



CALL NO. 402

CONTRACT ID. 234402

DAVIESS - MCLEAN COUNTIES

FED/STATE PROJECT NUMBER 121GR23T005-FD04 & FD05

DESCRIPTION KY HIGHWAY 81 (KY 81)

WORK TYPE GRADE & DRAIN WITH ASPHALT SURFACE

PRIMARY COMPLETION DATE 10/15/2023

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 - 02

CONTRACT ID - 234402

121GR23T005-FD04 & FD05

COUNTY - DAVIESS

PCN - 0203000812201

FD04 030 0081 000-009

KY HIGHWAY 81 (KY 81) (MP 0.000) FROM THE MCLEAN/DAVIESS COUNTY LINE EXTENDING NORTH TO 2.3 MILES SOUTH OF KY 56 (MP 8.695), A DISTANCE OF 08.70 MILES.GRADE & DRAIN WITH ASPHALT SURFACE SYP NO. 02-09013.00.
GEOGRAPHIC COORDINATES LATITUDE 37:38:30.70 LONGITUDE 87:11:31.70
ADT 5,123

PCN - MP03000812201

FD05 030 0081 000-006

MOSELEYVILLE TO GLENVILLE ROAD (KY 81) (MP 0.000) BEGIN AT THE MCCLEAN /DAVIESS COUNTY LINE EXTENDING NORTH TO THE SOUTH END OF THE PANTHER CREEK BRIDGE (MP 5.263), A DISTANCE OF 05.26 MILES.ASPHALT RESURFACING
GEOGRAPHIC COORDINATES LATITUDE 37:37:54.01 LONGITUDE 87:11:35.08
ADT 4,716

COUNTY - MCLEAN

PCN - 0207500812201

FD04 075 0081 017-019

KY HIGHWAY 81 (KY 81) (MP 17.839) FROM KY 140 EXTENDING NORTH TO THE MCLEAN/DAVIESS COUNTY LINE (MP 18.087), A DISTANCE OF 0.25 MILES.GRADE & DRAIN WITH ASPHALT SURFACE SYP NO. 02-09013.00.
GEOGRAPHIC COORDINATES LATITUDE 37:35:45.70 LONGITUDE 87:11:33.70
ADT 3,802

COMPLETION DATE(S):

COMPLETED BY 10/15/2023

APPLIES TO ENTIRE PROJECT

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

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

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

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

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

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

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

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

HARDWOOD REMOVAL RESTRICTIONS

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

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

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

ACCESS TO RECORDS

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

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

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

BUILD AMERICA, BUY AMERICA ACT (BABA)

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

The Act will apply to construction materials as outlined in the guidance issued in OMB [M-22-11](#).

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

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

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

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

October 14, 2022

SPECIAL NOTE FOR RECIPROCAL PREFERENCE

RECIPROCAL PREFERENCE TO BE GIVEN BY PUBLIC AGENCIES TO RESIDENT BIDDERS

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

April 30, 2018

SURFACING AREAS

The Department estimates the mainline surfacing width to be 24 feet.

The Department estimates the total mainline area to be surfaced to be 74,103 square yards.

The Department estimates the shoulder width to be 2 feet on each side.

The Department estimates the total shoulder area to be surfaced to be 12,351 square yards.

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

The Department estimates the total outside DGA shoulder area to be surfaced to be 6,175 square yards.

ASPHALT MIXTURE

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

DGA BASE

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

FUEL AND ASPHALT PAY ADJUSTMENT

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

OPTION 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 on one or more prior phases 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 a beginning station number, which is STA 937+10.34, and corresponds to Milepoint 17.748 along KY 81 in McLean County. The centerline stationing continues until the McLean/Daviess County line, which is at STA 954+74.93 = STA 000+00.00, and corresponds to Milepoint 18.087 in McLean County and Milepoint 0.000 in Daviess County.

NOTE: The existing mile marker signs may not correspond to the proposed work locations.

LIDAR

All survey information was obtained from available KYTC Aerial LIDAR data and 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.

General Notes & Description of Work

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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 two 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 full width of the identified curves will overlaid with a surface course. This surface course will be paid for using FD05 funding. 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

General Notes & Description of Work

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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.

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

- The Special Note for Roadside Regrading provides information on:
 - The required materials and construction methods.
 - How roadside regrading is measured and paid.
- The ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS includes:
 - 11 different Figures that show the common conditions and situations that may be encountered when performing Roadside Regrading.
 - Notes that provide guidance on how to adjust the proposed shoulder and/or roadside dimensions so that Roadside Regrading work operations will remain within the Right-of-Way (or Consent & Release work area) and/or not impact a sensitive obstruction.
- The Typical Section(s) show:
 - The desired dimensions of the proposed shoulder, ditch, and/or roadside slopes.
 - NOTE: There may situations where the desired shoulder, ditch, and/or roadside dimensions must be modified based on existing site conditions. When situations arise where the desired roadside dimensions need to be adjusted, the Contractor and Engineer should work together to determine the final dimensions for the proposed shoulder, ditch, and/or roadside slopes. The notes within the ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS provide guidance on ways to adjust the Roadside Regrading when common site conditions and constraints are encountered.
- The Roadside Regrading Summary:
 - Lists the locations where Roadside Regrading is to be performed. While the Department anticipates the limits of Roadside Regrading shown on the Roadside Regrading Summary are accurate, it is always possible the condition of the existing shoulders and existing ditches could change between the Design phase and Construction phase of the project. Therefore, the Contractor and the Engineer are to work together to review the limits of Roadside Regrading and make alterations per Section 104.02.
 - Lists estimated volumes of excavation and embankment for each Roadside Regrading location to help indicate the approximate level of effort of each Roadside Regrading location. NOTE: the estimated volumes of excavation and embankment are provided for informational purposes only and final payment for Roadside Regrading will be made based on the actual LF of Roadside Regrading performed.
 - Indicates which Figure reference within the ROADSIDE REGRADING AND EMBANKMENT BENCHING DETAILS is the closest representation of each proposed Roadside Regrading location.
 - Lists the Targeted Fill Slope (or Ditch Foreslope) and, if applicable, the Targeted Backslope for each Roadside Regrading location.

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- 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.
- The Consent & Release Summary provides:
 - A listing of the locations in which the Department has obtained a Consent & Release from the adjacent property owner.
 - A description of the work that is to occur within the Consent & Release work area.

DGA Wedge & Chip Seal. All sections of "Roadside Regrading" are set up to receive a DGA Wedge & Chip Seal after the roadside regrading operations are complete. The proposed DGA Wedge dimensions are detailed on the Typical Sections. Refer to the Special Note for Roadside Regrading and the Special Note for Double Asphalt Seal Coat for more information on the DGA Wedge & Chip Seal.

Pipe Replacements & Extensions. There are locations throughout the project where culvert pipes are being extended or replaced. Locations and estimated quantities are noted on the Culvert & Pipe Extension Summaries. For pipe extensions where the existing pipe is RCP, remove the existing headwall and first section of existing RCP attached to the headwall (approx. 3-4' ft). Other items that may be included with the pipe extensions/replacements include culvert headwalls, sloped & mitered concrete headwalls, intermediate anchor/collar, Roadside Regrading, channel lining, erosion control blanket, asphalt pavement quantities, etc. Refer to the Special Note for Pipe Replacements/Extensions for more information on this item of work.

Pipe Liners. As specified in the Culvert & Pipe Extension Summaries there are locations where pipes and RCBC's are to be lined. Locations, types of liner to be used, and estimated quantities are noted on the Culvert & Pipe Extension Summaries. If an existing pipe is proposed to be extended, the existing pipe shall be extended prior to lining. There are several RCBC Culverts that are to be lined and extended with HDPE Pipe liner as noted on the Culvert Extension Summary. Other items that may be included with pipe liners include culvert headwalls, sloped & mitered concrete headwalls, intermediate anchor/collar, Roadside Regrading, channel lining, erosion control blanket, asphalt pavement quantities, etc. Refer to the Special Note for Box Culvert Lining and Extension with HDPE Pipe, the Special Note for PVC Fold & Form Pipe Liner, and the Special Note for Pipe Liner Acceptance Testing for more information on this item of work.

Sloped & Mitered Concrete Headwalls. Sloped & Mitered Concrete Headwalls shall be constructed as shown on the detail sheets titled: SLOPED & MITERED CONCRETE HEADWALL DETAILS. This headwall is intended to combine the benefits of a pipe headwall with the advantages of safety and adaptability by allowing the headwall to be custom fit to the surrounding embankment. The Culvert & Pipe Extension Summaries identify which pipe ends are to receive the Sloped & Mitered Concrete Headwalls. The identified pipe ends shall have the headwall installed and the pipe mitered at a slope that matches the final embankment slopes at each location. If the pipe is on a skew, install the headwall and miter the pipe so that the concrete slope paving of the new headwall is perpendicular to the roadway. In other words the embankment slope should not be warped to fit the skew of the pipe; the headwall should be installed and the pipe should be mitered to match the final embankment slope, so that the roadside fill slope is fairly consistent prior to the pipe, at the pipe, and beyond the pipe, and does not create an excessive bulge in the embankment. When completed the edges of the Sloped & Mitered Concrete Headwall should be flush with the surrounding ground line. Payment

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at the Contract unit price Each shall be full compensation for furnishing all labor, materials, equipment, and incidentals necessary to install the headwall and miter the pipe.

NOTE: For pipes that receive the Sloped & Mitered Concrete Headwall, the pipe length will be measured to the furthest point along the mitered end of the pipe.

Intermediate Anchor/Collar. There are quantities of Class A Concrete included in the contract to construct an intermediate anchor, or collar, around the pipes at the pipe extension locations. This is so the new pipe can be securely connected to the existing pipe. The intermediate anchors shall be constructed as shown on Standard Drawing RDX-060, current edition.

Channel Lining. Channel Lining Class II has been included in the Pipe and Box Culvert Summaries for use at the locations indicated. 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 125 square yards of Erosion Control Blanket has been included in the contract for use at the KY 140 Hillside Sight Distance Improvement and for potential use along areas of regraded shoulders, ditch lines, fills slopes and/or back slopes, inlets and outlets of pipes, 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. Several locations within the project are set up for guardrail replacement. The approximate locations and estimated quantities are noted on the Guardrail Summary. Refer to the Special Note for Guardrail, Typical Sections, and Plan Sheets for more detail and information on this item of work.

NOTE: When the plans call for a Type 1 or Type 4 End Treatment, a MASH eligibility letter from FHWA is required for these end terminals. When a MASH tested eligibility letter is not available for the end terminal being utilized, the most recent NCHRP 350 eligibility letter from FHWA for that terminal will apply. Acceptance of the terminal will be at the discretion of the engineer.

Reinforced Concrete Box Culvert Extensions. There are several locations within the project where existing reinforced concrete box culverts are being extended and/or lined. Locations and estimated quantities are noted on the Box Culvert Extension Summary. Refer to the Structure Plans, Special Note for Box Culvert Extensions, Special Note for Box Culvert Lining and Extension with HDPE Pipe, and Traffic Control Plan for more details and information on this item of work.

