CALL NO. 321

CONTRACT ID. 234301

FRANKLIN COUNTY

FED/STATE PROJECT NUMBER FD04 037 0421 005-012

DESCRIPTION BALD KNOB ROAD (US 421)

WORK TYPE ASPHALT PAVEMENT & ROADWAY REHAB

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 - 05

CONTRACT ID - 234301

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COUNTY - FRANKLIN

PCN - 0503704212201
FD04 037 0421 005-012

BALD KNOB ROAD (US 421) (MP 5.315) FROM 0.095 MILES NORTH OF CLIFTY DRIVE EXTENDING NORTH TO KY 12 (MP 11.132), A DISTANCE OF 05.82 MILES.ASPHALT PAVEMENT & ROADWAY REHAB SYP NO. 05-09022.00.

GEOGRAPHIC COORDINATES LATITUDE 38:14:27.50 LONGITUDE 84:55:03.60

ADT 2,128

COMPLETION DATE(S):

COMPLETED BY 10/31/2023 APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website (www.bidx.com) 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

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.

OPTION B

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

Special Notes Applicable to Project – General Notes & 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.

BUY AMERICA REQUIREMENT

Federal Funds were used for the design phase of this project; therefore, the Contractor shall follow the "Buy America" provisions as required by Title 23 Code of Federal Regulations 635.410.

STATIONING

The contractor is advised that the planned locations of work were established from an ending station number which is STA 588+63.11 at the intersection of US 421 and KY 12, which corresponds to an ending Milepoint which is MP 11.148 at the US 421 and KY 12 intersection. The existing mile marker signs may not correspond to the proposed work locations.

LIDAR

Survey information was obtained from available KYTC Aerial LIDAR data and mobile LiDAR data of existing asphalt pavement by the Kentucky Transportation Center. As such, information should be field verified as appropriate during construction and prior to incorporating the various project work items. Refer to the Special Note for Staking concerning staking operations required to control and construct the work.

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 form 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:

Superelevation Improvements. There are multiple curves where superelevation improvements are being proposed. The intent of this work is to bring a consistent pavement cross slope through the identified curves. Refer to the Superelevation Improvement Summary for locations and approximate quantities. The Superelevation Improvements are set up and quantified for the Contractor to utilize Leveling & Wedging in order to achieve the desired superelevation improvements at the identified location(s). The Superelevation Improvement Summary lists the estimated quantities of Leveling & Wedging for each curve; however, the Engineer will make the final determination as to which Leveling & Wedging mix design will be required at each superelevation improvement area, as well as the appropriate lift thicknesses and number of lifts based on the existing conditions encountered at the time of construction. After the superelevation improvements have been constructed, the superelevation improvement areas will be overlaid with a surface course. As a result of the superelevation improvements and surfacing operations, the roadside shoulders, fill slopes, and/or ditches will have to be modified to match the final pavement elevations and tie in with the existing ground lines. A quantity of Roadside Regrading has been estimated for regrading the roadside within the identified curves. A representative cross section is given for each curve showing the proposed superelevation improvements and the resulting roadside grading.

NOTE: Some field adjustments of the proposed shoulder width, fill slope, ditch, and/or superelevation improvement may be required. The proposed shoulder and roadside grading is intended to occur within existing Right-of-Way and NOT disturb any sensitive obstructions (i.e. fences, buildings, utility poles, etc.). Superelevation improvements with sensitive obstructions along the roadside shall still require regrading the roadside, but the slopes may have to be constructed steeper than shown on the representative cross section. The desire of the Department is to construct the new fill slopes at 3:1 or flatter. When a fill slope needs to be constructed steeper than 3:1 to remain within existing Right-of-Way or not impact a sensitive obstruction, and the existing fill slope is steeper than 3:1, then the new

fill slope can be constructed steeper than 3:1, but the new fill slope shall not be constructed steeper than the existing fill slope. If a desired superelevation improvement will result in the new fill slope having to be graded steeper than the existing fill slope in order to remain within existing Right-of-Way or not impact a sensitive obstruction, then the superelevation rate should be modified (reduced) in order to reduce the final change in pavement edge elevation, thereby reducing the height of the new fill slope grading, and allowing for a flatter new fill slope that will not be steeper than the existing fill slope. Prior to making modifications to the proposed superelevation rate, shoulder width, and/or fill slope, coordinate with and obtain approval from the Engineer.

Shoulder Repair. Areas have been identified along the route for Shoulder Repair. The repair locations listed on the Shoulder Repair Summary are approximately only. The Engineer will determine the actual repair locations at the time of construction. Work will include milling/trenching the existing roadside, placing asphalt, and regrading the roadside, as shown and described on the Shoulder Repair Detail. Refer to the Special Note for Shoulder Milling/Trenching for more information.

Base Failure Repairs. Areas have been identified along the route for Base Failure Repair. The repair locations and dimensions listed on the Base Failure Repair Summary are approximate only. The Engineer will determine actual repair locations and dimensions at the time of construction. Refer to the Special Note for Base Failure Repair for more details on this item of work.

Pavement Resurfacing. The existing roadway is to be resurfaced in areas designated in the Shoulder Repair Summary, Base Failure Repair Summary, and the Superelevation Improvement Summary. Other items that may be associated with the pavement resurfacing include removal of existing pavement by milling and texturing, non-tracking tack coat, and application of pavement markings.

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) and Roadside Regrading Detail show:
  - The desired dimensions of the proposed shoulder, ditch, and/or targeted backslopes.
  - 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).
  - 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.

Pipe Replacements & Extensions. There is one location on the project where an existing culvert pipe is being extended. The location is approximate Station 579+27. Details pertaining to the work involved as part of this pipe extension is noted on the applicable plan sheet.

Channel Lining. A quantity of Channel Lining Class II has been included in the contract for potential use along areas of regraded ditch lines, cut slopes, pipe outlets, and other areas as directed by the Engineer. The Contractor and Engineer should work together to determine the location and best use of channel lining throughout this project. The Engineer will make the final determination as to the needed quantities and placement of channel lining.

Erosion Control Blanket. A quantity of Erosion Control Blanket has been included in the contract for potential use along areas of regraded shoulders, ditch lines, fill slopes and/or back slopes, and any other areas as directed by the Engineer. The Contractor and Engineer should work together to determine the location and best use of Erosion Control Blanket throughout this project. The Engineer will make the final determination as to the quantities and placement of Erosion Control Blanket.

Guardrail Replacement. Existing guardrail within the project will be replaced. Refer to the Guardrail Summary for the approximate locations for guardrail replacement. The work will include removal of the existing guardrail, and the installation of new guardrail and end treatments. See the Special Note for Guardrail for more information on this work. Also included will be the embedment of the existing guardrail posts at the locations where Guardrail Cribbing is proposed to assist in shoring up the embankment, as removal of the posts may degrade the existing embankment conditions. The cost for embedment of existing guardrail posts shall be paid for as "Site Preparation – Embed Existing Guardrail Post" (Each) at the specified locations.

Bridge Rail Modification using Case I Bridge Guardrail. There are quantities of Bridge Guardrail Case 1 included in the contract for modifying the barrier system at the structures identified on the Guardrail Summary. For more information on this item of work, refer to the Special Note for Guardrail and the detail sheet titled: Guardrail on Bridge, Case 1.

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 Proposed Cribbing Summary. Refer to the Special Note for Embankment Slide Repair and the associated detail sheets for more information.

Removal of Existing Signing Assemblies and Installation of Proposed Signing. A quantity of "Remove Sign" has been included in the Sign Summary for removal of existing signing along the corridor. An estimated quantity of new signing and sign post is also included on the Sign Summary. Refer to the Special Note for Signing, Special Note for Staking, and Special Note for Signage for more details.

Trim & Remove Trees, Stumps, and Brush. There is one tree and one stump near approximate Station 526+88 that are proposed to be removed, as noted on the applicable plan sheet. Refer to the Special Note for Tree, Stump, and Brush Removal for more information on the tree and stump removal.

Temporary Striping. A quantity of Pave Striping – Temp Paint – 4 in has been included in the contract for potential use in the Superelevation Improvement areas, and any other areas as directed by the Engineer. 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 quantities and placement of temporary pavement striping.

Permanent 6" Striping. A quantity of Pave Striping – Perm Paint – 6 in has been included in the contract to restripe the entire corridor with 6" permanent paint.

Cemetery & Do Not Disturb Boundary. There is an existing cemetery located at approximate Left Station 365+89. A "Do Not Disturb" boundary has been established from the entrance to the north, along the west edge of US 421 pavement to a minimum 25' offset from the southern and western fence line of the cemetery. Refer to the applicable plan sheet for more detail on this boundary. **Absolutely no ground disturbing activities shall occur within this boundary.**

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 the proposed pavement superelevation rates, runout lengths, and runoff lengths, determine the necessary elevation changes along the edges of pavement for each proposed curve and the transitions leading into and out of each curve to achieve the proposed superelevation improvements. The intent is to provide a consistent superelevation throughout each proposed curve and smooth transitions into and out of each curve. Once the elevation changes along the edges of pavement for each proposed curve are determined and prior to starting paving operations, verify the proposed roadside re-grading corresponding to each curve can be constructed so that the new roadside will be flush with the new edges of pavement and the new toe of slope, or top of cut, will remain within the Right-of-Way, or within the general area noted on any applicable Consent & Releases, and/or not impact a sensitive obstruction. If necessary, and with the approval of the Engineer, reduce the proposed superelevation rate of a curve if the new elevations of the edges of pavement will cause the proposed roadside grading to extend beyond the Right-of-Way, or extend outside of the general area described on any applicable Consent & Releases, and/or impact a sensitive obstruction. Alternatively, with the approval of the Engineer and to the extent allowable by the "Roadside Regrading and Embankment Benching Details" and/or the Special Note for Roadside Regrading, the Contractor may be allowed to adjust the proposed dimensions of the roadside grading so the new toe of slope or top of cut will remain within the Right-of-Way, or within the general area noted on any applicable Consent & Releases, and/or not impact a sensitive obstruction. After the final proposed elevation changes along the edges of pavement for each curve are determined and before paving operations begin, submit to the Engineer and obtain approval for the number of asphalt lifts, each asphalt lift's thickness, and the mix design of each lift of Leveling & Wedging the contractor plans to use to achieve the proposed superelevation improvement. Ensure positive drainage upon completion of the work.
3. Verify the dimensions, type, and quantities of the culvert pipes, entrance pipes, and/or box culverts as listed and detailed in the proposal, and determine flow line elevations and slopes necessary to provide positive drainage. Revise as necessary to accommodate the existing site conditions; to provide proper alignment of the drainage structures with existing and/or proposed ditches, stream channels, swales, and the roadway lines and grades; and to ensure positive drainage upon completion of the work.
4. 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.

5. Produce and furnish to the Engineer "As Built" information for the superelevation improvements and the drainage improvements. For superelevation improvements, as built information will consist of a record of the final pavement cross slopes every 50 feet, for each lane of travel along the curves and the transitions into and out of the curves. Elevation data of the curve improvements is not necessary; simply the cross slope percentage every 50 feet. For the drainage improvements, as built information will consist of a final record of the actual types, sizes, and locations of the drainage structures (i.e. box inlets, headwalls, junction boxes, etc.), culvert pipes, and/or box culverts constructed. Final elevation data of the drainage improvements is not necessary.
6. Prior to incorporating into the work, obtain the Engineers approval of all revisions determined by the Contractor.
7. 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 Shoulder Milling/Trenching

Trench shoulders as shown on the Typical Section. The Engineer may eliminate locations along the route from shoulder trenching (e.g. road approaches, turn lanes, entrances, etc.). For entrances and road approaches, the Engineer will determine whether to omit the trenching or continue the trenching across the entrance or approach. DO NOT trench across entrances or road approaches without the Engineer's approval. If trenching is achieved by means other than milling, saw cut the pavement 4.5 inches deep to create a smooth edge prior to excavating the shoulder trench. Excavate the material from the shoulder and maintain the proposed cross-slope as shown on the Typical Sections. The intent is to mill, or excavate, the entire trench so that the proposed shoulder slope is retained at the end of the paving operation. Reshape and compact excavated material from the trench on the outside edge of the newly paved shoulder as shown on the Typical Section.

Retain possession of excess materials and/or materials the Engineer deems unsuitable for reuse and waste the materials off the right-of-way at sites obtained by the Contractor at no additional cost to the Department. See Special Provision for Waste and Borrow.

Accept payment at the contract unit price per square yard for SHOULDER MILLING/TRENCHING as full compensation for all labor, materials, equipment, and incidentals for excavating the shoulder trench and reuse and/or disposal of the excavated material.

SPECIAL NOTE

For Tree Removal

Franklin County
US-421 Safety-Hazard Elimination Project
Item No. 05-9022.00

NO CLEARING OF TREES 5 INCHES OR GREATER (DIAMETER BREAST HEIGHT) FROM APRIL 1 – OCTOBER 14.

If there are any questions regarding this note, please contact Danny Peake, Director, Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone: (502) 564-7250.

Special Note for Tree, Stump, and Brush Removal

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's Standard Specifications, interim Supplemental Specifications, Standard and Sepia Drawings, and Special Notes and Special Provisions, 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) Site Preparation; (2) Maintaining and controlling traffic; (3) Temporary erosion control and temporary pollution control; (4) Cutting, trimming, and/or removing trees, stumps, and/or brush as specified or directed by the Project Engineer; (5) Treating all cut stumps required by Project Engineer to prevent re-sprouting; (5) Clean up and disposal of waste; (6) Final dressing and seeding and protection; and (7) 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. The Contractor shall maintain and control traffic in accordance with the Traffic Control Plan.

B. Seeding and Protection. Use applicable Seed Mixture as specified per Section 212.03.03.

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

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. The Contractor shall maintain and control traffic in accordance with the Traffic Control Plan.

B. Cutting and/or Removing Trees and/or Stumps. The Contractor shall cut and/or remove the trees and/or stumps as indicated in the Proposal, or as directed by the Engineer. Cut trees as close to the ground as possible; three inches (3”) or less from ground line. All tree stumps within the mowing zone shall be removed via mechanical grinding, or other methods approved by the Engineer, to a minimum depth of four inches (4”) below the surrounding grade line. For trees that are cut but will not be required to have their stump removed, treat the stump, within one hour of cutting, with the herbicide solution specified below.

Replace and level any and all soil disturbed during the tree, stump, and/or brush removal operations. Leave the soil in a condition suitable for seeding that is level with the surrounding soil grade, with no holes or indentions to catch water or present unsafe mowing conditions. This work will be incidental to the bid items “Remove Trees or Stumps.”

NOTE: Tree cutting restrictions apply. See the Special Note for Tree Removal for details on the restrictions.

C. Removal of Tree, Stump, and Brush Debris. The Contractor will remove all debris and biomass from the cutting and/or removal of trees, stumps, and/or brush from the work site and dispose of such off the right-of-way in accordance with local, state, and federal solid waste laws and regulations. Cleanup and remove all existing downed trees and brush located within the designated areas. At the discretion of the Project Engineer, the contractor may be permitted to chip and blow biomass onto non-mowing zones. Chips shall not be blown onto areas that would potentially restrict the flow of water in drainage ditches. All un-chipped biomass must be removed from roadway right-of-ways.

The Contractor shall keep the work zone free of accumulated waste material and debris at all times. Remove and dispose of all tree, stump, and brush chips off the right-of-way. Remove and dispose of all debris and waste material off the right-of-way as work is completed and at the end of each workday. Remove desirable wood pieces from the right-of-way at the end of each workday. Stockpile trees and brush off the right-of-way. At the discretion of the Project Engineer, the Contractor may be permitted to stockpile trees and brush at approved locations along the right-of-way.

The Contractor shall immediately correct any disturbance to all drainage features and structures caused by the Contractor's work.

D. Stump Treatment. Within one hour of cutting, the Contractor shall apply a stump treatment mix consisting of fifty percent (50%) Glyphosate (EPA Reg. No. 524-579) with water and add twelve (12) ounces of Imazapyr (EPA Reg. No. 241-431), as specified, per gallon of solution. The addition of a non-ionic surfactant 5% (v/v) shall be added to the solution to increase uptake of the herbicide solution into the root system. Generic formulations are not acceptable. Mix the herbicide solution in the presence of the Inspector. Include a color indicator in the herbicide solution to mark the treated stumps. Spray or paint the herbicide solution onto all cut stumps within one hour after cutting. Apply the herbicide solution in a manner to avoid drift onto surrounding vegetative ground cover. Stumps in the mowing zone, designated for mechanical grinding treatment, need not receive the herbicide treatment.

Provide herbicide material for the treatment of cut stumps meeting the following criteria:

a. Glyphosate

Active ingredient: (**Glyphosate**)
*Glyphosate, N-(phosphonomethyl)glycine, in the form of its
potassium salt.....48.7%
Inert ingredients 51.3%
Total 100.0%
* Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid, glyphosate.
EPA Reg. No. 524-579

b. Imazapyr

Active ingredient: (**Imazapyr**)
*Isopropylamine salt of Imazapyr 2-[4,5-dihydro-4-methyl-4-(1methylethyl)-5oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid) 26.7%
Inert ingredients 73.3%
Total 100%
* Equivalent to 21.8 percent 2-[4,5-dihydro-4-methyl-4-(1methylethyl)-5oxo-1H-imidazolyl]-3-pyridinecarboxylic acid or 2 pounds acid per gallon.
EPA Reg. No. 241-431

KRS 217B requires that any individual who applies pesticides to Kentucky Highway Right-of-Way areas must be certified as a Pesticide Applicator under Category 6 guidelines. Comply with all current laws and regulations established by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and by KRS 217B that regulate the handling, use, and application of pesticides.

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

F. Coordination with Utility Companies. NOTICE: Utility locations shown in the plans are approximate and have not been specifically located by the Department. Locate all underground, above ground and overhead utilities prior to beginning construction. The Contractor shall have the responsibility 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 Utility Owner while they relocate their facilities. The Contractor shall be responsible for repairing all utility damage that occurs as a result of his/her operations.

G. Right-of-Way Limits. The exact limits of the Right-of-Way have not been established by the Department. The Contractor shall limit his/her activities to the obvious Right-of-Way, permanent or temporary easements, and any work areas secured by consent and release of the adjacent property owners. The Contractor shall be responsible for all encroachments onto private lands.

H. Clean Up, Disposal of Waste. Clean up and dispose of all removed debris by the end of each workday, 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 clean up or disposal of waste and debris from the project. See the Special Provision for Waste and Borrow Sites.

I. Final Dressing, Seeding and Protection. Apply final dressing, class A to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the appropriate Seed Mixture as specified in Section 212.03.03.

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

IV. METHOD OF MEASUREMENT

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

B. Site preparation. Other than the bid items listed, site preparation will NOT be measured for payment, but shall be incidental to the project bid items.

C. Remove Trees or Stumps. The Department will measure the quantity as EACH tree and/or stump removed. Trees and/or stumps to be measured under this bid item are only those trees and/or stumps indicated on the Plans or in the Proposal, or as directed by the Engineer.

D. Stump Treatment. The Department will NOT measure for payment the operation of Stump Treatment. This activity shall be incidental to the bid item "Remove Trees or Stumps".

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

F. Final Dressing, Seeding and Protection. The Department will NOT measure for payment the operations of Final Dressing. 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 the Traffic Control Plan.

B. Remove Trees or Stumps. The Department will make payment for the completed and accepted quantities of EACH tree and/or stump removed. The Department will consider payment at the contract unit price as full compensation for furnishing all materials, equipment, labor, other expenses, and all incidentals necessary to complete the work of removing the trees and/or stumps.

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

Special Note for Pipe Replacements and Extensions

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's Standard Specifications, interim Supplemental Specifications, Standard and Sepia Drawings, and Special Notes and Special Provisions, 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) Constructing pipe replacements and/or pipe extensions; (3) Embankment and/or Excavation; (4) Erosion Control; and (6) Any other work as specified by this contract.

II. MATERIALS

Provide for sampling and testing of all materials in accordance with the Department's Sampling Manual. Make materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these notes.

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

B. Culvert Pipe. Furnish pipe meeting the requirements of Section 810. Select pipe for pH range Medium and minimum fill cover height according to the applicable Standard or Sepia Drawings, current editions. Verify maximum and minimum fill cover height required for new pipe prior to construction and obtain the Engineer’s approval of the class or gauge of pipe and type of coating prior to delivering pipe to project. Furnish approved connecting bands or pipe anchors and toe walls.

C. Flowable Fill. Furnish Flowable Fill for Pipe Backfill per Section 601.03.03(B).

D. Erosion Control. See Special Note for Erosion Control.

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, saw cutting and removing existing pavement; clearing and grubbing; staking; incidental excavation and backfilling; common and solid rock excavation; embankment in place; removal of obstructions, or any other items; restoration of pavements, slopes, and all disturbed areas; final dressing and cleanup; and disposal of materials. Limit clearing and grubbing to the absolute minimum required to construct the drainage features. Perform all site preparation only as approved or directed by the Engineer.

D. Removing Headwalls, Pipe, and Excavation. Remove existing headwalls and lengths of culvert

and/or entrance pipes at the approximate locations noted on the summary. The Engineer will determine the exact locations and lengths of pipe to be removed at the time of construction. When any portion of pipe under the roadway, saw cut the existing asphalt pavement and base to a neat edge prior to excavation and removal of the existing pipe. NOTE: Saw cutting the pavement shall be incidental. Obtain the Engineer's approval of trench width and/or saw cutting limits prior to saw cutting the pavement. Excavate the trench and remove the pipe as directed, or approved, by the Engineer without disturbing existing underground utilities.

E. Constructing Pipe, Headwalls, and Drainage Boxes. Construct culvert and/or entrance pipes, pipe extensions, headwalls, drainage boxes, and other drainage structures at the locations shown in the proposal or as designated by the Engineer. The Contractor will establish, with the approval of the Engineer, the final centerlines, flow lines, and skews to obtain the best fit with the existing and/or proposed ditches and other proposed improvements. (See the Special Note for Staking.) Construct pipe bedding according to Section 701 and the applicable Standard or Sepia Drawings, current editions. Use approved connecting bands or concrete anchors as required. Prior to backfilling pipe, obtain the Engineer's approval of the pipe installation. Provide positive drainage upon completion of pipe installation.

F. Pipe Backfill. Backfill entrance pipes according to Section 701.03.06. Contrary to Section 701.03.06, regardless of cover height, backfill culvert pipes with flowable fill as shown on the Culvert Pipe Replacement Detail from the outside edge of shoulder or back of curb to outside edge of shoulder or back of curb. Steel plates will likely be required to maintain traffic while the flowable fill cures. Once the flowable fill has sufficiently cured, place the Asphalt Base in lifts with thicknesses of 3-4 inches, up to the surface of the existing pavement. Seal with Leveling & Wedging. Allow the asphalt base and leveling & wedging to be exposed to traffic for a minimum of 14 days to allow for settlement. During the waiting period, level & wedge any settlement as directed by the Engineer. After the waiting period has been met for the last pipe replacement constructed, the final milling and/or surfacing operations can begin, unless directed otherwise by the Engineer. For culvert pipe beyond the outside edge of shoulder or back of curb, backfill according to Section 701.03.06.

G. Embankments. Backfill pipe and culvert extensions, and construct shoulder embankments as directed by the Engineer. The Contractor shall bench into the existing slope and apply proper compaction according to Section 206. For more information and details on benching, refer to Note 2 on the detail sheet titled: ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS, found elsewhere in the Proposal. Provide positive drainage of ditches, shoulders, and slopes at all times during and upon completion of construction.

H. Property Damage. Be responsible for all damage to public and/or private property resulting from the work. Repair or replace damaged roadway features in like kind materials and design, as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.

I. Coordination with Utility Companies. Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or

underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs as a result of pipe replacement and pipe extension 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.

J. 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.

K. Clean Up, Disposal of Waste. Clean up the project area as work progresses. Dispose of all removed concrete, pipe, pavement, debris, excess and unsuitable excavation, and all 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.

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 the Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

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

B. Site Preparation. Other than the bid items listed, site preparation will NOT be measured for payment, but shall be incidental to culvert and/or entrance pipe bid items, as applicable.

C. Remove Headwall. The Department will measure the removal of existing headwalls as Each. Any excavation, including rock excavation, necessary to remove existing headwalls will NOT be measured for payment, but shall be incidental to the bid item "Remove Headwall".

D. Remove Pipe. Removal of existing culvert and entrance pipe shall be measured according to Section

701.04.14. Any excavation, including rock excavation, necessary to remove existing pipe will NOT be measured for payment, but shall be incidental to the bid item "Remove Pipe".

E. Culvert and Entrance Pipe. The Department will measure the quantities according to Section 701.04. Any excavation, including rock excavation, necessary to install culvert or entrance pipe shall be incidental to the corresponding pipe bid items.

F. Headwalls, Drainage Boxes. The Department will measure according to Section 710. Any excavation, including rock excavation, necessary to construct headwalls and/or drainage boxes will NOT be measured for payment, but shall be incidental to the applicable bid item.

G. Excavation, Pipe Backfill, Embankments. The Department will NOT measure for payment the following items: any excavation, including rock excavation, necessary to remove the existing pipe and/or install the proposed culvert or entrance pipe, pipe backfill material, geotextile fabric, flowable fill, and re-constructing shoulder embankments, but shall considered these items incidental to the bid items for culvert and entrance pipe.

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 to the project bid items. Seeding and Protection shall be measured according to Section 212.

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

V. BASIS OF PAYMENT

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

B. Remove Headwall. The Department will make payment for the completed and accepted quantities of Each headwall removed. Payment at the Contract unit price per Each shall be full compensation for furnishing all labor, materials, equipment, and incidentals for removing the existing headwall.

C. Remove Pipe. The Department will make payment according to Section 701.05. Payment at the Contract unit price per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals for removing the existing pipe.

D. Culvert and Entrance Pipe. The Department will make payment according to Section 701.05. Payment at the Contract unit price per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals necessary for installing and backfilling new culvert and entrance pipe.

E. Headwalls, Drainage Boxes. The Department will make payment according to Section 710.

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

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

The final advisory speeds and some sign types will have to be determined after the curve superelevation improvements and final surfacing operations have been completed. The Contractor shall notify the Engineer and District Traffic Engineer when all of the superelevation improvements and surfacing operations have been completed. Once notified, the District Traffic Engineer will ball-bank the newly surfaced curves to determine the appropriate advisory speeds and work with the Contractor to determine the final Signing Plan. The Engineer and/or District Traffic Engineer will provide the Contractor with the final advisory speeds, any changes to proposed sign types, and the final quantities within three (3) weeks of being notified by the Contractor that final surfacing operations are complete. After the Contractor has received this information from the Engineer and/or the District Traffic Engineer, the Contractor shall then proceed to layout and stake the signing according to the Special Note for Staking, included elsewhere in this Proposal.

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 NOTES FOR COMPLETION DATES & LIQUIDATED DAMAGES

The ultimate fixed completion date for this project will be October 31, 2023. Liquidated Damages for failure to complete the project on time will be assessed following Section 108.09.

In addition to the requirements of Section 108.09, the Department will assess Liquidated Damages in the amount of **$1,000** per hour for each hour, or fraction of an hour, for any and all road closures that are in place beyond the time frame(s) noted in the Traffic Control Plan and approved by the Engineer.

Trees and/or bushes that are 5 inches or greater (diameter at breast height) shall not be cut or trimmed between April 1st to October 14th. Any trees and/or bushes that are cut or trimmed between April 1st to October 14th will NOT receive payment at the contract unit price. Furthermore, failure to adhere to these restrictions shall result in Liquidated Damages in the amount of **$360** per affected tree. Activities that are a part of this contract that do not involve the initial trimming and/or cutting of trees and/or bushes will be permitted under the ultimate fixed completion date.

Contrary to Section 108.09, Liquidated Damages will be assessed for the months of December through March.

Contrary to Section 108.09, Liquidated Damages will be assessed regardless of whether seasonal limitations prohibit the Contractor from performing work on the controlling operation.

All liquidated damages will be applied accumulatively.

All other applicable portions of Section 108 apply.

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

SPECIAL NOTE FOR NON-TRACKING TACK COAT

1. DESCRIPTION AND USEAGE. This specification covers the requirements and practices for applying a non-tracking tack asphalt coating. Place this material on the existing pavement course, prior to placement of a new asphalt pavement layer. Use when expedited paving is necessary or when asphalt tracking would negatively impact the surrounding area. This material is not suitable for other uses. Ensure material can "break" within 15 minutes under conditions listed in 3.2.

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Non-Tracking Tack. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide a tack conforming to the following material requirements:

Property	Specification	Test Procedure
Viscosity, SFS, 77 ˚ F	20 – 100	AASHTO T 72
Sieve, %	0.3 max.	AASHTO T 59
Asphalt Residue[1], %	50 min.	AASHTO T 59
Oil Distillate, %	1.0 max.	AASHTO T 59
Residue Penetration, 77 ˚ F	0 - 30	AASHTO T 49
Original Dynamic Shear (G*/sin δ), 82 ˚ C	1.0 min.	AASHTO T 315
Softening Point, ˚ F	149 min.	AASHTO T 53
Solubility, %	97.5 min.	AASHTO T 44

[1] Bring sample to 212 ˚F over a 10-15 minute period. Maintain 212 ˚F for 15-20 minutes or until 30-40 mL of water has distilled. Continue distillation as specified in T59.

2.2. Equipment. Provide a distributor truck capable of heating, circulating, and spraying the tack between 170 ˚F and 180 ˚F. Do not exceed 180 ˚F. Circulate the material while heating. Provide the correct nozzles that is recommend by the producer to ensure proper coverage of tack is obtained. Ensure the bar can be raised to between 14" and 18" from the roadway.

2.3. Personnel. Ensure the tack supplier has provided training to the contractor on the installation procedures for this product. Make a technical representative from the supplier available at the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the non-tracking tack, ensure the pavement surface is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the surface by scraping, sweeping, and the use of compressed air. Ensure this preparation process occurs shortly before application to prevent the return of debris on to the pavement. If rain is expected within one hour after application, do not apply material. Apply material only when the surface is dry, and no precipitation is expected.

3.2 Non-tracking Tack Application. Placement of non-tracking tack is not permitted from October 1st to May 15th. When applying material, ensure the roadway temperature is a minimum of 40˚F and rising. Prior to application, demonstrate competence in applying the tack according to this note to the satisfaction of the Engineer. Heat the tack in the distributor to between 170 – 180 ˚F. After the initial heating, between 170 – 180 ˚F, the material may be sprayed between 165 ˚F and 180 ˚F. Do not apply outside this temperature range. Apply material at a minimum rate of 0.70 pounds (0.08 gallons) per square yard. Ensure full coverage of the material on the pavement surface. Full coverage of this material is critical. Increase material application rate if needed to achieve full coverage. Schedule the work so that, at the end of the day's production, all non-tracking tack is covered with the asphalt mixture. If for some reason the non-tracking tack cannot be covered by an asphalt mixture, ensure the non-tracking tack material is clean and reapply the non-tracking tack prior to placing the asphalt mixture. Do not heat material more than twice in one day.

3.3 Non-tracking Tack Certification. Furnish the tack certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a sample of non-tracking tack be taken from the distributor at a rate of one sample per 15,000 tons of mix. Take two 1 gallon samples of the heated material and forward the sample to the Division of Materials for testing within 7 days. Ensure the product temperature is between 170 and 180 °F at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of non-tracking tack in tons. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of non-tracking tack, the cleaning of the pavement surface, or furnishing and placing the non-tracking tack. The Department will consider all such items incidental to the non-tracking tack.

5. PAYMENT. The Department will pay for the non-tracking tack at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. Non-tracking tack will not be permitted for use from October 1st to May 15th. During this timeframe, the department will allow the use of an approved asphalt emulsion in lieu of a non-tracking tack product but will not adjust the unit bid price of the material. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

Non-Tracking Tack Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Viscosity, SFS, 77 ˚ F	20 – 100	19 - 102	17 - 18 103 - 105	15 - 16 106 - 107	14 108 - 109	≤13 ≥ 110
Sieve, %	0.30 max.	≤ 0.40	0.41 - 0.50	0.51 - 0.60	0.61 - 0.70	≥ 0.71
Asphalt Residue, %	50 min.	≥49.0	48.5 – 48.9	48.0 – 48.4	47.5-47.9	≤ 47.4
Oil Distillate, %	1.0 max.	≤1.0	1.1-1.5	1.6 - 1.7	1.8-1.9	>2.0
Residue Penetration, 77 ° F.	30 max.	≤ 31	32 - 33	34 - 35	36 - 37	≥ 38
Original Dynamic Shear (G*/sin δ), 82 ˚ C	1.0 min.	≥0.95	0.92 – 0.94	0.90 – 0.91	0.85 - 0.89	≤ 0.84
Softening Point, º F	149 min.	≥145	142 - 144	140 - 141	138 - 139	≤ 137
Solubility, %	97.5 min.	≥ 97.0	96.8 – 96.9	96.6 – 96.7	96.4 – 96.5	≤ 96.3

Code	Pay Item	Pay Unit
24970EC	Asphalt Material for Tack Non-Tracking	Ton

Revised: May 23, 2022

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 DOUBLE ASPHALT SEAL COAT

Use RS-2 or RS-2C asphalt material that is compatible with the seal aggregate. Apply the first course of asphalt seal coat at the rate of 3.2 lbs/sy of asphalt and 30 lbs/sy of size #78 seal coat aggregate. Apply the second course at 2.8 lbs/sy of asphaltt and 20 lbs/sy of size #9M seal coat aggregate. The Engineer may adjust the rate of application as conditions warrant. Use caution in applying liquid asphalt material to avoid over spray getting on curbs, gutter, barrier walls, bridges, guardrail, and other roadway appurtenances.

The Department will not measure any surface preparation required prior to applying the asphalt seal coat, but shall be incidental to “Asphalt Material for Asphalt Seal Coat”.

1-3215 Double Asphalt Seal Coat
01/02/2012

Special Note 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 the quantity of Extra Length Post (9 foot length, steel, no alternates) shown in the proposal. Furnish Bridge Guardrail (Case I, I-A, I-B, or II, as applicable) according to the detail drawings included elsewhere in the proposal. Furnish Guardrail – Steel W Beam – Single Face A according to Standard Drawing BHS-007, current edition, except use steel posts only, no alternates.

C. Precast Concrete Bridge Rail Block. When listed as a bid item, furnish precast concrete bridge rail blocks, manufactured with Class A Concrete and Steel Reinforcement (grade #40, #50, or #60), according to the Precast Concrete Bridge Rail Block detail drawing.

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

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

F. 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; bridge handrail and/or existing bridge guardrail, when specified in the summary; 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. Site Preparation (Embed Existing Guardrail Post). Existing guardrail posts in areas of proposed extra length guardrail as defined in the proposal shall be driven into the ground until flush with or below the final surface. If unable to drive existing post until flush with final surface, the remaining length exposed shall be cut flush with the existing surface. Perform all site preparation (embed existing guardrail post) as approved or directed by the engineer.

D. 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 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.

Erect the Bridge Guardrail according to the detail drawings. Erect Guardrail – Single Face A on all four corners of the bridge(s) according to Standard Drawing BHS-007, current edition.

E. Precast Concrete Bridge Rail Block. Excavate, fill and compact as needed to set the block according to the detail sheets. Unless otherwise directed by the Engineer, set the blocks on all four corners of the bridge.

F. 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.

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

H. 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.

I. 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.

J. 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.

K. 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.

L. 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.

M. 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. Site Preparation (Embed Existing Guardrail Post). When specified in the proposal, the Department

will measure the embedment of an existing guardrail post in individual units, Each.

D. Guardrail, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail. The Department will measure according to Section 719.04.

E. Remove Concrete Masonry. When specified in the proposal, the Department will measure the removal of the existing concrete bridge parapet wall in cubic yards.

