRAIL END TREATMENT TYPE 1 ..... RBI-004-06

CONCRETE MEDIAN BARRIERS

DELINEATORS FOR CONCRETE BARRIERS RBM-020-09

GUARDRAIL HARDWARE

STEEL BEAM GUARDRAIL (W-BEAM) RBR-001-13
GUARDRAIL COMPONENTS RBR-005-11
GUARDRAIL TERMINAL SECTIONS RBR-010-06
STEEL GUARDRAIL POSTS RBR-015-06
GUARDRAIL END TREATMENT TYPE 1 ..... RBR-020-07
GUARDRAIL END TREATMENT TYPE 4A RBR-035-12
DELINEATORS FOR GUARDRAIL RBR-005-01

~ DRAINAGE ~

PAVED DITCHES, FLUME INLETS AND CHANNEL LININGS

CHANNEL LINING CLASS II AND III RDD-040-05

MISCELLANEOUS DRAINAGE

TEMPORARY SILT FENCE RDX-210-03
SILT TRAP - TYPE A RDX-220-05
SILT TRAP - TYPE B RDX-225-01
SILT TRAP - TYPE C RDX-230-01

~ GENERAL ~

MISCELLANEOUS STANDARDS

MISCELLANEOUS STANDARDS RGX-001-06

TRAFFIC

~ PERMANENT ~

MARKERS

PAVEMENT STRIPING DETAILS FOR TWO LANE TWO WAY ROADWAYS TPM-175

RUMBLE STRIPS

CENTERLINE RUMBLE STRIPS TPR-100
CENTERLINE RUMBLE STRIPS 6 INCH STRIPING TPR-110

Standard Drawings That Apply
Page 2 of 2

SHOULDER & EDGELINE RUMBLE STRIPS PLACEMENT DETAILS TPR-115
EDGELINE RUMBLE STRIP DETAILS TWO LANE ROADWAYS TPR-120

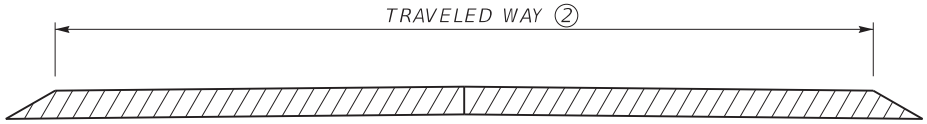
~ TEMPORARY ~

TRAFFIC CONTROL

LANE CLOSURE TWO-LANE HIGHWAY TTC-100-05

DEVICES

DOUBLE FINES ZONE SIGNS TTD-120-03
PAVEMENT CONDITION WARNING SIGNS TTD-125-03
SPEED ZONE SIGNING FOR WORK ZONES TTD-130



TWO LANE ROADWAY
PAVEMENT CROSS-SECTION

TRAVELED WAY (2)	TYPE OF PAVEMENT STRIPING	NON-STATE PRIMARY ROUTES				STATE PRIMARY ROUTES	
		< 1000 ADT		>= 1000 ADT		ANY ADT	
		WIDTH	MATERIAL	WIDTH	MATERIAL	WIDTH	MATERIAL*
< 16' (4)	EDGELINE STRIPES ONLY	4"	PAINT	4"	PAINT	6"	THERMO (ASHPALT) TYPE I TAPE (CONCRETE)
16' TO < 20'	EDGELINE STRIPES ONLY OR CENTERLINE STRIPE ONLY	4"	PAINT	4"	PAINT	6"	THERMO (ASHPALT) TYPE I TAPE (CONCRETE)
>=20' (3)	CENTERLINE AND EDGELINE STRIPES	4" (5)	PAINT	6"	PAINT	6"	THERMO (ASHPALT) TYPE I TAPE (CONCRETE)

*OTHER DURABLE NON-WATERBORNE MARKINGS MAY BE USED WITH APPROVAL FROM THE DIVISION OF TRAFFIC OPERATIONS.

~ NOTES ~

1. INSTALL PAVEMENT STRIPING ON TWO LANE, TWO WAY ROADWAYS AS DETAILED IN THE ABOVE TABLE AND IN ACCORDANCE WITH THE PAVEMENT MARKINGS AND DELINEATION CHAPTER OF THE TRAFFIC OPERATIONS GUIDANCE MANUAL. CONTACT THE DIVISION OF TRAFFIC OPERATIONS FOR ADDITIONAL GUIDANCE IF NECESSARY.