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

General Notes & Description of Work

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Removal of Existing Signs. Estimated quantities of “Remove Sign” are included within the Remove Sign Summary. This bid item is for the removal of ALL the existing horizontal alignment warning signs along the identified routes. Further, the District Traffic Engineer may determine that there are other sheet signs, in addition to the existing horizontal alignment signs, that also need to be removed. These signs will be determined during construction.

NOTE: There are some curves along the routes within this contract that have existing horizontal alignment signs that will not receive proposed horizontal alignment signs. For these curves the existing horizontal alignment signs are to be removed during the same time period as the installation of the proposed horizontal alignment signs for the route. The reason these horizontal alignment signs are being removed and NOT replaced with proposed horizontal alignment signs, is because those particular curves did not “ball bank” below the posted speed limit, and therefore, do not require horizontal alignment signs. The Engineer may consult with the District Traffic Engineer and/or the HSIP staff within the Division of Traffic Operations for more information, if necessary.

Trim & Remove Trees, Stumps, and Brush. There are locations within the project where Trees, Stumps, or Brush are to be removed and/or trimmed. Locations are noted on the Tree Removal & Trimming Summary. Refer to the Special Note for Tree, Stump, and Brush Removal for more information.

Temporary Striping. A quantity of Pave Striping – Temp Paint – 4 in has been included in the Pavement Markings Summary 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.

Spray Thermo 6 Inch. See the typical section and Pavement Markings Summary on this item.

Hillside Cutting at KY 140. The intersection of KY 81 and KY 140 in McLean County includes cutting back the slopes to improve the sight distance at the intersection. See Sight Distance Improvement at KY 140 Intersection Summary for quantities for this improvement.

Greenback Road Improvement. The intersection of KY 81 and Greenback Road in Daviess County is being realigned into a T-intersection. See Greenback Road Summary for quantities for this improvement.

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

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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. Using paint marks on the pavement, and/or any other means approved by the Engineer, the Contractor shall layout and pre-mark the proposed striping, pavement markings, etc. Adjust as necessary to accommodate the existing site conditions and to provide proper alignment of the proposed thru and turning lanes. Obtain approval of the pre-marked layout from the Engineer and/or District Traffic Engineer prior to installing the striping and/or pavement markings.
7. Prior to incorporating into the work, obtain the Engineers approval of all revisions determined by the Contractor.
8. 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

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vegetation not required to be removed by the work or the contract. Seed and/or mulch disturbed areas at the earliest opportunity. Use silt fence, silt traps, temporary ditches, brush barriers, erosion control blankets, sodding, channel lining, and other erosion control measures in a timely manner as required by the BMP and as directed or approved by the Engineer. Prevent sediment laden water from leaving the project, entering an existing drainage structure, or entering a stream.

Provide for erosion control measures to be in place and functioning prior to any earth disturbance within a drainage area. Compute the volume and size of silt control devices necessary to control sediment during each phase of construction. 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.

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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, 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. DGA.** Furnish Dense Graded Aggregate as per Section 805.
- D. Asphalt Seal Coat.** See the Special Note for Double Asphalt Seal Coat.
- E. Asphalt Seal Aggregate.** See the Special Note for Double Asphalt Seal Coat.
- F. Channel Lining, Class II.** When listed as a bid item, furnish Channel Lining, Class II as per Section 805.
- G. Geotextile Fabric Class 1.** When listed as a bid item, furnish Geotextile Fabric Class 1 as per Section 843.
- H. Crushed Stone Base.** Furnish Crushed Stone Base as per Section 805.

III. CONSTRUCTION METHODS

- A. Maintain and Control Traffic.** See the Traffic Control Plan.
- B. Erosion Control.** See the Special Note for Erosion Control.

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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 the 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. DGA Wedge & Chip Seal. Some, or possibly all, areas of Roadside Regrading may be set up to receive a DGA Wedge & Chip Seal after the Roadside Regrading operations are complete. Other areas of Roadside Regrading may NOT be set up to receive the DGA Wedge & Chip Seal. See the Summary Sheets and/or Plan Sheets for the approximate locations to receive the DGA Wedge & Chip Seal. The Engineer will determine the exact limits of the DGA Wedge & Chip Seal at the time of construction. Construct and compact the DGA as required by Section 302. Place Chip Seal over the entire width of the DGA Wedge. See the Special Note for Double Asphalt Seal Coat for the Chip Seal requirements.

H. 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

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Double Asphalt Seal Coat may be specified in the Proposal. Install whichever aggregate capping material the Proposal specifies, or as directed by the Engineer.

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

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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.

- N. 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.
- O. 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.

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- G. DGA, CSB.** When listed as bid items, DGA and Crushed Stone Base shall be measured according to Section 302.04.
- H. Chip Seal.** When specified in the contract, the bid items associated with Chip Seal shall be measured according to the Special Note for Double Asphalt Seal Coat.
- I. Channel Lining, Class II.** When listed as a bid item, Class II Channel Lining shall be measured according to Section 703.04.
- J. Geotextile Fabric, Class 1.** When listed as bid items, Geotextile Fabric, Class 1 shall be measured according to Section 214.04.
- K. 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. DGA, CSB.** When listed as bid items, the Department will make payment for DGA and Crushed Stone Base according to Section 302.05.
- F. Chip Seal.** When specified in the contract, the Department will make payment for the bid items associated with Chip Seal according to the Special Note for Double Asphalt Seal Coat.
- G. 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.
- H. 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 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, Trimming, and/or Removing Trees, Stumps, and/or Brush.** The Contractor shall cut, trim, and/or remove trees within the clearing dimensions as shown on the Tree Trimming Detail. On this detail, the horizontal width is taken from the edge of pavement measured perpendicular to the roadway, but not to extend beyond the obvious Right-of-Way limits, or as directed by the Engineer. To achieve the tree trimming/clearing dimensions shown on the Tree Trimming Detail, the complete removal of some trees may be necessary. The Department's expectation is that if the trunk or any portion of the trunk of any tree is within the tree trimming/clearing dimensions shown on the Tree Trimming Detail, any such tree shall be cut and removed as part of this bid item. Additionally, if there are trees whose main trunk is not within the tree trimming/clearing dimensions, but more than approximately 50% of the tree's canopy will be removed due to trimming, any such tree shall be cut and removed as part of this bid item. Cut trees and/or bushes 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

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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. The Contractor and Engineer should work together to identify the trees and/or stumps requiring removal. The Engineer will make the final determination on the decision to remove or leave any trees and/or stumps in question.

Replace and level any and all soil disturbed during the tree, stump, and/or brush removal and/or tree trimming 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 item "Trim and Remove Trees and Brush."

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 trimming 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 down trees and brush located within the designated areas. At the discretion of the 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,

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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. **Trim & Remove Trees & Brush.** The Department will measure the quantity by Linear Foot, per side of the highway. See the Tree Trimming Detail for the horizontal and vertical tree trimming/clearing dimensions.
- D. **Stump Treatment.** The Department will NOT measure for payment the operation of Stump Treatment. This activity shall be incidental to the bid item "Trim & Remove Trees & Brush."
- 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. **Trim & Remove Trees & Brush.** The Department will make payment for the completed and accepted quantities per Linear Foot. 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 trimming and removing the trees and brush.
- C. **Erosion Control.** See the Special Note for Erosion Control.

Special Note for Box Culvert 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. Section references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

- (1) Contractor staking; (2) Site preparation; (3) Removing existing concrete masonry, as necessary; (4) Foundation preparation and construction of reinforced concrete box culvert extensions and headwalls; (4) Maintain and Control Traffic; and (5) all other work specified as part of 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. Erosion Control.** See Special Note for Erosion Control.
- C. Foundation Preparation.** Furnish materials according to Section 603, the drawings, and as directed by the Engineer.
- D. Reinforced Concrete Box Culvert Extensions.** Furnish Class A Concrete and deformed Steel Reinforcement according to Sections 601 and 602. Contrary to Section 602.03.03, field bending bars will be allowed; however, obtain the Engineers approval of proposed field bending methods prior to bending. Furnish additional reinforcement to provide adequate splice lengths with existing box culvert steel as determined by the Engineer.
- E. Steel Reinforcement.** See Section 811.

III. CONSTRUCTION

- 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 Clearing and Grubbing; Removing pavement; Tree and Stump removal; Temporary Fencing; Roadway Excavation and Structure Excavation; Embankment and Embankment in Place; removal of obstructions or any other items; Grading, Reshaping, and Compacting; Roadside Regrading, obtaining borrow and waste

Box Culvert Extensions

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sites, and disposal of materials, waste, and debris; cleaning inlet and outlet ditches; and restoration, cleanup and final dressing. Clear and Grub only the minimum area required for construction and/or as directed by the Engineer. Limit clearing and grubbing to the absolute minimum required to construct the box culvert extensions. Obtain the Engineer's approval before removing trees and stumps from the cleared areas. Phase construction such that the potential for erosion is as minimal as possible. Excavate as needed to remove any portion of the existing structure necessary for construction of the box culvert extension. Perform any ditching or roadside grading as directed by the Engineer. Stockpile suitable materials for incorporation into the work as approved by the Engineer. Be responsible for all excavation (common, roadway, structure, solid rock, and unclassified) required for foundation preparation, toe walls, and all other excavation required for the box culvert extensions. Excavate rock in channel as required to allow for construction of foundation and construction of box culvert extensions. Be responsible for all embankment, embankment in place, and borrow required for backfilling the box culvert extension, constructing widened roadway and shoulder transitions, and all other embankment required to complete the work. Provide positive drainage of slopes and ditches at all times during and upon completion of construction. Waste all removed materials not incorporated into the work at 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). Perform all excavation and removal of obstructions only as approved or directed by the Engineer.

Sheeting, shoring, cofferdams, and/or dewatering methods may be necessary for construction of the culvert. Include all costs in the unit price bid for Foundation Preparation.

- D. Remove Headwall.** Remove the existing headwall(s) and wingwalls at the existing box culvert end(s) to sound concrete masonry, or as directed by the Engineer. Before removing any concrete masonry saw around the perimeter of the removal area on the interior and exterior to a depth of 1 inch. When sawing, take care not to cut into the existing steel reinforcement. Do not kink or unnecessarily bend exposed existing steel reinforcement. Remove structure excavation to solid rock, or as directed by the Engineer, and prepare foundation. Existing steel reinforcement shall be thoroughly cleaned of concrete and straightened for use to bond the new concrete and reinforcement with a minimum overlap of 1'-9", unless otherwise shown in the drawings. Coat exposed ends of cut reinforcement with a bituminous produce to prevent corrosion of the ends of the exposed reinforcement. As an alternative, if the existing headwall is sound, the Engineer may approve leaving the existing headwall in place, in which case the existing parapet should be removed to 6" below proposed roadway elevation. If the Engineer approves leaving the existing headwall in place, center 3'-0" long, #6 dowel bars at 12" spacing into the existing slabs and walls, embedded 1'-6" deep into the existing box culvert concrete, and set with an adhesive anchorage system to provide a pullout strength of equal or greater capacity than the corresponding reinforcing steel.
- E. Box Culvert Extensions.** Construct the box culvert extension(s) according to the notes and details in the drawings, and Sections 601, 602, 603, 610, and/or any other applicable Standard Specifications. Class A Concrete shall be used throughout. Bond the proposed plastic concrete to the existing hardened concrete in all locations using a Type V Epoxy Resin or other approved structural adhesive, as prescribed in Section 826. Follow the manufacturer's application instructions. All exposed concrete edges shall be beveled $\frac{3}{4}$ ", unless otherwise noted. Reinforcement shall have a 2" clear distance to the proposed face of concrete, unless otherwise noted. Obtain the Engineer's approval

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of the final centerline, flow line, length, skew, and revised dimensions and/or steel pattern, if any, of each box culvert extension prior to placing concrete.