F. Remove Bridge Handrail. When specified in the proposal, the Department will measure the removal of the existing aluminum bridge handrail in linear feet.

G. Remove Bridge Guardrail. When specified in the proposal, the Department will measure the quantity of bridge guardrail removed in linear feet, along the face of the rail.

H. Bridge Guardrail Case I, I-A, I-B, II. The Department will measure Bridge Guardrail of each type in linear feet along the face of the rail and between the limits of the Guardrail – Single Face A.

I. Guardrail – Steel W Beam – Single Face A. See Standard Drawing BHS-007, current edition.

J. Precast Concrete Bridge Rail Block. The Department will measure the Precast Concrete Bridge Rail Block quantity in individual units, Each.

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

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

M. 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.

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

V. BASIS OF PAYMENT

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

B. Site preparation (Embed Existing Guardrail Post). Payment at the Contract unit price per Each shall be full compensation for all labor, equipment, materials, and incidentals necessary to embed existing guardrail post according to the detail drawing and these notes.

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

D. Remove Concrete Masonry. Payment at the Contract unit price per cubic yard shall be full compensation for all labor, equipment, materials, and incidentals necessary to remove the existing concrete bridge parapet wall.

E. Remove Bridge Handrail. Payment at the Contract unit price per linear foot shall be full compensation for all labor, equipment, materials, and incidentals necessary to remove the existing aluminum bridge handrail.

F. Remove Bridge Guardrail. Payment at the Contract unit price per linear foot shall be full compensation for all labor, equipment, materials, and incidentals necessary to remove the existing bridge guardrail.

G. Bridge Guardrail Case I, I-A, I-B, II. Payment at the Contract unit price per linear foot shall be full compensation for all labor, equipment, materials, and incidentals necessary to construct the applicable Case(s) of Bridge Guardrail according to the detail drawings and these notes.

H. Guardrail – Steel W Beam – Single Face A. Payment at the Contract unit price per linear foot shall be full compensation for all labor, equipment, materials, and incidentals necessary to construct the Guardrail – Single Face A according to Standard Drawing BHS-007, current edition, and these notes.

I. Precast Concrete Bridge Rail Block. Payment at the Contract unit price per Each shall be full compensation for all labor, equipment, materials, and incidentals necessary to install the Precast Concrete Bridge Rail Block(s) according to the detail drawings and these notes.

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

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

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

SPECIAL NOTE FOR
ASPHALT MILLING AND TEXTURING

Begin paving operations within **48 hours** of commencement of the milling operation. Continue paving operations continuously until completed. If paving operations are not begun within this time period, the Department will assess liquidated damages at the rate prescribed by Section 108.09 until such time as paving operations are begun.

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

1-3520 48 hours Contractor keeps millings
01/2/2012

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 20 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 12 inches of Crushed Limestone Size No. 23, wrapped on the bottom and sides in Class 2 Geotextile Fabric, and 8 inches of Class 2 Asphalt Base 1.00D PG64-22, in 4 inch maximum thickness 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

The US 421 improvements begin near Clifty Drive and end near Dry Ridge Road/Flat Creek Road; the approximate length of the project is 5.833 miles. The proposed improvements include the following:

- Roadway side slope and ditch reconstruction and maintenance
- Base failure pavement repair and shoulder pavement repair
- Modification to superelevation
- Cribbing (railroad rail, guardrail and modular concrete block)
- Removal, embedment, and replacement of guardrail
- Removal and replacement of existing signs and placement of new signs
- Tree removal

To maintain and control traffic while constructing these improvements, the Contractor shall adhere to KYTC standard drawing TTC-100, which utilizes 2 flaggers, one in each direction, to direct the movement of traffic around the work zone. Some of the proposed improvements will affect both sides of the roadway. This work will be done on one side of the roadway, and then the lane closure and traffic control will be flipped to the opposite side of the roadway to complete the work. This will require part-width construction of certain elements. 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.

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

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

At the discretion of the Engineer, additional days and hours may be specified when lane closures will not be allowed. The Contractor shall submit proposed lane closure days and times to the Engineer at least 14 calendar days in advance for approval. Liquidated Damages will be assessed for each hour or fraction of an hour that a lane closure is in place outside of an approved time period. See the Special Notes for Completion Dates & Liquidated Damages for details on the Liquidated Damages amount.

LANE CLOSURES

Do not leave lane closures in place during prohibited periods, nor during non-working hours, unless otherwise approved by the Engineer. Contrary to Section 112.04.17, long-term lane closures will not be measured for payment, but shall be incidental to Maintain and Control Traffic.

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 in advance of and within the project at locations determined by the Engineer. If work is in progress concurrently in both directions or if more than one lane closure is in place in the same direction of travel, provide additional changeable message signs as directed by the Engineer. Place changeable message signs approximately one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens, relocate or provide additional changeable message signs so that traffic has warning of slowed or stopped traffic at least one mile but not more than two miles before reaching the end of the actual queue. The 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. If the damage or mechanical/electrical failure is identified during active work operations, repair or replace the Changeable Message Sign within 6 hours. If the damage or mechanical/electrical failure is identified when there are no active work operations on the project, repair or replace the Changeable Message Sign within 12 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/or 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.

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.

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

The Department will measure asphalt materials required to construct and maintain any temporary entrances which may be necessary to provide temporary access; however, the Department will not measure aggregates, excavation, and/or embankment, but shall be incidental to Maintain and Control Traffic. The Engineer will determine the type of surfacing material, asphalt or aggregate, to be used at each entrance.

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	CRASH AHEAD/ USE ACCS RD NEXT RIGHT
Alternate	ALT	CRASH 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	CRASH ON AA HWY/ EXPECT DELAYS
Hour	HR	CRASH 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	CRASH 3 MI AHEAD/ USE ALT RTE
Minor	MNR	CRASH 3 MI MNR DELAY
Minutes	MIN	CRASH 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	CRASH 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 NOT 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
CRASH AHEAD	ALL TRAFFIC EXIT RT
CRASH/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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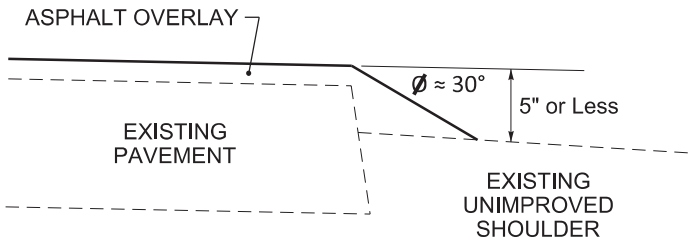
Typical Messages (cont.)

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	

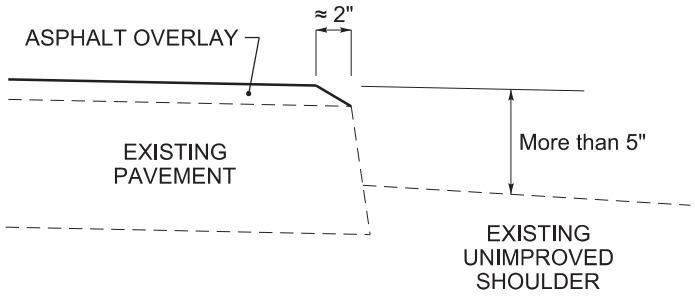
DURABLE PAVEMENT EDGE DETAIL

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



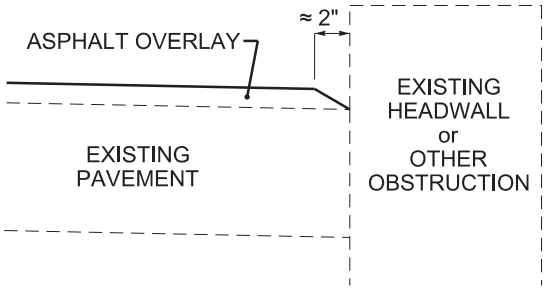
DURABLE PAVEMENT EDGE DETAIL

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



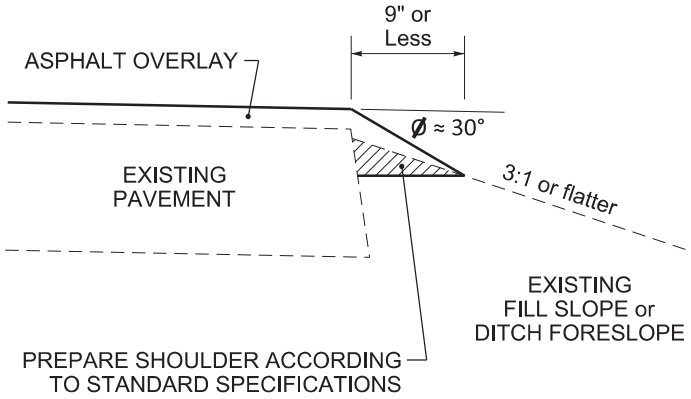
DURABLE PAVEMENT EDGE DETAIL

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



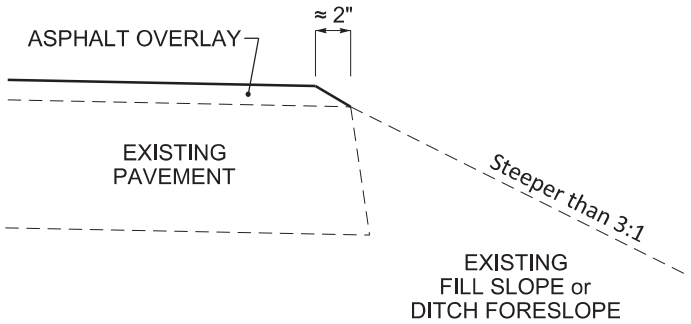
DURABLE PAVEMENT EDGE DETAIL

(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)**
5-9022.00	Franklin	12F0 FD52 037 1075401R	HSIP 4201 (087)

PROJECT DESCRIPTION

Perform low-cost safety improvements on US 421 from MP 5.315 to MP 11.132 in Franklin County.

☒ **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	
Signature		Signature	Tom Boykin Digitally signed by Tom Boykin Date: 2022.08.22 14:37:12 -04'00'
Date		Date	

Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature	Digitally signed by Kelly Divine Date: 2022.08.22 13:59:10 -05'00'	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date		Date	

UTILITIES AND RAIL CERTIFICATION NOTE

Franklin County
FD04 037 0421 005-012
Safety Improvements on US 421 from MP 5.315-11.132
Item No. 5-9022.00

GENERAL PROJECT NOTE ON UTILITY PROTECTION

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

Franklin County
FD04 037 0421 005-012
Safety Improvements on US 421 from MP 5.315-11.132
Item No. 5-9022.00

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

Water

- North Shelby Water District has 10" SDR 21 PVC water transmission main that runs parallel to US 421 from Frankfort to north of Country Pride Market & Diner near Sta. 356+50 and crosses US 421 and heads west; it does not cross US 421 at any other location in the project. There is a 4" PVC main running along the east side of US 421 from where the 10" crosses to the end of the project. Contractor is to meet with representative of water company before construction to identify locations of their facilities.

Electric

- There are overhead power poles on both sides of the roadway along the project corridor; owner is Frankfort Plant Board. No impacts are anticipated, and contractor is to use caution when working near existing electric facilities.

Telecommunications

- AT&T and Frankfort Plant Board both have facilities along the corridor and no impacts are anticipated. Contractor is to use caution when working near existing facilities.

Sanitary

- No public sanitary sewers, all lines are private.

Gas

- There are no known gas facilities present within the project limits.

The Contractor is fully responsible for protection of all utilities listed above and is to use extreme caution when working near them

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

UTILITIES AND RAIL CERTIFICATION NOTE

Franklin County
FD04 037 0421 005-012
Safety Improvements on US 421 from MP 5.315-11.132
Item No. 5-9022.00

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

☒ **No Rail Involved** ☐ **Minimal Rail Involved (See Below)** ☐ **Rail Involved (See Below)**

AREA UTILITIES CONTACT LIST

Utility Company/Agency	Contact Name	Contact Information
1. North Shelby Water District	Jeremy Carmack	(502) 747-8942
2. Frankfort Plant Board	Adam Hellard	(502) 352-4551
3. AT&T	Frank Ambrose	(859) 753-8377
4. Spectrum	Ben York	(502) 548-1632

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.

KYTC BMP Plan for Project Item # **5-9022**

Kentucky Transportation Cabinet

Highway District 5

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 Franklin County

Project: Item #5-9022

Revised 3/4/2016

KYTC BMP Plan for Project Item # **5-9022**

Project information

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

1. Owner – Kentucky Transportation Cabinet, District 5
2. Resident Engineer: (2)
3. Contractor name: (2)
   Address: (2)

   Phone number: (2)
   Contact: (2)
   Contractor's 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): 38° 14' 27.5", -84° 55' 03.6"
7. County (project mid-point): Franklin
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KYTC BMP Plan for Project Item # **5-9022**

A. Site description:

1. Nature of Construction Activity (from letting project description): Asphalt Pavement & Roadway Rehab

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

3. Projected volume of material to be moved: *This project does not involve significant cut and fill.*

4. Estimate of total project area (acres): 42.3 Acres

5. Estimate of area to be disturbed (acres): 6.1 Acres

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: Stony Creek, Benson Creek, Kentucky River

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.
     - 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:**

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.

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:

KYTC BMP Plan for Project Item # **5-9022**

_____ 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:

(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 Item # **5-9022**

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. 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.

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.

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

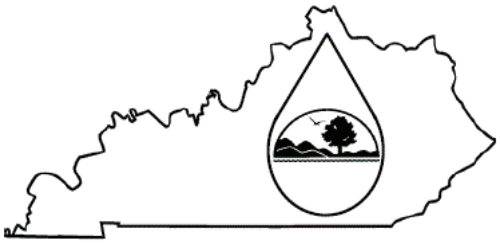
1. Sub-Contractor Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner, or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, 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.

Item No.: 5-9022
Franklin County
Highway Safety Improvement Project along US 421
from MP 5.315 to 11.132

An electronic Notice of Intent (eNOI) for obtaining coverage under the Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) has been drafted, a copy of which is attached. Upon award, the Contractor will be identified in Section III of the form as the "Building Contractor" and the eNOI will be submitted for approval to the Kentucky Division of Water. The Contractor shall be responsible for advancing the work within this contract in a manner that is compliant with all applicable and appropriate KYTC specifications for sediment and erosion control, as well as meeting the requirements of the KYR10 permit and the KDOW.

eForm Submittal ID: 320568

eForm Transaction ID: 7a08a1b0-1224-4710-85fe-3dbae453c346



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.htm)

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 Permit Coverage	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, District 5	Matt	MI	Bullock

Mailing Address:(*)	City:(*)	State:(*)	Zip:(*)
8310 Westport Road	Louisville	Kentucky	40242

eMail Address:(*)	Business Phone:(*)	Alternate Phone:
Matt.Bullock@ky.gov	502-210-5400	Phone

SECTION II -- GENERAL SITE LOCATION INFORMATION

Project Name:(*)	Status of Owner/Operator(*)	SIC Code(*)
Item No. 5-9022	State Government	1611 Highway and Street Cons

Company Name:(✓)	First Name:(✓)	M.I.:	Last Name:(✓)
Company Name	First Name	MI	Last Name

Site Physical Address:(*)
US 421

City:(*)	State:(*)	Zip:(*)
Frankfort	Kentucky	40601

County:(*)	Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal)	Longitude(decimal degrees)(*)
Franklin	38.240966	-84.917672

SECTION III -- SPECIFIC SITE ACTIVITY INFORMATION

Project Description:(*)
Highway Safety Improvement Program consisting of various improvements such as Roadside Regrading, Signing, Roadside Slope Repairs, Guardrail, Tree Trimming, and

a. For single projects provide the following information

Total Number of Acres in Project:(✓)	Total Number of Acres Disturbed:(✓)
42.3	6.1
Anticipated Start Date:(✓)	Anticipated Completion Date:(✓)

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

Discharge Point(s):

	Unnamed Tributary?	Latitude	Longitude	Receiving Water Name	
1	No	38.214690	-84.891543	Benson Creek	Delete
2	No	38.217425	-84.895966	Benson Creek	Delete
3	No	38.217661	-84.896642	Benson Creek	Delete
4	No	38.217685	-84.896832	Benson Creek	Delete
5	No	38.217678	-84.898254	Benson Creek	Delete
6	Yes	38.217830	-84.899006	Kentucky River	Delete
7	No	38.217057	-84.900746	Benson Creek	Delete
8	Yes	38.217096	-84.900882	Kentucky River	Delete
9	Yes	38.216863	-84.903665	Kentucky River	Delete
10	No	38.216938	-84.904661	Benson Creek	Delete

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

Name of MS4:

Date of application/notification to the MS4 for construction site permit coverage:	Discharge Point(s):(*)
Date	

	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?:(*)	Yes

Is a Clean Water Act 401 Water Quality Certification required?:(*)	Yes

SECTION VII -- NOI PREPARER INFORMATION

First Name:(*)	M.I.:	Last Name:(*)	Company Name:(*)
First Name	MI	Last Name	Company Name

Mailing Address:(*)	City:(*)	State:(*)	Zip:(*)
Mailing Address	City		Zip

eMail Address:(*)	Business Phone:(*)	Alternate Phone:
eMail Address	Phone	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:(*)
Signature	Title

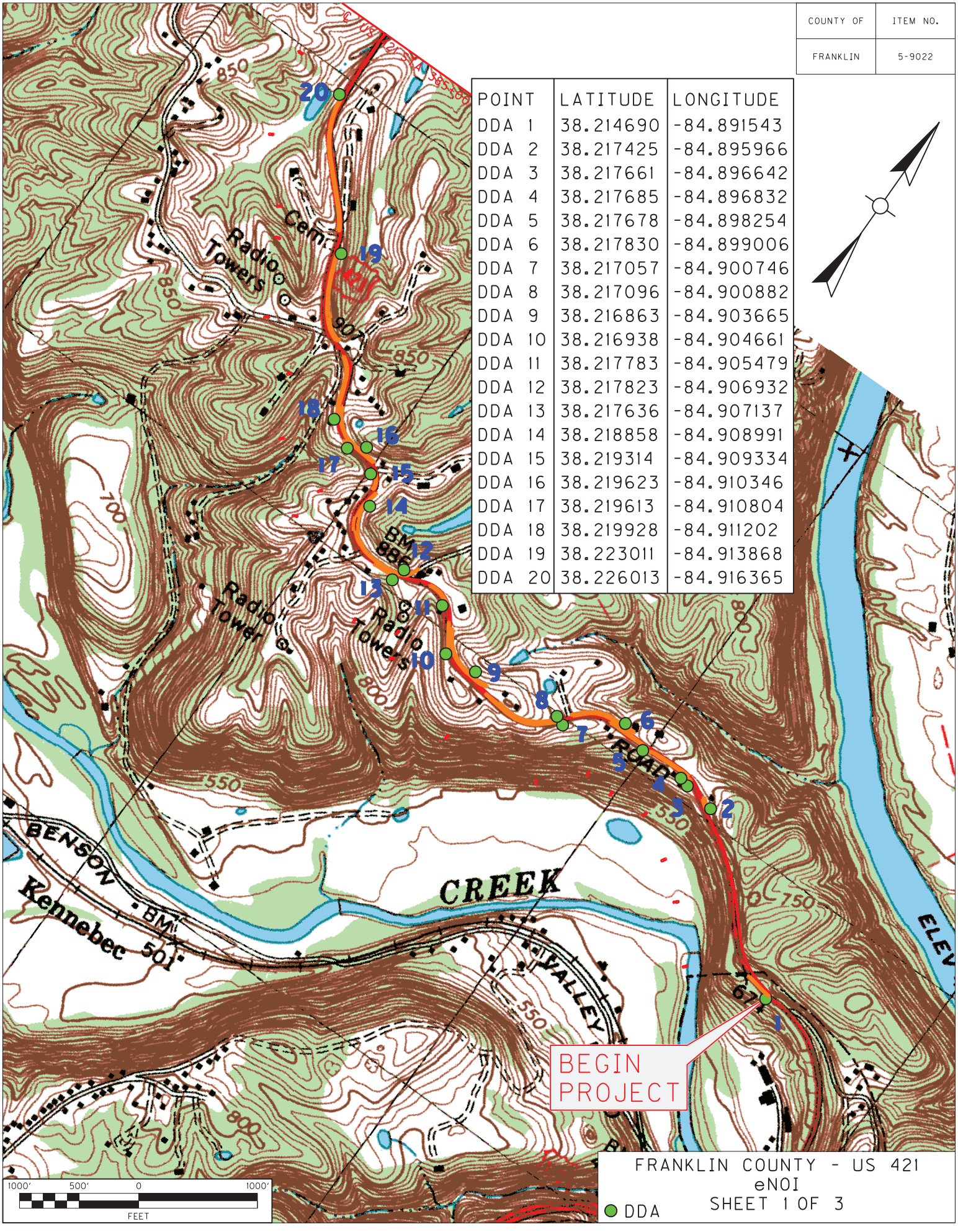
First Name:(*)	M.I.:	Last Name:(*)
First Name	MI	Last Name

eMail Address:(*)	Business Phone:(*)	Alternate Phone:	Signature Date:(*)
eMail Address	Phone	Phone	Date

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

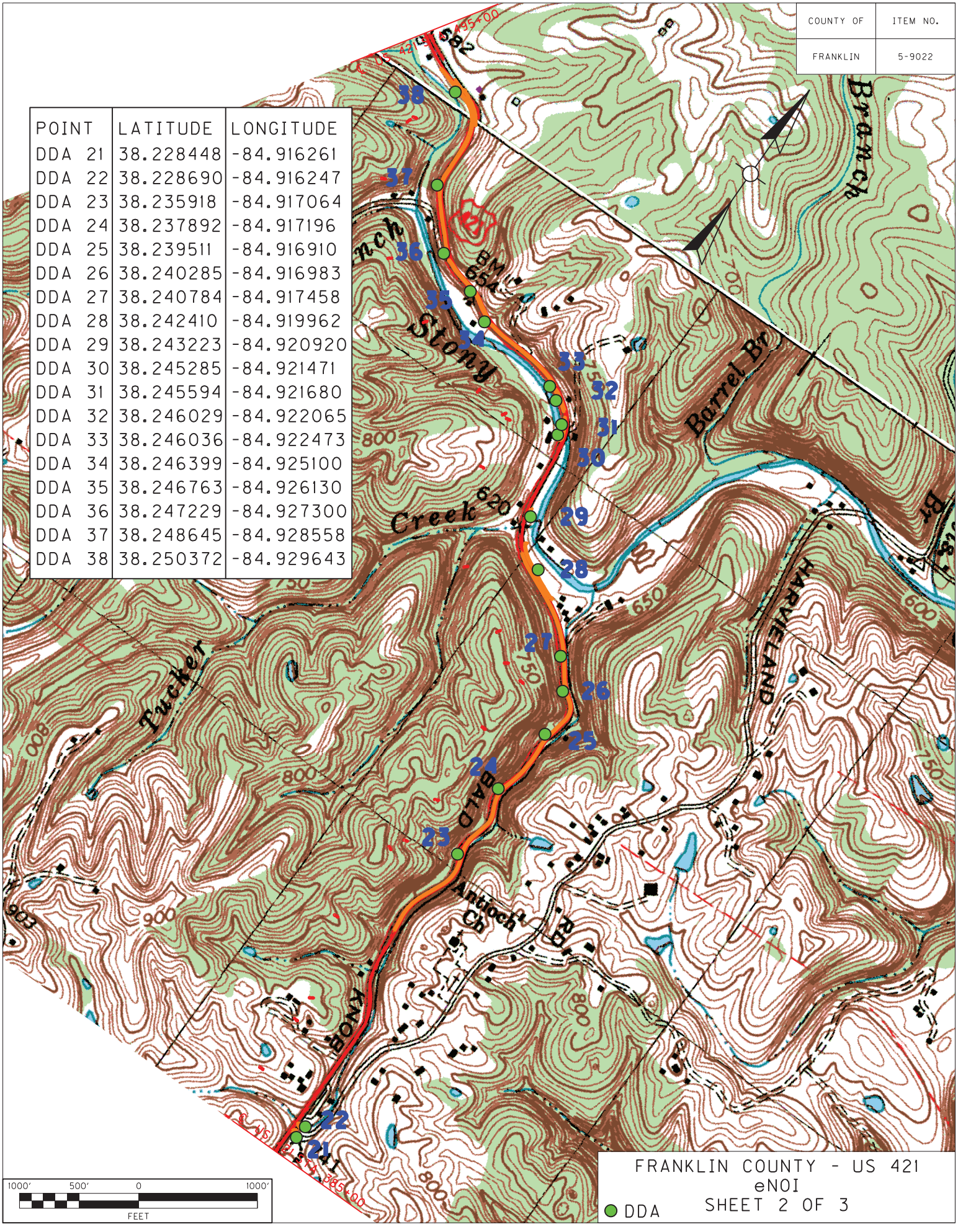
COUNTY OF	ITEM NO.
FRANKLIN	5-9022

POINT	LATITUDE	LONGITUDE
DDA 1	38.214690	-84.891543
DDA 2	38.217425	-84.895966
DDA 3	38.217661	-84.896642
DDA 4	38.217685	-84.896832
DDA 5	38.217678	-84.898254
DDA 6	38.217830	-84.899006
DDA 7	38.217057	-84.900746
DDA 8	38.217096	-84.900882
DDA 9	38.216863	-84.903665
DDA 10	38.216938	-84.904661
DDA 11	38.217783	-84.905479
DDA 12	38.217823	-84.906932
DDA 13	38.217636	-84.907137
DDA 14	38.218858	-84.908991
DDA 15	38.219314	-84.909334
DDA 16	38.219623	-84.910346
DDA 17	38.219613	-84.910804
DDA 18	38.219928	-84.911202
DDA 19	38.223011	-84.913868
DDA 20	38.226013	-84.916365

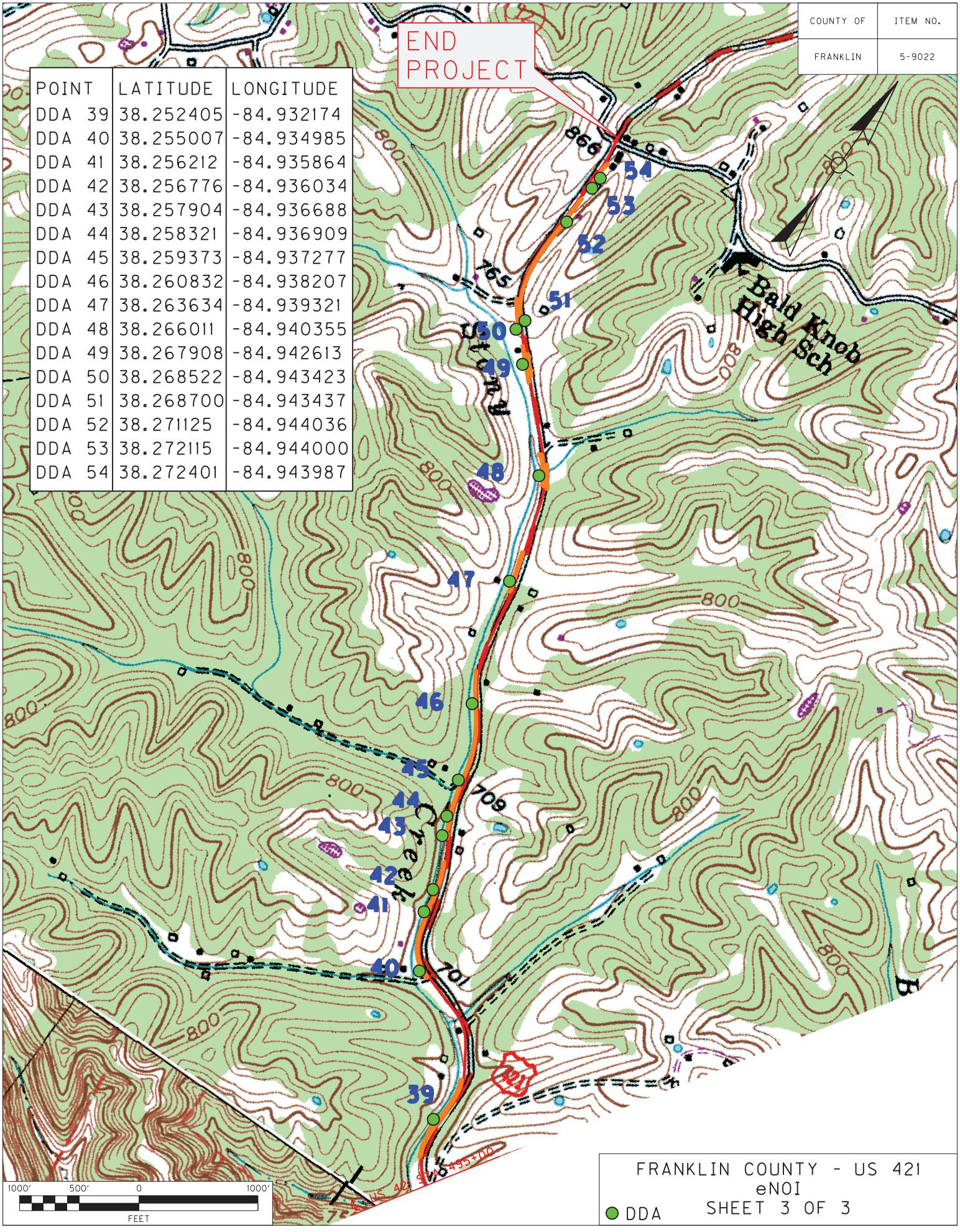


FRANKLIN COUNTY - US 421
eNOI
SHEET 1 OF 3

● DDA

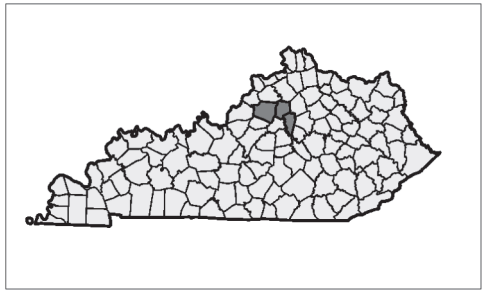


POINT	LATITUDE	LONGITUDE
DDA 21	38.228448	-84.916261
DDA 22	38.228690	-84.916247
DDA 23	38.235918	-84.917064
DDA 24	38.237892	-84.917196
DDA 25	38.239511	-84.916910
DDA 26	38.240285	-84.916983
DDA 27	38.240784	-84.917458
DDA 28	38.242410	-84.919962
DDA 29	38.243223	-84.920920
DDA 30	38.245285	-84.921471
DDA 31	38.245594	-84.921680
DDA 32	38.246029	-84.922065
DDA 33	38.246036	-84.922473
DDA 34	38.246399	-84.925100
DDA 35	38.246763	-84.926130
DDA 36	38.247229	-84.927300
DDA 37	38.248645	-84.928558
DDA 38	38.250372	-84.929643



POINT	LATITUDE	LONGITUDE
DDA 39	38.252405	-84.932174
DDA 40	38.255007	-84.934985
DDA 41	38.256212	-84.935864
DDA 42	38.256776	-84.936034
DDA 43	38.257904	-84.936688
DDA 44	38.258321	-84.936909
DDA 45	38.259373	-84.937277
DDA 46	38.260832	-84.938207
DDA 47	38.263634	-84.939321
DDA 48	38.266011	-84.940355
DDA 49	38.267908	-84.942613
DDA 50	38.268522	-84.943423
DDA 51	38.268700	-84.943437
DDA 52	38.271125	-84.944036
DDA 53	38.272115	-84.944000
DDA 54	38.272401	-84.943987

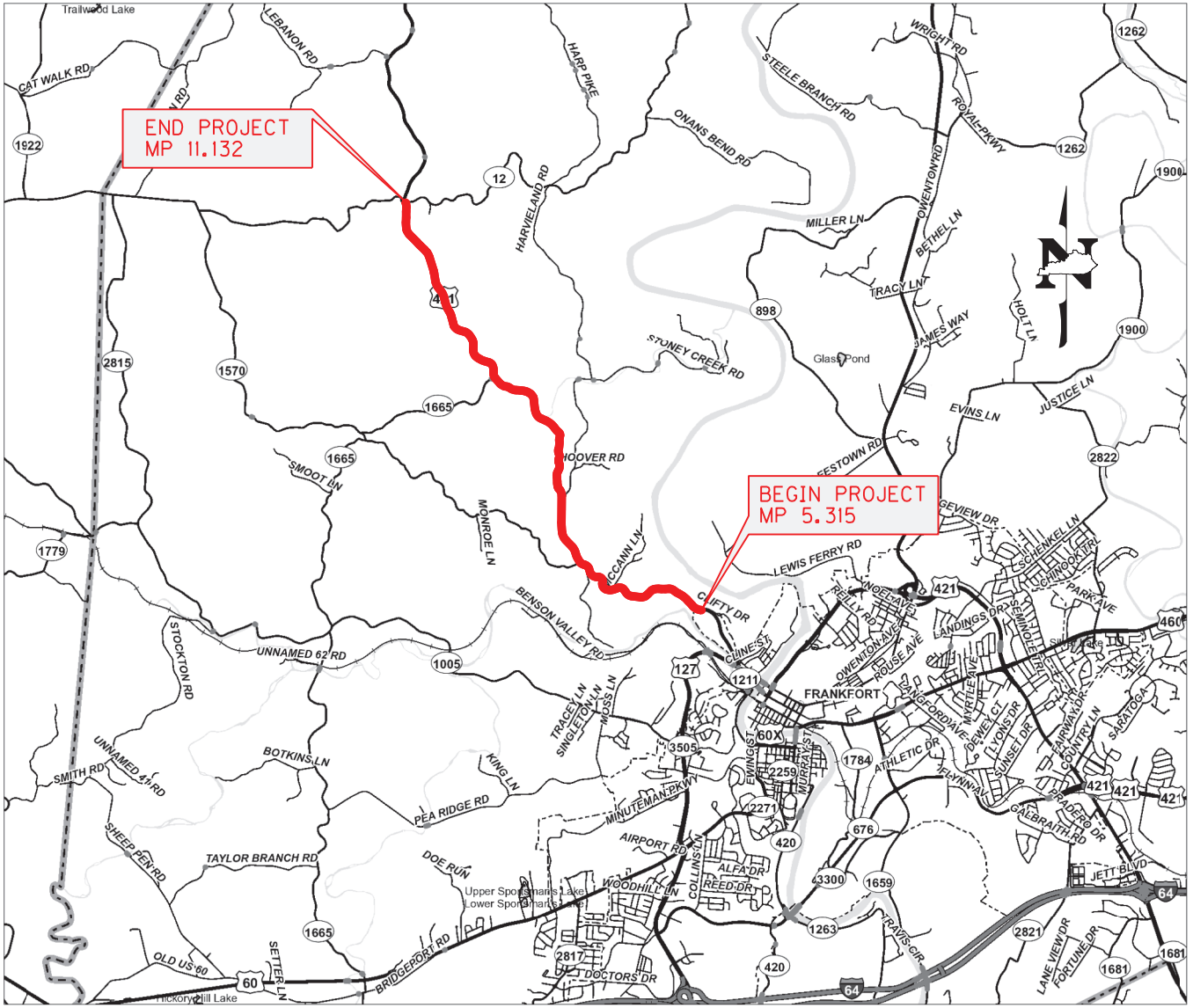
COUNTY OF	ITEM NO.
FRANKLIN	5-9022



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

PLANS OF
PROPOSED PROJECT

FRANKLIN COUNTY
US 421



US 421
GENERAL SUMMARY

COUNTY OF	ITEM NO.	FEDERAL NO.
FRANKLIN	5-9022	

	ITEM	DESCRIPTION	UNIT	TOTAL PROJECT
①	1	DGA BASE	TON	658
	78	CRUSHED AGGREGATE NO. 2	TON	431
②	100	ASPHALT SEAL AGGREGATE	TON	41.21
③	103	ASPHALT SEAL COAT	TON	4.92
	190	LEVELING & WEDGING PG64-22	TON	205
	212	CL2 ASPH BASE 1.00D PG64-22	TON	137
④	301	CL2 ASPH SURFACE 0.38D PG64-22	TON	220
⑤	462	CULVERT PIPE-18 IN	LF	6
	1204	PIPE CULVERT HEADWALL - 18 IN	EACH	1
	1310	REMOVE PIPE	LF	4
	1691	FLUME INLET TYPE 2	EACH	4
	1897	ASPHALT WEDGE CURB	LF	1,165
	1987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	EACH	366
	2187	SITE PREPARATION (EMBED EXISTING GUARDRAIL POST)	EACH	249
	2360	GUARDRAIL TERMINAL SECTION NO 1	EACH	41
	2367	GUARDRAIL END TREATMENT TYPE 1	EACH	5
	2369	GUARDRAIL END TREATMENT TYPE 2A	EACH	2
	2371	GUARDRAIL END TREATMENT TYPE 7	EACH	3
	2381	REMOVE GUARDRAIL	LF	16,850
	2391	GUARDRAIL END TREATMENT TYPE 4A	EACH	25
	2399	EXTRA LENGTH GUARDRAIL POST	EACH	249
	2460	REMOVE TREES OR STUMP	EACH	2
⑥	2483	CHANNEL LINING CLASS II	TON	1,221
	2562	TEMPORARY SIGNS	SQFT	300.00
	2569	DEMOBILIZATION	LS	1
	2603	FABRIC-GEOTEXTILE CLASS 2	SQYD	1,736
	2625	REMOVE HEADWALL	EACH	1
	2650	MAINTAIN & CONTROL TRAFFIC (FRANKLIN US 421)	LS	1
	2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	2
	2676	MOBILIZATION FOR MILL & TEXT	LS	1
⑦	2677	ASPHALT PAVE MILLING & TEXTURING	TON	216

① 174 TONS FROM SHOULDER REPAIR SUMMARY, 10 TONS FROM ROADSIDE REGRADING SUMMARY, 351 TONS FROM GUARDRAIL SUMMARY, 123 TONS FROM CRIBBING SUMMARY.