(2) THE TRAVELED WAY IS THE PORTION OF ROADWAY FOR THE MOVEMENT OF VEHICLES, EXCLUSIVE OF THE SHOULDERS.

(3) ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 20 FT OR GREATER, BUT LESS THAN 22 FT, EDGELINE RUMBLE STRIPS ARE NOT A STANDARD APPLICATION, BUT THEY MAY BE INSTALLED. THE DIVISION OF TRAFFIC OPERATIONS IS AVAILABLE TO ASSIST WITH THE DETERMINATION OF WHETHER OR NOT TO INSTALL EDGELINE RUMBLE STRIPS ON PAVEMENT WIDTHS LESS THAN 22 FT, AS WELL AS THE DIMENSION AND PLACEMENT DETAILS OF THE RUMBLE STRIPS AND PAVEMENT STRIPING.

ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 22 FT OR GREATER, BUT LESS THAN 34 FT, INSTALL PAVEMENT STRIPING AS DETAILED IN THE ABOVE TABLE AND IN CONJUNCTION WITH CENTERLINE AND EDGELINE RUMBLE STRIPS AS DETAILED ON TPR-120 .

ON TWO LANE, TWO WAY ROADWAYS THAT HAVE A TOTAL PAVEMENT WIDTH (W) THAT IS 34 FT OR GREATER, INSTALL PAVEMENT STRIPING AS DETAILED IN THE ABOVE TABLE AND IN CONJUCTION WITH CENTERLINE AND SHOULDER RUMBLE STRIPS AS DETAILED ON TPR-125.

(4) EDGELINES MAY BE OMITTED FROM ROADWAYS WITH A TRAVELED WAY WIDTH LESS THAN 16 FEET WITH THE APPROVAL OF THE DIVISION OF TRAFFIC OPERATIONS.

(5) EDGELINES MAY BE OMITTED ON NON-STATE PRIMARY ROUTES WITH A TRAVELED WAY WIDTH GREATER THAN OR EQUAL TO 20 FEET AND AN ADT LESS THAN 1,000.

6. EDGELINES MAY BE OMITTED, BASED ON ENGINEERING JUDGMENT, IN AREAS WHERE THE PAVEMENT EDGE IS DELINEATED BY PHYSICAL OBJECTS SUCH AS CURBS, PARKING SPACES, OR OTHER MARKINGS. EDGELINES SHOULD BE INSTALLED ON ROADWAYS WITH CURB AND GUTTER IF THE POSTED SPEED LIMIT IS 45 MPH OR GREATER.

DRAWING NOT TO SCALE

USE WITH CUR. STD. DWGS.
TPR-120 & TPR-125

KENTUCKY
DEPARTMENT OF HIGHWAYS

PAVEMENT STRIPING
DETAILS FOR TWO LANE
TWO WAY ROADWAYS

SUBMITTED _____ 06-09-21
DIVISION DIRECTOR DATE

017

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

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.

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.

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 administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

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, 1025 Capital Center Drive, Suite 104, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: May 23, 2022

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** 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

WHD U.S. Wage and Hour Division

WWW.WAGEHOUR.DOL.GOV

U.S. Department of Labor | Wage and Hour Division

WHD Publication 1088 (Revised July 2009)