The Contractor is required to complete the box culvert extension(s) in accordance with the plans and all applicable specifications. The cost of any and all labor, materials, equipment, and/or any other items necessary to construct the box culvert extension(s) shall be incidental to the most appropriate bid items. Incidental items may include, but are not limited to, cofferdams, shoring, excavation, backfilling, and phased construction.

- F. Remove Concrete Masonry.** If the Engineer approves leaving the existing headwall(s) in place, a portion of the existing parapet(s) may need to be removed in order to construct a shoulder of suitable depth from the edge of pavement to the proposed headwall. Any necessary removal of a portion of the existing parapet shall be considered Site Preparation and shall be incidental to the box culvert bid items. Also, if the existing headwall(s) are left in place, one or both of the existing wingwalls, or a portion of either wingwall may need to be removed in order to construct the proposed box culvert extension(s) and/or headwall(s). In this situation, any necessary removal of the existing wingwall(s), or any portion thereof, shall be considered Site Preparation and shall be incidental to the box culvert bid items.
- G. Embankments.** Backfill box culvert extensions and construct embankments, slopes, roadway shoulders, and ditches as shown on the drawings, or as directed by the Engineer. Warp and tie the embankment slopes into the adjacent existing roadway to match the existing slopes and ditches. Provide positive drainage of slopes and ditches at all times during and upon completion of construction.
- H. Roadside Regrading.** Construct ditches and shoulders to provide positive drainage. Transition the ditches and shoulders between the existing typical section and the reconstructed roadway at the box culvert extension site(s). Clean all new and existing cross drainage and entrance structures within the limits of the roadside regrading and/or ditching areas according to Section 209.03.B.
- I. Clean Culvert.** Remove all deleterious material and objects not native to the box culvert barrel, such as, but not limited to debris and silt. The Contractor may choose to clean the box culvert prior to, or after, the proposed box culvert extension work. If the Contractor chooses to clean the box culvert prior to the proposed box culvert extension work, and additional debris, silt, etc. builds up during the box culvert extension operations, the Contractor shall remove the additional debris, silt, etc. at no additional cost to the Department, after the box culvert extension operations are complete. This work will not be paid for directly, but shall be considered incidental.

NOTE: The proposal lists the existing box culverts that are to receive the Clean Culvert bid item. These identified box culverts are those that had existing debris, silt, etc. at the time the proposal was developed. The Engineer and the Contractor are encouraged to review the proposed box culvert extension site(s) prior to the Contractor beginning the box culvert extension work and determine if the Clean Culvert bid item applies. The Engineer shall determine the final approved quantities. If an existing box culvert location has a buildup of debris, silt, etc., but the Clean Culvert bid item is NOT listed in the proposal for that box culvert, the Contractor shall notify the Engineer prior to beginning box culvert extension operations, so that the Engineer can confirm that the existing box culvert has

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a buildup of debris, silt, etc. If the contractor does not notify the Engineer of this situation prior to beginning the box culvert extension operations, the Engineer will assume the buildup was a result of the Contractor's operations, and the cost of cleaning the box culvert shall be at no additional cost to the Department.

- J. 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.
- K. 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 does not warrant or give any guarantee as to the accuracy of the data and information shown and no claims for money or time extensions will be considered if the conditions encountered, items used or omitted, and final quantities required are not in accordance with the information shown.
- L. 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 the Contractor's operations at no additional cost to the Department.
- M. 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.
- N. 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 his decision shall be final and binding upon the Contractor.
- O. 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

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the Special Provision for Waste and Borrow Sites.

- P. 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.

IV. MEASUREMENT

Quantities shown on the summaries and drawings are approximate only. The Department will measure for payment only the listed bid items and the actual quantities incorporated in the work. All other items required to complete the construction shall be incidental to the listed bid items.

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Erosion Control.** See the Special Note for Erosion Control.
- C. Site Preparation.** Other than the bid items listed, the Department will not measure Site Preparation for separate payment but shall be incidental to the applicable project bid items.
- D. Remove Headwall.** The Department will measure the removal of existing headwalls as Each. If the Engineer allows a proposed box culvert extension to be constructed without removing the existing headwall, the Remove Headwall bid item shall not be measured for payment.
- E. Foundation Preparation.** The Department will measure Foundation Preparation of box culvert extensions as Lump Sum. The Lump Sum unit price shall include all extensions at each identified box culvert and shall not be measured as individual units per inlet or outlet. Except for the Foundation Preparation bid items listed, the Department will NOT measure Foundation Preparation for any other items of work and shall consider it incidental to the other items of work, as applicable.
- F. Concrete-Class A.** See Section 601.04.
- G. Steel Reinforcement.** See Section 602.04.
- H. Clean Culvert.** The Department will measure each box culvert cleaned as Lump Sum. The bid item Clean Culvert will not be measured when a box culvert must be cleaned due to buildup of debris, silt, etc. that occurs during the Contractor's construction operations.

V. PAYMENT

The Department will make payment only for the bid items listed. All other items required to complete the construction shall be incidental to the listed bid items.

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

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- B. Erosion Control.** See the Special Note for Erosion Control.
- C. Foundation Preparation.** Payment at the Lump Sum unit price shall be full compensation for furnishing all labor, materials, and equipment necessary for Foundation Preparation of all extensions at each identified box culvert.
- D. Concrete-Class A.** See Section 601.05.
- E. Steel Reinforcement.** See Section 602.05.
- F. Clean Culvert.** The Department will make payment for the completed and accepted quantities of each box culvert cleaned, as approved by the Engineer. Payment at the Lump Sum unit price shall be full compensation for furnishing all labor, materials, and equipment necessary to clean each box culvert measured for payment. Any box culverts that require cleaning but are not approved by the Engineer for measurement of payment, shall be incidental to the box culvert bid items.

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

Pipe Replacements/Extensions

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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. After removing the existing headwall and length of pipe culvert and/or entrance pipes clean the interior of the pipe the entire length of pipe to make clear of all sediment, drift, or other debris.

- 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.

Pipe Replacements/Extensions

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- 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".

Pipe Replacements/Extensions

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- 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.

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SPECIAL NOTE FOR PIPE CLEANING

PART 1 -- GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to clean all pipes, as specified herein.
- B. Cleaning shall include the proper high pressure water jetting, rodding, snaking, bucketing, brushing, and flushing of pipes prior to inspection by closed circuit television, pipeline rehabilitation, and testing operations.
- C. Cleaning shall dislodge, transport, and remove all sludge, mud, sand, gravel, rocks, bricks, grease, roots, sticks, and all other debris from the interior of the sewer pipe and structures as required for pipeline rehabilitation.

PART 2 -- PRODUCTS

2.01 MATERIALS

- A. Hydraulically propelled Sewer Cleaning Equipment
 - 1. Hydraulically propelled sewer cleaning equipment shall be the movable dam type constructed such that a portion of the dam may be collapsed during cleaning to prevent flooding of the sewer.
 - 2. The movable dam shall be the same diameter as the pipe being cleaned and shall provide a flexible scraper around the outer periphery to ensure total removal of grease.
 - 3. Contractor shall take precautions against flooding prior to using sewer cleaning balls or other such equipment that cannot be collapsed instantly.
- B. High Velocity Hydro-Cleaning Equipment shall have the following:
 - 1. A minimum of 500-ft of high-pressure hose.
 - 2. Two or more high velocity nozzles capable of producing a scouring action from 15 to 45 degrees in all size lines to be cleaned.
 - 3. A high velocity gun for washing and scouring manhole walls and floor.
 - 4. Capability of producing flows from a fine spray to a long-distance solid stream.
 - 5. A water tank, auxiliary engines and pumps and a hydraulically driven hose reel.

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6. Equipment operating controls located above ground.
- C. Mechanical cleaning equipment for sewer mains shall be either power buckets or power rodders.
 1. Bucket machines
 - a. To be furnished with buckets in pairs
 - b. Use V-belts for power transmission or have an overload device. No direct drive machines will be permitted.
 - c. To be equipped with a take up drum and a minimum of 500-ft of cable.
 - d. Have sufficient dragging power to perform the work efficiently.
 2. Power rodding machine
 - a. Either sectional or continuous.
 - b. Hold a minimum of 750-ft of rod.
 - c. The machine shall have a positive rod drive to produce 2000 pounds of rod pull.

PART 3 -- EXECUTION

3.01 PERFORMANCE

- A. Selection of cleaning equipment shall be based on the conditions of the structures and lines at the time the work commences based on the pre-construction CCTV inspection to be conducted by the Contractor under this Contract.
- B. Use properly selected equipment to remove all dirt, grease, rock and other deleterious materials, and obstructions.
- C. Protect existing lines from damage caused by improper use of cleaning equipment.
- D. Take precautions to avoid damage or flooding to public or private property being served by the line being cleaned.
- F. Removal of Materials
 1. Remove all solids and semi-solids at the downstream opening of the section being cleaned.
 2. Passing material from one section of a line to another will not be permitted, unless access to any one section of line cannot be achieved.
- G. Remove from the site and properly dispose of all solids or semi-solids recovered during the cleaning operation.
- H. No cleaning shall take place in a particular segment until all upstream pipe segments have been cleaned. If cleaning is done in a downstream pipe segment in order to facilitate overall cleaning

operations, the segment shall be re-cleaned at no additional cost, after all pipes upstream of that segment have been cleaned.

3.02 FIELD QUALITY CONTROL

- A. Acceptance of this portion of the work shall be dependent upon the results of the television inspection. Lines not acceptably clean as to permit television inspection and rehabilitation shall be re-cleaned and re-inspected at no additional cost to the Owner
- B. Following cleaning, the Contractor shall inspect each section in accordance with the Special Note for Pipe Liner Acceptance Testing.
- C. Upon the Engineer's final structure to structure inspection of the system, if any foreign matter is still present in the system, clean the sections and portions of the lines as required.

PART 4 – MEASUREMENT & PAYMENT

Payment for cleaning of the pipes as detailed in the Pipe Drainage Summary will be made per linear foot as the price bid for CLEAN PIPE. The CLEAN PIPE bid item will be paid for the cleaning of all pipe sizes. Payment for CLEAN PIPE shall be considered full compensation for all work, equipment, and incidentals necessary to clean the pipe in accordance with this note.