② 13.40 TONS FROM CRIBBING SUMMARY, 1.00 TONS FROM ROADSIDE REGRADING SUMMARY, 16.41 TONS FROM GUARDRAIL SUMMARY, AND 10.40 TONS FROM SHOULDER REPAIR SUMMARY.

③ 1.59 TONS FROM CRIBBING SUMMARY, 0.12 TONS FROM ROADSIDE REGRADING SUMMARY, 2.01 TONS FROM GUARDRAIL SUMMARY, AND 1.20 TONS FROM SHOULDER REPAIR SUMMARY.

④ 107 TONS FROM SUPERELEVATION IMPROVEMENT SUMMARY, 104 TONS FROM SHOULDER REPAIR SUMMARY AND 9 TONS FROM BASE FAILURE REPAIR SUMMARY.

⑤ PIPE EXTENSION SHALL BE OF IN-KIND MATERIAL.

⑥ 1,091 TONS FROM ROADSIDE REGRADING SUMMARY, 10 TONS FROM SHOULDER REPAIR SUMMARY AND 120 TONS FOR POTENTIAL USE ALONG AREAS AS DIRECTED BY THE ENGINEER.

⑦ 103 TONS FROM SUPERELEVATION IMPROVEMENT SUMMARY, 104 TONS FROM SHOULDER REPAIR SUMMARY AND 9 TONS FROM BASE FAILURE REPAIR SUMMARY.

US 421
GENERAL SUMMARY

COUNTY OF	ITEM NO.	FEDERAL NO.
FRANKLIN	5-9022	

	ITEM	DESCRIPTION	UNIT	TOTAL PROJECT
	2697	EDGELINE RUMBLE STRIPS	LF	2,525
	2701	TEMP SILT FENCE	LF	15,399
	2703	SILT TRAP TYPE A	EACH	6
	2704	SILT TRAP TYPE B	EACH	6
	2705	SILT TRAP TYPE C	EACH	6
	2706	CLEAN SILT TRAP TYPE A	EACH	6
	2707	CLEAN SILT TRAP TYPE B	EACH	6
	2708	CLEAN SILT TRAP TYPE C	EACH	6
	2726	STAKING (FRANKLIN US 421)	LS	1
	3234	RAILROAD RAILS - DRILLED	LF	9,660
	3235	EXCAVATION AND BACKFILL	CUYD	324
	3236	CRIBBING	SQFT	4,230
	3240	BASE FAILURE REPAIR	SQYD	135
	5950	EROSION CONTROL BLANKET	SQYD	10,653
	5952	TEMP MULCH	SQYD	19,684
	5953	TEMP SEEDING AND PROTECTION	SQYD	14,763
	5963	INITIAL FERTILIZER	TON	0.17
	5964	MAINTENANCE FERTILIZER	TON	0.1
	5985	SEEDING AND PROTECTION	SQYD	17,806
	5990	SODDING	SQYD	1,065
	6406	SBM ALUM SHEET SIGNS .080 IN	SQFT	1,884.19
	6407	SBM ALUM SHEET SIGNS .125 IN	SQFT	5.56
	6410	STEEL POST TYPE 1	LF	3,965
⑧	6510	PAVE STRIPING - TEMP PAINT-4 IN	LF	4,760
	6515	PAVE STRIPING - PERM PAINT - 6 IN	LF	123,192
	8805	GUARDRAIL-BRIDGE CASE I	LF	50
	20748ED	SHOULDER MILLING/TRENCHING	SQYD	554
	21373ND	REMOVE SIGN	EACH	89
	21496ED	RETAINING WALL - MODULAR CONCRETE	SQFT	540
	21802EN	GUARDRAIL-STEEL W BEAM-S FACE (7 FT POST)	LF	17,095.0
⑨	21819NN	FITTINGS	EACH	1
	24631EC	BARCODE SIGN INVENTORY	EACH	451
⑩	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	TON	1.6
	26175EC	ROADSIDE REGRADING	LF	4,705

⑧ FOR USE IN MAINTAINING TRAFFIC DURING SUPERELEVATION IMPROVEMENTS. ENGINEER SHALL HAVE FINAL APPROVAL OF LAYOUT PRIOR TO APPLICATION.

⑨ TO BE USED IN CONJUCTION WITH THE PIPE EXTENSION AT RT. STA. 579+27. SEE THE PIPE FITTINGS DETAIL FOR MORE INFORMATION ON THIS ITEM.

⑩ 0.9 TONS FROM SUPERELEVATION IMPROVEMENT SUMMARY, 0.6 TONS FROM SHOULDER REPAIR SUMMARY AND 0.1 TONS FROM BASE FAILURE REPAIR SUMMARY.

FRANKLIN COUNTY - US 421
MP 5.315 TO MP 11.132
ITEM NO. 5-9022
SHOULDER REPAIR & BASE FAILURE REPAIR SUMMARIES

SHOULDER REPAIR SUMMARY

Begin		End		Surface Width (FT)	Surface Depth (IN)	Length (LF)	Asph. Pave. Mill & Text (Tons)	DGA Base (Tons)	Asph. Base (Tons)	Asph. Surface (Tons)	Asphalt Seal Aggregate (Tons)	Asphalt Seal Coat (Tons)	Shoulder Milling & Trenching (SY)	Flume Inlet Type 2 (Ea)	Channel Lining Class II (Tons)	Asphalt Wedge Curb (LF)	Asph. Material for Tack Non-Tracking (Tons)	Edgeline Rumble Strips (LF)	Comments
Mile Point	Station	Mile Point	Station																
6.23	328+70	6.27	331+00	11.0	1.25	230	19	32	25	19	1.9	0.2	102	1	2.5	210	0.1	230	SB Lane
6.31	333+30	6.39	337+50	11.0	1.25	420	35	59	46	35	3.5	0.4	187	1	2.5	400	0.2	420	NB Lane
6.41	338+20	6.48	342+00	11.0	1.25	380	32	53	42	32	3.2	0.4	169	1	2.5	360	0.2	380	NB Lane
6.77	357+55	6.81	359+70	11.0	1.25	215	18	30	24	18	1.8	0.2	96	1	2.5	195	0.1	215	NB Lane
						TOTALS	**104 TONS**	**174 TONS**	**137 TONS**	**104 TONS**	**10.4 TONS**	**1.2 TONS**	**554 SY**	**4 Each**	**10.0 TONS**	**1,165 LF**	**0.6 TONS**	**1,245 LF**	

BASE FAILURE REPAIR SUMMARY

Begin		End		Length (LF)	Width (FT)	Base Failure Repair (SY)	Asph. Pave. Mill & Text (Tons)	Asph. Surface (Tons)	Asph. Material for Tack Non-Tracking (Tons)
Mile Point	Station	Mile Point	Station						
6.43	339+40	6.45	340+50	110	11.00	135	9	9	0.1
					TOTALS	**135 SY**	**9 TONS**	**9 TONS**	**0.1 TONS**

FRANKLIN COUNTY - US 421
MP 5.315 TO MP 11.132
ITEM NO. 5-9022
ROADSIDE REGRADING SUMMARY

Notes:
* The "Figure References" noted below refer to the Figure number within the Roadside Regrading and Embankment Benching 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)	Estimated Excavation Volume** (CU YD)	Estimated Embankment Volume** (CU YD)	Roadside Regrading Detail Sheet Figure Ref.*	Target Fill Slope	Include DGA Wedge? (Yes/No)	DGA (TONS)	Asphalt Seal Coat (TON)	Asphalt Seal Aggregate (TON)	Channel Line Ditch, Fill Slope or Cut Slope? (Yes/No)	Channel Lining Class II (TONS)	Geotex. Fabric Type IV (SQ YD)	Remarks
Side of Road	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint													
RT	297+65	5.637	298+31	5.650	66	17	1	Figure 11	3 : 1	No				Yes - Cut Slope	28		
LT	314+00	5.947	319+50	6.051	550	61	10	Figure 3	2 : 1	No				No			Superelevation Improvements
LT	406+50	7.699	445+00	8.428	3,850	535	71	Figure 11	3 : 1	No				Yes - Cut Slope	963		
RT	486+06	9.206	488+45	9.251	239	27	4	Figure 11	3 : 1	Yes	10	0.12	1.00	Yes - Cut Slope	100		Superelevation Improvements

Summary of Items										
Roadside Regrading	4,705	LF		Asphalt Seal Coat	0.12	TONS		Channel Lining Class II	1,091	TONS
DGA	10	TONS		Asphalt Seal Aggregate	1.00	TONS		Geotextile Fabric Type IV	0	SQ YD

FRANKLIN COUNTY - US 421
MP 5.315 TO MP 11.132
ITEM NO. 5-9022
SUPERELEVATION IMPROVEMENT SUMMARY

Begin Station	End Station	Width of Section (FT)	Length of Section (FT)	Runoff Length (FT)	Runout Length (FT)	Existing Superelevation	Proposed Superelevation	Edgeline Rumble Strips (LF)	CL2 Asph Surf 0.38D PG64-22 (TON)	Leveling and Wedging PG64-22 (TON)	Asphalt Pave Milling & Text (TON)	Comments
314+00	319+50	22	550	204	51	4.3% - 6.4%	8.0% Rt.	1,100	92	187	89	Both Lanes
486+65	488+45	11	180	204	51	2.9% - 4.6%	8.0% Lt.	180	15	18	14	Right Lane (High Side)
							TOTAL	**1,280 LF**	**107 TON**	**205 TON**	**103 TON**	

ITEM	DESCRIPTION	UNIT	QUANTITY
190	LEVELING & WEDGING PG64-22	TON	205
301	CL2 ASPH SURFACE 0.38D PG64-22	TON	107
2677	ASPHALT PAVE MILLING & TEXTURING	TON	103
2697	EDGELINE RUMBLE STRIPS	LF	1,280
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	TON	0.9

NOTES:
1. These numbers are for estimate purposes only. Final locations and quantities will by determined by the Engineer in the field. Refer to the Superelevation Detail for a Transition Table.

2. All quantities carried over to the General Summary Sheet.

FRANKLIN COUNTY - US 421
MP 5.315 TO MP 11.132
ITEM NO. 5-9022
CRIBBING SUMMARY

BEGIN MILEPOINT	BEGIN STATION	END MILEPOINT	END STATION	OFFSET	PROPOSED CRIBBING (SF)	DGA BASE (TON)	CRUSHED AGGREGATE NO. 2 (TON)	ASPHALT SEAL AGGREGATE (TON)	ASPHALT SEAL COAT (TON)	FABRIC GEOTEXTILE CLASS 2 (SY)	RAILROAD RAILS - DRILLED (LF)	RETAINING WALL - MODULAR CONCRETE (SF)	EXCAVATION & BACKFILL (CY)	COMMENTS
6.424	339+20	6.453	340+70	RT	900	*	*	*	*	267	4,530		133	Assumes 30' rail length in Case II on 24" spacing
6.772	357+55	6.804	359+25	RT	1,020	*	*	*	*	302	5,130		151	Assumes 30' rail length in Case II on 24" spacing
8.782	463+70	8.791	464+15	LT	68	3	12	0.4	0.05	30				
8.814	465+40	8.841	466+80	LT	210	11	38	1.2	0.14	93				
8.939	472+00	8.977	474+00	LT	300	15	54	1.7	0.20	133				
9.028	476+70	9.072	479+00	LT	345	18	62	1.9	0.23	153				
9.167	484+00	9.223	487+00	LT	450	23	81	2.5	0.30	200				
9.462	499+60	9.479	500+50	LT		5	16	0.5	0.06	140		540	40	
9.848	520+00	9.852	520+20	LT	30	2	6	0.2	0.02	13				
10.189	538+00	10.223	539+75	LT	263	13	47	1.5	0.17	117				
10.392	548+70	10.434	550+90	LT	330	17	59	1.8	0.22	147				
10.575	558+35	10.580	558+60	LT	38	2	6	0.2	0.02	17				
10.843	572+50	10.862	573+50	RT	150	8	27	0.8	0.10	67				
11.015	581+60	11.031	582+45	RT	128	6	23	0.7	0.08	57				
				TOTALS	4,230 SF	123 TON	431 TON	13.4 TON	1.59 TON	1,736 SY	9,660 LF	540 SF	324 CY	

ITEM	DESCRIPTION	TOTALS
1	DGA BASE	123 TON
78	CRUSHED AGGREGATE NO. 2	431 TON
100	ASPHALT SEAL AGGREGATE	13.4 TON
103	ASPHALT SEAL COAT	1.59 TON
2603	FABRIC - GEOTEXTILE CLASS 2	1,736 SY
3236	CRIBBING	4,230 SF
3234	RAILROAD RAILS - DRILLED	9,660 LF
3235	EXCAVATION AND BACKFILL	324 CY
21496ED	RETAINING WALL - MODULAR CONCRETE	540 SF

* - See Shoulder Repair Summary for quantities in these areas

NOTES:

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

FRANKLIN COUNTY - US 421
MP 5.315 TO MP 11.132
ITEM NO. 5-9022
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	Proposed Post Length (FT)	Remarks	Side of Road	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint	Existing Length (LF)
LT	Connect to Existing	280+63	5.315	283+00	5.360	Terminal Section 1	241.25	1	7		LT	280+63	5.315	283+00	5.360	237.50
LT	Connect to Existing	300+30	5.688	300+40	5.689	Terminal Section 1	16.25	1	7	Remove existing Terminal Section 1 and connect new guardrail to existing.						
LT	Terminal Section 1	300+65	5.694	304+50	5.767	Terminal Section 1	395.00	2	7		LT	300+65	5.694	304+50	5.767	387.50
LT	Terminal Section 1	304+75	5.772	308+60	5.845	Type 4A	353.75	1	7		LT	304+75	5.772	308+60	5.845	387.50
RT	Type 4A	306+50	5.805	311+90	5.907	Terminal Section 1	516.25	1	7		RT	306+50	5.805	311+90	5.907	550.00
											LT	312+00	5.909	312+20	5.913	25.00
LT	Type 7	313+00	5.928	320+00	6.061	Type 1	600.00		7		LT	313+00	5.928	319+90	6.059	700.00
RT	Terminal Section 1	320+50	6.070	326+60	6.186	Terminal Section 1	616.25	1	7		RT	320+50	6.070	326+60	6.186	612.50
LT	Type 4A	324+75	6.151	327+15	6.196	Type 4A	175.00		7		LT	324+75	6.151	327+15	6.196	250.00
LT	Type 4A	328+70	6.225	331+00	6.269	Type 4A	162.50		7		LT	328+70	6.225	330+80	6.265	212.50
RT	Type 4A	332+00	6.288	337+90	6.400	Terminal Section 1	566.25	1	7		RT	332+00	6.288	337+90	6.400	600.00
LT	Terminal Section 1	333+80	6.322	336+00	6.364	Type 4A	191.25	1	7		LT	333+80	6.322	336+00	6.364	225.00
RT	Terminal Section 1	338+05	6.402	343+20	6.500	Type 4A	491.25	1	7		RT	338+05	6.402	343+00	6.496	500.00
LT	Terminal Section 1	343+35	6.503	344+80	6.530	Terminal Section 1	157.50	2	7		LT	343+35	6.503	344+80	6.530	150.00
RT	Type 4A	345+80	6.549	351+60	6.659	Type 4A	512.50		7		RT	345+90	6.551	349+25	6.615	337.50
LT	Connect to Existing	348+33	6.597	348+70	6.604	Type 4A	0.00		7		LT	348+33	6.597	348+45	6.599	12.50
LT	Type 7	350+70	6.642	356+00	6.742	Connect to Existing	487.50		7		LT	350+70	6.642	356+00	6.742	537.50
RT	Terminal Section 1	357+20	6.765	365+25	6.918	Type 4A	778.75	1	7		RT	357+20	6.765	365+25	6.918	812.50
LT	Terminal Section 1	367+15	6.954	378+50	7.169	Connect to Existing	1,141.25	1	7		LT	367+15	6.954	378+50	7.169	1,137.50
RT	Connect to Existing	387+20	7.333	387+50	7.339	Connect to Existing	48.75	3	7		RT	387+20	7.333	387+50	7.339	37.50
RT	Connect to Existing	387+75	7.344	388+10	7.350	Connect to Existing	48.75	3	7		RT	387+75	7.344	388+10	7.350	37.50
RT	Terminal Section 1	440+40	8.341	445+85	8.444	Terminal Section 1	557.50	2	7		RT	440+40	8.341	445+85	8.444	550.00
RT	Connect to Existing	448+43	8.493	448+80	8.500	Type 4A	0.00		7		RT	448+43	8.493	448+80	8.500	37.50
LT	Terminal Section 1	455+00	8.617	457+20	8.659	Connect to Existing	232.50	2	7		LT	455+00	8.617	457+20	8.659	225.00
LT	Connect to Existing	457+80	8.670	459+80	8.708	Type 4A	162.50		7		LT	457+80	8.670	459+80	8.708	200.00

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	Proposed Post Length (FT)	Remarks	Side of Road	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint	Existing Length (LF)
LT	Type 4A	460+05	8.713	463+70	8.782		341.25	1	7		LT	461+00	8.731	467+60	8.856	662.50
		463+70	8.782	464+15	8.791		50.00		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
		464+15	8.791	465+40	8.814		125.00		7							
		465+40	8.814	466+80	8.841		150.00		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
		466+80	8.841	467+60	8.856	Terminal Section 1	91.25	1	7							
LT	Type 4A	467+95	8.863	470+05	8.902	Terminal Section 1	175.00		7		LT	467+95	8.863	470+05	8.902	212.50
LT	Terminal Section 1	470+15	8.904	472+00	8.939		187.50		7		LT	470+15	8.904	474+00	8.977	387.50
		472+00	8.939	474+00	8.977	Connect to Existing	200.00		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
LT	Type 4A	474+70	8.991	476+70	9.028		162.50		7		LT	474+70	8.991	482+50	9.138	787.50
		476+70	9.028	479+00	9.072		237.50		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
		479+00	9.072	484+00	9.167		500.00		7							
		484+00	9.167	487+00	9.223		300.00		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.	LT	483+30	9.153	490+85	9.296	762.50
		487+00	9.223	491+80	9.314	Type 4A	450.00		7							
RT	Terminal Section 1	489+00	9.261	490+30	9.286	Type 4A	103.75	1	7		RT	489+05	9.262	490+30	9.286	125.00
LT	Type 4A	497+50	9.422	504+90	9.563	Terminal Section 1	716.25	1	7		LT	498+95	9.450	504+90	9.563	600.00
LT	Terminal Section 1	514+55	9.745	519+70	9.843	Terminal Section 1	532.50	2	7	Move Ending Station approximately 20 ft down along driveway.	LT	514+55	9.745	519+60	9.841	512.50
LT	Type 2A	520+00	9.848	520+20	9.852		25.00		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.	LT	520+00	9.848	520+55	9.859	62.50
		520+20	9.852	520+55	9.859	Type 2A	37.50		7							
LT	Terminal Section 1	520+75	9.863	524+55	9.935	Connect to Existing	387.50		7		LT	520+75	9.863	524+55	9.935	387.50
LT	Type 4A	527+40	9.989	531+05	10.058	Terminal Section 1	341.25	1	7		LT	527+40	9.989	530+60	10.049	325.00
LT	Terminal Section 1	531+45	10.065	538+00	10.189		666.25	1	7		LT	531+45	10.065	540+40	10.235	900.00
		538+00	10.189	539+75	10.223		175.00		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
		539+75	10.223	541+20	10.250	Terminal Section 1	153.75	1	7							
LT	Terminal Section 1	548+30	10.384	548+70	10.392		50.00		7		LT	548+30	10.384	551+70	10.449	350.00
		548+70	10.392	550+90	10.434		225.00		9	Includes 12.5 LF of Bridge Rail-Case I. Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
		550+90	10.434	551+70	10.449	Type 1	37.50		7							

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	Proposed Post Length (FT)	Remarks	Side of Road	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint	Existing Length (LF)
LT	Terminal Section 1	557+55	10.560	558+35	10.575		91.25	1	7		LT	557+55	10.560	559+00	10.587	150.00
		558+35	10.575	558+60	10.580		25.00		9	Includes 12.5 LF of Bridge Rail-Case I. Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
		558+60	10.580	560+30	10.612	Terminal Section 1	182.50	2	7							
RT	Terminal Section 1	557+75	10.563	559+40	10.595	Type 4A	141.25	1	7		RT	558+15	10.571	559+15	10.590	100.00
LT	Type 4A	566+35	10.726	569+50	10.786	Type 1	237.50		7	Includes 12.5 LF of Bridge Rail-Case I.	LT	567+75	10.753	568+30	10.763	62.50
RT	Terminal Section 1	567+30	10.744	568+55	10.768	Terminal Section 1	132.50	2	7	Includes 12.5 LF of Bridge Rail-Case I.	RT	567+70	10.752	568+35	10.764	75.00
LT	Type 4A	571+05	10.815	573+25	10.857	Terminal Section 1	191.25	1	7		LT	571+05	10.815	573+25	10.857	225.00
RT	Type 1	571+70	10.828	572+50	10.843		37.50		7		RT	571+70	10.828	580+80	11.000	912.50
		572+50	10.843	573+50	10.862		100.00		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
		573+50	10.862	580+80	11.000	Terminal Section 1	737.50		7							
RT	Type 1	581+10	11.006	581+60	11.015		0.00		7		RT	581+10	11.006	583+45	11.050	237.50
		581+60	11.015	582+45	11.031		87.50		9	Includes Guardrail Cribbing attached to 9 ft guardrail post, Refer to Cribbing Summary.						
		582+45	11.031	583+45	11.050	Terminal Section 1	103.75	1	7							
RT	Type 7	584+75	11.075	585+65	11.092	Terminal Section 1	50.00		7		RT	584+75	11.075	585+65	11.092	100.00
RT	Terminal Section 1	585+75	11.094	587+15	11.120	Terminal Section 1	153.75	1	7		RT	585+75	11.094	587+15	11.120	150.00

Summary of Items					
Remove Guardrail	16,850.00	LF	Terminal Section No. 1	41	EACH
G/R Steel W Beam-S Face (7 FT Post)	17,095.00	LF	Delineator for Guardrail B/W	366	EACH
Extra Length Guardrail Post	249	EACH	Site Preparation (Embed Exist Guardrail Post)	249	EACH
End Treatment Type 1	5	EACH	Guardrail-Bridge Case I	50	LF
End Treatment Type 2A	2	EACH	DGA	351	TONS
End Treatment Type 4A	25	EACH	Asphalt Seal Coat	2.01	TONS
End Treatment Type 7	3	EACH	Asphalt Seal Aggregate	16.41	TONS

NOTE: All guardrail locations requiring 9' post length will have the existing guardrail posts embedded as detailed in the Guardrail Embedment Detail. Payment for embedding existing guardrail posts shall be "Site Preparation (Embed Existing Guardrail Post)" with a unit of measure of Each existing guardrail post embedded.

FRANKLIN COUNTY - US 421

MP 5.315 TO MP 11.132

ITEM NO. 5-9022

REMOVE SIGN SUMMARY

Approx. Location		Sign Details
Station	LT / RT	
285+00	LT	School Bus Stop Ahead
293+10	RT	School Bus Stop Ahead
298+50	LT	Fallen Rock Zone
302+30	LT	Winding Road w/ Adv. Speed
302+70	RT	Reverse Curve w/ Adv. Speed
307+20	RT	School Bus Stop Ahead
308+50	RT	Chevron
309+50	RT	Chevron
310+20	RT	Chevron
310+60	LT	Side Road Right
311+20	RT	Chevron
317+00	LT	School Bus Stop Ahead
320+00	LT	Reverse Curve w/ Adv. Speed
321+40	RT	Winding Road w/ Adv. Speed
322+40	RT	School Bus Stop Ahead
		Mile Marker 6
328+50	RT	Side Road Right
333+20	RT	Winding Road w/ Adv. Speed
333+50	LT	School Bus Stop Ahead
338+50	LT	"Intersection Change at McCann Ln"
		Y Symbol
353+80	RT	School Bus Stop Ahead
355+30	RT	JCT w/ KY 1570
357+40	LT	South US 421
357+50	RT	KY 1570 w/ Left Arrow
359+50	LT	KY 1570 w/ Right Arrow
361+50	RT	North US 421
363+50	LT	JCT w/ KY 1570
366+50	LT	Side Road Right
367+30	RT	Left Directional Arrow
368+90	RT	Right Curve w/ Adv. Speed
371+00	RT	Mile Marker 7
372+00	LT	Winding Road w/ Adv. Speed
377+80	RT	Side Road Right
381+60	LT	Left Curve w/ Adv. Speed
381+80	RT	School Bus Stop Ahead
387+00	RT	No Passing Zone
395+50	RT	Winding Road w/ Adv. Speed
401+00	LT	School Bus Turn Ahead
402+10	RT	School Bus Stop Ahead
421+00	LT	Winding Road w/ Adv. Speed
421+50	RT	Winding Road w/ Adv. Speed
424+00	RT	Mile Marker 8
435+40	RT	School Bus Stop Ahead
440+50	RT	Winding Road w/ Adv. Speed

Approx. Location		Sign Details
Station	LT / RT	
460+20	LT	School Bus Stop Ahead
460+50	RT	Winding Road w/ Adv. Speed
462+00	LT	Reverse Curve w/ Adv. Speed
467+40	RT	Object Marker Type 2
468+50	RT	JCT w/ KY 1665
473+80	LT	South US 421
475+00	LT	KY 1665 w/ Arrow (NB and SB)
477+00	RT	North US 421
		Mile Marker 9
480+50	LT	JCT w/ KY 1665
491+00	LT	Low Shoulder
494+00	RT	Object Marker Type 2
498+00	LT	Chevron
499+00	LT	Chevron
510+00	RT	Right Curve w/ Adv. Speed
512+30	RT	School Bus Stop Ahead
512+70	LT	Winding Road w/ Adv. Speed
515+50	LT	Right Directional Arrow (NB)
517+30	LT	Left Directional Arrow
518+30	LT	School Bus Stop Ahead
521+50	LT	Left Curve w/ Adv. Speed
522+00	RT	Winding Road
531+40	RT	Mile Marker 10
532+10	RT	School Bus Stop Ahead
545+00	LT	School Bus Stop Ahead
546+50	LT	Winding Road
550+70	RT	Left Curve
557+50	LT	Object Marker Type 2
558+20	RT	Object Marker Type 2
559+00	LT	Object Marker Type 2
559+10	RT	Object Marker Type 2
563+80	LT	No Passing Zone (NB)
		Right Curve (SB)
564+50	RT	Right Curve
568+30	RT	No Passing Zone
579+30	RT	JCT w/ KY 12
581+30	LT	Left Curve
583+50	RT	Winding Road w/ Adv. Speed
584+00	RT	Cross Road
		Mile Marker 11
585+40	LT	Speed Limit 55
586+60	RT	KY 12 w/ Double Arrow
587+80	LT	South US 421
589+10	LT	KY 12 w/ Double Arrow

FRANKLIN COUNTY - US 421
MP 5.315 TO MP 11.132
ITEM NO. 5-9022
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)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
1	RT	24	280+00	5.303	NB	W1-2R	Right Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	50	18 x 18	Black	FL Yellow	XI	2.25									1
2	LT	24	285+00	5.398	SB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
3	LT	24	287+40	5.443	SB	W1-2L	Left Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	50	18 x 18	Black	FL Yellow	XI	2.25									1
4	RT	24	293+20	5.553	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
5	RT	24	294+90	5.585	NB	W1-4R	Right Reverse Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	35	18 x 18	Black	FL Yellow	XI	2.25									1
6	LT	24	296+90	5.623	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
7	LT	24	297+50	5.634	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00									1
8	LT	24	298+10	5.646	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-2aL	Left Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00									1
9	RT	24	298+70	5.657	NB	W1-2aL	Left Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
10	RT	24	299+20	5.667	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
11	RT	24	300+40	5.689	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00									1
12	RT	24	301+60	5.712	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
13	RT	24	303+60	5.750	SB	W1-4R	Right Reverse Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	35	18 x 18	Black	FL Yellow	XI	2.25									1
14	RT	24	306+60	5.807	NB	W1-5L	Left Winding Road		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	30	18 x 18	Black	FL Yellow	XI	2.25									1
15	RT	24	307+20	5.818	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
16	RT	24	308+60	5.845	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
17	RT	24	309+40	5.860	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
18	RT	24	310+20	5.875	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
19	RT	24	311+00	5.890	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
20	LT	24	311+10	5.892	SB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
21	RT	24	313+10	5.930	NB	W1-1aR	Right Turn XX	XX	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
22	LT	24	313+20	5.932	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
23	LT	24	314+00	5.947	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
24	LT	24	314+80	5.962	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
25	LT	24	315+60	5.977	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
26	LT	24	316+40	5.992	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
27	LT	24	316+80	6.000	SB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
28	RT	24	316+80	6.000	NB	D10-2	Mile Marker (2 digit)	6	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate		1	13.5			13.5	1
					SB	D10-2	Mile Marker (2 digit)	6	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate							1
29	LT	24	317+20	6.008	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
30	LT	24	318+00	6.023	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-2aL	Left Curve XX	XX	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1
31	RT	24	321+60	6.091	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
32	RT	24	322+40	6.106	NB	W1-2aR	Right Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1

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)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
33	LT	24	322+50	6.108	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
34	LT	24	323+30	6.123	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
35	LT	24	324+10	6.138	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
36	LT	24	325+20	6.159	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
37	LT	24	326+00	6.174	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1
38	RT	24	327+00	6.193	NB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
39	RT	24	327+80	6.208	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
40	RT	24	328+60	6.223	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
41	RT	24	329+00	6.231	NB	W2-2R	Side Road Right		30 x 30	Black	Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
42	RT	24	329+40	6.239	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
43	RT	24	330+20	6.254	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
44	LT	24	332+00	6.288	SB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
45	LT	24	333+40	6.314	SB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
46	LT	24	335+50	6.354	SB	W2-2L	Side Road Left		30 x 30	Black	Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
47	RT	24	336+10	6.366	NB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
48	LT	24	336+20	6.367	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
49	LT	24	337+00	6.383	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
50	LT	24	337+90	6.400	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
51	LT	24	338+70	6.415	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
52	LT	24	339+50	6.430	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
53	LT	24	340+30	6.445	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
54	LT	24	341+10	6.460	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
55	LT	24	341+90	6.475	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1
56	RT	24	342+80	6.492	NB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
57	RT	24	343+60	6.508	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
58	RT	24	344+40	6.523	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
59	RT	24	345+20	6.538	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
60	RT	24	346+00	6.553	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
61	LT	24	346+10	6.555	SB	W1-1aR	Right Turn XX	25	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
62	RT	24	347+60	6.583	NB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
63	LT	24	347+70	6.585	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
64	LT	24	348+40	6.598	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
65	LT	24	349+20	6.614	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
66	LT	24	350+00	6.629	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
67	LT	24	350+80	6.644	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
68	LT	24	351+60	6.659	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1

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)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
69	RT	24	352+10	6.669	NB	M2-1	Junction		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-5a	State Route Sign (3 or 4 digit)	1570	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
70	RT	24	353+00	6.686	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
71	RT	24	353+80	6.701	NB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
72	RT	24	354+80	6.720	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
73	RT	24	355+80	6.739	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
74	LT	24	356+50	6.752	SB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
75	RT	24	357+50	6.771	NB	W1-2R	Right Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
76	LT	24	357+60	6.773	SB	M3-3	South		24 x 12	Black	White	XI	2.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-4a	US Route Sign (3 digit)	421	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
77	RT	24	358+00	6.780	NB	M1-5a	State Route Sign (3 or 4 digit)	1570	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M6-1L	Left Arrow		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate							1
78	RT	24	358+50	6.790	EB KY 1570	M1-4a	US Route Sign (3 digit)	421	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate							1
79	LT	24	359+10	6.801	SB	M1-5a	State Route Sign (3 or 4 digit)	1570	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M6-1R	Right Arrow		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate							1
80	RT	24	359+70	6.813	NB	M3-1	North		24 x 12	Black	White	XI	2.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-4a	US Route Sign (3 digit)	421	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
81	LT	24	360+50	6.828	SB	W1-5L	Left Winding Road		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	25	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
82	RT	24	362+40	6.864	NB	R2-1	Speed Limit XX	55	24 x 30	Black	White	XI	5.00		Stnd w/ Soil Plate		1	13.5			13.5	1
83	RT	24	364+60	6.905	NB	W1-4L	Left Reverse Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	40	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
84	LT	24	365+00	6.913	SB	M2-1	Junction		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-5a	State Route Sign (3 or 4 digit)	1570	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
85	RT	24	365+90	6.930	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
86	RT	24	366+80	6.947	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
87	RT	24	367+60	6.962	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
88	RT	24	368+90	6.987	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
89	LT	24	369+00	6.989	SB	W1-2aR	Right Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
90	RT	24	369+60	7.000	NB	D10-2	Mile Marker (2 digit)	7	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate		1	13.5			13.5	1
					SB	D10-2	Mile Marker (2 digit)	7	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate							1
91	RT	24	373+30	7.070	NB	W1-2aR	Right Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
92	LT	24	373+40	7.072	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
93	LT	24	374+60	7.095	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
94	LT	24	375+80	7.117	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
95	LT	24	377+00	7.140	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
96	LT	24	378+20	7.163	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
97	LT	24	379+20	7.182	SB	W1-4L	Left Reverse Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	40	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
98	RT	24	381+70	7.229	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
99	LT	24	382+90	7.252	NB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Stnd w/ Soil Plate		1	15.0			15.0	1
100	RT	24	383+90	7.271	NB	W2-2R	Side Road Right		30 x 30	Black	Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
101	LT	24	391+10	7.407	SB	W2-2L	Side Road Left		30 x 30	Black	Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1