PART IV

INSURANCE

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

PART V

BID ITEMS

234302

PROPOSAL BID ITEMS

Report Date 12/22/22

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	669.00	TON		$	
0020	00100		ASPHALT SEAL AGGREGATE	52.00	TON		$	
0030	00103		ASPHALT SEAL COAT	6.30	TON		$	
0040	00190		LEVELING & WEDGING PG64-22	15.00	TON		$	
0050	00342		CL4 ASPH SURF 0.38A PG76-22 (MODIFIED)	3,689.00	TON		$	
0060	00356		ASPHALT MATERIAL FOR TACK	23.00	TON		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0070	01984		DELINEATOR FOR BARRIER - WHITE	6.00	EACH		$	
0080	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	671.00	EACH		$	
0090	02159		TEMP DITCH	10,458.00	LF		$	
0100	02160		CLEAN TEMP DITCH	5,229.00	LF		$	
0110	02360		GUARDRAIL TERMINAL SECTION NO 1	16.00	EACH		$	
0120	02367		GUARDRAIL END TREATMENT TYPE 1	15.00	EACH		$	
0130	02381		REMOVE GUARDRAIL	9,655.00	LF		$	
0140	02391		GUARDRAIL END TREATMENT TYPE 4A	22.00	EACH		$	
0150	02399		EXTRA LENGTH GUARDRAIL POST	100.00	EACH		$	
0160	02483		CHANNEL LINING CLASS II	4,956.00	TON		$	
0170	02562		TEMPORARY SIGNS	288.00	SQFT		$	
0180	02585		EDGE KEY	50.00	LF		$	
0190	02603		FABRIC-GEOTEXTILE CLASS 2	200.00	SQYD		$	
0200	02650		MAINTAIN & CONTROL TRAFFIC (HARLAN US 421)	1.00	LS		$	
0210	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0220	02697		EDGELINE RUMBLE STRIPS	37,868.00	LF		$	
0230	02701		TEMP SILT FENCE	10,458.00	LF		$	
0240	02703		SILT TRAP TYPE A	18.00	EACH		$	
0250	02704		SILT TRAP TYPE B	18.00	EACH		$	
0260	02705		SILT TRAP TYPE C	18.00	EACH		$	
0270	02706		CLEAN SILT TRAP TYPE A	18.00	EACH		$	
0280	02707		CLEAN SILT TRAP TYPE B	18.00	EACH		$	
0290	02708		CLEAN SILT TRAP TYPE C	18.00	EACH		$	
0300	02726		STAKING (HARLAN US 421)	1.00	LS		$	
0310	03234		RAILROAD RAILS-DRILLED	1,520.00	LF		$	
0320	03235		EXCAVATION AND BACKFILL	210.00	CUYD		$	
0330	03236		CRIBBING	1,800.00	SQFT		$	
0340	03240		BASE FAILURE REPAIR	72.00	SQYD		$	
0350	05950		EROSION CONTROL BLANKET	740.00	SQYD		$	
0360	05952		TEMP MULCH	57,140.00	SQYD		$	
0370	05953		TEMP SEEDING AND PROTECTION	42,834.00	SQYD		$	
0380	05963		INITIAL FERTILIZER	1.60	TON		$	
0390	05964		MAINTENANCE FERTILIZER	1.00	TON		$	

PROPOSAL BID ITEMS

234302

Report Date 12/22/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	05985		SEEDING AND PROTECTION	29,900.00	SQYD		$	
0410	05992		AGRICULTURAL LIMESTONE	19.00	TON		$	
0420	06510		PAVE STRIPING-TEMP PAINT-4 IN	38,000.00	LF		$	
0430	06542		PAVE STRIPING-THERMO-6 IN W	37,854.00	LF		$	
0440	06543		PAVE STRIPING-THERMO-6 IN Y	36,767.00	LF		$	
0450	10020NS		FUEL ADJUSTMENT	6,006.00	DOLL	$1.00	$	$6,006.00
0460	10030NS		ASPHALT ADJUSTMENT	14,481.00	DOLL	$1.00	$	$14,481.00
0470	20191ED		OBJECT MARKER TY 3	37.00	EACH		$	
0480	20458ES403		CENTERLINE RUMBLE STRIPS	18,927.00	LF		$	
0490	21802EN		G/R STEEL W BEAM-S FACE (7 FT POST)	8,376.00	LF		$	
0500	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	24.00	LF		$	
0510	23266ES717		PAVE MARK TY 1 TAPE R/R X BUCKS-16 IN	40.00	LF		$	
0520	23911EC		GROUT	477.00	CUYD		$	
0530	26175EC		ROADSIDE REGRADING	4,010.00	LF		$	

Section: 0003 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0540	06406		SBM ALUM SHEET SIGNS .080 IN	179.25	SQFT		$	
0550	06410		STEEL POST TYPE 1	231.00	LF		$	
0560	21134ND		REMOVE-STORE AND REINSTALL SIGN	10.00	EACH		$	
0570	21373ND		REMOVE SIGN	3.00	EACH		$	
0580	24631EC		BARCODE SIGN INVENTORY	57.00	EACH		$	

Section: 0004 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0590	02569		DEMOBILIZATION	1.00	LS		$	