SPECIAL NOTE FOR HDPE PIPE LINER

The bid item(s) "HDPE Pipe Liner (___ Inch)" is to be used to line the existing culvert pipes at the locations noted in the Proposal.

The diameter of the HDPE Pipe Liner(s) shall be compatible and appropriate for the size(s) of the existing culvert pipe(s) to be lined, based on the recommendations of the manufacturer, and as approved by the Engineer. Some, or all, of the existing pipes may have proposed pipe extensions. If an existing pipe is proposed to be extended, the existing pipe shall be extended prior to lining. Additionally, HDPE Pipe Liner shall adhere to the following specifications:

Material Specifications:

Except as provided herein, conform to all requirements of AASHTO Designation: M 326-08 and ASTM Designation: F894 as specified by size in contract.

Method of Measurement:

The completed and accepted quantities of HDPE Pipe Liner will be measured in linear feet.

Pipe:

The Contractor must provide one trained and experienced technician to assist the Engineer in determining the needed pipe liner size (length and diameter) and to help determine blocking and grout tube placement. This will be provided at no cost to the Department.

Grout:

Grout shall meet specifications of the Kentucky Standard Specifications for Road and Bridge Construction, current edition. Grout ingredients and proportions may be adjusted by the Engineer to meet field conditions. Work shall include installing grout material into annular space between existing pipe and pipe liner. The Contractor will be responsible for providing any needed traffic control, constructing bulkheads, vent tubes, grout tubes, and blocking if needed. The Contractor shall provide a concrete pump and air foam generator to deliver desired pressure and material as determined by the Engineer. The Contractor shall supply at least **two** (2) trained and experienced technicians per job. The Contractor shall ensure all voids are filled by pumping grout from upstream or downstream of culvert and continue pumping until grout is expelled from the highest vent pipe on the inlet end. The Contractor shall take appropriate precautions to avoid over pressurization, buckling, and floating of the pipe liner during the grouting process. The Contractor shall comply with the pipe manufacture's recommendations for grouting procedures. Multiple grout lifts may be required to avoid buckling the liner pipe. The Contractor shall take all necessary precautions to protect and preserve the interior of the pipe from damage. Spills shall be minimized and cleaned up immediately. Any damage to the pipe caused by or occurring during the grouting operation shall be repaired by a method approved by the Engineer at no additional cost to the Department.

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SPECIAL NOTE FOR PVC FOLD-AND-FORM PIPE LINER

I. GENERAL

A. SUMMARY

1. Section Includes: Definition of the approved methods and materials to rehabilitate gravity pipelines by the insertion of a continuously extruded, folded, PVC Fold-and-Form Pipe Liner into a conduit (host pipe), and the “blow-molding” (thermoforming) of the pipe liner to conform to the shape of the existing pipe. The pipe liner shall:
 - a) Extend continuously from one access point to the next access point with no joints.
 - b) Provide a tightly conforming fit against the inner wall of the host pipe.
 - c) Definitions:
 - (1) PVC Fold-and-Form Pipe Liner: A continuously extruded (joint-less), polyvinyl chloride (PVC) Pipe Liner that is shaped into a reduced form to facilitate insertion into existing pipelines or conduits. The Pipe Liner shall return to its extruded, round memory upon application of heat and pressure and form tightly against the host pipe by “blow molding” (thermoforming) techniques.
 - (2) Host Pipe: An existing gravity pipeline or conduit to be internally rehabilitated by installation of the PVC Fold-and-Form Pipe Liner.

B. REFERENCES

1. Codes and standards referred to in this Special Note are:
 - a) ASTM D 256: Standard Test Methods for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.
 - b) ASTM D 638: Standard Test Method for Tensile Properties of Plastics
 - c) ASTM D 790: Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics
 - d) ASTM D 1784: Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds
 - e) ASTM D 2122: Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
 - f) ASTM D 2152: Standard Test Method for Extrusion Quality using Acetone Immersion
 - g) ASTM D 2444: Standard Test Method for Impact Strength
 - h) ASTM F 1057: Standard Test Method for Extrusion Quality using Heat Reversion
 - i) ASTM F 1504: Standard Specification for Folded/Formed Poly (Vinyl Chloride) Pipe for Existing Sewer and Conduit rehabilitation

C. PIPE DESIGN AND DIMENSION

1. Submittals: The Contractor shall furnish engineering data covering materials and installation procedures.
2. Unless otherwise specified, the Contractor shall determine the minimum and maximum length of liner to effectively span the distance from the inlet to the outlet of the respective pipelines.
3. The pipe liner shall have a nominal outside diameter and minimum wall thickness based upon project parameters and the condition of the host pipe.

D. SAFETY

1. The CONTRACTOR shall conform to all safety requirements of pertinent regulatory agencies and

shall secure the site for the working conditions in compliance with the same. The CONTRACTOR shall erect signs and devices as are necessary for the safety of the work site.

2. The CONTRACTOR shall also provide all of the WORK in accordance with applicable OSHA standards. Emphasis shall be placed upon the requirements for entering confined spaces and working with steam.

II. PRODUCTS

A. MATERIAL SPECIFICATIONS:

1. PHYSICAL PROPERTIES: The PVC Fold-and-Form Pipe Liner will be manufactured from virgin PVC Fold-and-Form Pipe Liner compound, containing no fillers, and meet or exceed the following minimum physical properties:
 - a) COMBUSTIBILITY: Self-Extinguishing
 - b) FLEXURAL MODULUS: ASTM D 790 280,000 PSI @73F
 - c) FLEXURAL STRENGTH: ASTM D 790 5,000 PSI @73F
 - d) IZOD IMPACT: ASTM D 256 1.5 FT-LB/IN
 - e) CHEMICAL RESISTANCE: suitable under general sanitary sewer conditions
2. CHARACTERISTICS: The PVC Fold-and-Form Pipe Liner shall be designed to meet the following installation performance requirements:
 - a) The Pipe Liner shall be capable of expanding a full pipe size larger than the nominal diameter (ex: 8" to 10") without splitting, or rupturing with the understanding that the pipe liner dimension ratio will increase when so expanded.
 - b) After being expanded by "blow-molding", the installed Pipe Liner will match the configuration of the host pipe.
 - c) The Pipe Liner shall be capable of negotiating pipe line bends in the host pipe without splitting, rupturing, or wrinkling of the pipe liner material.
 - d) The pipe liner shall be dimensionally stable after cool-down.
 - e) Processing of the pipe liner shall cause no degradation of the pipe liner physical properties.
3. MARKINGS: The pipe liner shall be marked at maximum five (5) foot intervals indicating ASTM D 1784 cell classification, manufacturer, and size (diameter and SDR). Each production lot will be uniquely coded.
4. DIMENSIONS:
 - a) The Pipe Liner outside diameter will be manufactured substantially smaller than the inside diameter of the host pipe. The pipe liner shall be manufactured with sufficient excess wall thickness to allow the pipe liner to meet or exceed the DR requirements after being expanded by "blow-molding" within the host pipe.
 - b) Unless otherwise specified, the Standard Dimension Ration (SDR) of 4" to 15" diameter Pipe Liner will be SDR 35. 18" to 36" Pipe Liner will be specified by wall thickness. The Pipe Liner will be continuously extruded (no joints) at the factory to the minimum length required to effectively span the distance between access points, in accordance with actual distances which shall be field verified by the Contractor prior to manufacturing.

- B. TESTING: Each production lot of Pipe Liner will be inspected and tested at the time of manufacture for defects in accordance with ASTM D 2444, and ASTM D 2152. All pipe liners shall conform to the specified dimensions. Material design properties shall be confirmed in accordance with ASTM D 790.

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III. EXECUTION

A. HOST PIPE PREPARATION

1. The existing pipeline shall be cleaned of any obstructions and televised using CCTV immediately prior to installation of the pipe liner. The host pipe condition shall be acceptable to the ENGINEER as appropriate for lining prior to the insertion of the pipe Liner.
2. Prior to beginning the insertion of the pipe liner, the CONTRACTOR shall confirm that the host pipe is adequately cleaned.

B. INSTALLATION PROCEDURES:

1. The pipe liner manufacturer's installation instructions and procedures shall be followed during installation.
2. Point Repairs
 - a) Point repairs and obstruction removals shall be completed, as necessary, to enable lining.
3. Liner Insertion
 - a) The entrance to the host pipe shall be covered so as to provide a smooth surface to prevent damage to the Pipe Liner.
 - b) The Pipe Liner shall be positioned to enable it to naturally curve into the access point and the host pipe.
 - c) The insertion end of the Pipe Liner shall be sealed to inhibit fluids and solids from entering the lumen of the Pipe Liner.
 - d) Insert the Pipe Liner into the entry access point. Slowly feed the Pipe Liner from the supply reel, while simultaneously pulling the Pipe Liner at the exit access point, to minimize tension on the Pipe Liner. Maintain two-way communication between personnel at entry and exit access points to coordinate the rate of Pipe Liner supply and pulling operations.
 - e) Use a power winch and a steel cable connected to the pulling head as recommended by the manufacturer to advance the Pipe Liner.
4. Pipe Liner Processing and "Blow-Molding":
 - a) Process and "blow-mold" the PVC Fold and-Form Pipe Liner in accordance with the manufacturer's instructions for heating and expanding the Pipe Liner. Upon completion of processing and "blow-molding", the Pipe Liner shall fit tightly against the inside wall of the host pipe and be locked into the joints of the host pipe, if possible.
 - b) Temperature and pressure gauges shall be used at the insertion and termination access points to monitor internal conditions during Pipe Liner processing and "blow-molding".
 - c) Introduce pressurized steam to heat and relax the Pipe Liner in strict accordance with the recommendations of the Pipe Liner manufacturer.
 - d) Continue the application of steam while introducing compressed air to increase internal pressure on the Pipe Liner as recommended by the manufacturer. DO NOT ALLOW PRESSURE TO EXCEED 12 PSI, AS DAMAGE MAY OCCUR TO HOST PIPE.
 - e) Discontinue the use of steam while continuing the use of compressed air to maintain the internal pressure. Allow the Pipe Liner to cool below 100 F before releasing pressure.
5. Liner Termination:
 - a) During the pulling in place and "blow-molding" process, the PVC liner shall form a bell shape at each end effectively locking the liner in place.

IV. PAYMENT

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24860EC	PVC Fold and Form Pipe Liner – 12 Inch	LF
24861EC	PVC Fold and Form Pipe Liner – 15 Inch	LF
24862EC	PVC Fold and Form Pipe Liner – 18 Inch	LF
24863EC	PVC Fold and Form Pipe Liner – 24 Inch	LF
24864EC	PVC Fold and Form Pipe Liner – 30 Inch	LF
24865EC	PVC Fold and Form Pipe Liner – 36 Inch	LF

The Department will consider payment as full compensation for all work, equipment, and incidentals necessary to install the pipe liners in accordance with this note.