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)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
102	RT	24	395+20	7.485	NB	W1-5L	Left Winding Road		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	25	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
103	RT	24	397+40	7.527	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
104	RT	24	398+20	7.542	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
105	RT	24	399+00	7.557	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
106	RT	24	399+80	7.572	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
107	RT	24	400+60	7.587	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
108	LT	24	400+70	7.589	SB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
109	LT	24	401+30	7.600	SB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
110	RT	24	401+40	7.602	NB	W1-2aR	Right Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
111	RT	24	402+30	7.619	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
112	LT	24	402+70	7.627	SB	W1-2aL	Left Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
113	RT	24	407+60	7.720	NB	W1-2aR	Right Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
114	LT	24	407+70	7.722	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
115	LT	24	408+90	7.744	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
116	LT	24	410+10	7.767	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-2aL	Left Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1
117	RT	24	412+10	7.805	NB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
118	RT	24	412+90	7.820	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
119	RT	24	413+70	7.835	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
120	RT	24	414+50	7.850	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
121	LT	24	414+60	7.852	SB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
122	RT	24	415+60	7.871	NB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
123	LT	24	415+90	7.877	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
124	LT	24	416+70	7.892	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
125	LT	24	417+10	7.900	SB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
126	RT	24	418+50	7.926	NB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
127	RT	24	419+10	7.938	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
128	RT	24	419+70	7.949	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
129	LT	24	419+80	7.951	SB	W1-1aR	Right Turn XX	25	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
130	RT	24	420+50	7.964	NB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
131	LT	24	420+70	7.968	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
132	LT	24	421+50	7.983	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
133	LT	24	422+30	7.998	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
134	RT	24	422+40	8.000	NB	D10-2	Mile Marker (2 digit)	8	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate		1	13.5			13.5	1
					SB	D10-2	Mile Marker (2 digit)	8	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate							1
135	RT	24	423+00	8.011	NB	W1-2aL	Left Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
136	RT	24	424+30	8.036	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
137	RT	24	425+50	8.059	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
138	LT	24	426+70	8.081	SB	W1-2aR	Right Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
139	RT	24	426+80	8.083	NB	W1-2aR	Right Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
140	LT	24	427+40	8.095	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
141	LT	24	428+00	8.106	SB	W1-2aL	Left Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
142	RT	24	429+80	8.140	NB	W1-1aL	Left Turn XX	25	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1

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)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
143	RT	24	430+40	8.152	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
144	RT	24	431+00	8.163	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
145	RT	24	431+60	8.174	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
146	LT	24	431+70	8.176	SB	W1-1aR	Right Turn XX	25	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
147	RT	24	432+20	8.186	NB	W1-2aR	Right Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
148	LT	24	432+90	8.199	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
149	LT	24	433+60	8.212	SB	W1-2aL	Left Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
150	RT	24	435+00	8.239	NB	W1-2aL	Left Curve XX	50	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
151	RT	24	435+30	8.244	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
152	RT	24	436+20	8.261	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
153	RT	24	437+40	8.284	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
154	RT	24	438+60	8.307	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
155	RT	24	439+80	8.330	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
156	LT	24	441+00	8.352	SB	W1-2aR	Right Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
157	RT	24	443+20	8.394	NB	W1-2aR	Right Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
158	LT	24	443+40	8.398	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
159	LT	24	444+20	8.413	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
160	LT	24	445+00	8.428	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
161	LT	24	445+80	8.443	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
162	LT	24	446+60	8.458	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
163	LT	24	447+40	8.473	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
164	LT	24	448+20	8.489	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
165	LT	24	449+00	8.504	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
166	LT	24	449+80	8.519	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1
167	RT	24	454+40	8.606	NB	W1-2aL	Left Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
168	RT	24	455+20	8.621	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
169	RT	24	456+00	8.636	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
170	RT	24	456+80	8.652	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
171	RT	24	457+60	8.667	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
172	RT	24	458+40	8.682	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
173	RT	24	459+20	8.697	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
174	RT	24	460+00	8.712	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
175	LT	24	460+30	8.718	SB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
176	RT	24	460+80	8.727	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
177	RT	24	461+60	8.742	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
178	RT	24	462+40	8.758	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1

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)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
179	RT	24	463+20	8.773	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
180	RT	24	464+00	8.788	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
181	LT	24	464+20	8.792	SB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
182	RT	24	466+10	8.828	NB	W1-2aR	Right Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
183	LT	24	466+20	8.830	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
184	RT	24	467+30	8.850	NB	OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate		1	12.0			12.0	1
185	LT	24	467+40	8.852	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
187	RT	24	467+90	8.862	NB	M2-1	Junction		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-5a	State Route Sign (3 or 4 digit)	1665	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
187	LT	24	468+60	8.875	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-2aL	Left Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1
188	RT	24	470+00	8.902	NB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
189	RT	24	470+60	8.913	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
190	RT	24	471+20	8.924	SB	W1-2aR	Right Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
191	RT	24	472+30	8.945	NB	W1-2aR	Right Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
192	LT	24	472+40	8.947	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
193	LT	24	473+10	8.960	SB	M3-3	South		24 x 12	Black	White	XI	2.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-4a	US Route Sign (3 digit)	421	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
194	LT	24	473+60	8.970	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
195	RT	24	473+90	8.975	NB	M1-5a	State Route Sign (3 or 4 digit)	1665	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M6-1L	Left Arrow		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate							1
196	RT	24	474+20	8.981	EB KY 1665	M1-4a	US Route Sign (3 digit)	421	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate							1
197	LT	24	474+80	8.992	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	M1-5a	State Route Sign (3 or 4 digit)	1665	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
						M6-1R	Right Arrow		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate							1
198	RT	24	475+20	9.000	NB	D10-2	Mile Marker (2 digit)	9	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate		1	13.5			13.5	1
					SB	D10-2	Mile Marker (2 digit)	9	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate							1
199	LT	24	475+40	9.004	SB	W1-2aL	Left Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
200	RT	24	475+60	9.008	NB	M3-1	North		24 x 12	Black	White	XI	2.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-4a	US Route Sign (3 digit)	421	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
201	LT	24	478+70	9.066	SB	M2-1	Junction		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-5a	State Route Sign (3 or 4 digit)	1665	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
202	RT	24	479+00	9.072	NB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
203	LT	24	479+10	9.074	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
204	LT	24	479+80	9.087	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
205	LT	24	480+50	9.100	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
206	LT	24	481+20	9.114	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-1aL	Left Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1
207	RT	24	483+60	9.159	NB	W1-1aL	Left Turn XX	XX	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
208	RT	24	484+40	9.174	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
209	RT	24	485+20	9.189	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
210	RT	24	486+00	9.205	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
211	RT	24	486+80	9.220	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
212	RT	24	487+60	9.235	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
213	RT	24	488+40	9.250	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1

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)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
214	LT	24	488+50	9.252	SB	W1-1aR	Right Turn XX	XX	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
215	RT	24	491+10	9.301	NB	W1-2R	Right Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
216	LT	24	493+50	9.347	SB	W1-2L	Left Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
217	RT	24	494+00	9.356	NB	OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate		1	12.0			12.0	1
218	RT	24	494+60	9.367	NB	W1-2aR	Right Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
219	LT	24	494+70	9.369	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
220	LT	24	495+80	9.390	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
221	LT	24	496+90	9.411	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
222	LT	24	498+00	9.432	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
223	LT	24	499+10	9.453	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
224	LT	24	500+20	9.473	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-2aL	Left Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate							1
225	RT	24	502+20	9.511	NB	W1-2aL	Left Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
226	RT	24	503+20	9.530	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
227	RT	24	504+20	9.549	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
228	RT	24	505+20	9.568	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
229	LT	24	505+30	9.570	SB	W1-2aR	Right Curve XX	40	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
230	RT	24	508+10	9.623	NB	W1-2aL	Left Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
231	RT	24	509+00	9.640	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
232	RT	24	509+90	9.657	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate							1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
233	LT	24	510+00	9.659	NB	OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate		1	12.0			12.0	1
234	LT	24	510+30	9.665	SB	OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate		1	12.0			12.0	1
235	RT	24	510+30	9.665	SB	OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate		1	12.0			12.0	1
236	RT	24	510+80	9.674	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
237	LT	24	510+90	9.676	SB	W1-2aR	Right Curve XX	35	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
238	RT	24	512+30	9.703	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
239	RT	24	513+80	9.731	NB	W1-1aR	Right Turn XX	30	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
240	LT	24	513+90	9.733	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
241	LT	24	514+70	9.748	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
242	LT	24	515+50	9.763	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
243	LT	24	516+30	9.778	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
244	LT	24	517+10	9.794	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
245	LT	24	517+90	9.809	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
246	LT	24	518+30	9.816	SB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
247	LT	24	518+70	9.824	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
248	LT	24	519+50	9.839	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
249	LT	24	521+50	9.877	SB	W1-5L	Left Winding Road		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	25	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
250	RT	24	528+00	10.000	NB	D10-2	Mile Marker (2 digit)	10	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate		1	13.5			13.5	1
					SB	D10-2	Mile Marker (2 digit)	10	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate							1

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)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
251	RT	24	531+60	10.068	NB	W1-4L	Left Reverse Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	45	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
252	RT	24	532+20	10.080	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
253	LT	24	537+00	10.170	SB	W1-2aR	Right Curve XX	50	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
254	RT	24	539+60	10.220	NB	W1-2aR	Right Curve XX	45	36 x 36	Black	FL Yellow	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
255	LT	24	539+70	10.222	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
256	LT	24	540+80	10.242	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
257	LT	24	541+90	10.263	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
258	LT	24	543+00	10.284	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
259	LT	24	544+30	10.309	SB	W1-4L	Left Reverse Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	45	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
260	LT	24	545+00	10.322	SB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow-Green	XI	9.00		Stnd w/ Soil Plate		1	15.5			15.5	1
261	RT	24	554+90	10.509	NB	W1-2L	Left Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	45	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
262	RT	24	556+10	10.532	SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
263	RT	24	557+20	10.553	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
264	LT	24	557+60	10.561	NB	OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate		1	12.0			12.0	1
265	RT	24	558+00	10.568	NB	OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate		1	12.0			12.0	1
266	RT	24	558+30	10.574	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
267	LT	24	559+10	10.589	SB	OM2-2V	Object Marker Type 2		6 x 12	n/a	Yellow	XI	0.50		Stnd w/ Soil Plate		1	12.0			12.0	1
268	RT	24	559+60	10.598	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
269	RT	24	560+70	10.619	NB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
270	LT	24	561+90	10.642	SB	W1-2R	Right Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	45	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
271	RT	24	570+40	10.803	NB	W1-2R	Right Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	40	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
272	LT	24	571+90	10.831	SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
273	LT	24	573+00	10.852	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
274	LT	24	574+10	10.873	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
275	LT	24	575+20	10.894	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
276	LT	24	576+30	10.915	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
277	LT	24	577+40	10.936	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
					SB	W1-8L	Left Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate							1
278	LT	24	578+50	10.956	NB	W1-8R	Right Chevron		18 x 24	Black	FL Yellow	XI	3.00		Stnd w/ Soil Plate		1	13.0			13.0	1
279	LT	24	579+90	10.983	SB	W1-2L	Left Curve		30 x 30	Black	FL Yellow	XI	6.25		Stnd w/ Soil Plate		1	15.0			15.0	1
						W13-1P	XX MPH (Advisory Speed)	45	18 x 18	Black	FL Yellow	XI	2.25		Stnd w/ Soil Plate							1
280	RT	24	581+20	11.008	NB	D10-2	Mile Marker (2 digit)	11	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate		1	13.5			13.5	1
					SB	D10-2	Mile Marker (2 digit)	11	10 x 27	White	Green	XI	1.88		Stnd w/ Soil Plate							1
281	RT	24	582+50	11.032	NB	M2-1	Junction		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-5	State Route Sign (1 or 2 digit)	12	24 x 24	Black	White	XI	4.00		Stnd w/ Soil Plate							1
282	LT	24	585+30	11.085	SB	R2-1	Speed Limit XX	55	24 x 30	Black	White	XI	5.00		Stnd w/ Soil Plate		1	13.5			13.5	1
283	RT	24	586+60	11.110	NB	M1-5	State Route Sign (1 or 2 digit)	12	24 x 24	Black	White	XI	4.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate							1

SIGN SUMMARY

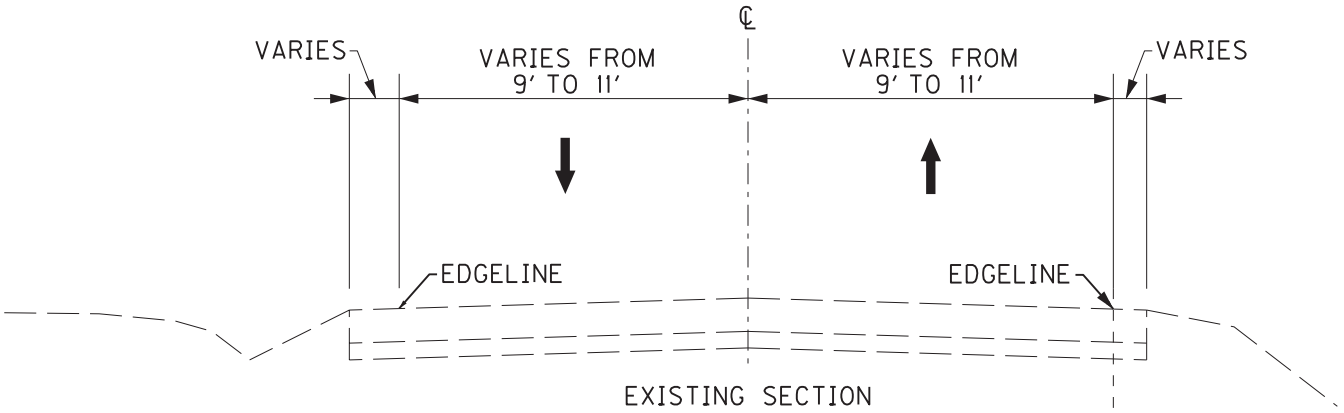
SIGN LOCATION						MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)	SHEETING			SBM Alum Sheet Signs 0.080 IN (SQ FT)	SBM Alum Sheet Signs 0.125 IN (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (incdntl to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic Traveling					Text/ Symbol Color	Background Color	Sheeting Type										
284	LT	24	587+80	11.133	SB	M3-3	South		24 x 12	Black	White	XI	2.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M1-4a	US Route Sign (3 digit)	421	30 x 24	Black	White	XI	5.00		Stnd w/ Soil Plate							1
285	LT	24	589+10	11.157	SB	M1-5	State Route Sign (1 or 2 digit)	12	24 x 24	Black	White	XI	4.00		Stnd w/ Soil Plate		1	13.0			13.0	1
						M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19		Stnd w/ Soil Plate							1

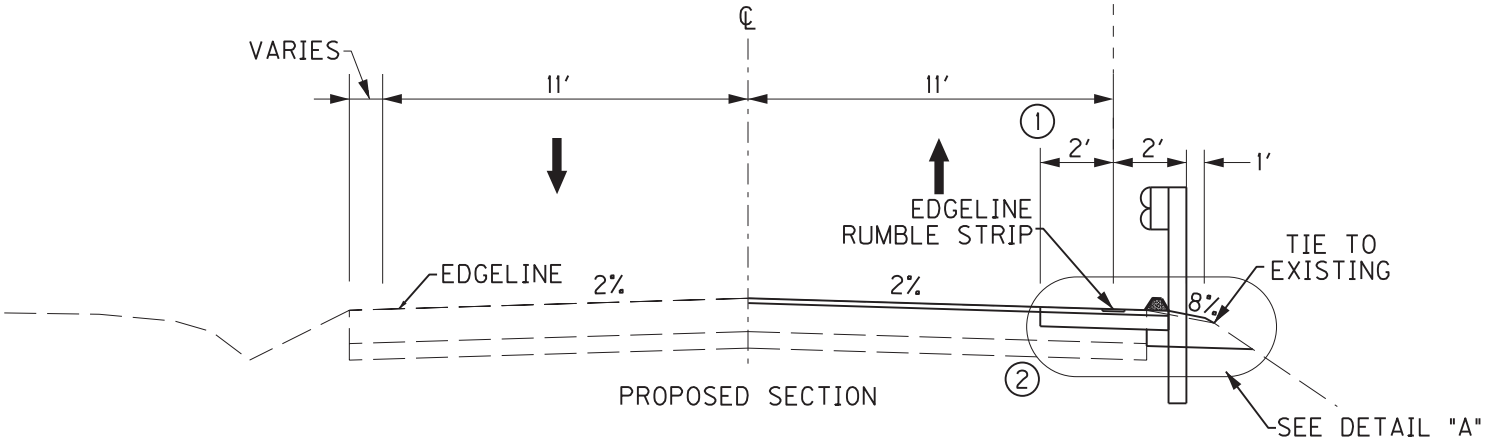
Summary of Items		
SBM Alum Sheet Signs 0.080 INCH	1,884.19	SQ FT
SBM Alum Sheet Signs 0.125 INCH	5.56	SQ FT

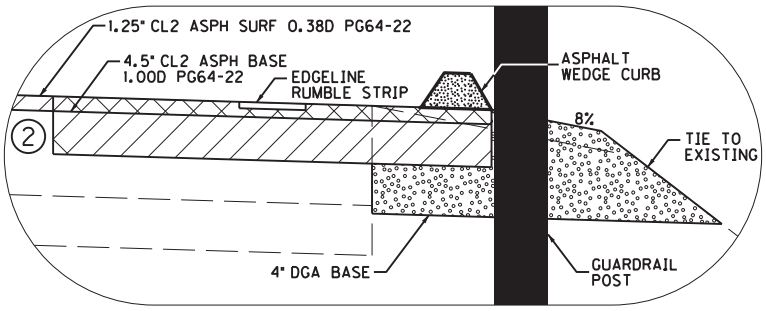
Summary of Items		
Steel Post - Type 1	3,965	LF
Barcode Sign Inventory	451	EACH

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

SHOULDER REPAIR DETAIL







DETAIL "A"

NOTES:

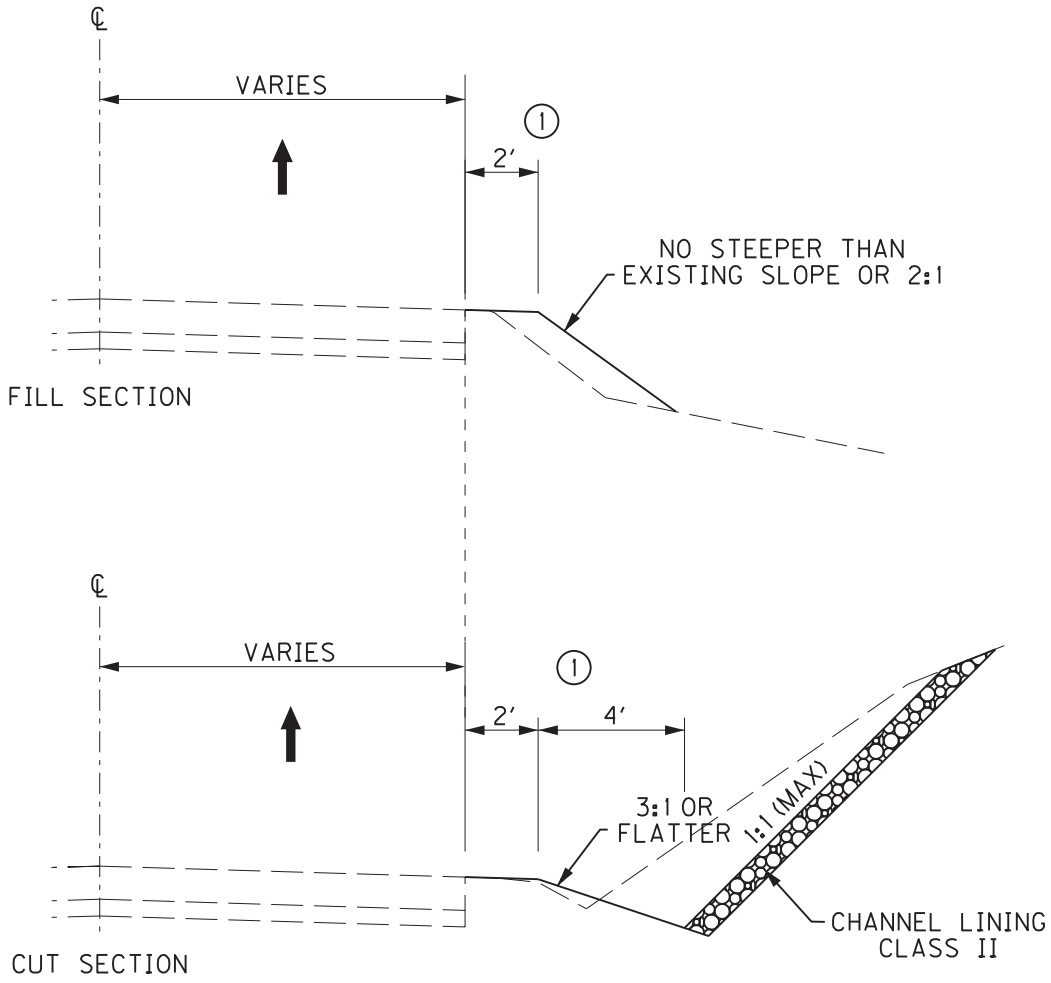
(1) SHOULDER MILLING/TRENCHING IS TO BE 2' INSIDE THE EXISTING EDGELINE.

(2) MILL 4.5" AND CONSTRUCT ASPHALT BASE SUCH THAT BASE IS LEVEL WITH EXISTING SURFACE. TO ALLOW FOR COMPACTION UNDER TRAFFIC, DO NOT RESURFACE UNTIL A MINIMUM OF 14 CALENDAR DAYS HAVE ELAPSED AFTER PLACEMENT OF FINAL COURSE OF ASPHALT BASE. AFTER THE WAITING PERIOD, AND/OR WHEN THE ENGINEER DETERMINES THAT REPAIR AREAS HAVE SUFFICIENTLY STABILIZED, MILL 1.25" INTO EXISTING SURFACE AND EXPOSED ASPHALT BASE AND REPAVE WITH ASPHALT SURFACE. PRIOR TO RESURFACING, LEVEL AND WEDGE ANY SETTLEMENT OF REPAIRED AREAS.

US 421
SHOULDER REPAIR DETAIL

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

ROADSIDE REGRADING DETAIL



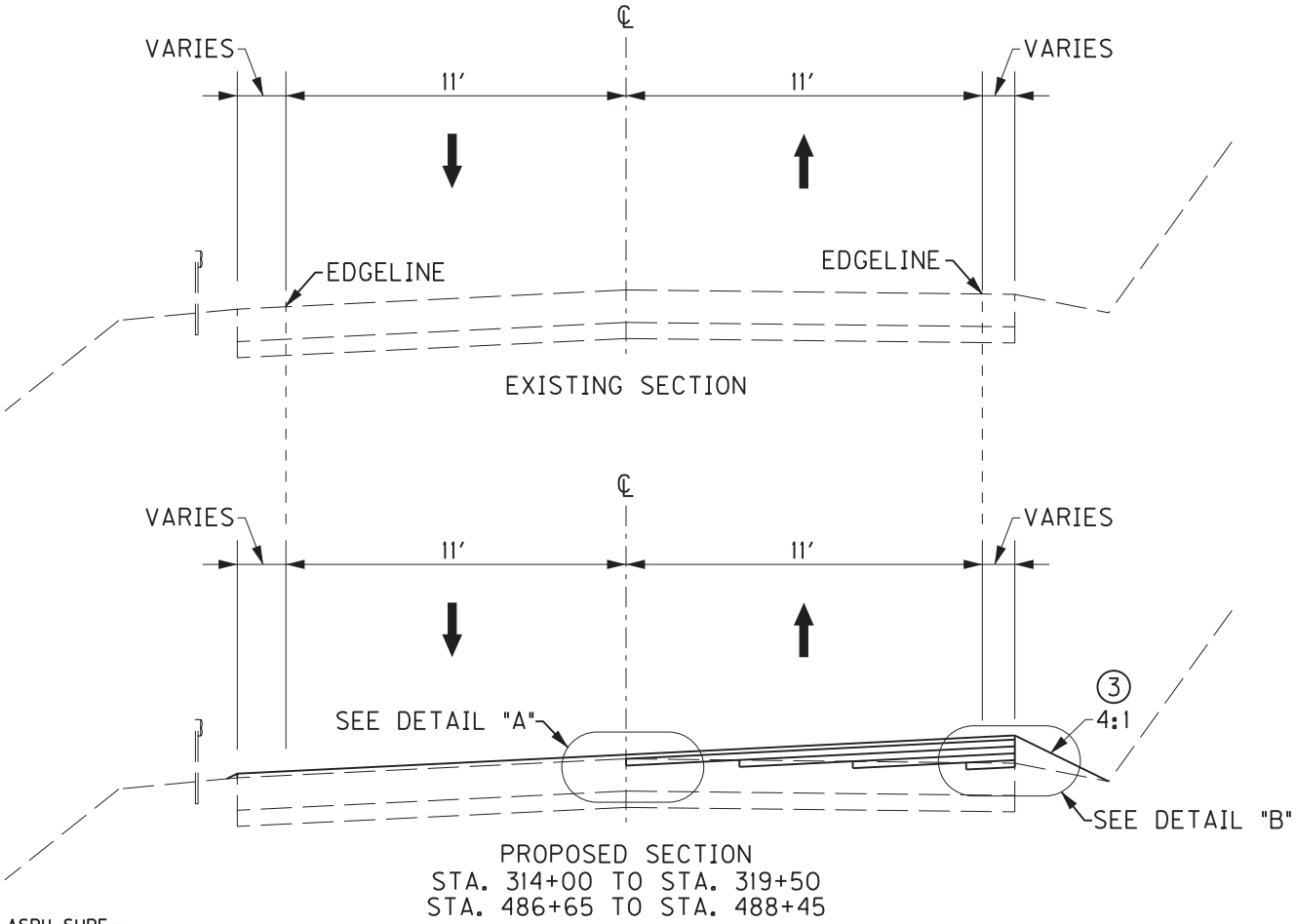
NOTES:

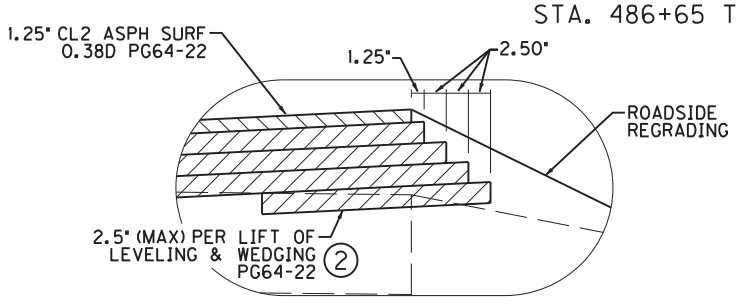
1. SEE ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS FOR ADDITIONAL INFORMATION.

US 421
ROADSIDE REGRADING DETAIL

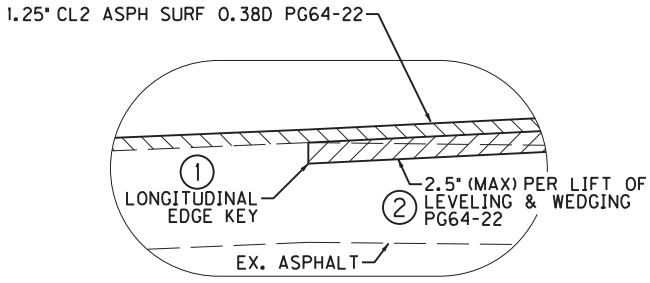
COUNTY OF	ITEM NO.
FRANKLIN	5-9022

SUPERELEVATION IMPROVEMENT DETAIL





DETAIL "B"



DETAIL "A"

NOTES:

① SUPERELEVATION IMPROVEMENT WILL INVOLVE A LONGITUDINAL EDGE KEY FOR EACH LIFT OF LEVELING & WEDGING REQUIRED. LONGITUDINAL EDGE KEY IS TO BE PAID AS ASPHALT MILLING & TEXTURING.

② LEVELING & WEDGING MIX DESIGN WILL BE BASED ON THE LIFT THICKNESS BEING PLACED FOR EACH CURVE. NUMBER AND THICKNESS OF LIFTS SHOWN IN THESE DETAILS ARE GRAPHICAL REPRESENTATIONS ONLY AND ARE NOT MEANT TO BE TAKEN AS AN INDICATION OF ACTUAL FIELD CONDITIONS.

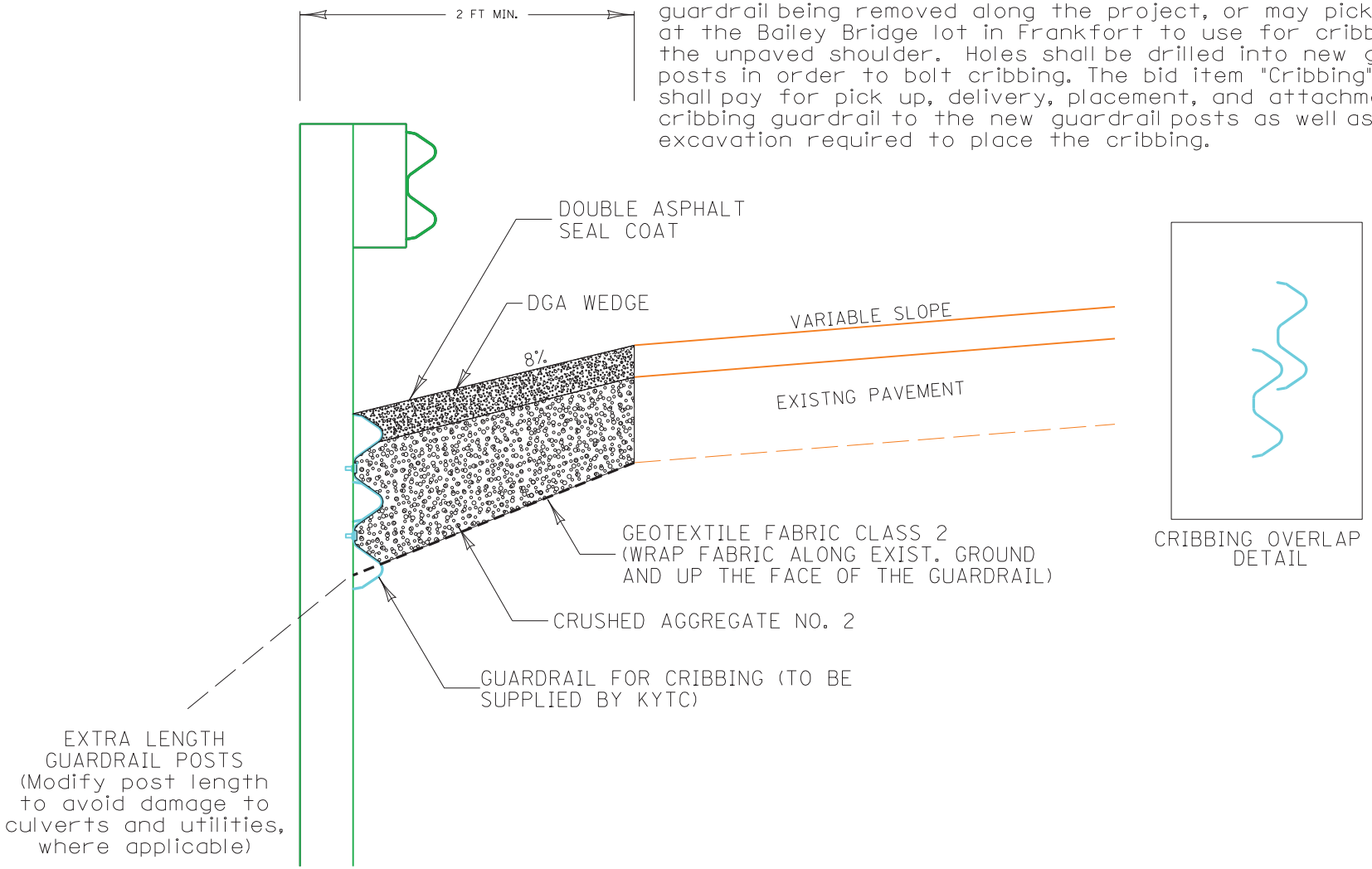
③ SLOPE MAY VARY IF DIRECTED BY THE ENGINEER.

US 421
SUPERELEVATION IMPROVEMENT
DETAIL

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL CRIBBING

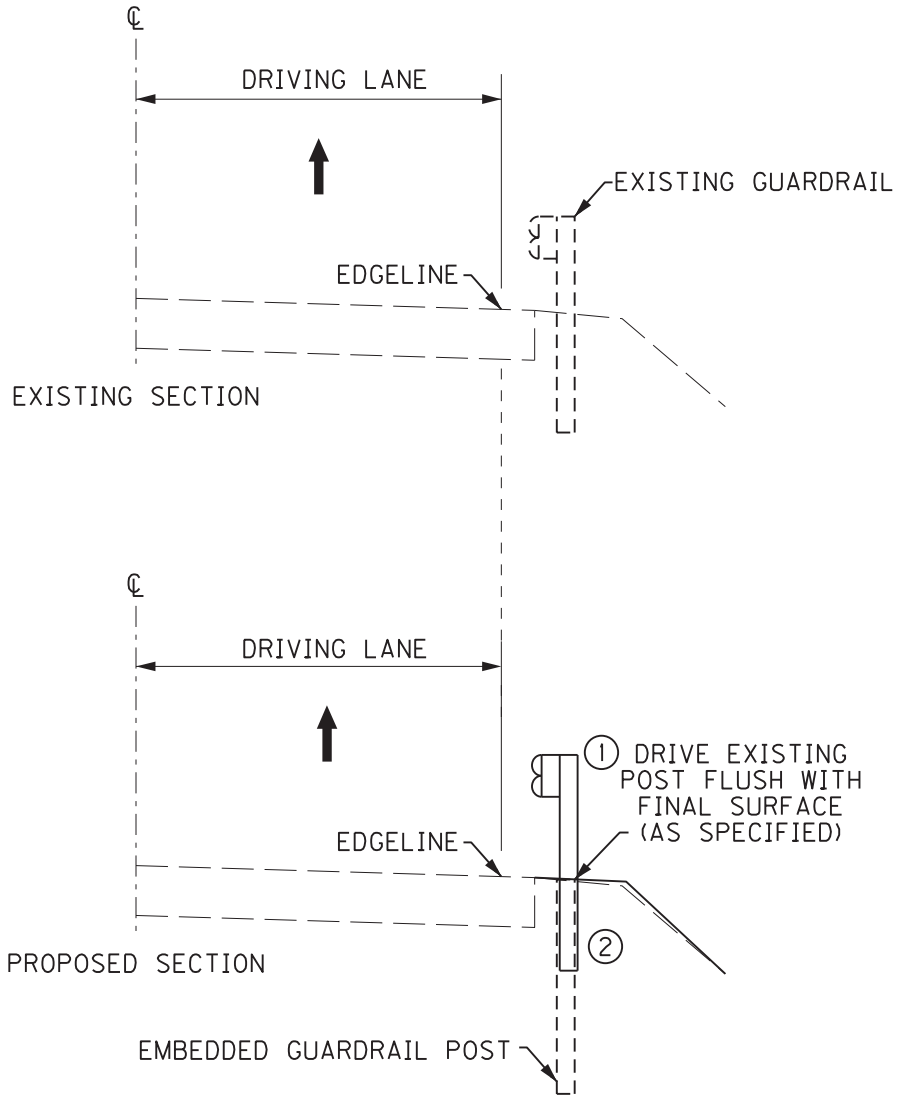
With approval from the Engineer, Contractor can utilize the existing guardrail being removed along the project, or may pick up guardrail at the Bailey Bridge lot in Frankfort to use for cribbing to stabilize the unpaved shoulder. Holes shall be drilled into new guardrail posts in order to bolt cribbing. The bid item "Cribbing" shall pay for pick up, delivery, placement, and attachment of the cribbing guardrail to the new guardrail posts as well as any excavation required to place the cribbing.