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SPECIAL NOTE FOR PIPE LINER ACCEPTANCE TESTING

PART 1 -- GENERAL

1.01 SCOPE OF WORK

- A. Furnish all necessary labor, materials, equipment, services, and incidentals required to visually inspect by means of closed-circuit television (CCTV) designated pipe sections including, but not limited to, recording and playback equipment, materials, and supplies.
- B. The inspection shall be performed on one section (i.e. curb box inlet to curb box inlet) at a time. The section being inspected shall be suitably isolated from the remainder of the system.
- C. Video recordings shall be made of the television inspections and copies of both the recordings and printed inspection logs shall be supplied to the Engineer.
- D. Contractor may have to perform point repairs, remove obstructions, or remove protruding service connections to complete pre-rehabilitation TV inspection.

PART 2 -- PRODUCTS

2.01 EQUIPMENT

- A. The television camera used for inspection shall be one specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe. The camera shall be operative in 100 percent humidity conditions. The camera, television monitor and other components of the video system shall be capable of producing a minimum 500-line resolution color video picture. Picture quality and definition shall be to the satisfaction of the Engineer and if unsatisfactory, inspection shall be performed again with the appropriate changes made as designated by the Engineer at no additional cost to the Engineer. The television inspection equipment shall have an accurate footage counter that shall display on the monitor, the exact distance of the camera from the centerline of the starting manhole.

PART 3 -- EXECUTION

3.01 PROCEDURE

- A. The camera shall be moved through the pipe in either direction at a uniform rate, stopping when necessary to ensure proper documentation of the pipe's condition but in no case will the television camera be pulled at a speed greater than 30 fpm. Manual winches, power winches, TV cable and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the pipe conditions shall be used to move the camera through the line. If, during the inspection operation, the television camera will not pass through the entire section, the equipment shall be removed and repositioned in a manner so that the inspection can be

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performed from the opposite opening. All set-up costs for the inspection shall be included in the unit prices bid. If the camera fails to pass through the entire section, the Contractor shall perform point repairs as required or approved by the Engineer. Point repairs will be paid as each at the bid price for "PIPE REPAIR". The Contractor shall re-clean or further remove blockage after the point repairs at no additional cost to the Engineer.

- B. Whenever non-remote powered and controlled winches are used to pull the television camera through the line, telephones, radios, or other suitable means of communication shall be set up between the two openings of the line being inspected to ensure that good communications exist between members of the crew.

The camera height shall be adjusted such that the camera lens is always centered in the pipe being televised. Flow shall be controlled such that depth of flow shall not exceed 20% of pipe's diameter.

Lighting system shall be adequate for quality pictures.

3.02 RECORDING OF FIELD OBSERVATIONS

- A. Television Inspection logs

- 1. Printed location records shall be kept which shall clearly show the location. In addition, other data of significance including joints, unusual conditions, roots, collapsed sections, or presence of scale and corrosion that the camera failed to pass through and reasons for the failure and other discernible features shall be recorded and annotated using the PACP system and a copy of such records shall be supplied to the Engineer.

- B. Digital Recordings

- 1. The purpose of digital recording shall be to supply a visual and audio record of areas of interests of the pipe segments that may be replayed by the Engineer. Digital recording playback shall be at the same speed that it was recorded and shall be made in color. The Contractor shall be required to have all digital media and necessary playback equipment readily accessible for review by the Engineer during the project.
 - 2. The Contractor shall perform CCTV inspection of each newly installed or rehabilitated pipe segment after testing and before re-introducing any flow into the pipe. Each test shall be witnessed by the Engineer.
 - 3. The Contractor shall record each CCTV inspection on a DVD and submit such recordings to the Engineer as a prerequisite for Partial Utilization/Substantial Completion.
 - 4. CCTV inspections shall be performed by a PACP certified and trained person.
 - 5. Inspections shall include narration that notes the location and type of defects, if any.

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6. At the completion of the project, the Contractor shall furnish all of the original digital recordings to the Engineer. Each disc shall be labeled as to its contents. Labels shall include the disc number, date televised, sewer segment reach designation, street location, and structure numbers on the disc. The Contractor shall keep a copy of the discs for 30 days after the final payment for the project, at which time the discs may be erased at the Contractor's option.

PART 4 – MEASUREMENT & PAYMENT

Payment for both the video inspection prior to and after the Pipe Liners have been installed will be made as one lump sum payment as PIPE LINER ACCEPTANCE TESTING. Payment for PIPE LINER ACCEPTANCE TESTING will be considered full compensation for all work, equipment, and incidentals necessary to perform the video inspection in accordance with this note.

Payment for pipe point repairs will be made as each at the bid price for PIPE REPAIR. Payment for PIPE REPAIR will be considered full compensation for all work, equipment, and incidentals necessary to make point repairs as required and approved by the Engineer.

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

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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

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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

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existing, damaged sheet sign from the existing post and attaching the new, Department-provided sheet sign to the new sign post shall be incidental to 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 NOT 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

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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

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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.

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- 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

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payment full compensation for all work and incidentals necessary to install the Type D surface mounts according to all applicable manufacturer requirements.

NOTE: The permissible Type D Surface Mount alternative is: Kleen Break Model 425 for Surface Mount Concrete Installations by Xcessories Squared of Auburn, IL

- F. Class A Concrete for Signs.** The Department will make payment for the completed and accepted quantities, used in conjunction with Type D breakaway sign support installations, under the bid item CLASS A CONCRETE FOR SIGNS. The Department will consider payment full compensation for all work and incidentals necessary to install the concrete as required by Standard Drawing RGX-065, current edition.
- G. Remove Sign.** The Department will make payment for the completed and accepted quantities under the bid item REMOVE SIGN. The Department will consider payment full compensation for all work and incidentals necessary to remove the existing signs, posts, anchors, and any other sign material or hardware, from the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.
- H. Remove & Relocate Sheet Signs.** The Department will make payment for the completed and accepted quantities under the bid item REMOVE AND RELOCATE SHEET SIGNS. Any hardware that is needed to complete the removal and reinstallation shall be incidental. The Department will consider payment full compensation for all work and incidentals necessary to remove and reinstall the existing sheet signs as indicated on the plans, summaries, and/or as directed by the Engineer.
- I. Remove & Relocate Sign Assemblies.** The Department will make payment for the completed and accepted quantities under the bid item REMOVE AND RELOCATE SIGN ASSEMBLY. Any hardware that is needed to complete the removal and reinstallation shall be incidental. The Department will consider payment full compensation for all work and incidentals necessary to remove and reinstall the existing sign assembly as indicated on the plans, summaries, and/or as directed by the Engineer
- J. Erosion Control.** See Special Note for Erosion Control.

Special Note for Completion Date & Liquidated Damages

I. COMPLETION DATE

The ultimate fixed completion date for this project will be October 15, 2023. Liquidated Damages for failure to complete the project on time will be assessed following Section 108.09.

II. LIQUIDATED DAMAGES

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 lane and/or shoulder closures that are in place beyond the time frame(s) noted in the Traffic Control Plan and approved by the Engineer.

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.

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

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 EXPERIMENTAL KYCT AND HAMBURG TESTING

1.0 General

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

2.0 Equipment

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

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

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

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

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

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

3.0 Testing Requirements

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

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

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

3.2.2 Number of Specimens and Conditioning. Fabricate specimens in accordance with the Kentucky Method for KYCT Index Testing. Contrary to the method, for field specimens, fabricate a minimum of 3 and up to 6 test specimens. The specimens shall be compacted at the temperature in accordance with KM 64-411. KYCT mix design specimens shall be short-term conditioned uncovered for four hours at compaction temperature in accordance with KM 64-411. Contrary to the Kentucky Method, plant produced bituminous material shall be short-term conditioned immediately after sampling for two hours uncovered in the oven at compaction temperature in accordance with KM 64-411. Additionally, fabricated specimens shall be allowed to cool in air (fan is permissible) for 30 minutes +/- 5 minutes and conditioned in a 77 °F water bath for 30 minutes +/- 5 minutes. To ensure confidence and reliability of the test results provided by KYCT testing and Hamburg testing, reheating of the asphalt mixture is prohibited.

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

3.2.4 File Name. As according to section 7.12 of The Kentucky Method for KYCT Index Testing, save the filename with the following format: "CID_Approved Mix Number_Lot Number_Sublot Number_Date"

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

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

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

3.3.3 File Name. Save the Excel spreadsheet with the following file name; “Hamburg_CID_Approved Mix Number_Lot Number_Sublot Number_Date” and upload the file into the AMAW.

4.0 Data

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

5.0 Payment

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

June 15th, 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. This project will include a resurfacing project from milepoint 0.0 to milepoint 5.263 where FD05 funds will pay for asphalt surface, tack material, spray thermoplastic and rumble strips. 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 asphalt 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.

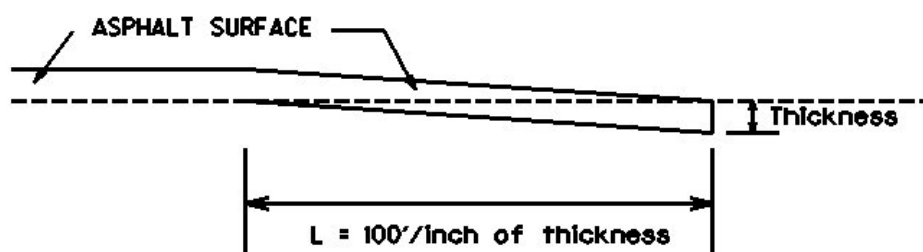
The Department will not measure any surface preparation required prior to applying the asphalt seal coat, but shall be incidental to “Asphalt Material for Asphalt Seal Coat”.

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

SPECIAL NOTE FOR EDGE KEY – FD05

Construct Edge Keys at the beginning of project, end of project, at railroad crossings, and at ramps, as applicable. Unless specified in the Contract or directed by the Engineer, do not construct edge keys at intersecting streets, roads, alleys, or entrances. Cut out the existing asphalt surface to the required depth and width shown on the drawing and heel the new surface into the existing surface. The Department will make payment for this work at the Contract unit price per ton for Asphalt Pavement Milling and Texturing, which shall be full compensation for all labor, materials, equipment, and incidentals for removal and disposal of the existing asphalt surface required to construct the edge key.

EDGE KEY



Thickness = 1.25 Inches

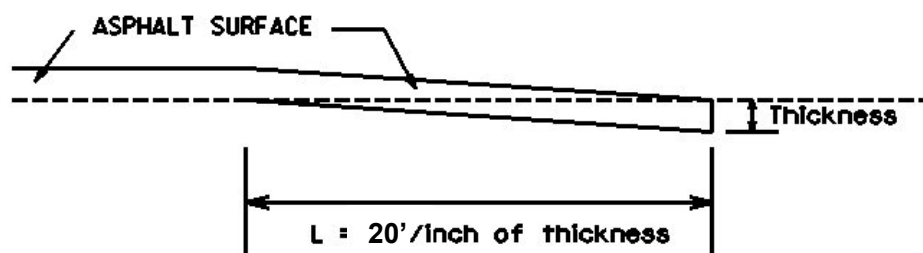
L = 125 LF

L = Length of Edge Key

SPECIAL NOTE FOR EDGE KEY – FD04

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

EDGE KEY



Thickness = 1.25 Inches

L = 25 LF

L = Length of Edge Key

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, 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.
- C. Delineators for Guardrail.** Furnish white and/or yellow Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.
- D. DGA.** Furnish Dense Graded Aggregate as per Section 805.
- E. Erosion Control.** See the Special Note for Erosion Control.

III. CONSTRUCTION METHODS

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Site Preparation.** Remove existing guardrail system, including the guardrail end treatments, Bridge End connectors and all other elements of the existing guardrail system as per Section 719, except that the Contractor will take possession of all concrete posts and all concrete associated with the existing bridge and/or guardrail end treatments. Locate all disposal areas off the Right of Way. Be responsible for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all obstructions or any other items; regrading, reshaping, and adding and compacting 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

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posts with dry sand; temporary pollution and erosion control; disposal of excess, waste materials, and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the engineer.

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

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

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

- D. DGA.** Place and compact DGA along and under the guardrail as shown on the Typical Section(s) or as directed by the Engineer. Place a Double Asphalt Seal Coat over the entire width of the DGA along and under the guardrail. See the Special Note for Double Asphalt Seal Coat.
- E. Delineators for Guardrail.** Construct Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.
- F. Property Damage.** Be responsible for all damage to public and/or private property resulting from the work. Restore damaged roadway features and private property at no additional cost to the Department.
- G. Coordination with Utility Companies.** Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require utilities to be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs as a result of guardrail operations at no additional cost to the Department.
- H. Right of Way Limits.** The Department has not established the exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements, and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

Guardrail
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- I. **Clean Up, Disposal of Waste.** Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.
- J. **Final Dressing, Seeding and Protection.** Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.
- K. **Erosion Control.** See the Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Site preparation.** Other than the bid items listed, the Department will not measure Site Preparation for separate payment but shall be incidental to the Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections, as applicable.
- C. **Guardrail, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail.** The Department will measure according to Section 719.04.
- D. **DGA.** The Department will measure according to Section 302.04.
- E. **Delineators for Guardrail.** See Standard Drawing RBR-055 – Delineators for Guardrail.
- F. **Clean Up, Disposal of Waste, Final Dressing, and Seeding and Protection.** The Department will NOT measure for payment the operations of: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection will be measured according to Section 212.
- G. **Erosion Control.** See the Special Note for Erosion Control.

V. BASIS OF PAYMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Guardrail, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail.** The Department will make payment according to Section 719.05.
- C. **DGA.** The Department will make payment according to Section 302.05.
- D. **Delineators for Guardrail.** See Standard Drawing RBR-055 – Delineators for Guardrail.
- E. **Erosion Control.** See the Special Note for Erosion Control.

SPECIAL NOTE FOR 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 – FD05 and HSIP

TRAFFIC CONTROL GENERAL

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

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

PROJECT PHASING & CONSTRUCTION PROCEDURES

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

GREENBACK ROAD INTERSECTION WITH KY 81

Due to the existing nature of the Greenback Road and KY 81 Intersection, the new pavement and intersection can be built allowing one or both existing ingress/egresses to remain active. Traffic shall be maintained during the entire construction of the intersection improvement. For the tying down of the new Greenback Road pavement to KY 81, a temporary lane closure on KY 81 will be required. Follow directives for Lane Closures as shown in the corresponding paragraph above.

For all other construction activities, utilize a lane closure, and maintain alternating one-way traffic. This may 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
Christmas Holiday	3 pm Friday, December 22, 2023 – 8 pm Monday, December 25, 2023
New Year’s Day Holiday	7 am Saturday, December 30, 2023 – 8 pm Monday, January 1, 2024

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

LANE CLOSURES

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

TEMPORARY SIGNS

Temporary signposts and splices shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. Temporary signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations. Contrary to section 112.04.02, only long-term temporary signs (temporary signs intended to be continuously in place for more than 3 days) will be measured for payment. Short-term temporary signs (temporary signs intended to be left in place for 3 days or less) will not be measured for payment but will be incidental to Maintain and Control Traffic.

CHANGEABLE MESSAGE SIGNS

Provide changeable message signs 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.

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BARRICADES

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

TEMPORARY ENTRANCES

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

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

THERMOPLASTIC INTERSECTION MARKINGS

Consider the locations listed on the summary and/or shown on the plan sheets as approximate only. Prior to milling and/or resurfacing, locate and document the locations of the existing markings. After final surfacing operations, replace the markings at their approximate existing locations, as shown on the plan sheets, or as directed by the Engineer. Place markings not existing prior to resurfacing as shown on the plan sheets or as directed by the Engineer.

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

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W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and un-resurfaced areas which traffic may cross with asphalt mixture for leveling and wedging. Remove the wedges prior to placement of the final surface course.

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

Less than 2" - No protection required.

2" to 4" - Place plastic drums, vertical panels, or barricades every 50 feet. During daylight working hours only, the Engineer will allow the Contractor to use cones in lieu of plastic drums, panels, and barricades. Wedge the drop-off with DGA or asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area.

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

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

USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

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

Application

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

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

CMS should not be used for:

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

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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

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Standard Abbreviations

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

<u>Word</u>	<u>Abbrev</u>	<u>Example</u>
Access	ACCS	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

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Standard Abbreviations (cont.)

<u>Word</u>	<u>Abbrev</u>	<u>Example</u>
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:

<u>Abbrev</u>	<u>Intended Word</u>	<u>Word Erroneously Given</u>
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (merge)
LOC	Local	Location
LT	Light (traffic)	Left
PARK	Parking	Park
POLL	Pollution (index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard
TEMP	Temporary	Temperature
WRNG	Warning	Wrong

Typical Messages

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

<u>Reason/Problem</u>	<u>Action</u>
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

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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	



SPECIAL NOTE FOR SPRAY APPLIED THERMOPLASTIC
PAVEMENT MARKING MATERIALS

I. DESCRIPTION

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

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

II. MATERIALS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

III. CONSTRUCTION METHODS

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

IV. METHOD OF MEASUREMENT

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

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

IV. BASIS OF PAYMENT

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

<u>Code</u>	<u>Pav Item</u>	<u>Pav Unit</u>
24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF
24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF

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



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

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RIGHT OF WAY CERTIFICATION

☒	Original	☐	Re-Certification	RIGHT OF WAY CERTIFICATION	
ITEM #		COUNTY	PROJECT # (STATE)		PROJECT # (FEDERAL)
2-9013.00		McLean/Daviess	FD52 121 0081 000-000		HSIP 5055 (015)
PROJECT DESCRIPTION					
Perform low-cost safety improvements on KY 81 from MP 17.839 in McLean County to MP 8.695 in Daviess 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		Digitally signed by Jennifer K Cox Date: 2022.10.31 08:09:42 -05'00'
Date			Date		
Right of Way Director			FHWA		
Printed Name			Printed Name		
Signature		Digitally signed by Kelly Divine Date: 2022.10.31 08:40:40 -05'00'	Signature		No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date			Date		

Consent & Release Summary

Parcel	Station	MP	Side	Owner(s)	Consent & Release Description	Status	Additional Notes
1	952+25	18.035	LT	BILLY & BARBARA WIGGINS	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes trimming and removing trees and brush as well as getting equipment on the property to do the work necessary to extend the box culvert with a 82 foot long by 42" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert with a new safer headwall and tie in the slope.	Signed	
2	018+99	0.360	LT	PAUL T WILKERSON	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property to do the work necessary to extend the box culvert with a 58 foot long by 24" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert with a new safer headwall and tie in the slope with trimming trees and brush.	Signed	
3	018+99	0.360	RT	PAUL T WILKERSON	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property to do the work necessary to extend the box culvert with a 58 foot long by 24" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert with a new safer headwall and tie in the slope with trimming trees and brush.	Signed	
5	089+62	1.697	RT	JOHN L SR & CHARLOTTE F KUEGEL	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property to do the work necessary to extend the box culvert with a 58 foot long by 24" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert with a new safer headwall and tie in the slope.	Signed	
9	132+82	2.516	RT	Tim Taylor	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property located on KY 81 to do the work necessary to tie in the slope to the new headwall location, ditching and shouldering & removing trees and brush.	Signed	
10	160+10	3.032	RT	John Kuegel	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property to do the work necessary to extend the box culvert with a (2) 58' long by 30" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert and tie in the slope.	Signed	
27	167+82	3.178	LT	WENDELL B SR & VIOLA K SHOCKLEE	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property to do the work necessary to extend the box culvert with a 56 foot long by 24" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert with a new safer headwall and tie in the slope, remove trees and brush.	Signed	
11	167+82	3.178	RT	John Kuegel	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property to do the work necessary to extend the box culvert with a 56' long by 18" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert and grade the slope out to the new location.	Signed	
12	174+56	3.306	RT	John Kuegel	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property to do the work necessary to extend the box culvert with a 52 foot long by 24" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert, tie in the slope, remove trees and brush.	Signed	
13	177+65	3.365	LT	JAMES D & ALICIA G WARNER	Work on the property will occur within the purple dotted construction limits on Kentucky Highway 81, see attached exhibit. This includes getting equipment on the property to do the work necessary to extend the box culvert with a 52 foot long by 24" High Density Poly Ethylene (pvc-type) pipe liner & to replace existing reinforced concrete box culvert, tie in the slope, remove trees and brush.	Signed	Rock/riprap added in the purple dotted area to help control erosion. Confirmed with project manager on 11/10/21
14	177+65	3.365	RT	W G & ELAINE GLENN	Trim and remove tree and brush, perform ditch and shoulder work, and extend the box culvert with sloped and mitered new concrete headwalls along with the east side of HWY 81 as shown on the attached exhibit.	Signed	It is understood and agreed between the parties that the truck/lumberlog of a walnut tree is to be retained by the owner. Mr Glen agrees to mark the tree with an orange "X". Mr Glenn acknowledges the contractors cannot guarantee the condition of the log.
16	205+15	3.885	RT	GARY L & BRENDA C RAGER	Extend box culvert along the east side of HWY 81 near the intersection with Burns Road, as shown on the attached exhibit.	Signed	

Consent & Release Summary

Parcel	Station	MP	Side	Owner(s)	Consent & Release Description	Status	Additional Notes
18	247+91	4.695	RT	HAY MEADOW LTD	Remove existing headwall and reconstruct a sloped and mitred concrete headwall and extend the box culvert along the east side of HWY 81 near milepoint 4.7 as shown on the attached exhibit.	Signed	
20	323+99	6.136	RT	NANCY H MILES	Perform ditch and shoulder work, and extend the box culvert with slopes and mitered new concrete headwalls along the east side of HWY 81 as shown on the attached exhibit.	Signed	
22	369+01	6.989	RT	KAREN & GARY BICKETT FARMS LLC	Perform ditch and shoulder work, and extend the box culvert with sloped and mitered new concrete headwalls along the east side of HWY 81 as shown on the attached exhibit.	Signed	
23	369+01	6.989	RT	GREGORY & LEAH MCCARTY	Perform ditch and shoulder work, and extend the box culvert with slopes and mitered new concrete headwalls along the east side of HWY 81 as shown on the attached exhibit.	Signed	
24	445+39	8.435	LT	G P O FARMS LLC	Perform ditch and shoulder work, and extend the box culvert with slopes and mitered new concrete headwalls along the east side of HWY 81 as shown on the attached exhibit.	Signed	
25	445+39	8.435	RT	MARGARET M LAMBERT	Reconstruct box culvert head walls and grade ditch to the new headwalls along the east side of HWY 81 as shown on the attached exhibit.	Signed	