US 421
GUARDRAIL CRIBBING

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL EMBEDMENT DETAIL



NOTES:

① AT LOCATIONS SHOWN IN THE PLANS AND AS APPROVED BY ENGINEER, REMOVE THE STEEL "W" BEAM, OFFSET BLOCKS, AND MISCELLANEOUS HARDWARE FROM THE EXISTING GUARDRAIL AND DRIVE THE REMAINING GUARDRAIL POST INTO THE GROUND UNTIL FLUSH WITH OR BELOW THE FINAL SURFACE. IF UNABLE TO DRIVE EXISTING POST UNTIL FLUSH WITH FINAL SURFACE, THE REMAINING LENGTH EXPOSED SHALL BE CUT FLUSH WITH THE EXISTING SURFACE.

② INSTALL PROPOSED GUARDRAIL POSTS OFFSET LONGITUDINALLY FROM EMBEDDED EXISTING GUARDRAIL POSTS AS NECESSARY.

③ CONTRACTOR AND ENGINEER SHALL COORDINATE TO CONFIRM THAT DRIVING THE EXISTING POSTS DOES NOT DAMAGE EXISTING STRUCTURES OR EMBANKMENT PRIOR TO BEGINNING WORK.

④ THE EMBEDMENT OF GUARDRAIL POSTS SHALL FOLLOW "SECTION 719 - GUARDRAIL" IN THE KYTC STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION). EMBEDMENT OF EXISTING GUARDRAIL POSTS SHALL BE PAID FOR AS "SITE PREPARATION - EMBED EXISTING GUARDRAIL POST" (EACH) AT THE SPECIFIED LOCATIONS.

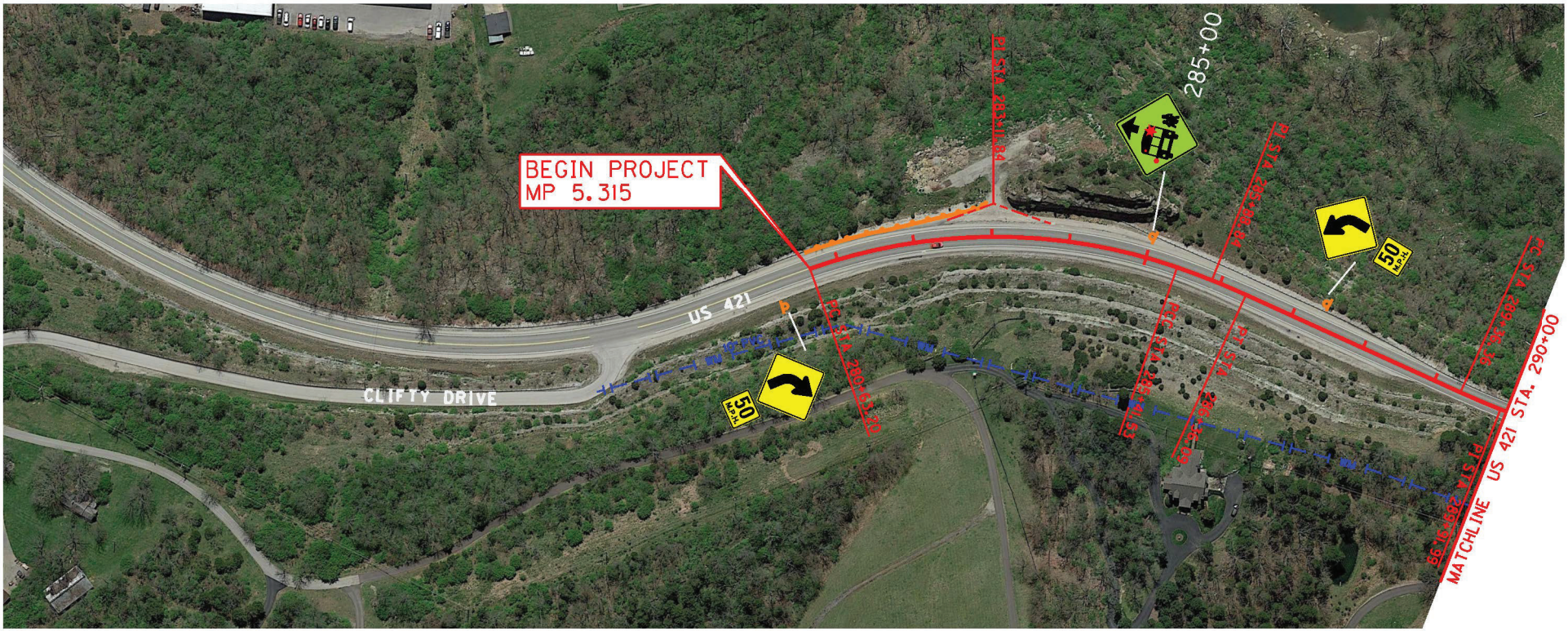
US 421
GUARDRAIL EMBEDMENT DETAIL

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 280+63 TO STA. 283+00
REMOVE 237.5 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
280+63	--	EXIST.	283+00	NO. 1	--	241.25'



LEGEND

- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

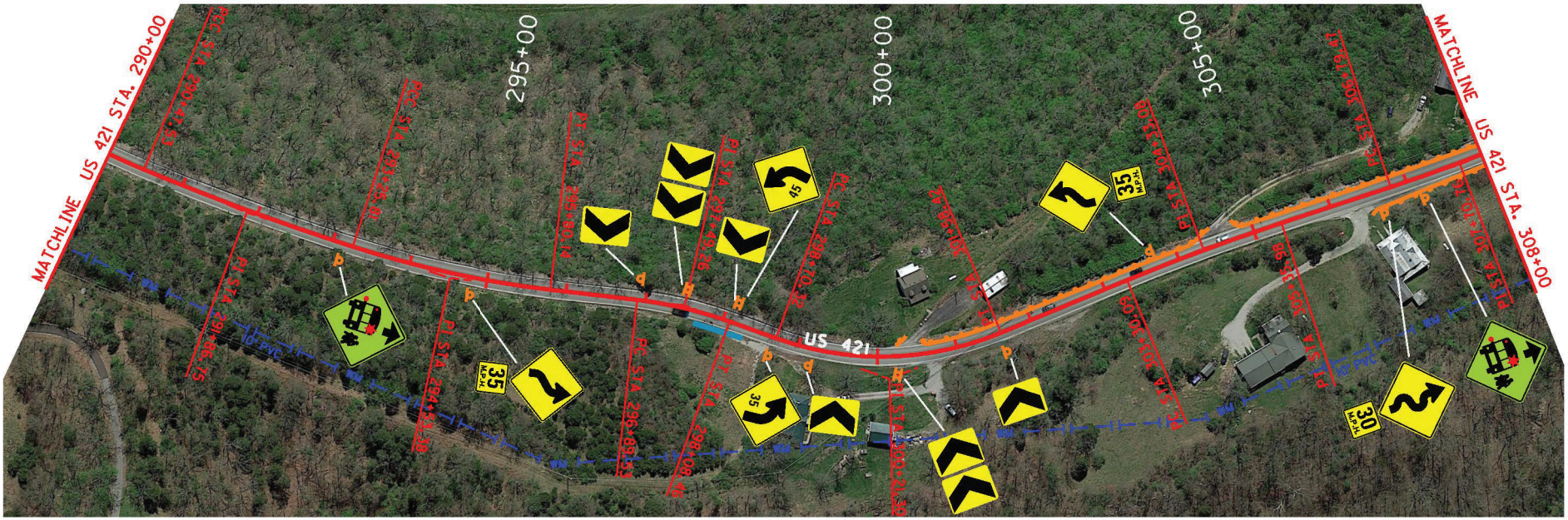
US 421
STA. 280+63.20 TO STA. 290+00
MP 5.315 TO MP 5.492

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 300+30 REMOVE EXIST. TERMINAL SECTION NO. 1
STA. 300+65 TO STA. 304+50 REMOVE 387.5 LF OF GUARDRAIL
STA. 304+75 TO STA. 308+00 REMOVE 327.5 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
300+30	--	EXIST.	300+40	NO. 1	--	16.25'
300+65	NO. 1	--	304+50	NO. 1	--	395'
304+75	NO. 1	--	308+00	--	--	331.25'



ROADSIDE REGRADING (RT.)
STA. 297+65 TO STA. 298+31

GUARDRAIL REMOVAL (RT.)
STA. 306+50 TO STA. 308+00 REMOVE 150 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
306+50	--	TY 4A	308+00	--	--	112.5'

LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

US 421
STA. 290+00 TO STA. 308+00
MP 5.492 TO MP 5.833

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

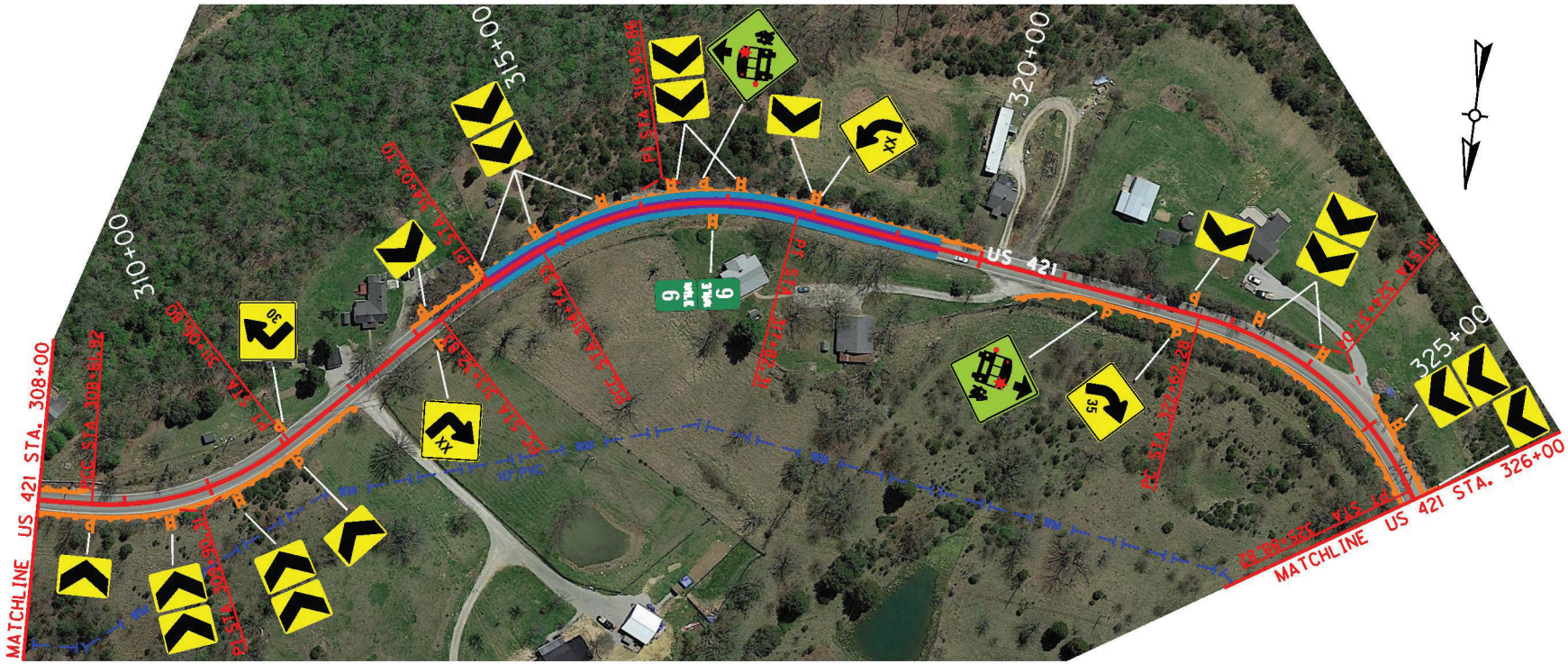
SUPERELEVATION IMPROVEMENT (BOTH LANES)
STA. 314+00 TO STA. 319+50

GUARDRAIL REMOVAL (LT.)
STA. 308+00 TO STA. 308+60
REMOVE 60 LF OF GUARDRAIL
STA. 312+00 TO STA. 312+20
REMOVE 25 LF OF GUARDRAIL
STA. 313+00 TO STA. 319+90
REMOVE 700 LF OF GUARDRAIL
STA. 324+75 TO STA. 326+00
REMOVE 130 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
308+00	--	--	308+60	--	TY 4A	22.5'
313+00	--	TY 7	320+00	--	TY 1	600'
324+75	--	TY 4A	326+00	--	--	92.5'

ROADSIDE REGRADING (LT.)
STA. 314+00 TO STA. 319+50



GUARDRAIL REMOVAL (RT.)
STA. 308+00 TO STA. 311+90
REMOVE 400 LF OF GUARDRAIL
STA. 320+50 TO STA. 326+00
REMOVE 551.25 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
308+00	--	--	311+90	NO. 1	--	403.75'
320+50	NO. 1	--	326+00	--	--	553'

ROADSIDE REGRADING (RT.)
STA. 314+00 TO STA. 319+50

LEGEND

- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

US 421
STA. 308+00 TO STA. 326+00
MP 5.833 TO MP 6.174

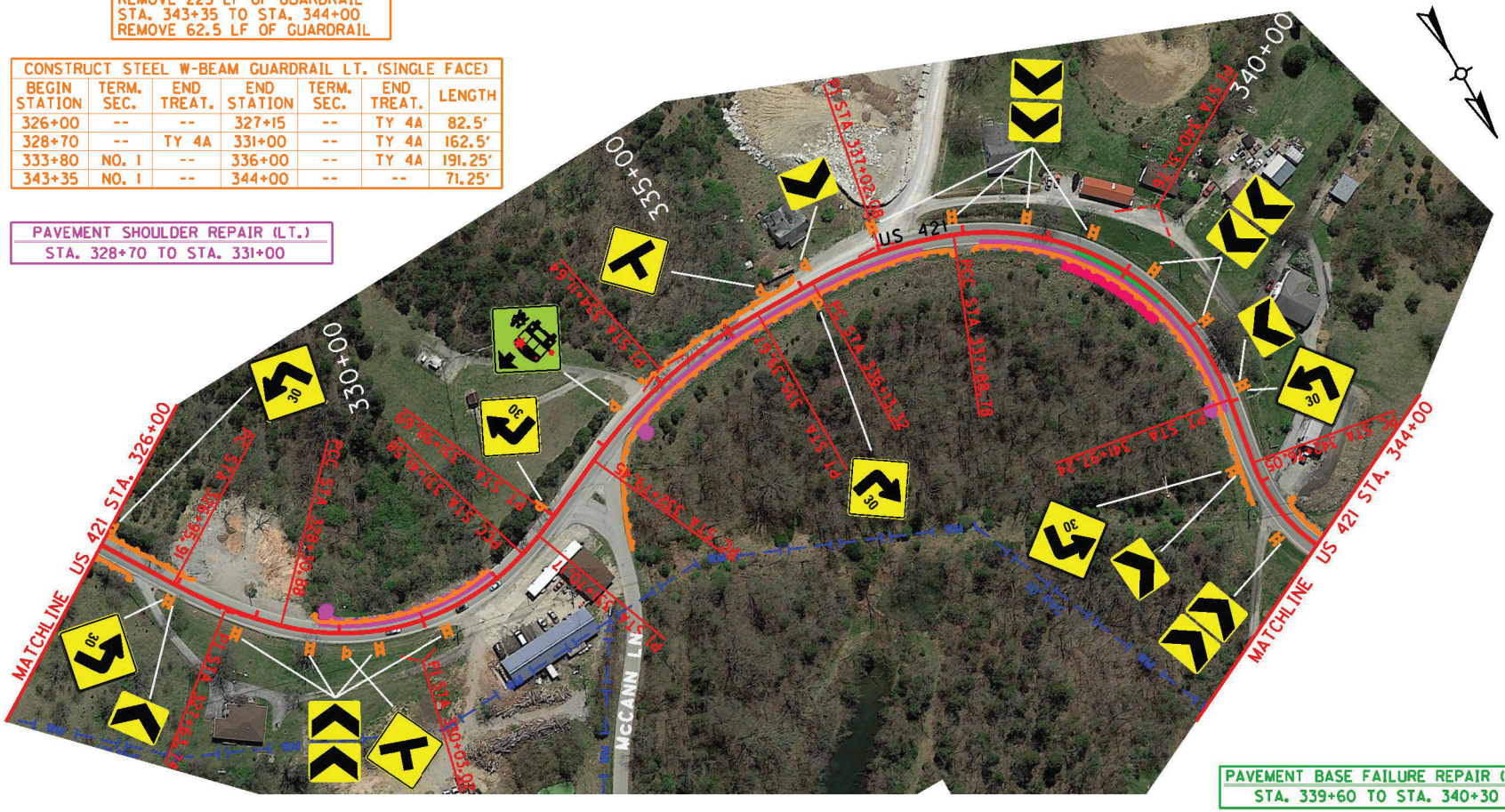
COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 326+00 TO STA. 327+15
REMOVE 120 LF OF GUARDRAIL
STA. 328+70 TO STA. 330+80
REMOVE 212.50 LF OF GUARDRAIL
STA. 333+80 TO STA. 336+00
REMOVE 225 LF OF GUARDRAIL
STA. 343+35 TO STA. 344+00
REMOVE 62.5 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
326+00	--	--	327+15	--	TY 4A	82.5'
328+70	--	TY 4A	331+00	--	TY 4A	162.5'
333+80	NO. 1	--	336+00	--	TY 4A	191.25'
343+35	NO. 1	--	344+00	--	--	71.25'

PAVEMENT SHOULDER REPAIR (LT.)
STA. 328+70 TO STA. 331+00



PAVEMENT BASE FAILURE REPAIR (RT.)
STA. 339+60 TO STA. 340+30

GUARDRAIL REMOVAL (RT.)
STA. 326+00 TO STA. 326+60
REMOVE 61.25 LF OF GUARDRAIL
STA. 332+00 TO STA. 337+90
REMOVE 600 LF OF GUARDRAIL
STA. 338+05 TO STA. 343+00
REMOVE 500 LF OF GUARDRAIL

RAILROAD RAIL CRIBBING (RT.)
STA. 339+20 TO STA. 340+70

PAVEMENT SHOULDER REPAIR (RT.)
STA. 333+30 TO STA. 337+50
STA. 338+20 TO STA. 342+00

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
326+00	--	--	326+60	NO. 1	--	63.25'
332+00	--	TY 4A	337+90	NO. 1	--	566.25'
338+05	NO. 1	--	343+20	--	TY 4A	491.25'

LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

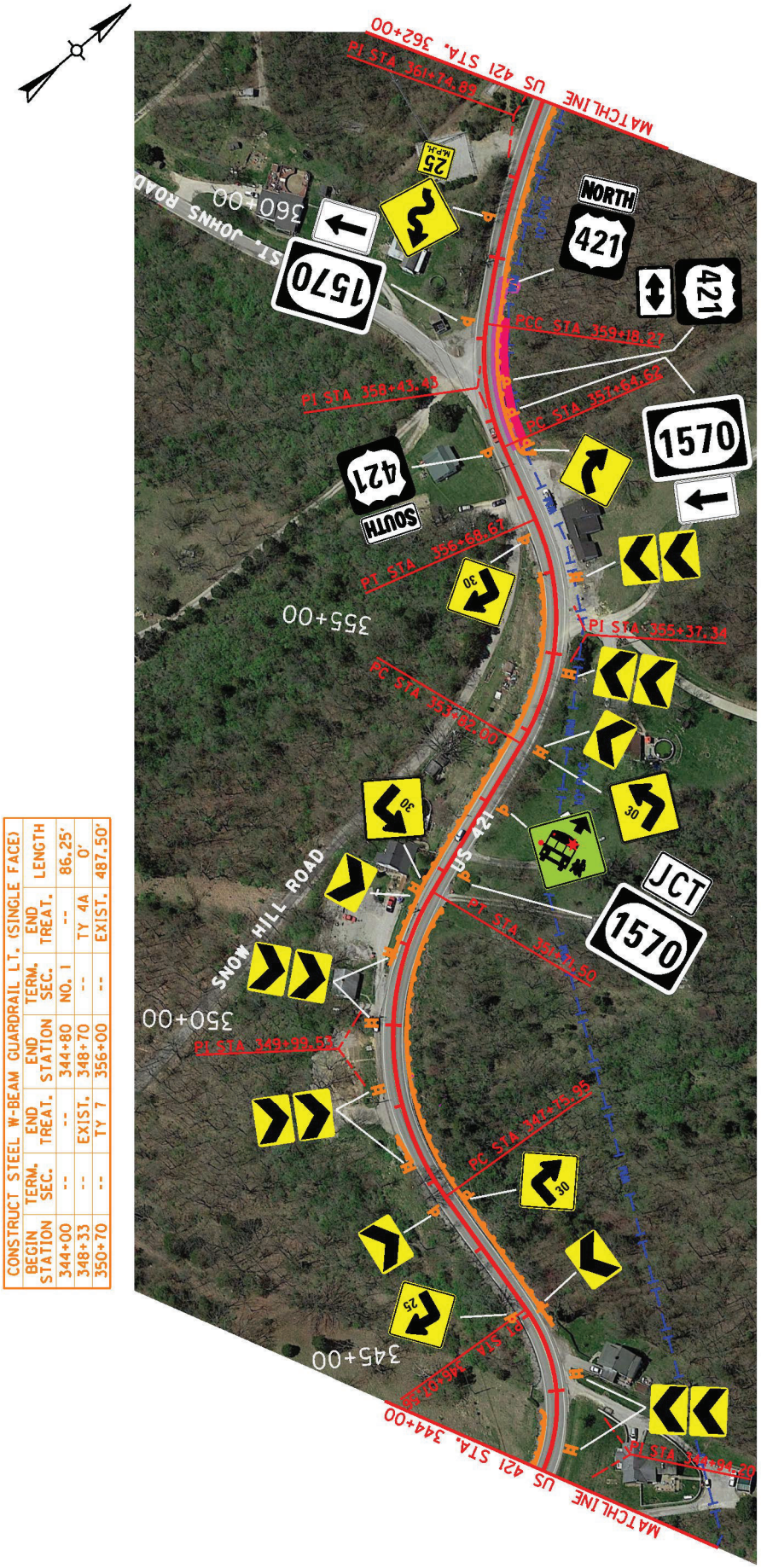
SCALE: 1" = 200'

US 421
STA. 326+00 TO STA. 344+00
MP 6.174 TO MP 6.515

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

US 421
STA. 344+00 TO STA. 362+00
MP 6.515 TO MP 6.856

SCALE: 1" = 200'



GUARDRAIL REMOVAL (LT.)
STA. 344+00 TO STA. 344+80
REMOVE 82.5 LF OF GUARDRAIL
STA. 348+33 TO STA. 348+45
REMOVE 12.50 LF OF GUARDRAIL
STA. 350+70 TO STA. 356+00
REMOVE 537.50 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
344+00	--	--	344+80	NO. 1	--	86.25'
348+33	--	EXIST.	348+70	--	TY 4A	0'
350+70	--	TY 7	356+00	--	EXIST.	487.50'

GUARDRAIL REMOVAL (RT.)
STA. 345+90 TO STA. 349+25
REMOVE 337.5 LF OF GUARDRAIL
STA. 357+20 TO STA. 362+00
REMOVE 485.5 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
345+80	--	TY 4A	351+60	--	TY 4A	512.5'
357+20	NO. 1	--	362+00	--	--	486.25'

RAILROAD RAIL CRIBBING (RT.)
STA. 357+55 TO STA. 359+25

PAVEMENT SHOULDER REPAIR (RT.)
STA. 357+55 TO STA. 359+70

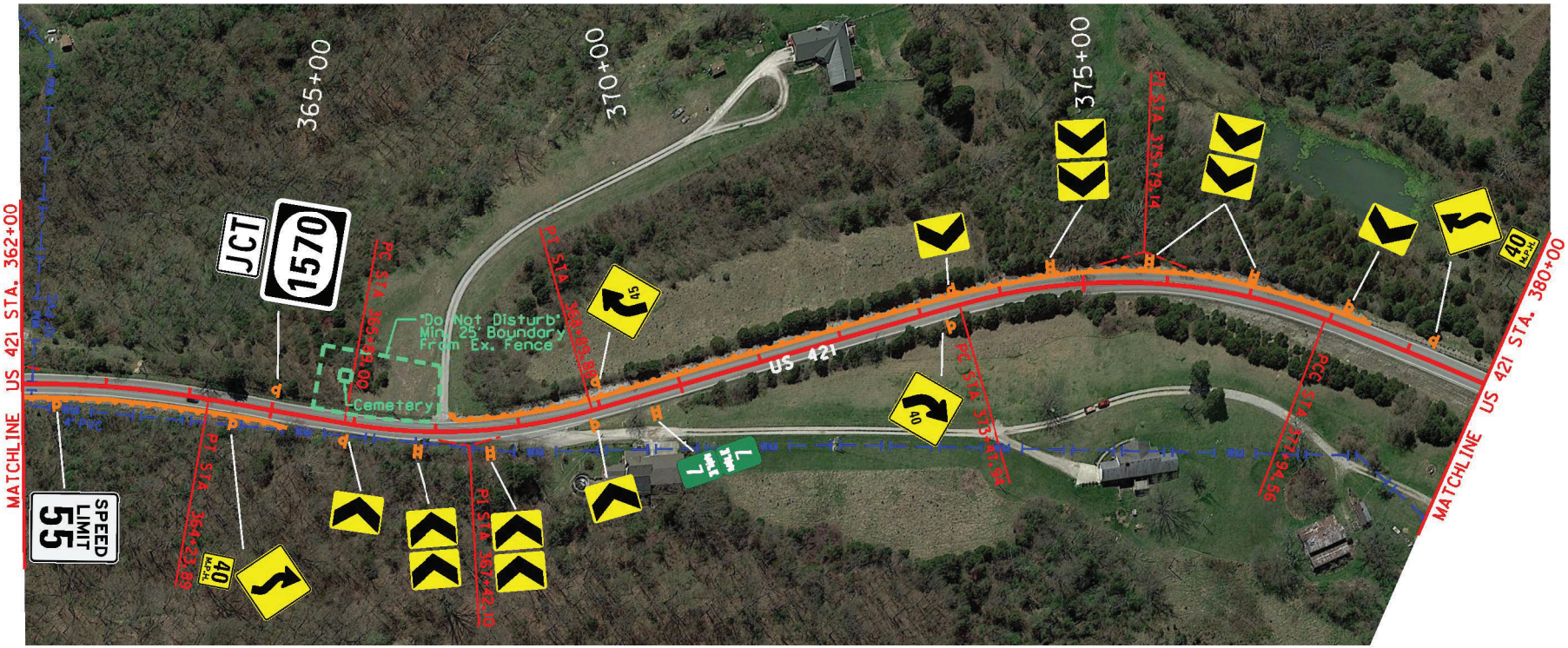
LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 367+15 TO STA. 378+50
REMOVE 1,137.5 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
367+15	NO. 1	--	378+50	--	EXIST.	1,141.25'



GUARDRAIL REMOVAL (RT.)
STA. 362+00 TO STA. 365+25
REMOVE 327 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
362+00	--	--	365+25	--	TY 4A	292.5'

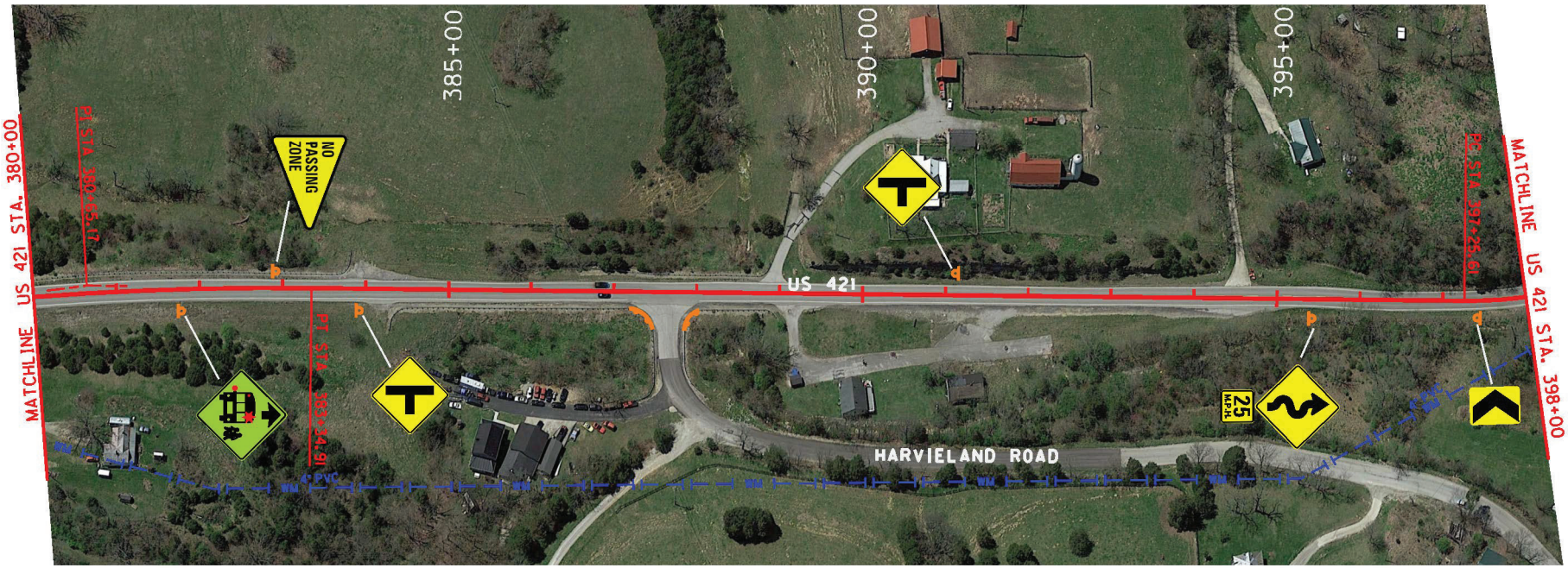
LEGEND

- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

US 421
STA. 362+00 TO STA. 380+00
MP 6.856 TO MP 7.197

COUNTY OF	ITEM NO.
FRANKLIN	5-9022



LEGEND

- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
387+20	--	EXIST.	387+50	--	EXIST.	48.75'
387+75	--	EXIST.	388+10	--	EXIST.	48.75'

GUARDRAIL REMOVAL (RT.)