UTILITIES AND RAIL CERTIFICATION NOTE

McLean/Daviess County - HSIP 5055(015)

FD52 121 0081 000-000

Safety Improvements along KY 81

Item No. 2-9013.00

GENERAL PROJECT NOTES ON UTILITIES

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

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

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

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

UTILITIES AND RAIL CERTIFICATION NOTE

McLean/Daviess County - HSIP 5055(015)

FD52 121 0081 000-000

Safety Improvements along KY 81

Item No. 2-9013.00

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

McLean County Water has an existing 6" PVC water main with gate valves primarily running on the western side of KY 81 in McLean County from the project start to the Daviess County line. **These facilities are to remain in place and are not to be disturbed except as described below.**

West Daviess County Water has existing 6" – 10" PVC/DI water mains, gate valves and fire hydrants primarily along the west side of the existing roadway pavement along KY 81 in Daviess County. The main line does cross over to the east side around Milepoint 6.5. **These facilities are to remain in place and are not to be disturbed except as described below.**

Atmos Energy has existing Distribution and High Pressure Gas mains running along the east side of the existing roadway pavement along KY 81 in McLean and Daviess Counties until crossing over to the west side around Milepoint 3.9 in Daviess County. **These facilities are to remain in place and are not to be disturbed except as described below.**

Kenergy has existing overhead electric present along KY 81 in McLean and Daviess Counties. **These facilities are to remain in place and are not to be disturbed except as described below.**

RWRA has existing sanitary facilities running along the eastern side of KY 81 in Daviess County beginning around Milepoint 6.0. **These facilities are to remain in place and are not to be disturbed.**

AT&T has internet and cable facilities along the utility pole route and some segments underground. These facilities traverse along the east and west side of KY 81 in McLean and Daviess Counties. **These facilities are to remain in place and are not to be disturbed.**

Spectrum has internet and cable facilities along the utility pole route and some segments underground. These facilities traverse along the east and west side of KY 81 in McLean and Daviess Counties. **These facilities are to remain in place and are not to be disturbed.**

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

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

None

UTILITIES AND RAIL CERTIFICATION NOTE

McLean/Daviess County - HSIP 5055(015)
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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

- **McLean County Water:** The 6” PVC waterline will need to be relocated that is running along the sight distance improvement on the west side of KY 81, just north of the KY 140 intersection.
- **Atmos Energy:** No conflicts identified but Contractor shall field verify the locations of the utility lines prior to construction. Any relocations that are required shall be approved by the Engineer and Atmos Energy.
- **Kenergy:** Three overhead utility poles will need to be moved and reset due to culvert/pipe extensions at Station 18+99, 177+65, and 301+88.

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

- **West Daviess County Water:** The water main and related facilities have potential impacts at the culvert/pipe extensions at Station 111+43 near Vanover Road, Station 205+15 near Burns Road. See Pipe Sections for more information. There are additional potential impacts within a section of Roadside Regrading from Station 389+00 to Station 397+00 (this section also includes a pipe extension at Station 396+53). See the Cross Sections and Pipe Sections for more information. The contractor shall field verify waterline locations during construction to determine to extents of relocation required. This shall be approved by the Engineer and West Daviess County Water District prior to work beginning.

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

☒ No Rail Involvement ☐ Rail Involved ☐ Rail Adjacent

UTILITIES AND RAIL CERTIFICATION NOTE

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AREA UTILITIES CONTACT LIST

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
1. McLean County Water	Michael Latham	270-499-3788 latham.michael1@gmail.com
2. West Daviess Water	William Higdon	270-685-5594 whigdon@oolwireless.net
3. Atmos Energy (Gas)	Kenny Nash	270-316-1571 kenneth.nash@atmosenergy.com
4. Kenergy (Electric)	Tracy Benson	270-316-3736 tbenson@kenegycorp.com
5. RWRA (Sanitary)	Sean Obryan	270-687-8450 obryansm@rwra.org
6. AT&T (Communication)	Chris Henning	ch3064@att.com
7. Spectrum (Communication)	Justin Sturgeon	812-253-2767 Justin.Sturgeon@charter.com

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.

GENERAL UTILITY NOTES AND INSTRUCTIONS APPLICABLE TO ALL UTILITY WORK MADE A PART OF THE ROAD CONSTRUCTION CONTRACT

The contractor should be aware the following utility notes and KYTC Utility Bid Item Descriptions shall supersede, replace, and take precedence over any and all conflicting information that may be contained in utility owner supplied specifications contained in the contract, on plans supplied by the utility owner, or any utility owner specifications or information externally referenced in this contract.

Where information may have been omitted from these notes, bid item descriptions, utility owner supplied specifications or plans; the KYTC Standard Specifications for Road and Bridge Construction shall be referenced.

PROTECTION OF EXISTING UTILITIES

The existing utilities shown on the plans are shown as best known at the time the plans were developed and are to be used as a guide only by the Contractor. The Contractor shall use all means at his disposal to accurately locate all existing utilities, whether shown on the plans or not, prior to excavation. The contractor shall protect these utilities during construction. Any damage to existing utilities during construction that are shown or not shown on the plans shall be repaired at the Contractor's expense.

PREQUALIFIED UTILITY CONTRACTORS

Some utility owners may require contractors that perform relocation work on their respective facilities as a part of the road contract be prequalified or preapproved by the utility owner. **Utility contractors may be added via addendum if KYTC is instructed to do so by the utility owner. Potential contractors must seek prequalification from the utility owner. Any revisions must be sent from the utility owner to KYTC a minimum of one week prior to bid opening.** Those utility owners with a prequalification or preapproval requirement are as follows:

1. Preapproved Contractors for waterline relocation work in Daviess County per West Daviess County Water:

RAME Contracting, LLC
PO Box 293
Springfield, Ky 40069
Office 1-859-336-6000
www.ramecontractingllc.com

Luttrell & Sons LLC
Dundee-Narrows Rd.
Dundee, Ky 42338
Bret Morphew
270-256-3565

Ernie Davis & Sons
1518 East 11th Street
Owensboro, Ky 42303
270-926-1350
Contact: Jerry Davis Sr.
jim@BMBevansville.com

BMB Construction
3614 Citadel Circle
Newburg Indiana 47630
1-812-867-5431
Contact: James D. Williams

2. The subcontractor selected to complete the waterline relocation work for Daviess County shall complete the relocations for McLean County.

The bidding contractor needs to review the above list and choose from the list of approved subcontractors at the end of these general notes as identified above before bidding. When the list of approved subcontractors is provided, only subcontractors shown on the following list(s) will be allowed to work on that utility as a part of this contract.

When the list of approved subcontractors for the utility work is not provided in these general notes, the utility work can be completed by the prime contractor. If the prime contractor chooses to subcontract the work, the subcontractor shall be prequalified with the KYTC Division of Construction Procurement in the work type of "Utilities" (I33). Those who would like to become prequalified may contact the Division of Construction Procurement at (502) 564-3500. Please Note: it could take up to 30 calendar days for prequalification to be approved. The prequalification does not have to be approved prior to the bid but must be approved before the subcontract will be approved by KYTC and the work can be performed.

CONTRACT ADMINISTRATION RELATIVE TO UTILITY WORK

All utility work is being performed as a part of a contract administered by KYTC; there is not a direct contract between the utility contractor and utility owner. The KYTC Section Engineer is ultimately responsible for the administration of the road contract and any utility work included in the contract.

SUBMITTALS AND CORRESPONDENCE

All submittals and correspondence of any kind relative to utility work included in the road contract shall be directed to the KYTC Section Engineer, a copy of which may also be supplied to the utility owner by the contractor to expedite handling of items like material approvals and shop drawings. All approvals and correspondence generated by the utility owner shall be directed to the KYTC Section Engineer. The KYTC Section Engineer will relay any approvals or correspondence to the utility contractor as appropriate. At no time shall any direct communication between the utility owner and utility contractor without the communication flowing through the KYTC Section Engineer be considered official and binding under the contract.

ENGINEER

Where the word “Engineer” appears in any utility owner specifications included in this proposal, utility owner specifications included as a part of this contract by reference or on the utility relocation plans, it shall be understood the “Engineer” is the Kentucky Transportation Cabinet (KYTC) Section Engineer or designated representative and the utility owner engineer or designated representative jointly. Both engineers must mutually agree upon all decisions made with regard to the utility construction. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

INSPECTOR OR RESIDENT PROJECT REPRESENTATIVE

Where the word “Inspector” or “Resident Project Representative” appears in the utility specifications included in this proposal, utility owner specifications included as a part of this contract by reference or on the utility relocation plans, it shall be understood the “Inspector” or “Resident Project Representative” is the utility owner inspector and KYTC inspector jointly. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

NOTICE TO UTILITY OWNERS OF THE START OF WORK

One month before construction is to start on a utility, the utility contractor shall make notice to the KYTC Section Engineer and the utility owner of when work on a utility is anticipated to start. The utility contractor shall again make confirmation notice to the KYTC Section Engineer and the utility owner one week before utility work is to actually start.

UTILITY SHUTDOWNS

The Contractor shall not shut down any active and in-service mains, utility lines or services for any reason unless specifically given permission to do so by the utility owner. The opening and closing of valves and operating of other active utility facilities for main, utility line or utility service shutdowns are to be performed by the utility owner unless specific permission is given to the contractor by the owner to make shutdowns. If and when the utility owner gives the contractor permission to shutdown mains, utility lines or utility services, the contractor shall do so following the rules, procedures, and regulations of the utility owner. Any permission given by the utility owner to the contractor to shutdown active and in-service mains, utility lines or services shall be communicated to the KYTC Section Engineer by the utility owner that such permission has been given.

Notice to customers of utility shutdowns is sometimes required to be performed by the utility contractor. The contractor may be required; but, is not limited to, making notice to utility customers in a certain minimum amount of time in advance of the shut down and by whatever means of communication specified by the utility owner. The means of communication to the customer may be but is not limited to, a door hanger, notice by newspaper ad, telephone contact, or any combination of communication methods deemed necessary, customary, and appropriate by the utility owner. The contractor should refer to the utility owner specifications for requirements on customer notice.

Any procedure the utility owner may require the contractor to perform by specification or plan note and any expense the contractor may incur to comply with the utility owner’s shut down procedure and notice to customers shall be considered an incidental expense to the utility construction.