STA. 387+20 TO STA. 387+50
REMOVE 37.5 LF OF GUARDRAIL
STA. 387+75 TO STA. 388+10
REMOVE 37.5 LF OF GUARDRAIL

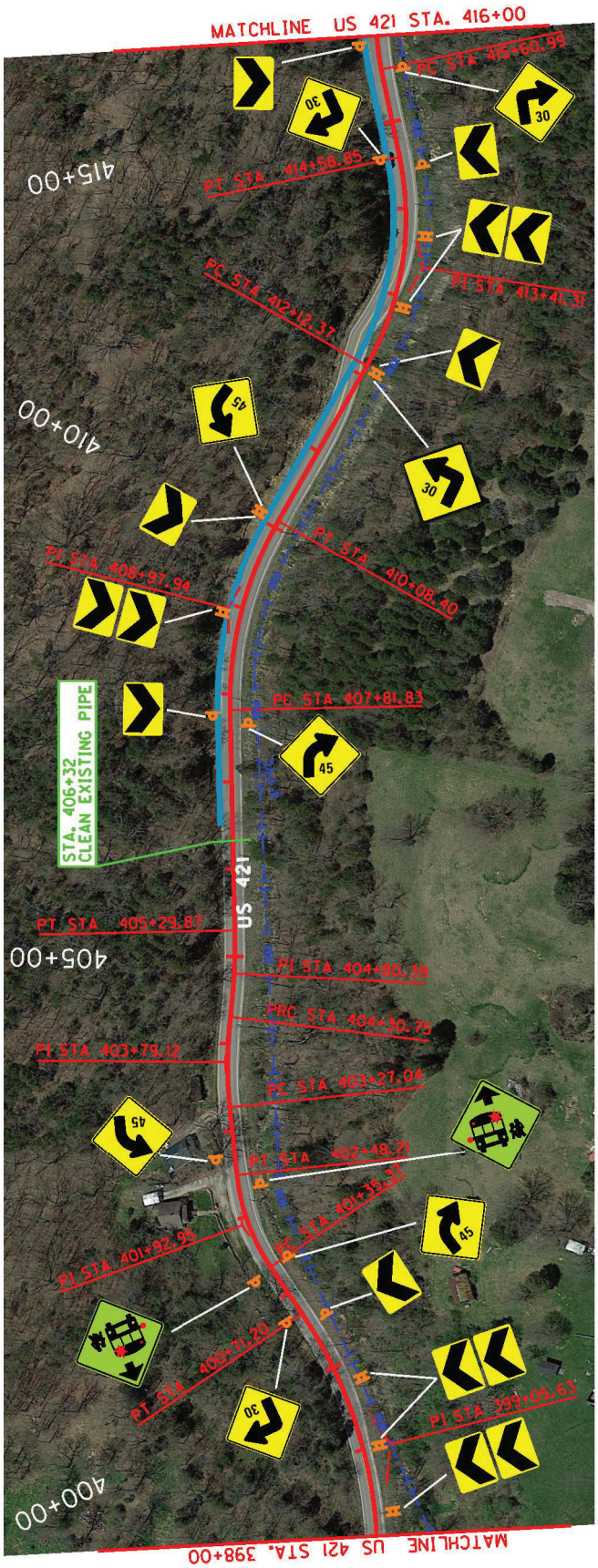
SCALE: 1" = 200'

US 421
STA. 380+00 TO STA. 398+00
MP 7.197 TO MP 7.538

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

US 421
STA. 398+00 TO STA. 416+00
MP 7.538 TO MP 7.879

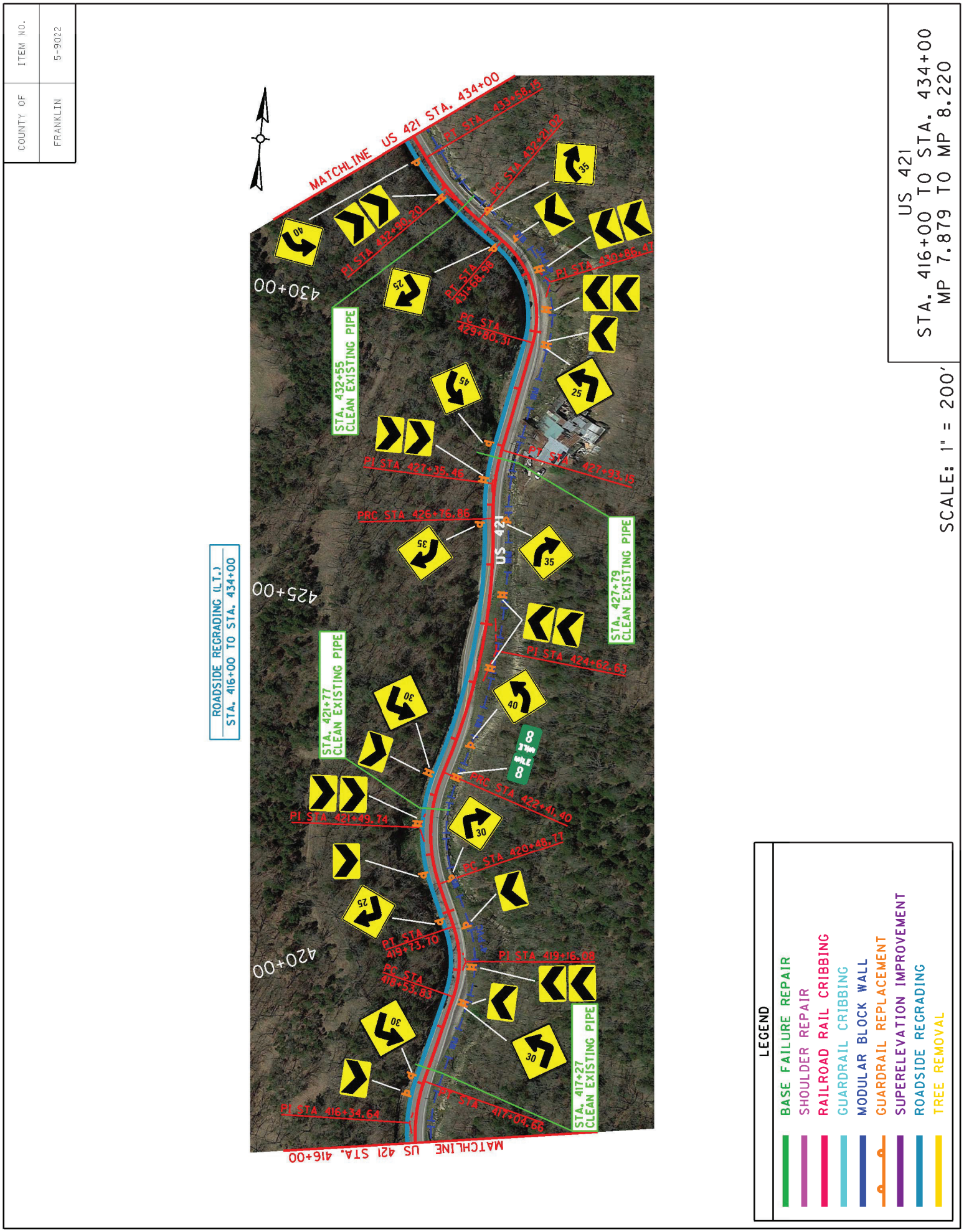
SCALE: 1" = 200'



ROADSIDE REGRADING (LT.)
STA. 406+50 TO STA. 416+00

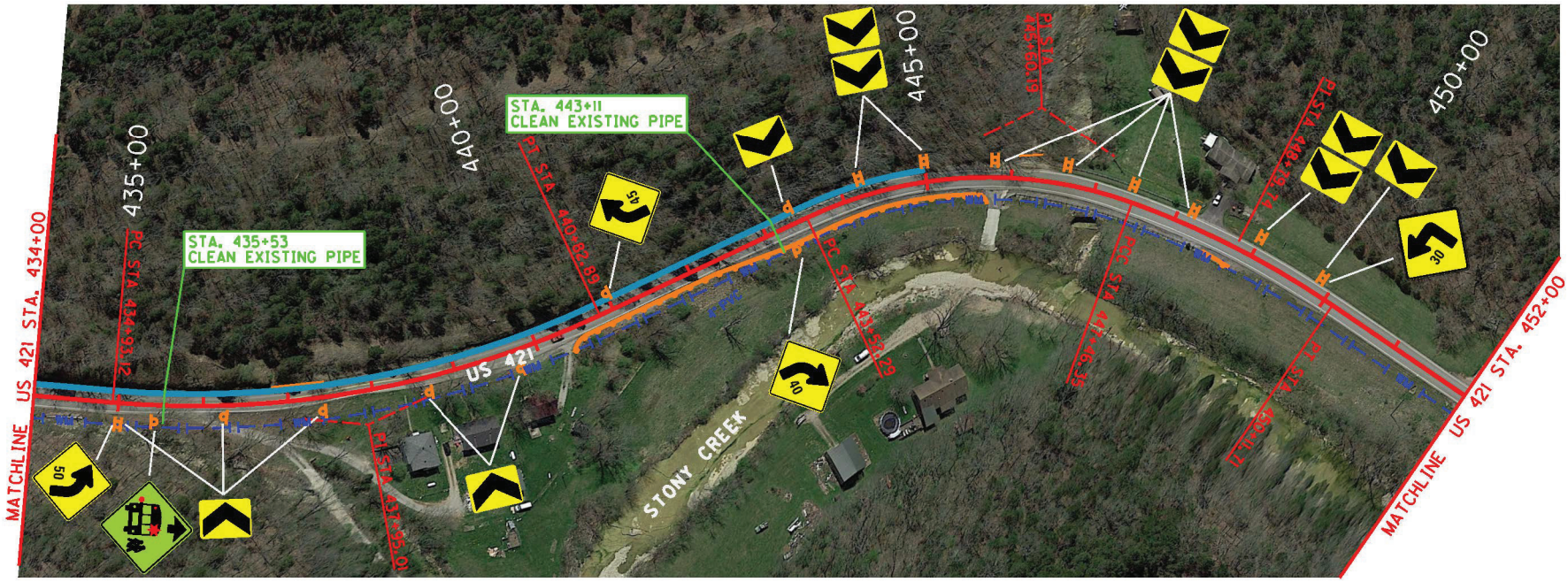
LEGEND

- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL


COUNTY OF
FRANKLIN
ITEM NO.
5-9022
ROADSIDE REGRADING (LT.)
STA. 416+00 TO STA. 434+00
MATCHLINE US 421 STA. 434+00
MATCHLINE US 421 STA. 416+00
US 421
PI STA 433+58.15
PC STA 432+21.02
PI STA 432+80.20
PI STA 431+68.98
PC STA 429+80.31
PI STA 430+86.47
PI STA 427+93.15
STA. 432+55
CLEAN EXISTING PIPE
PI STA 421+35.46
PRC STA 426+76.86
STA. 427+79
CLEAN EXISTING PIPE
PI STA 424+62.63
STA. 421+77
CLEAN EXISTING PIPE
PRC STA 422+41.40
PI STA 421+49.74
PC STA 420+46.77
PI STA 419+73.70
PC STA 418+53.83
PI STA 419+16.08
STA. 417+27
CLEAN EXISTING PIPE
PI STA 416+34.64
PI STA 417+04.66
430+00
425+00
420+00
SCALE: 1" = 200'
US 421
STA. 416+00 TO STA. 434+00
MP 7.879 TO MP 8.220
LEGEND
BASE FAILURE REPAIR
SHOULDER REPAIR
RAILROAD RAIL CRIBBING
GUARDRAIL CRIBBING
MODULAR BLOCK WALL
GUARDRAIL REPLACEMENT
SUPERELEVATION IMPROVEMENT
ROADSIDE REGRADING
TREE REMOVAL

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

ROADSIDE REGRADING (LT.)
STA. 434+00 TO STA. 445+00



GUARDRAIL REMOVAL (RT.)
STA. 440+40 TO STA. 445+85
REMOVE 550 LF OF GUARDRAIL
STA. 448+43 TO STA. 448+80
REMOVE 37.5 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)						
BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
440+40	NO. 1	--	445+85	NO. 1	--	557.50'
448+43	--	EXIST.	448+80	--	TY 4A	0'

LEGEND

- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

US 421
STA. 434+00 TO STA. 452+00
MP 8.220 TO MP 8.561

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

US 421
STA. 452+00 TO STA. 470+00
MP 8.561 TO MP 8.902

SCALE: 1" = 200'

GUARDRAIL REMOVAL (LT.)

STA. 455+00 TO STA. 457+20
REMOVE 225 LF OF GUARDRAIL
STA. 457+80 TO STA. 459+80
REMOVE 200 LF OF GUARDRAIL
STA. 461+00 TO STA. 467+60
REMOVE 662.5 LF OF GUARDRAIL
STA. 467+95 TO STA. 470+00
REMOVE 206 LF OF GUARDRAIL

GUARDRAIL CRIBBING (LT.)

STA. 463+70 TO STA. 464+15
STA. 465+40 TO STA. 466+80

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
455+00	NO. 1	--	457+20	--	EXIST.	232.5'
457+80	--	EXIST.	459+80	--	TY 4A	162.5'
460+05	--	TY 4A	467+60	NO. 1	--	757.5'
467+95	--	TY 4A	470+00	--	--	168.5'

LEGEND

- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

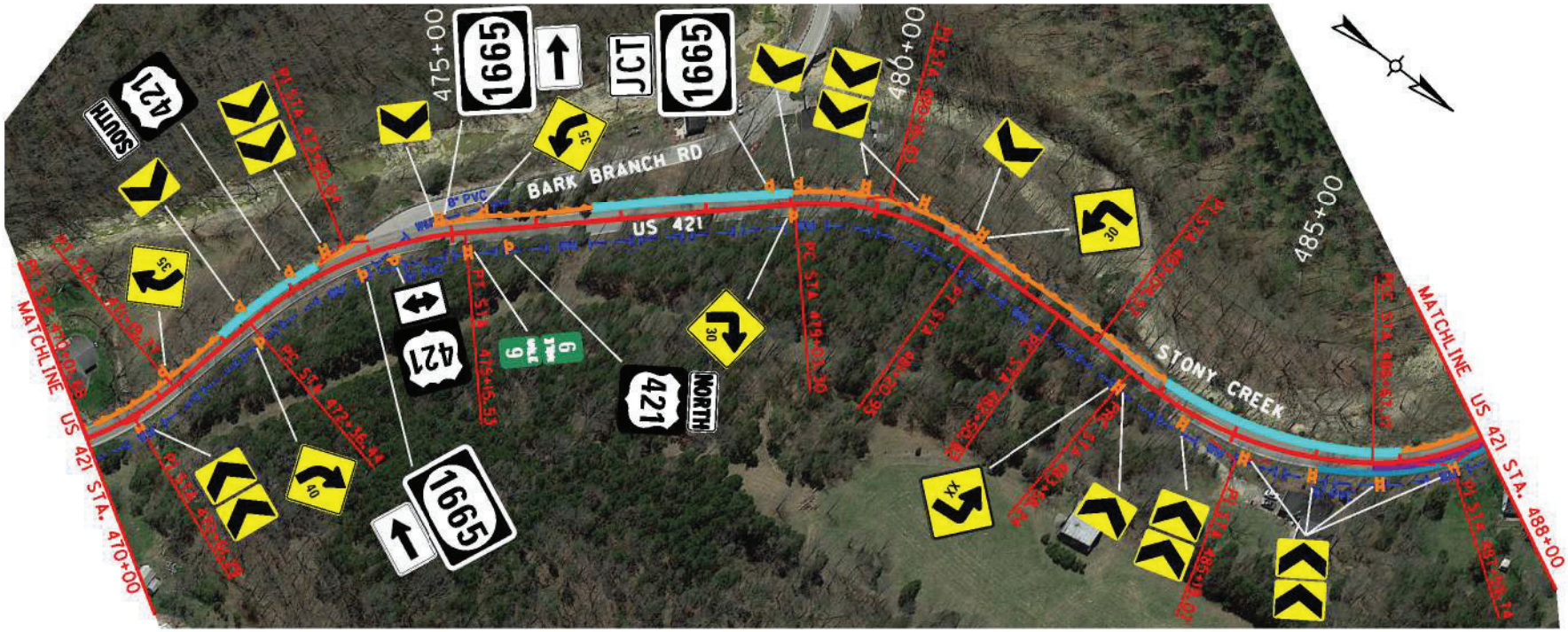
COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 470+00 TO STA. 470+05
REMOVE 6.5 LF OF GUARDRAIL
STA. 470+15 TO STA. 474+00
REMOVE 387.5 LF OF GUARDRAIL
STA. 474+70 TO STA. 482+50
REMOVE 787.5 LF OF GUARDRAIL
STA. 483+30 TO STA. 488+00
REMOVE 475 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
470+00	--	--	470+05	NO. 1	--	6.5'
470+15	NO. 1	--	474+00	--	EXIST.	237.5'
474+70	--	TY 4A	488+00	--	--	1,300'

GUARDRAIL CRIBBING (LT.)
STA. 472+00 TO STA. 474+00
STA. 476+70 TO STA. 479+00
STA. 484+00 TO STA. 487+00



SUPERELEVATION IMPROVEMENT (RIGHT LANE)
STA. 486+65 TO STA. 488+00

ROADSIDE REGRADING (RT.)
STA. 486+06 TO STA. 488+00

LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

US 421
STA. 470+00 TO STA. 488+00
MP 8.902 TO MP 9.242

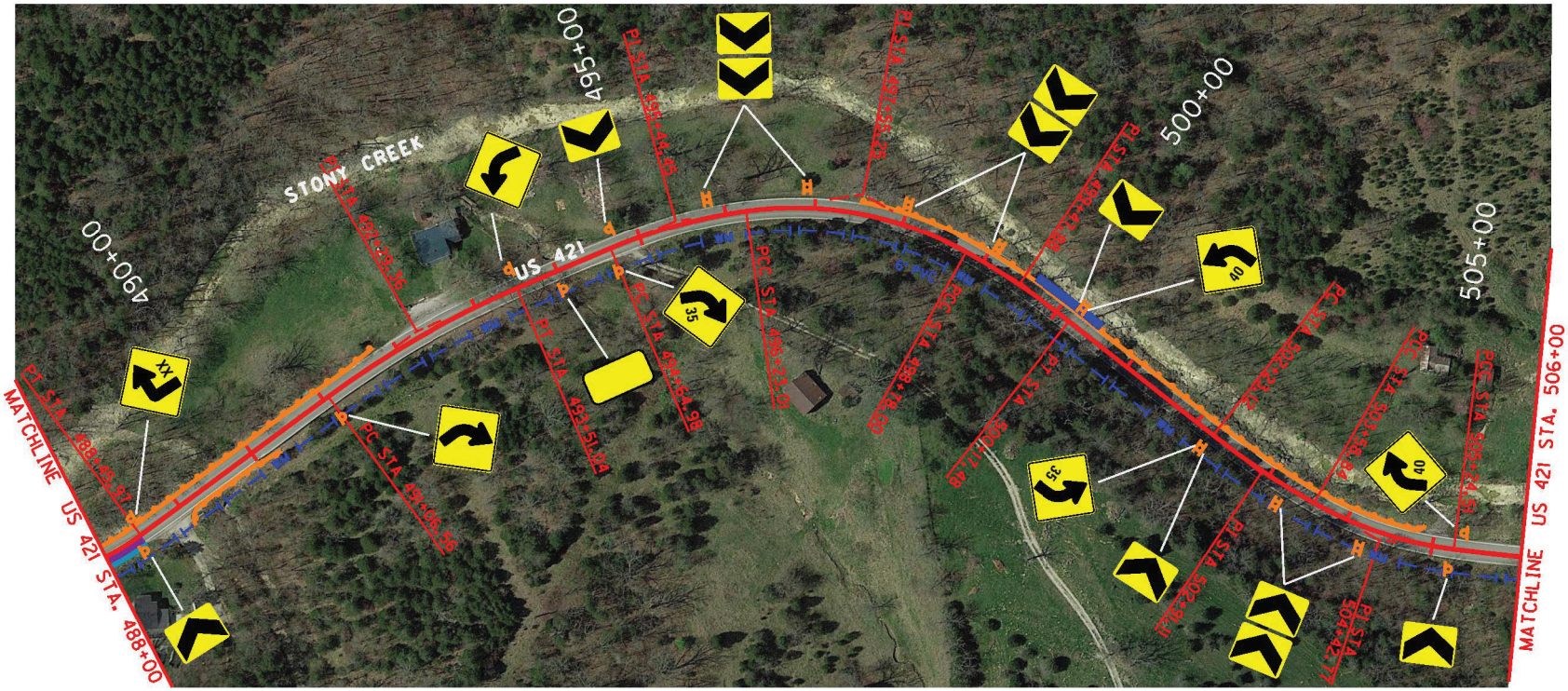
COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 488+00 TO STA. 490+85
REMOVE 287.5 LF OF GUARDRAIL
STA. 498+95 TO STA. 504+90
REMOVE 600 LF OF GUARDRAIL

MODULAR BLOCK WALL (LT.)
STA. 499+60 TO STA. 500+50 INSTALL 30 SF RETAINING WALL - MODULAR CONCRETE

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
488+00	--	--	491+80	--	TY 4A	350'
497+50	--	TY 4A	504+90	NO. 1	--	716.25'



SUPERELEVATION IMPROVEMENT (RIGHT LANE)
STA. 488+00 TO STA. 488+45

ROADSIDE REGRADING (LT.)
STA. 488+00 TO STA. 488+45

GUARDRAIL REMOVAL (LT.)
STA. 489+05 TO STA. 490+30
REMOVE 125 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
489+00	NO. 1	--	490+30	--	TY 4A	103.75'

LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

US 421
STA. 488+00 TO STA. 506+00
MP 9.242 TO MP 9.583

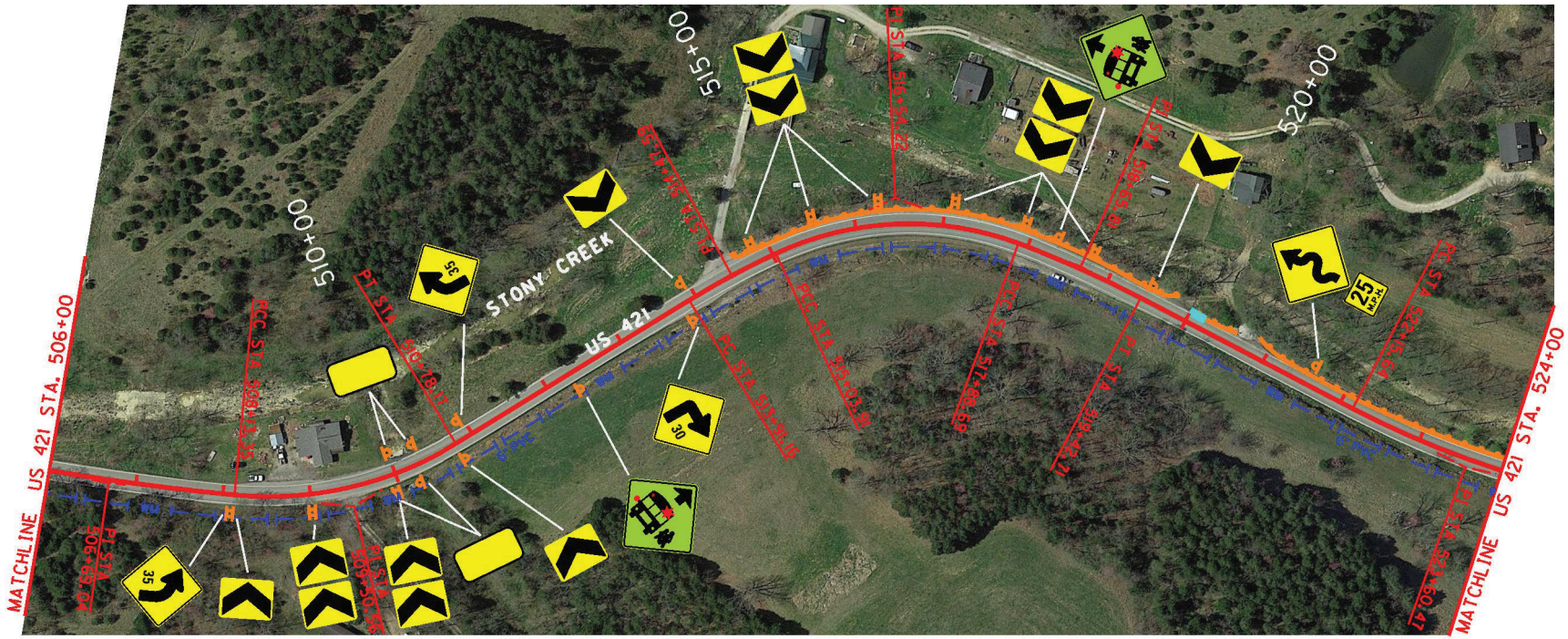
COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 514+55 TO STA. 519+60
REMOVE 512.5 LF OF GUARDRAIL
STA. 520+00 TO STA. 520+55
REMOVE 62.5 LF OF GUARDRAIL
STA. 520+75 TO STA. 524+00
REMOVE 332.5 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
514+55	NO. 1	--	519+70	NO. 1	--	532.5'
520+00	--	TY 2A	520+55	--	TY 2A	62.5'
520+75	NO. 1	--	524+00	--	--	332.5'

GUARDRAIL CRIBBING (LT.)
STA. 520+00 TO STA. 520+20



LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

US 421
STA. 506+00 TO STA. 524+00
MP 9.583 TO MP 9.924

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

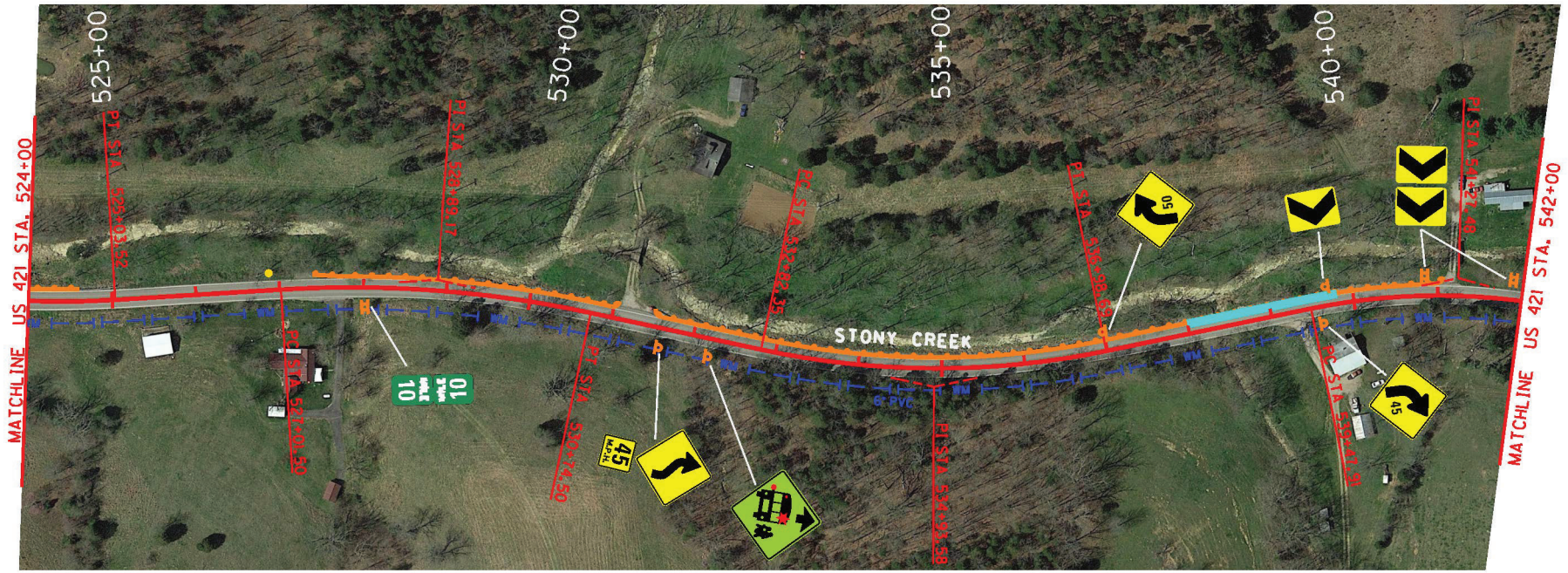
GUARDRAIL REMOVAL (LT.)
STA. 524+00 TO STA. 524+55
REMOVE 55 LF OF GUARDRAIL
STA. 527+40 TO STA. 530+60
REMOVE 325 LF OF GUARDRAIL
STA. 531+45 TO STA. 540+40
REMOVE 900 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)

BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
524+00	--	--	524+55	--	EXIST.	55'
527+40	--	TY 4A	531+05	NO. 1	--	341.25'
531+45	NO. 1	--	541+20	NO. 1	--	995'

TREE REMOVAL (LT.)
STA. 526+88 REMOVE 1 TREE & 1 STUMP

GUARDRAIL CRIBBING (LT.)
STA. 538+00 TO STA. 539+75



LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

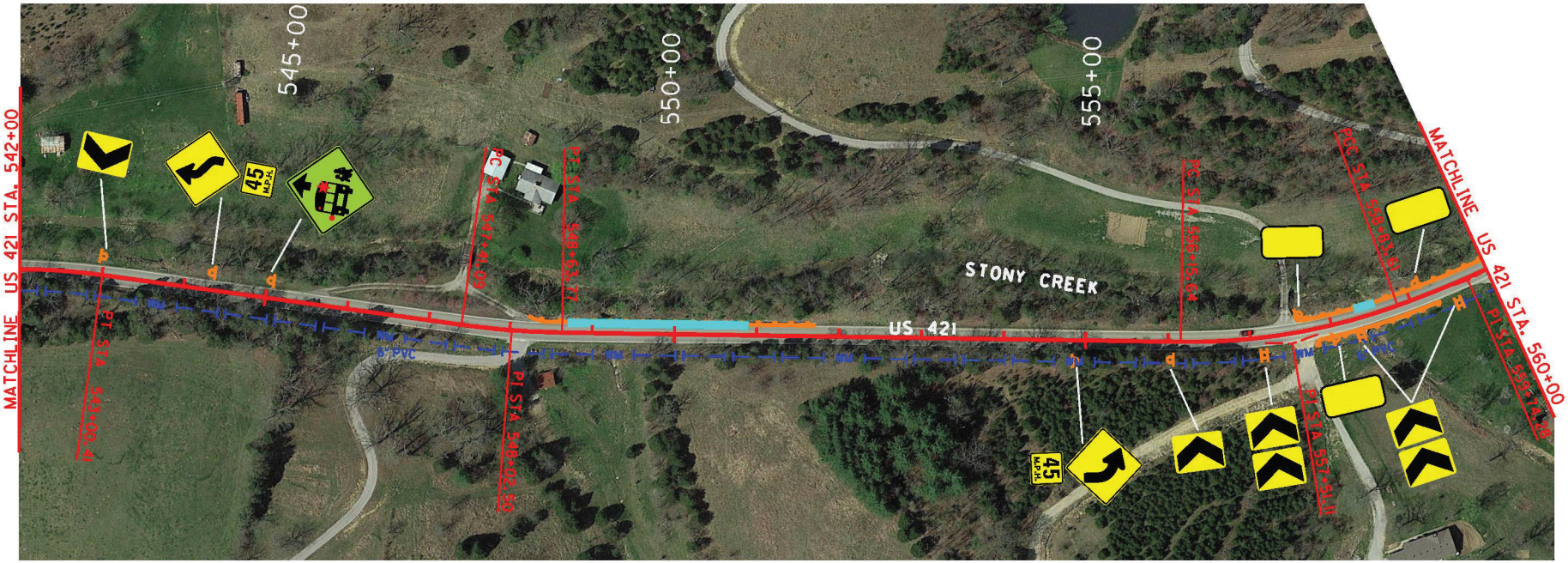
US 421
STA. 524+00 TO STA. 542+00
MP 9.924 TO MP 10.265

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 548+30 TO STA. 551+70
REMOVE 350 LF OF GUARDRAIL
STA. 557+55 TO STA. 559+00
REMOVE 150 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)						
BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
548+30	NO. 1	--	551+70	--	TY 1	312.5'
PROPOSED LENGTH INCLUDES 12.5 LF OF BRIDGE RAIL - CASE 1						
557+55	NO. 1	--	560+00	--	--	253.75'
PROPOSED LENGTH INCLUDES 12.5 LF OF BRIDGE RAIL - CASE 1						

GUARDRAIL CRIBBING (LT.)
STA. 548+70 TO STA. 550+90
STA. 558+35 TO STA. 558+60



GUARDRAIL REMOVAL (RT.)
STA. 558+15 TO STA. 559+15
REMOVE 100 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)						
BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
557+75	NO. 1	--	559+40	--	TY 4A	141.25'

LEGEND

- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

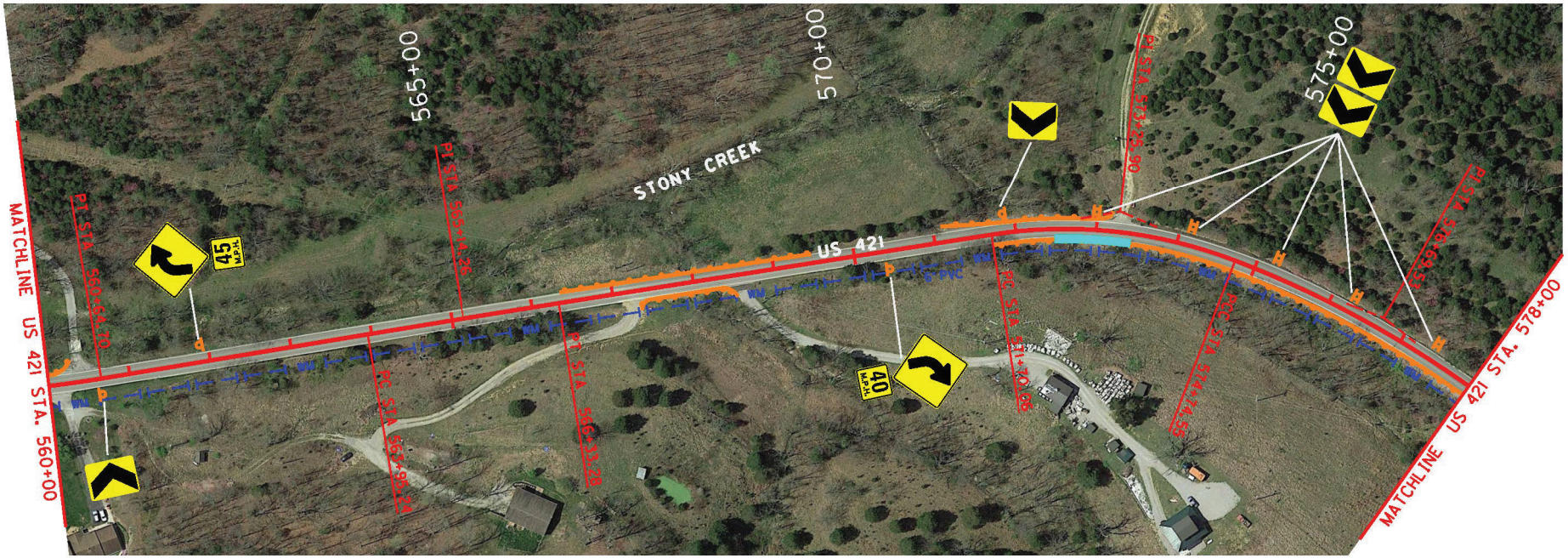
SCALE: 1" = 200'

US 421
STA. 542+00 TO STA. 560+00
MP 10.265 TO MP 10.606

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

GUARDRAIL REMOVAL (LT.)
STA. 567+75 TO STA. 568+30
REMOVE 62.5 LF OF GUARDRAIL
STA. 571+05 TO STA. 573+25
REMOVE 225 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL LT. (SINGLE FACE)						
BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
560+00	--	--	560+30	NO. 1	--	45'
566+35	--	TY 4A	569+50	--	TY 1	237.5'
PROPOSED LENGTH INCLUDES 12.5 LF OF BRIDGE RAIL - CASE 1						
571+05	--	TY 4A	573+25	NO. 1	--	191.25'



GUARDRAIL REMOVAL (RT.)
STA. 567+70 TO STA. 568+35
REMOVE 75 LF OF GUARDRAIL
STA. 571+70 TO STA. 578+00
REMOVE 630 LF OF GUARDRAIL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)						
BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
567+30	NO. 1	--	568+55	NO. 1	--	132.5'
PROPOSED LENGTH INCLUDES 12.5 LF OF BRIDGE RAIL - CASE 1						
571+70	--	TY 1	578+00	--	--	587.5'

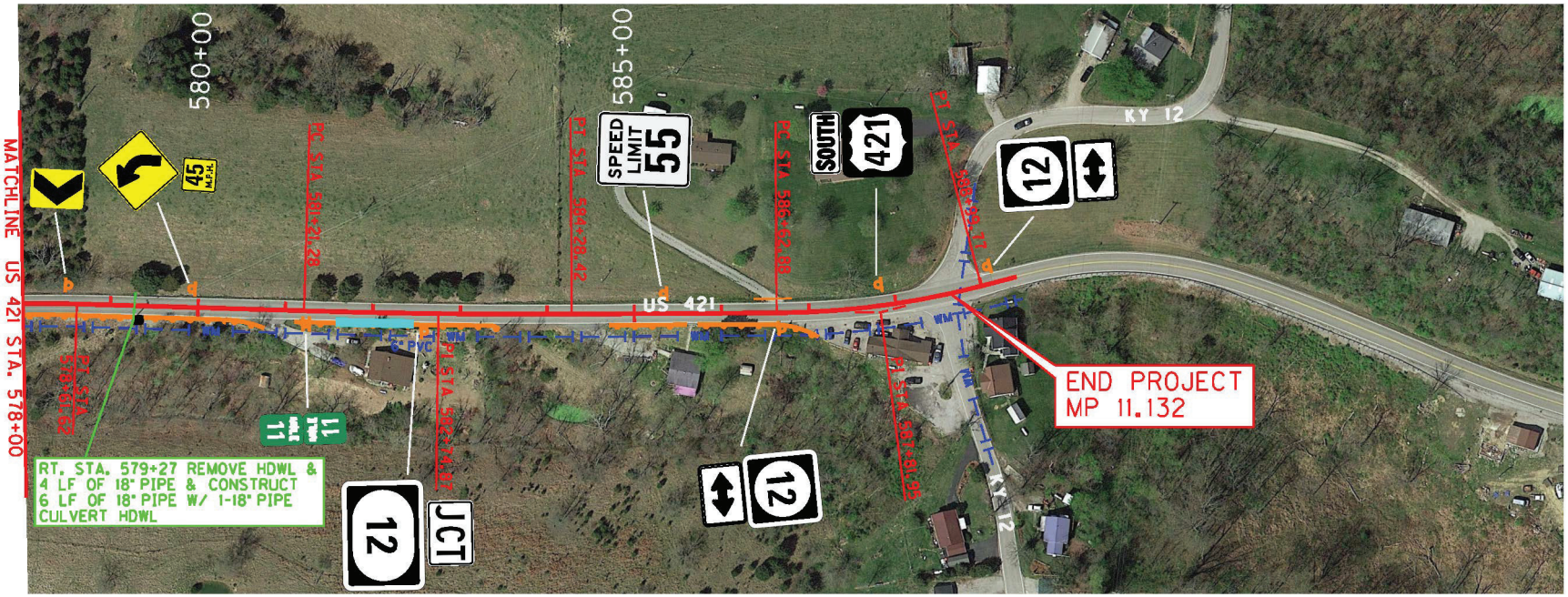
GUARDRAIL CRIBBING (RT.)
STA. 572+50 TO STA. 573+50

LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

SCALE: 1" = 200'

US 421
STA. 560+00 TO STA. 578+00
MP 10.606 TO MP 10.947

COUNTY OF	ITEM NO.
FRANKLIN	5-9022



GUARDRAIL CRIBBING (RT.)
STA. 581+60 TO STA. 582+45

GUARDRAIL REMOVAL (RT.)
STA. 578+00 TO STA. 580+80
REMOVE 282.5 LF OF GUARDRAIL
STA. 581+10 TO STA. 583+45
REMOVE 237.5 LF OF GUARDRAIL
STA. 584+74 TO STA. 585+65
REMOVE 100 LF OF GUARDRAIL
STA. 585+75 TO STA. 587+15
REMOVE 150 LF OF GUARDRAIL

LEGEND
- BASE FAILURE REPAIR
- SHOULDER REPAIR
- RAILROAD RAIL CRIBBING
- GUARDRAIL CRIBBING
- MODULAR BLOCK WALL
- GUARDRAIL REPLACEMENT
- SUPERELEVATION IMPROVEMENT
- ROADSIDE REGRADING
- TREE REMOVAL

CONSTRUCT STEEL W-BEAM GUARDRAIL RT. (SINGLE FACE)

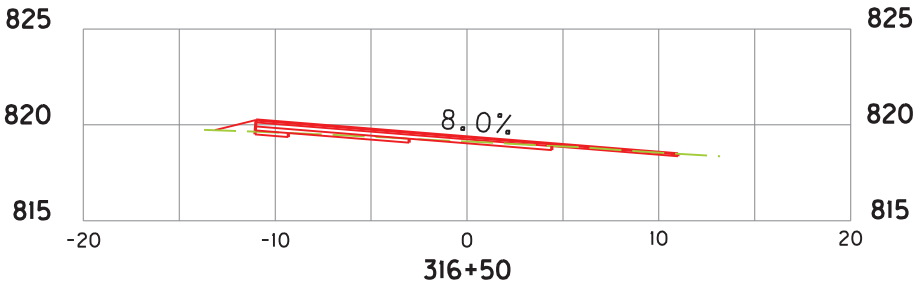
BEGIN STATION	TERM. SEC.	END TREAT.	END STATION	TERM. SEC.	END TREAT.	LENGTH
578+00	--	--	580+80	NO. 1	--	287.5'
581+10	--	TY 1	583+45	NO. 1	--	191.25'
584+75	--	TY 7	585+65	NO. 1	--	50'
585+75	NO. 1	--	587+15	NO. 1	--	153.75'

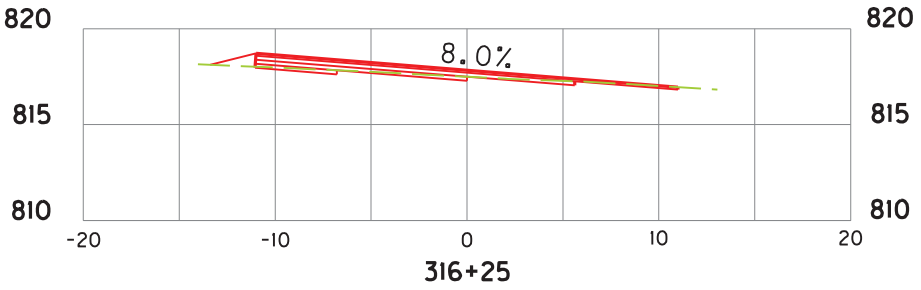
SCALE: 1" = 200'

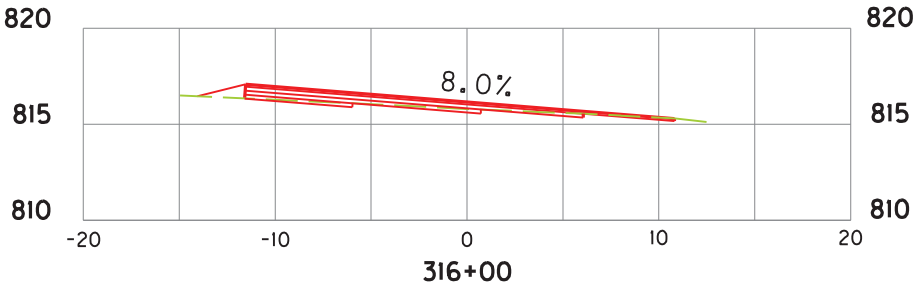
US 421
STA. 578+00 TO STA. 588+63.11
MP 10.947 TO MP 11.132

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

SUPERELEVATION TRANSITION		
STA.	CROSS-SLOPE	
	WB LANE	EB LANE
314+00	EXISTING	EXISTING
314+40.33	4.0% (→)	-4.0% (→)
315+42.33	8.0% (→)	-8.0% (→)
317+14.31	8.0% (→)	-8.0% (→)
318+16.31	4.0% (→)	-4.0% (→)
318+67.31	2.0% (→)	-2.0% (→)
319+18.31	FLAT	-2.0% (→)
319+50	EXISTING	EXISTING





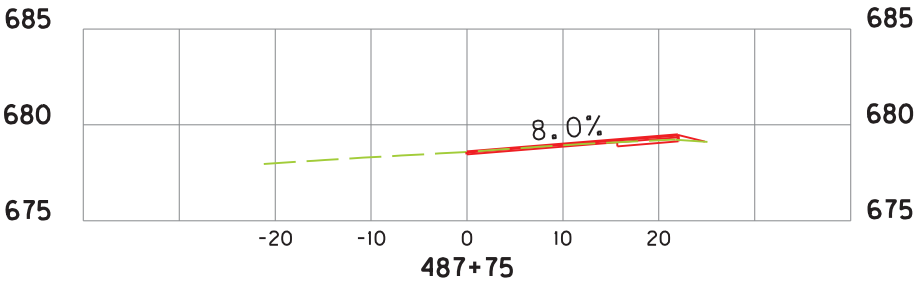


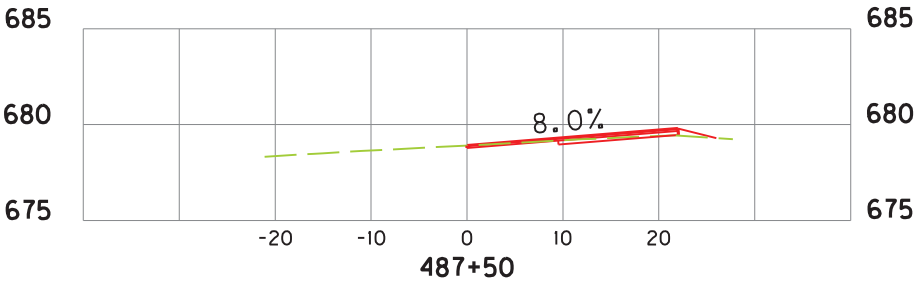
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

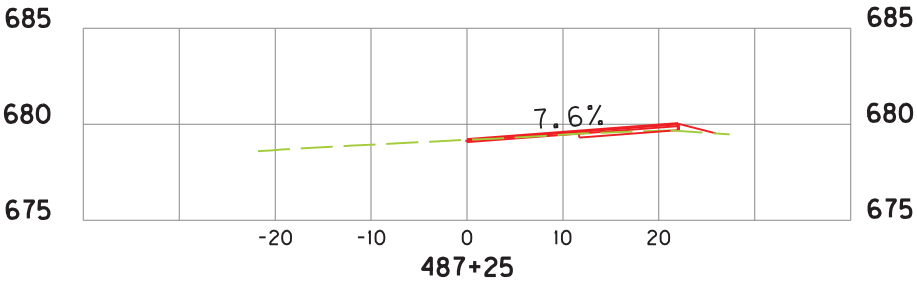
US 421
SUPERELEVATION DETAIL
PI STA 316+36.86

SUPERELEVATION TRANSITION		
STA.	CROSS-SLOPE	
	WB LANE	EB LANE
486+65	EXISTING	EXISTING
487+35.17	EXISTING	8.0% (◄—)
487+77.97	EXISTING	8.0% (◄—)
488+45	EXISTING	EXISTING

COUNTY OF	ITEM NO.
FRANKLIN	5-9022







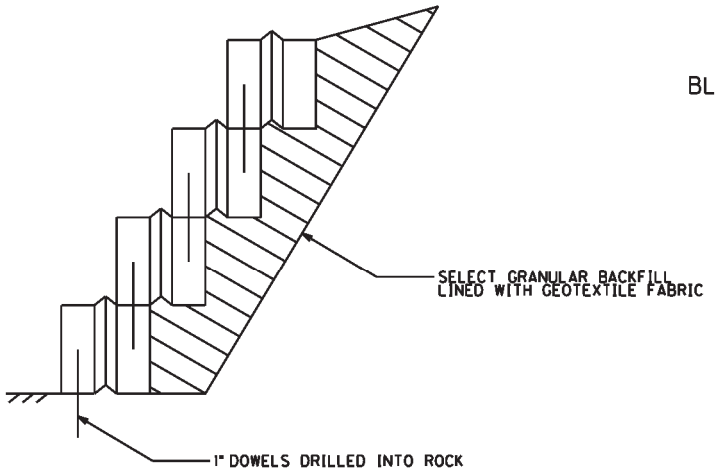
SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

US 421
SUPERELEVATION DETAIL
PI STA 487+59.74

COUNTY OF	ITEM NO.
FRANKLIN	5-9022

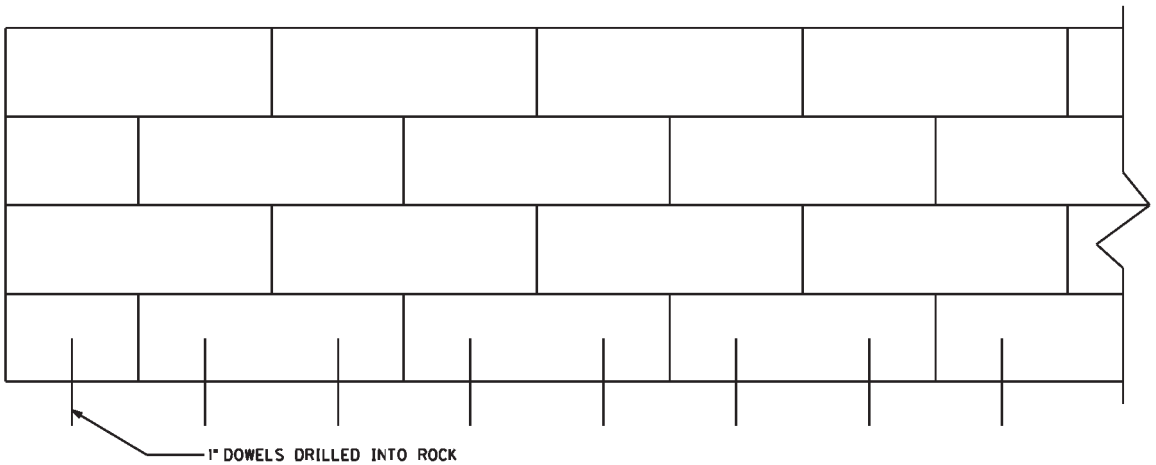
CONCRETE BLOCK WALL

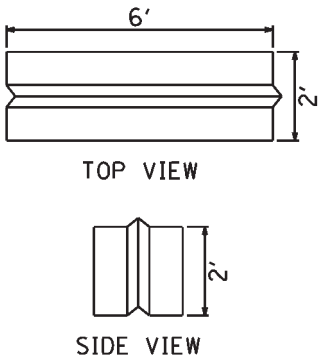
PROFILE VIEW



BLOCKS SHALL BE PLACED ON SOLID ROCK

FRONT VIEW

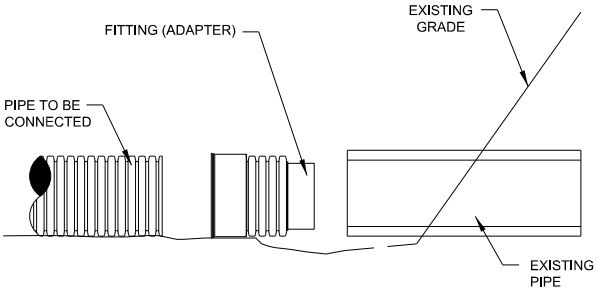


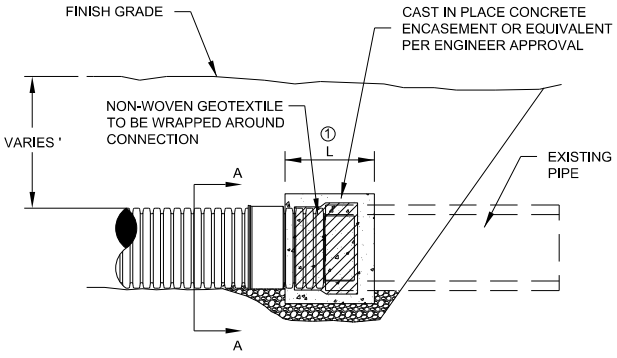


CONCRETE BLOCK DETAIL

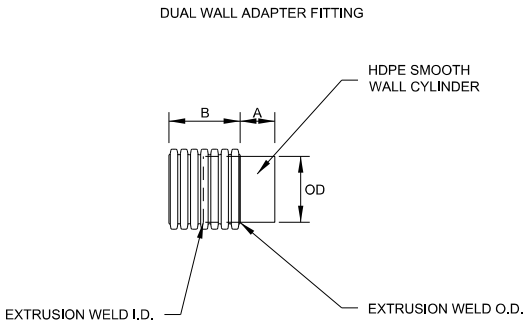
US 421
RETAINING WALL
MODULAR BLOCK

PIPE EXTENSION DUAL WALL ADAPTER FITTING DETAILS
ADAPTER TO DISSIMILAR MATERIAL

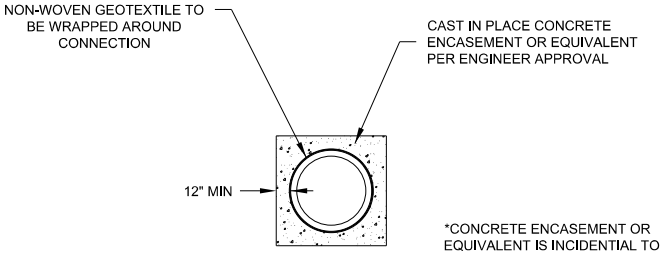




PIPE	L
15"	24"
18"	24.8"
24"	29.6"
36"	49.4"



PIPE	A	B	OD
15"	6"	13"	15"
18"	6"	13.4"	18"
24"	8"	15.8"	24"
36"	10"	25.7"	36"



SECTION "A-A"

CAST IN PLACE CONCRETE ENCASEMENT	
APPROXIMATE QUANTITIES	
PIPE	CLASS "A" CONC. (CUYD)
15"	0.82
18"	0.95
24"	1.40
36"	3.29

FIGURE 1

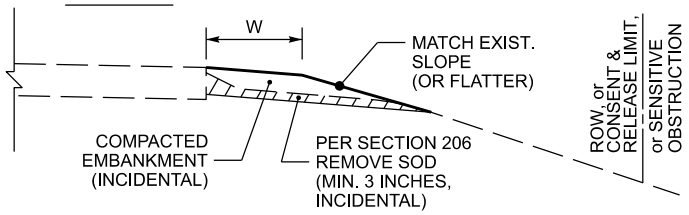


FIGURE 2

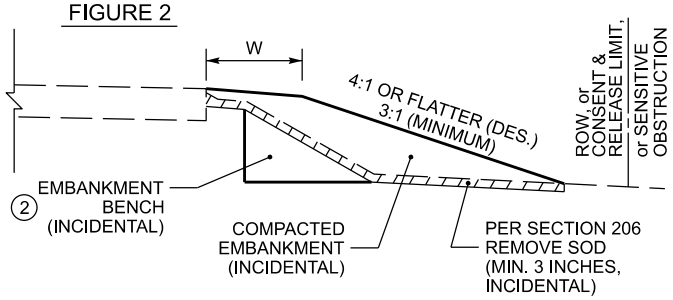


FIGURE 3

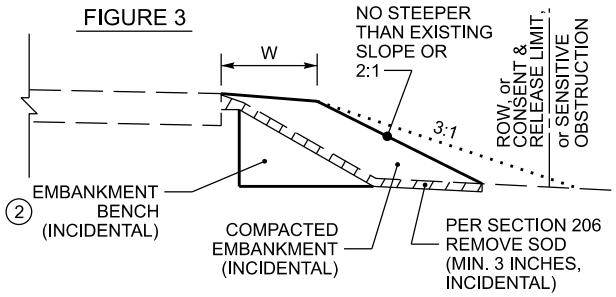


FIGURE 4

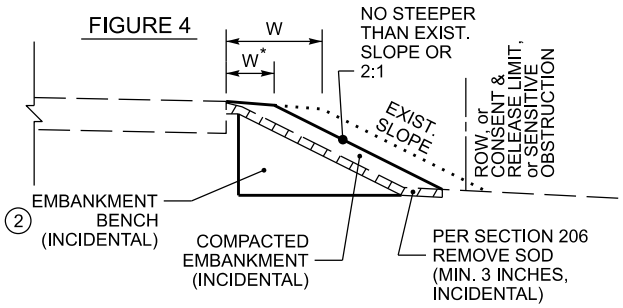


FIGURE 5

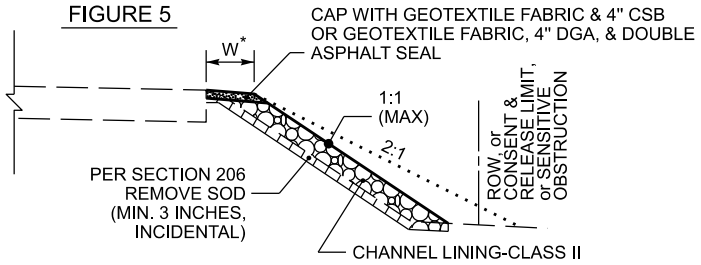
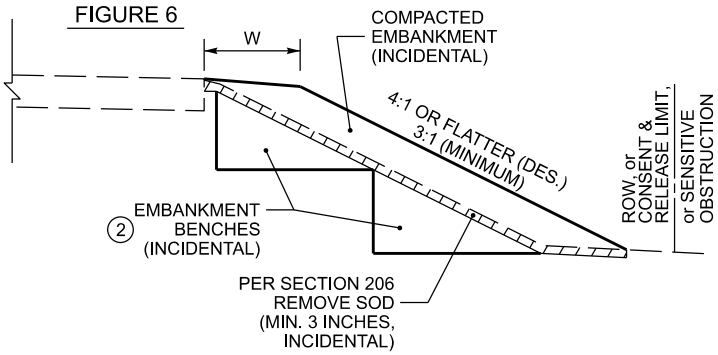


FIGURE 6



~ 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

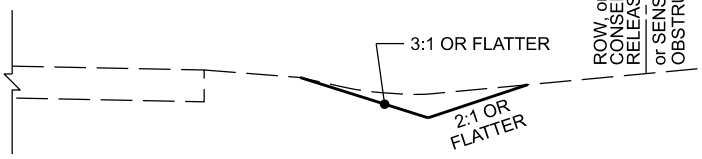


FIGURE 8

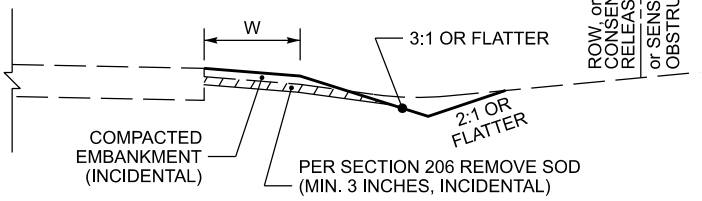


FIGURE 9

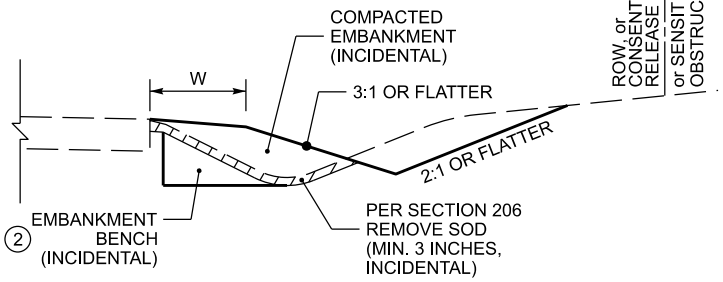


FIGURE 10

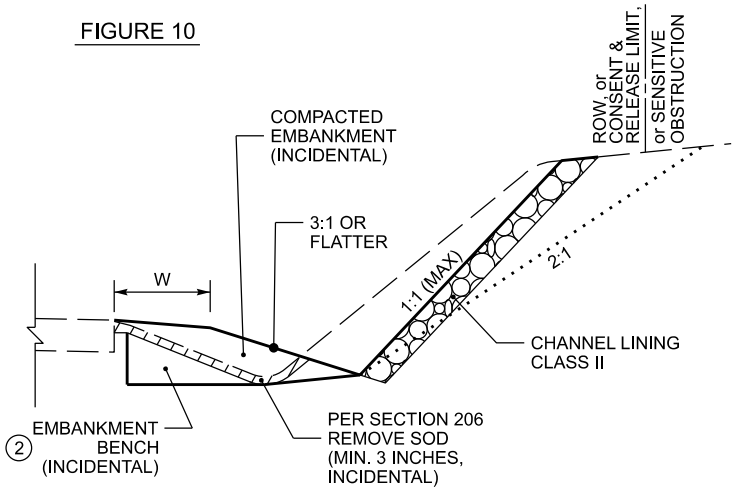
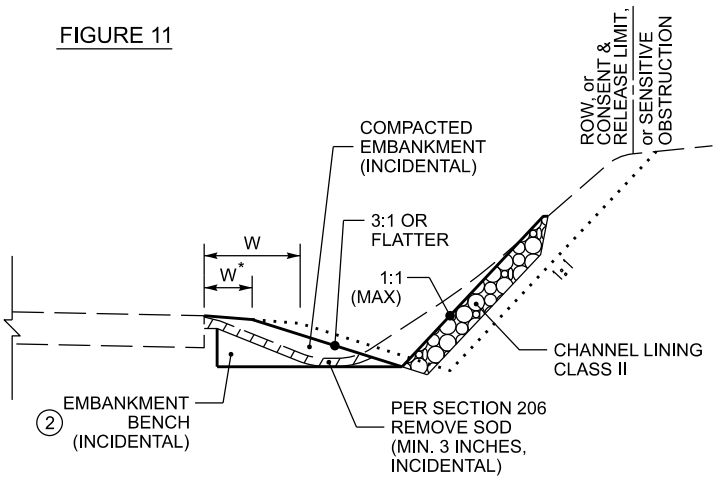


FIGURE 11



~ 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.

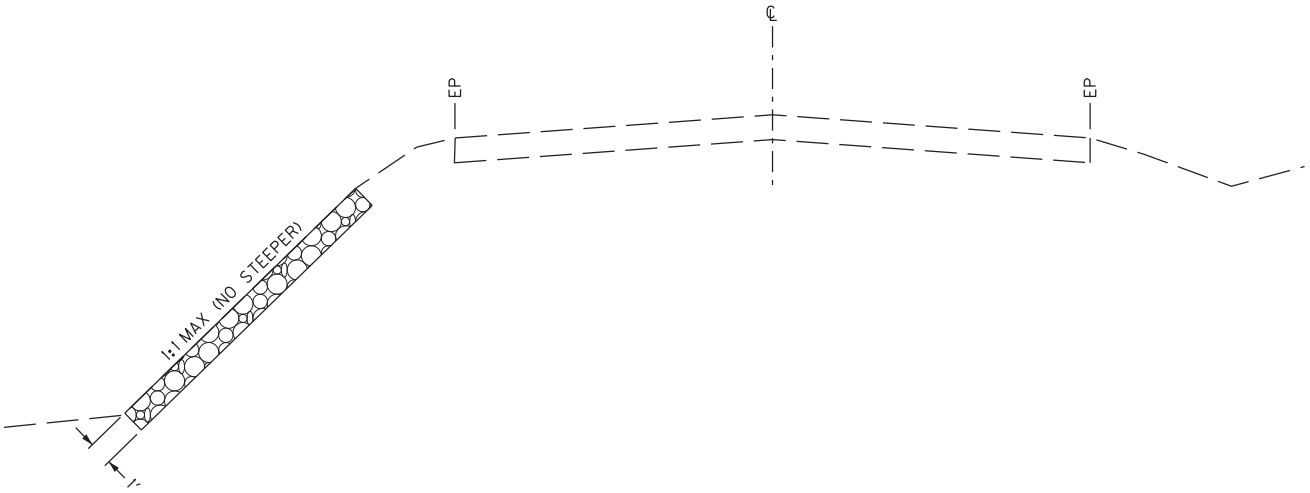
SEE SHEET 1 FOR NOTES 3. THRU 8.

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.

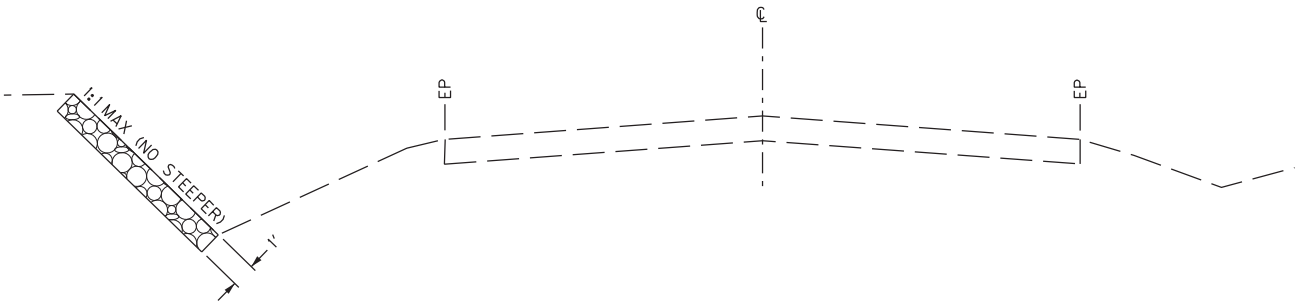
NOT TO SCALE

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

COUNTY OF	ITEM NO.	SHEET NO.



PROTECTION DETAIL FOR EMBANKMENT FILL SLOPE



PROTECTION DETAIL FOR DITCH BACKSLOPE

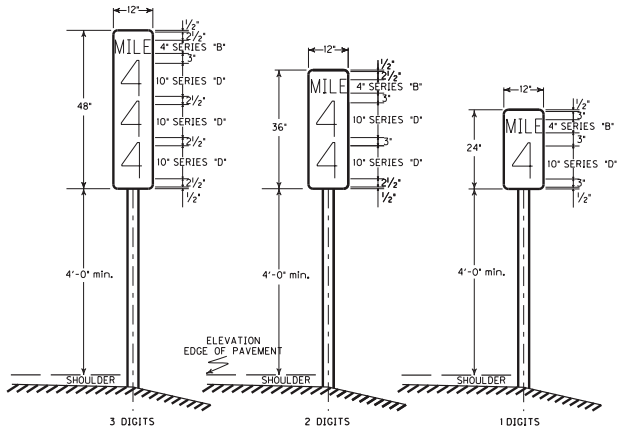
NOTES:

1. SEE CHANNEL LINING SUMMARY FOR APPROXIMATE LOCATIONS OF SLOPE PROTECTION.
2. FINAL LOCATIONS TO BE DETERMINED BY THE ENGINEER.
3. EXCAVATION IS INCIDENTAL TO THE PLACEMENT OF THE CHANNEL LINING.

SLOPE PROTECTION DETAILS

COUNTY OF	ITEM NO.	SHEET NO.

MILEPOST MARKERS



TYPICAL SIGN PANEL DIMENSIONS AND MILEPOST LOCATIONS

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

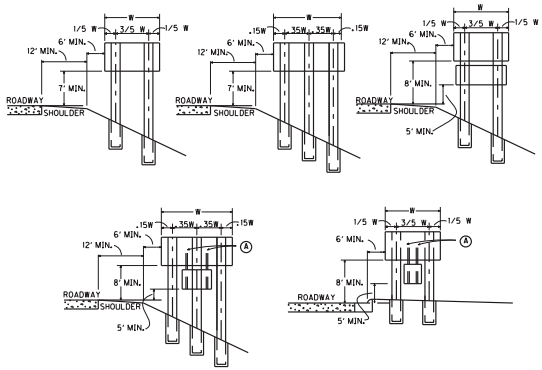
MILE POST NUMBER	STATION NUMBER ✳ ____ BOUND LANE (S)

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:

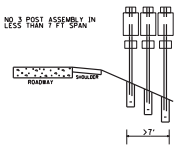
901 WEST MAIN STREET
LOUISVILLE, KY 40202
502-587-6624
270-307-7456

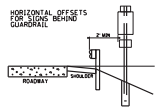
PANEL SIGNS



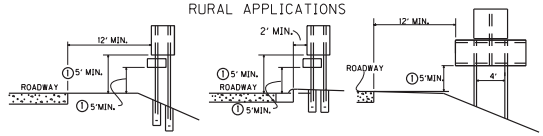
Ⓐ ATTACHMENT OF SECONDARY SIGN TO MAJOR SIGN IS TO BE MADE WITH TWO (2) 3" X 3" X ¾" ANGLES OF SUFFICIENT LENGTH TO EXTEND FROM THE LOWER EDGE OF THE SECONDARY SIGN TO AT LEAST THREE FEET UP THE BACK OF THE MAJOR SIGN. A MINIMUM OF ONE POST CLIP PER FOOT SHALL BE USED IN ATTACHING EXTRUSIONS TO EACH ANGLE.

SHEETING SIGNS

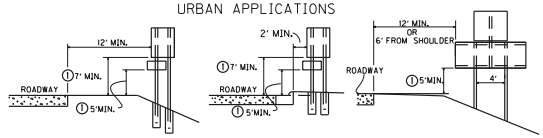




RURAL APPLICATIONS



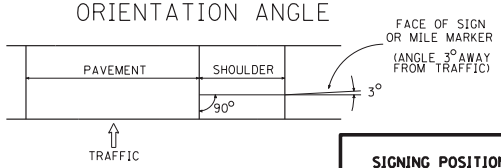
URBAN APPLICATIONS



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.

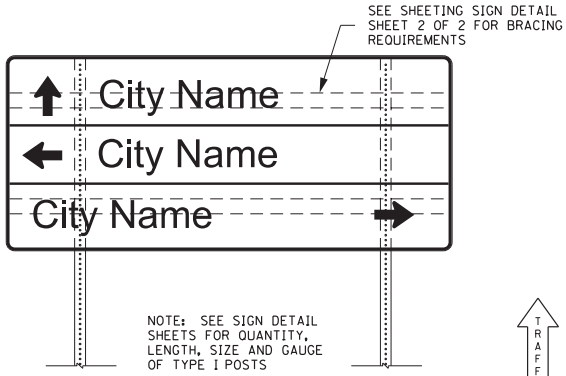
① NOT TO EXCEED 8' IN URBAN AREAS AND 6' IN RURAL AREAS UNLESS SPECIFIED BY THE ENGINEER

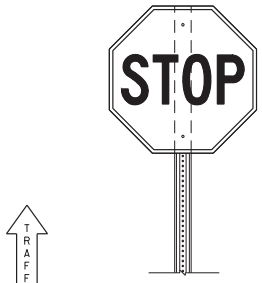
ORIENTATION ANGLE



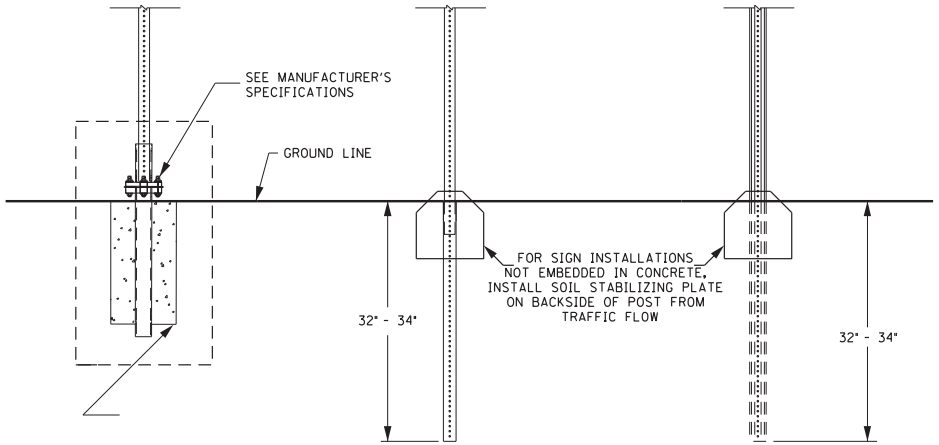
SIGNING POSITIONING DETAIL SHEET

COUNTY OF	ITEM NO.	SHEET NO.





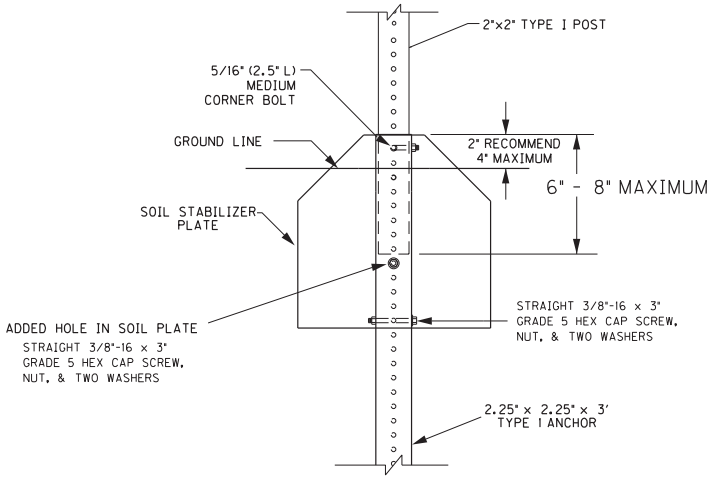
TRAFFIC FLOW



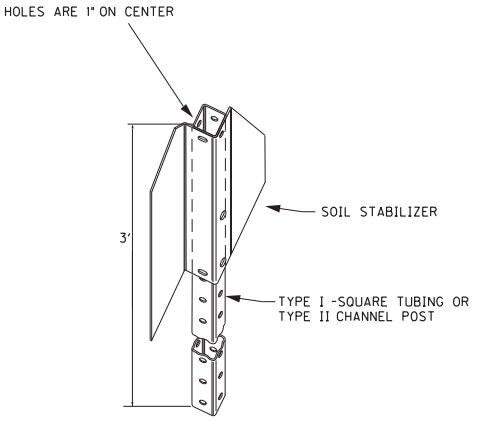
TYPE I
SQUARE TUBING POST
WITH TYPE "D" SUPPORT

TYPE I
SQUARE TUBING POST
WITH SOIL STABILIZER

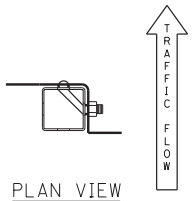
TYPE II
CHANNEL POST
WITH SOIL STABILIZER



SOIL STABILIZER DETAIL
FOR TYPE I POST



SOIL STABILIZER DETAIL

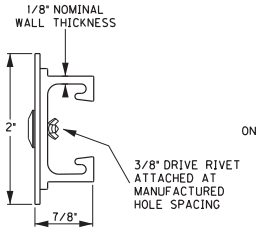


NOT TO SCALE

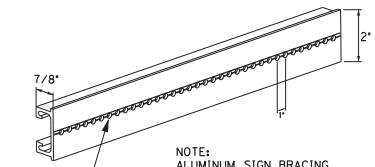
SHEETING SIGN DETAIL
SHEET 1 OF 2

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

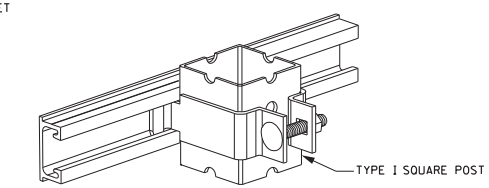


SIGN BRACE



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

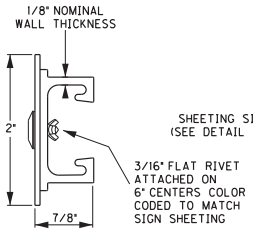
6061-T6 ALUMINUM ALLOY, PUNCHED WITH 3/8" DIAMETER HOLES ON 1" CENTERS FOR ATTACHMENT OF SIGN SUBSTRATE USING 3/8" DRIVE RIVETS



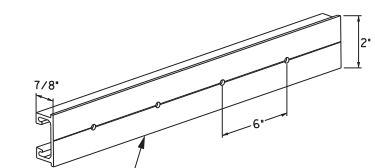
SQUARE POST CLAMP & BRACE

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

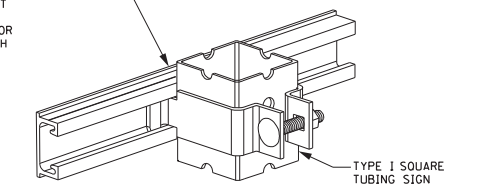


SIGN BRACE

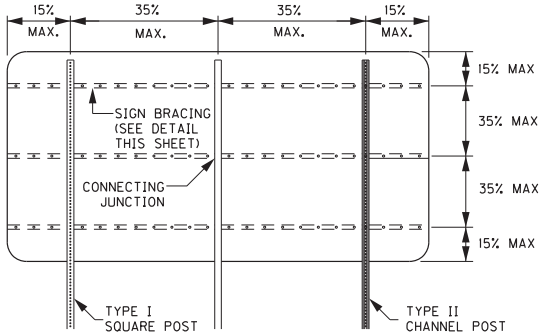


NOTE:
ALUMINUM SIGN BRACING
2" MOUNTING SURFACE x 7/8" DEPTH x 1/8" NOMINAL WALL THICKNESS

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



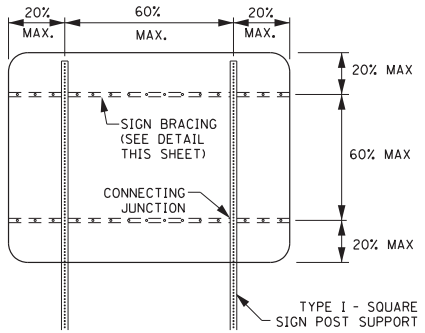
SQUARE POST CLAMP & BRACE



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.

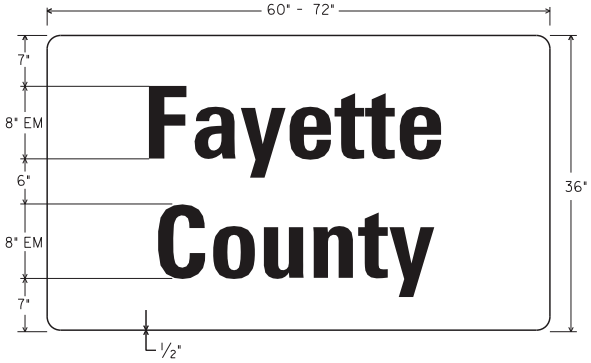
NOT TO SCALE

SHEETING SIGN DETAIL

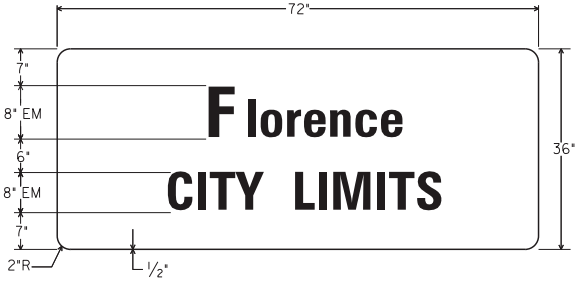
SHEET 2 OF 2

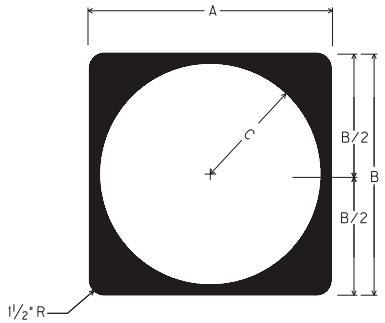
COUNTY OF	ITEM NO.	SHEET NO.

T-1



T-2

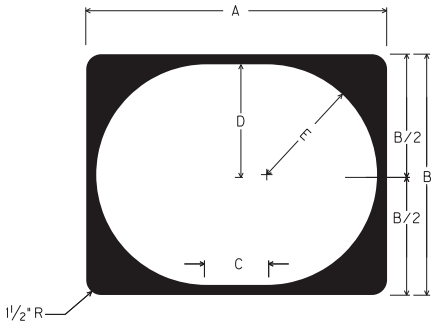




M1-5 (1 OR 2 DIGIT)

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

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



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

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

S-1

NOT TO SCALE

TYPICAL SIGNS

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

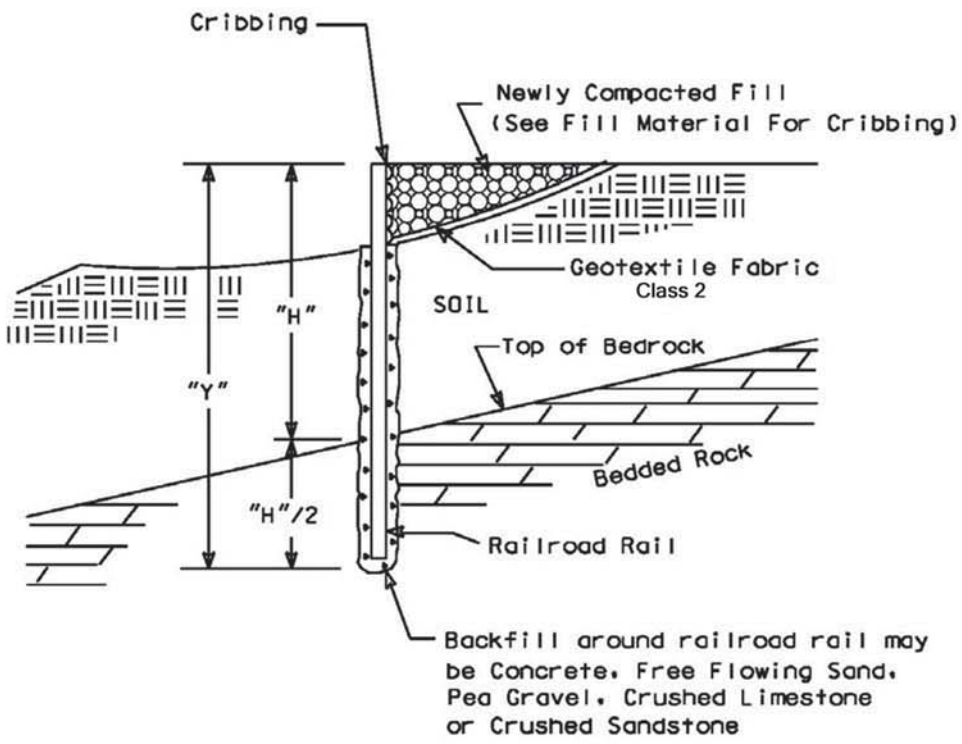
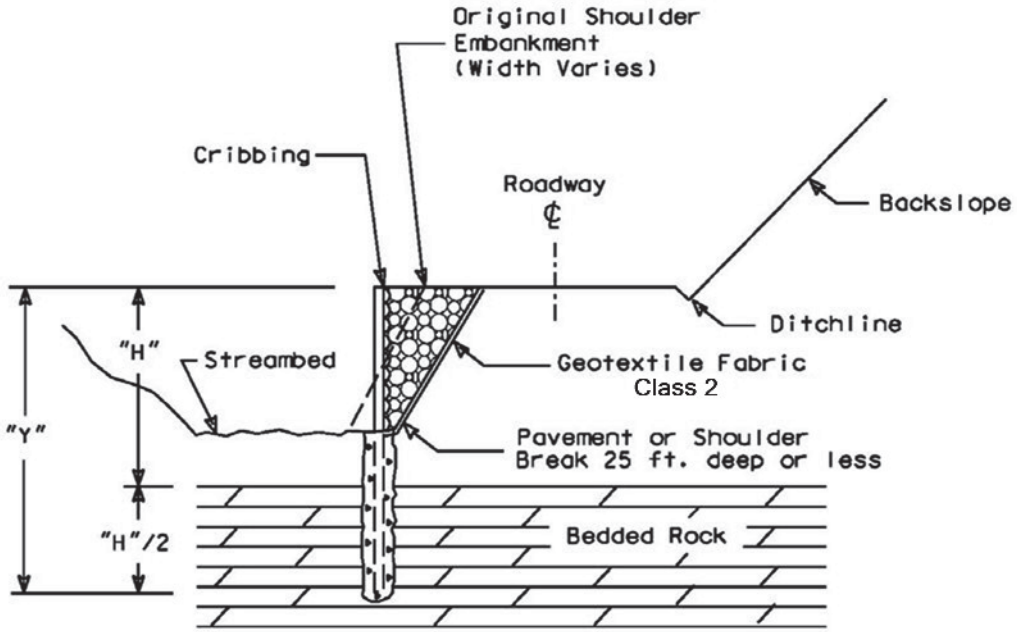


Figure 1

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

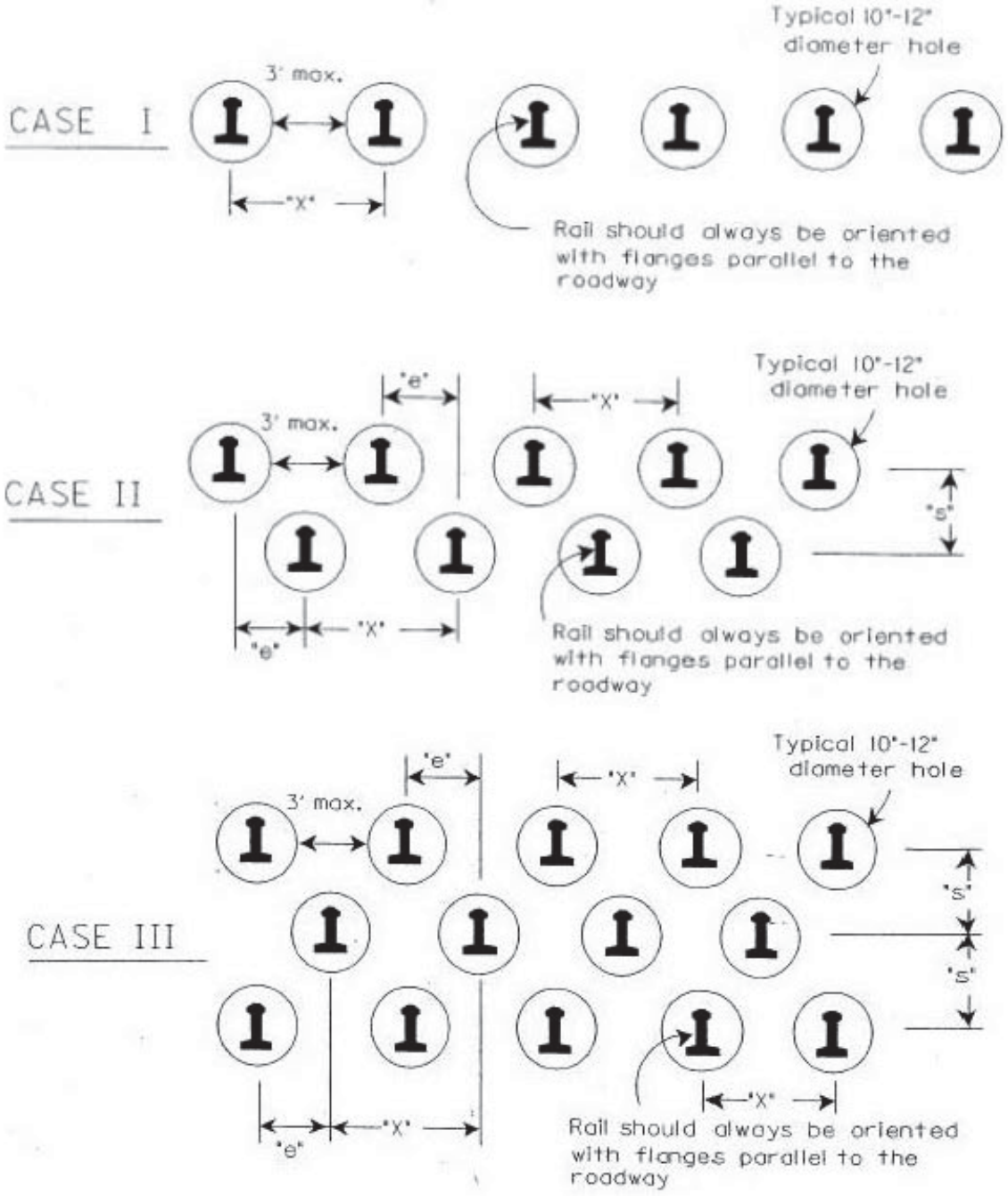


FIGURE 3

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 :

   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_____

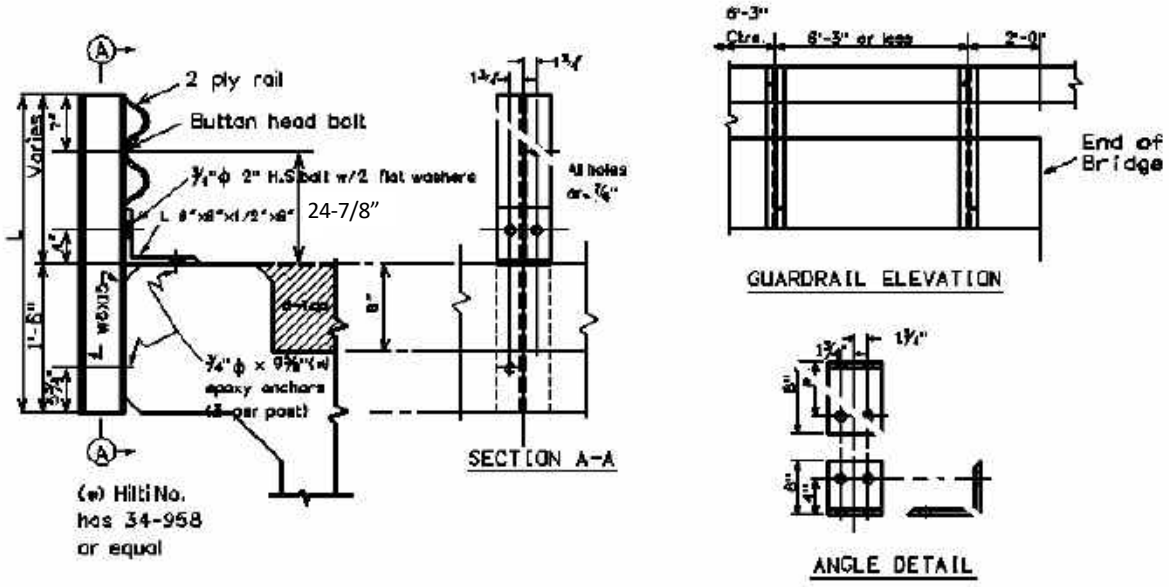
Printed Contractor's Representative_____& Date_____

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: _____

GUARDRAIL ON BRIDGE, CASE I
BLACKTOP FLUSH WITH CURB OR ABOVE



Bridge MP	D =	W =	L =	No. Posts	LF of 2 PLY Rail
10.434	8.5”	8”	57.5”	3	12.5
10.580	8.5”	8”	57.5”	3	12.5
10.768	8.5”	8”	57.5”	3	12.5
10.786	8.5”	8”	57.5”	3	12.5

D = Curb Height W = Width of Bridge Curb L = Length of Guardrail Post

WARRANTS: When guardrail can be bolted to the back of the bridge curb, and where the bridge surface is flush with the top of curb or above, and where the clear distance between the faces of the guardrail is less than 20 Feet, remove existing concrete and/or guardrail bridge rail and use Case I Bridge Guardrail.

NOTES:

1. If asphalt paving is included in the Contract and the dimension from the top of the existing riding surface to the top of the curb is 2 inches or less, pave the new surface flush to the top of the curb, and use Case I Bridge Guardrail.

2. Do not use Case I Bridge Guardrail if the existing pavement is not flush with the top of curb and asphalt pavement is not included in the Contract or if the dimension from the top of the existing riding surface to the top of the curb is greater than 2 inches.

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

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).

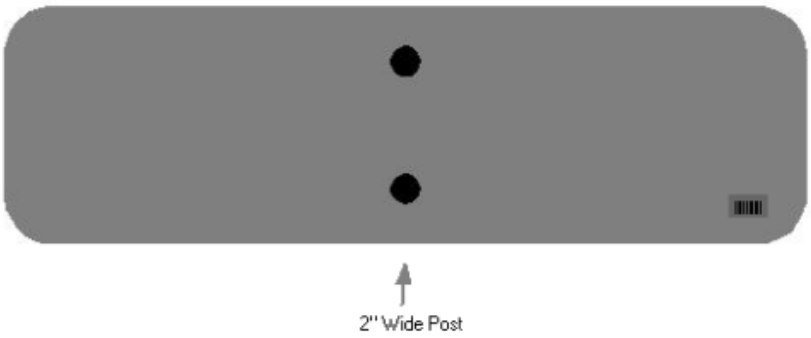
The installation of the permanent sign will be measured in accordance to Section 715.

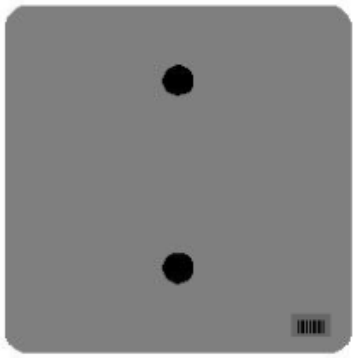
5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
24631EC	Barcode Sign Inventory	Each

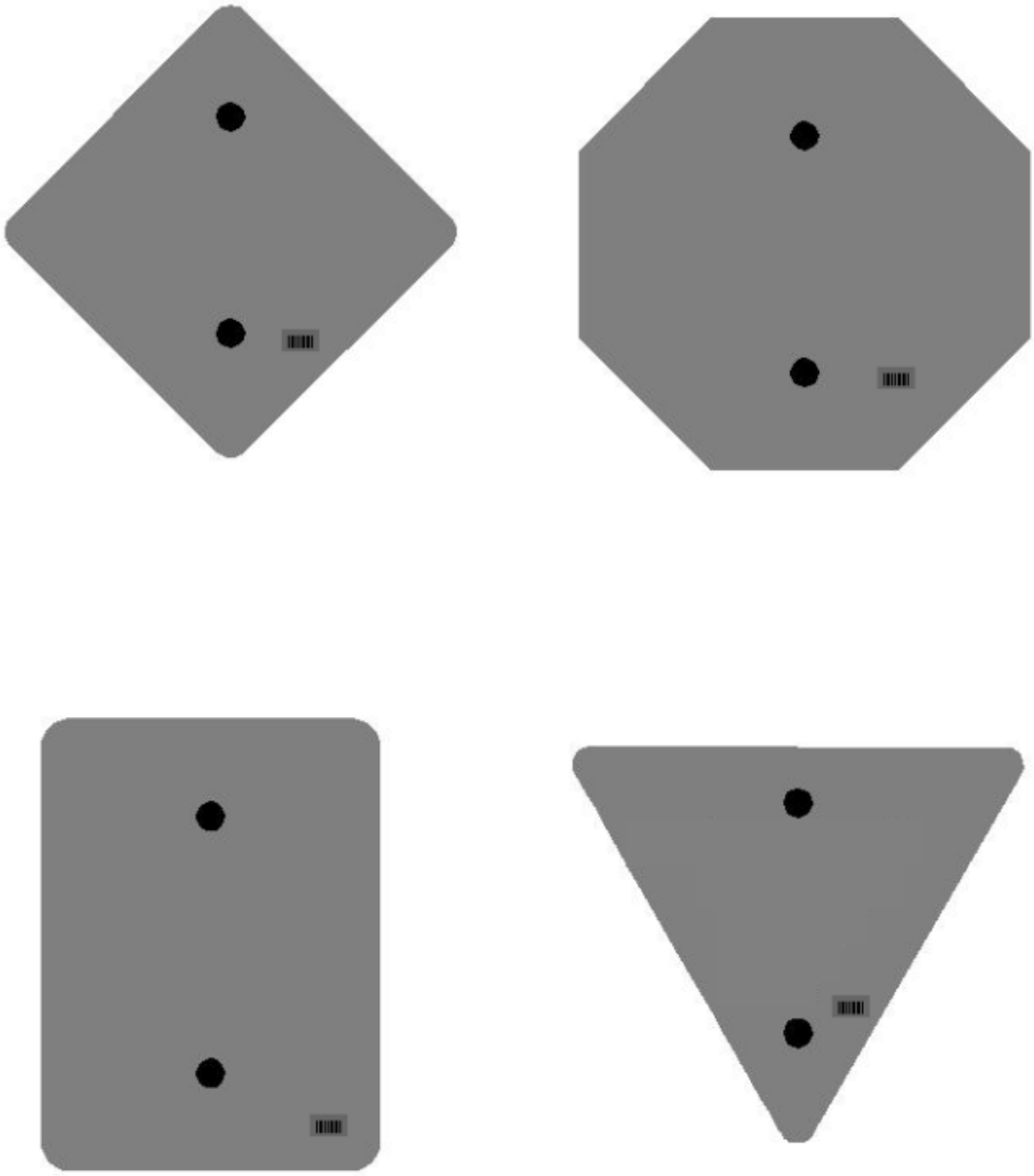
The Department will not make payment for this item until all barcodes are installed and sign inventory is complete on every permanent sign installed on the project. The Department will make payment for installation of the permanent sign in accordance to Section 715. The Department will consider payment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

One Sign Post

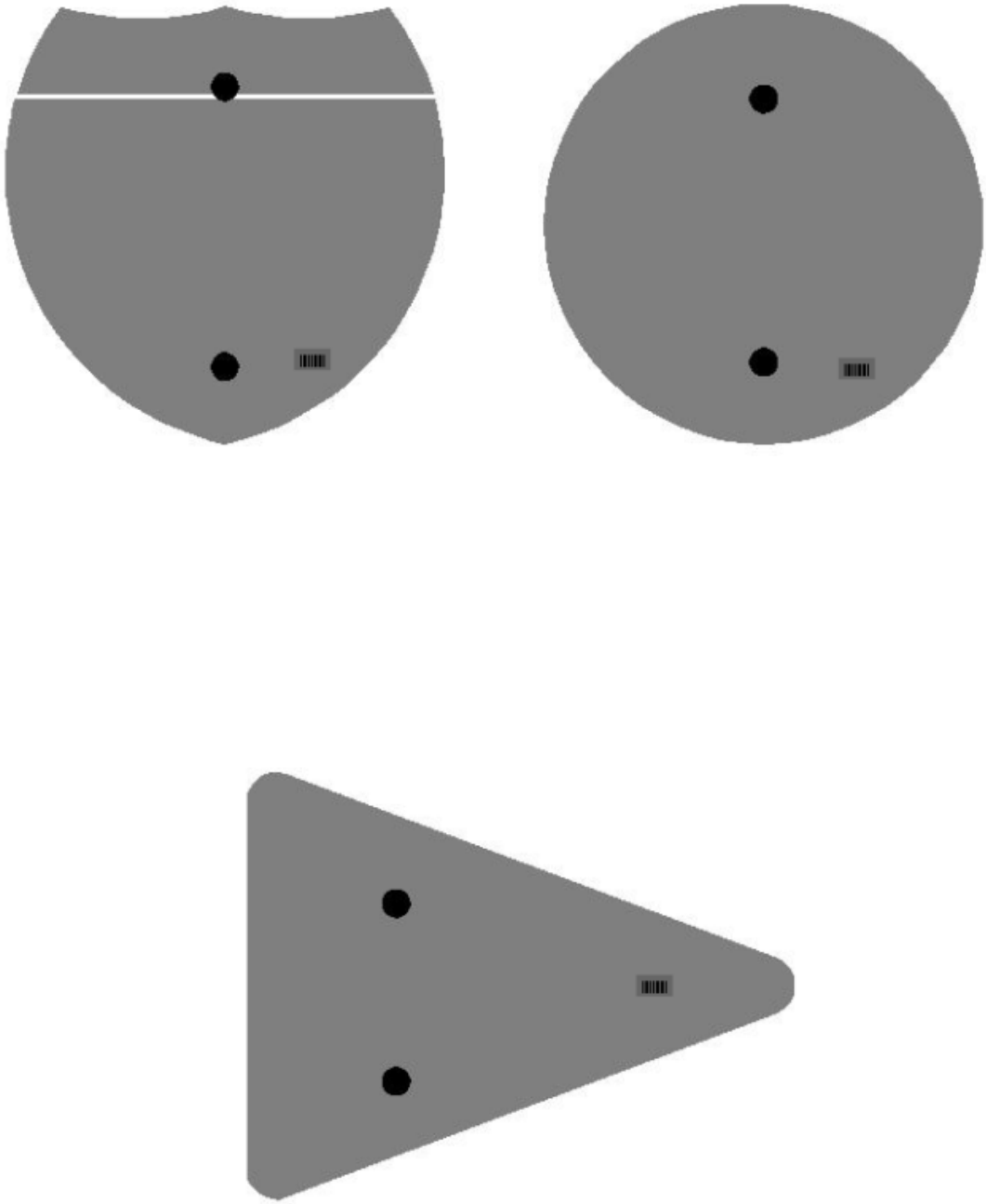




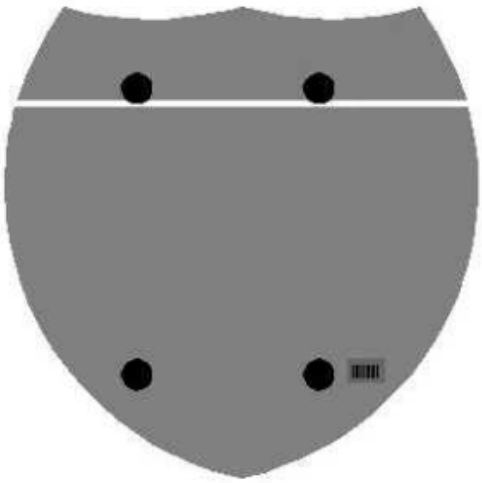
One Sign Post



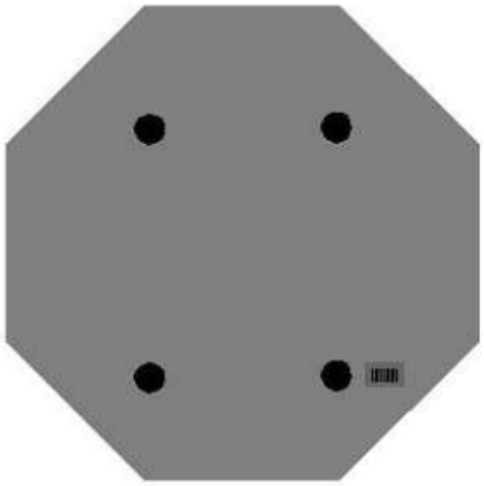
One Sign Post



Double Sign Post

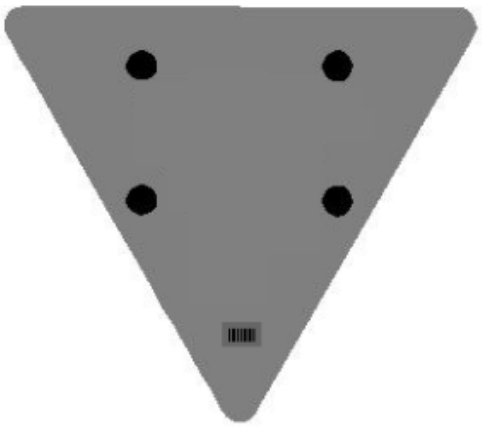


Interstate
Shield



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
TYPICAL INSTALLATION FOR GUARDRAIL END TREATMENT TYPE 2A RBI-003-09
INSTALLATION OF GUARDRAIL END TREATMENT TYPE 1 ..... RBI-004-06

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
TIMBER GUARDRAIL POSTS RBR-016-05
GUARDRAIL END TREATMENT TYPE 1 ..... RBR-020-07
GUARDRAIL END TREATMENT TYPE 2A RBR-025-06
GUARDRAIL END TREATMENT TYPE 4A RBR-035-12
GUARDRAIL END TREATMENT TYPE 7 ..... RBR-050-08
GUARDRAIL END TREATMENT TYPE 7 ALTERNATE ANCHOR RBR-051-01
DELINEATORS FOR GUARDRAIL RBR-005-01

~ DRAINAGE ~

PAVED DITCHES, FLUME INLETS AND CHANNEL LININGS

PAVED DITCH TYPE 1 ..... RDD-001-06
PAVED DITCH TYPE 2 ..... RDD-002-07
FLUME INLET TYPE 1 ..... RDD-020-07
FLUME INLET TYPE 2 ..... RDD-021-07
CHANNEL LINING CLASS IA (MATTRESS UNITS) RDD-030-08
CHANNEL LINING CLASS II AND III RDD-040-05

PIPE AND BOX CULVERT HEADWALLS

12" – 27" - SINGLE LINE PIPE

CONCRETE HEADWALLS FOR 12" - 27" CIRCULAR PIPE CULVERTS RDH-005-02

TYPICAL DRAINAGE INSTALLATIONS

CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS (12" – 24" PIPE) RDI-001-10
PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER PIPE RDI-020-10
PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER, REINFORCED CONC. PIPE RDI-021-01
PIPE BEDDING, TRENCH CONDITION RDI-025-06
PIPE BEDDING, TRENCH CONDITION, REINFORCED CONC. PIPE RDI-026-01

MISCELLANEOUS DRAINAGE

INTERMEDIATE AND END ANCHORS FOR CIRCULAR PIPE RDX-060-04
TEMPORARY SILT FENCE RDX-210-03

Standard Drawings That Apply
Page 2 of 2

TEMPORARY SILT FENCE WITH WOVEN WIRE FENCE FABRIC..... RDX-215-01
SILT TRAP - TYPE A..... RDX-220-05
SILT TRAP - TYPE B..... RDX-225-01
SILT TRAP - TYPE C..... RDX-230-01

~ GENERAL ~

CURVE WIDENING AND SUPERELEVATION

CURVE WIDENING AND SUPERELEVATION TRANSITIONS.....RGS-001-07

~ PAVEMENT ~

MEDIANS, CURBS, APPROACHES, ENTRANCES, ETC.

APPROACHES, ENTRANCES, AND MAIL BOX TURNOUT RPM-110-07

TRAFFIC

~ PERMANENT ~

RUMBLE STRIPS

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
SHOULDER CLOSURE TTC-135-03

DEVICES

PAVEMENT CONDITION WARNING SIGNS TTD-125-03

STRIPING OPERATIONS

MOBILE OPERATION FOR PAINT STRIPING CASE I..... TTS-100-02
MOBILE OPERATION FOR PAINT STRIPING CASE II..... TTS-105-02

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

234301

PROPOSAL BID ITEMS

Report Date 12/27/22

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	658.00	TON		$	
0020	00078		CRUSHED AGGREGATE SIZE NO 2	431.00	TON		$	
0030	00100		ASPHALT SEAL AGGREGATE	41.21	TON		$	
0040	00103		ASPHALT SEAL COAT	4.92	TON		$	
0050	00190		LEVELING & WEDGING PG64-22	205.00	TON		$	
0060	00212		CL2 ASPH BASE 1.00D PG64-22	137.00	TON		$	
0070	00301		CL2 ASPH SURF 0.38D PG64-22	220.00	TON		$	
0080	01897		ASPHALT WEDGE CURB	1,165.00	LF		$	
0090	02676		MOBILIZATION FOR MILL & TEXT (FRANKLIN US 421)	1.00	LS		$	
0100	02677		ASPHALT PAVE MILLING & TEXTURING	216.00	TON		$	
0110	02697		EDGELINE RUMBLE STRIPS	2,525.00	LF		$	
0120	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	1.60	TON		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0130	02460		REMOVE TREES OR STUMPS	2.00	EACH		$	
0140	02483		CHANNEL LINING CLASS II	1,221.00	TON		$	
0150	02562		TEMPORARY SIGNS	300.00	SQFT		$	
0160	02603		FABRIC-GEOTEXTILE CLASS 2	1,736.00	SQYD		$	
0170	02650		MAINTAIN & CONTROL TRAFFIC (FRANKLIN US 421)	1.00	LS		$	
0180	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0190	02701		TEMP SILT FENCE	15,399.00	LF		$	
0200	02703		SILT TRAP TYPE A	6.00	EACH		$	
0210	02704		SILT TRAP TYPE B	6.00	EACH		$	
0220	02705		SILT TRAP TYPE C	6.00	EACH		$	
0230	02706		CLEAN SILT TRAP TYPE A	6.00	EACH		$	
0240	02707		CLEAN SILT TRAP TYPE B	6.00	EACH		$	
0250	02708		CLEAN SILT TRAP TYPE C	6.00	EACH		$	
0260	02726		STAKING (FRANKLIN US 421)	1.00	LS		$	
0270	03234		RAILROAD RAILS-DRILLED	9,660.00	LF		$	
0280	03235		EXCAVATION AND BACKFILL	324.00	CUYD		$	
0290	03236		CRIBBING	4,230.00	SQFT		$	
0300	03240		BASE FAILURE REPAIR	135.00	SQYD		$	
0310	05950		EROSION CONTROL BLANKET	10,653.00	SQYD		$	
0320	05952		TEMP MULCH	19,684.00	SQYD		$	
0330	05953		TEMP SEEDING AND PROTECTION	14,763.00	SQYD		$	
0340	05963		INITIAL FERTILIZER	.17	TON		$	
0350	05964		MAINTENANCE FERTILIZER	.10	TON		$	
0360	05985		SEEDING AND PROTECTION	17,806.00	SQYD		$	
0370	05990		SODDING	1,065.00	SQYD		$	
0380	06510		PAVE STRIPING-TEMP PAINT-4 IN	4,760.00	LF		$	
0390	06515		PAVE STRIPING-PERM PAINT-6 IN	123,192.00	LF		$	

234301

PROPOSAL BID ITEMS

Report Date 12/27/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	20748ED		SHOULDER MILLING/TRENCHING	554.00	SQYD		$	
0410	21496ED		RETAINING WALL- MODULAR CONCRETE	540.00	SQFT		$	
0420	26175EC		ROADSIDE REGRADING	4,705.00	LF		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0430	00462		CULVERT PIPE-18 IN	6.00	LF		$	
0440	01204		PIPE CULVERT HEADWALL-18 IN	1.00	EACH		$	
0450	01310		REMOVE PIPE	4.00	LF		$	
0460	01691		FLUME INLET TYPE 2	4.00	EACH		$	
0470	02625		REMOVE HEADWALL	1.00	EACH		$	
0480	21819NN		FITTINGS	1.00	EACH		$	

Section: 0004 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0490	06406		SBM ALUM SHEET SIGNS .080 IN	1,884.19	SQFT		$	
0500	06407		SBM ALUM SHEET SIGNS .125 IN	5.56	SQFT		$	
0510	06410		STEEL POST TYPE 1	3,965.00	LF		$	
0520	21373ND		REMOVE SIGN	89.00	EACH		$	
0530	24631EC		BARCODE SIGN INVENTORY	451.00	EACH		$	

Section: 0005 - GUARDRAIL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0540	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	366.00	EACH		$	
0550	02187		SITE PREPARATION (EMBED EXISTING GUARDRAIL POST)	249.00	EACH		$	
0560	02360		GUARDRAIL TERMINAL SECTION NO 1	41.00	EACH		$	
0570	02367		GUARDRAIL END TREATMENT TYPE 1	5.00	EACH		$	
0580	02369		GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH		$	
0590	02371		GUARDRAIL END TREATMENT TYPE 7	3.00	EACH		$	
0600	02381		REMOVE GUARDRAIL	16,850.00	LF		$	
0610	02391		GUARDRAIL END TREATMENT TYPE 4A	25.00	EACH		$	
0620	02399		EXTRA LENGTH GUARDRAIL POST	249.00	EACH		$	
0630	08805		GUARDRAIL-BRIDGE CASE I	50.00	LF		$	
0640	21802EN		G/R STEEL W BEAM-S FACE (7 FT POST)	17,095.00	LF		$	

Section: 0006 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0650	02569		DEMOBILIZATION	1.00	LS		$	