CUSTOMER SERVICE AND LATERAL ABANDONMENTS

When temporary or permanent abandonment of customer water, gas, or sewer services or laterals are necessary during relocation of utilities included in the contract, the utility contractor shall perform these abandonments as part of the contract as incidental work. No separate payment will be made for service line and lateral abandonments. The contractor shall provide all labor, equipment, and materials to accomplish the temporary or permanent abandonment in accordance with the plans, specifications and/or as directed by the engineer. Abandonment may include, but is not limited to, digging down on a water or gas main at the tap to turn off the tap valve or corporation stop and/or capping or plugging the tap, digging down on a sewer tap at the main and plugging or capping the tap, digging down on a service line or lateral at a location shown on the plans or agreeable to the engineer and capping or plugging, or performing any other work necessary to abandon the service or lateral to satisfactorily accomplish the final utility relocation.

STATIONS AND DISTANCES

All stations and distances, when indicated for utility placement in utility relocation plans or specifications, are approximate; therefore, some minor adjustment may have to be made during construction to fit actual field conditions. Any changes in excess of 6 inches of plan location shall be reviewed and approved jointly by the KYTC Section Engineer or designated representative and utility owner engineer or designated representative. Changes in location without prior approval shall be remedied by the contractor at his own expense if the unauthorized change creates an unacceptable conflict or condition.

RESTORATION

Temporary and permanent restoration of paved or stone areas due to utility construction shall be considered incidental to the utility work. No separate payment will be made for this work. Temporary restoration shall be as directed by the KYTC Section Engineer. Permanent restoration shall be “in-kind” as existing.

Restoration of seed and sod areas will be measured and paid under the appropriate seeding and sodding bid items established in the contract for roadway work.

BELOW ARE NOTES FOR WHEN “INST” ITEMS ARE IN THE CONTRACT MEANING THE UTILITY COMPANY IS PROVIDING CERTAIN MATERIALS FOR UTILITY RELOCATION

MATERIAL

Contrary to Utility Bid Item Descriptions, those bid items that have the text “**INST**” at the end of the bid item will have the major components of the bid item provided by the utility owner. No direct payment will be made for the major material component(s) supplied by the utility company. All remaining materials required to construct the bid item as detailed in utility bid item descriptions, in utility specifications and utility plans that are made a part of this contract will be supplied by the contractor. The contractor’s bid price should reflect the difference in cost due to the provided materials.

The following utility owners have elected to provide the following materials for work under this contract:

No materials are being supplied by the utility owner(s). All materials are to be supplied by the contractor per bid item descriptions, utility specifications and utility plans.

SECURITY OF SUPPLIED MATERIALS

If any utility materials are to be supplied by the utility owner, it will be the responsibility of the utility contractor to secure all utility owner supplied materials after delivery to the project site. The utility contractor shall coordinate directly with the utility owner and their suppliers for delivery and security of the supplied materials. Any materials supplied by the utility owner and delivered to the construction site that are subsequently stolen, damaged, or vandalized and deemed unusable shall be replaced with like materials at the contractor's expense.

Standard Water Bid Item Descriptions

W AIR RELEASE VALVE This bid item description shall apply to all air release valve installations of every size except those defined as “Special”. This item shall include the air release valve, main to valve connecting line or piping, manhole, vault, structure, access casting or doors, tapping the main, labor, equipment, excavation, proper backfill and restoration required to install the air release valve at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. All air release/vacuum valves on a project shall be paid under one bid item regardless of size. No separate pay items will be established for size variations. Only in the case of the uniqueness of a particular air release valve would a separate bid item be established. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

BOLLARDS This item is for payment for furnishing and installing protective guard posts at above ground utility installations. A bollard may consist of, but not limited to, a steel post set in concrete or any other substantial post material. This item shall include all labor, equipment, and materials needed for complete installation of the bollard as specified by the utility owner specifications and plans. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

NOTE: A bid code for this item has been established in standard roadway bid items and shall be used for payment of this item. The bid code is 21341ND

W CAP EXISTING MAIN This item shall include the specified cap, concrete blocking and/or mechanical anchoring, labor, equipment, excavation, backfill, and restoration required to install the cap at the location shown on the plans or as directed in accordance with the specifications. This item is not to be paid on new main installations. This pay item is only to be paid to cap existing mains. Caps on new mains are incidental to the new main. Any and all caps on existing mains shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W DIRECTIONAL BORE Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized in order to minimize the impact of open cut for the installation of water main under streets, creeks, and etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at each end of the bore when specified to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract regardless of size. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASEMENT CONCRETE Includes all labor, equipment, excavation, concrete, reinforcing steel, backfill, restoration, and etc., to construct the concrete encasement of the water main as shown on the plans, and in accordance with the specifications and standard drawings. Payment under this item shall be in addition to the carrier pipe as paid under separate bid items. Carrier pipe is not included in this bid item. Any and all concrete encasement shall be paid under one bid item included in the contract regardless of the size of the carrier pipe or the volume of concrete or steel reinforcement as specified in the plans and specifications. No separate bid items will be established for size variations. Measurement of pay quantity shall be from end of concrete to end of concrete. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASUREMENT STEEL BORED This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to bore and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The sizes of encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASUREMENT STEEL OPEN CUT This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to open cut and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The size encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W FIRE HYDRANT ADJUST Includes all labor, equipment, excavation, materials, and backfill to adjust the existing fire hydrant using the fire hydrant manufacturer's extension kit for adjustments of 18" or less. Adjustments greater than 18" require anchoring couplings and vertical bends to adjust to grade. The Contractor will supply and install all anchor couplings, bends, fire hydrant extension, concrete blocking, restoration, granular drainage material, etc, needed to adjust the fire hydrant complete and ready for use as shown on the plans, and in accordance with the specifications and standard drawings. This also includes allowing for the utility owner inspector to inspect the existing fire hydrant prior to adjusting, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete and ready for use.

W FIRE HYDRANT ASSEMBLY Includes all labor, equipment, new fire hydrant, isolating valve and valve box, concrete pad around valve box (when specified in specifications or plans), piping, anchoring tee, anchoring couplings, fire hydrant extension, excavation, concrete blocking, granular drainage material, backfill, and restoration, to install a new fire hydrant assembly as indicated on plans and on standard drawings compete and ready for use. No additional payment will be made for rock excavation. Please refer to the Utility Company's

Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FIRE HYDRANT RELOCATE This item includes all labor and equipment to remove the existing fire hydrant from its existing location and reinstalling at a new location. This item shall include a new isolating valve and valve box, concrete pad around valve box (when required in specifications or plans), new piping, new anchoring tee, anchoring couplings, fire hydrant extensions, concrete blocking, restoration, granular drainage material, excavation, and backfill as indicated on plans, specifications, and on standard drawings complete and ready for use. This item shall also include allowing for utility owner inspector to inspect the existing fire hydrant prior to reuse, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant for use, if the existing fire hydrant is determined unfit for reuse. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FIRE HYDRANT REMOVE This bid item includes removal of an abandoned fire hydrant, isolating valve, and valve box to the satisfaction of the engineer. The removed fire hydrant, isolating valve and valve box shall become the property of the contractor for his disposal as salvage or scrap. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FLUSH HYDRANT ASSEMBLY This item shall include the flushing hydrant assembly, service line, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the flush hydrant at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FLUSHING ASSEMBLY This item shall include the flushing device assembly, service line, meter box and lid, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the flushing device at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W LEAK DETECTION METER This item is for payment for installation of a water meter at main valve locations where shown on the plans for detection of water main leaks. The meter shall be of the size and type specified in the plans or specifications. This item shall include all labor, equipment, meter, meter box or vault, connecting pipes between main and meter, main taps, tapping saddles, casting, yoke, and any other associated material needed for installation of a functioning water meter in accordance with the plans and specifications, complete and ready for use. No separate payment will be made under any other contract item for connecting pipe or main taps. Any and all leak detection meters shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete and ready for use.

W LINE MARKER This item is for payment for furnishing and installing a water utility line marker as specified by the utility owner specifications and plans. A line marker may consist of a post or monument of whatever materials specified and shall include markings and/or signage on same as specified by plans or specifications. This item shall include all labor, equipment, and materials needed for complete installation of the marker. This item shall be paid EACH (EA) when complete.

W LINE STOP SIZE 1 OR 2: This item shall include the line stop saddle/sleeve, valve, completion plug and any other material, labor, and equipment necessary to complete the line stop as indicated in the plans and/or specifications. This installation shall allow the waterline system to operate as usual without any interruption of service. The size shall be the measured internal diameter of the live pipe to be tapped. The line stop size to be

paid under sizes 1 or 2 shall be as follows:

Size 1 = All live tapped main sizes up to and including 8 inches

Size 2 = All live tapped main sizes greater than 8 inches

Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W MAIN POINT RELOCATE This item is intended for payment for horizontal and/or vertical relocation of a short length of an existing main at the locations shown on the plans. This bid item is to be used to relocate an existing water main at point locations such as to clear a conflict at a proposed drainage structure, pipe or any other similar short relocation situation, and where the existing pipe material is to be reused. The contractor shall provide any additional pipe or fitting material needed to complete the work as shown on the plans and specifications. The materials provided shall be of the same type and specification as those that exist. Substitution of alternative materials shall be approved by the engineer in advance on a case by case basis. New polyethylene wrap is to be provided (if wrap exists or is specified in the specifications to be used). If it is necessary that the pipe be disassembled for relay, payment under this item shall also include replacement of joint gaskets as needed. Bedding and backfill shall be provided and performed the same as with any other pipe installation as detailed in the plans and specifications. Payment under this item shall be for each location requiring an existing main to be relocated horizontally or vertically regardless of pipe size or relocation length. No separate pay items will be established for pipe size variations or relocation segment length variations. Water Main Relocate shall not be paid on a linear feet basis; but, shall be Paid EACH (EA) at each location when complete and placed in service. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

W METER This item is for payment for installation of all standard water meters of all sizes 2 inches ID or less as specified on the plans. This item shall include all labor, equipment, meter, meter box, casting, yoke, and any other associated material needed for installation of a functioning water meter in accordance with the plans and specifications, complete and ready for use. This item shall include connections to the new or existing water service line. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER ADJUST This item includes all labor, equipment, excavation, materials, backfill, restoration, and etc., to adjust the meter casting to finished grade (whatever size exists) at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER RELOCATE This item includes all labor, equipment, excavation, additional fittings, disinfection, testing, restoration, and etc., to relocate the existing water meter (whatever size exists), meter yoke, meter box, casting, and etc., from its old location to the location shown on the plans or as directed, in accordance with the specifications and standard drawings complete and ready for use. The new service pipe (if required) will be paid under short side or long side service bid items. Any and all meter relocations of 2 inches or less shall be paid under one bid item included in the contract regardless of size. Each individual relocation shall be paid individually under this item; however, no separate bid items will be established for meter size variations of 2 inches ID or less. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER VAULT SIZE RANGE 1 OR 2 This item is for payment for installation of an underground structure for housing of a larger water meter, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s) valve(s), all piping, and fitting materials associated with installing a functioning meter and vault in accordance with the plans, standard drawings, and specifications, complete and ready for use. The size shall be the measured internal diameter of the meter and piping to be installed. The size meter vault to be paid under size 1 or 2 shall be as follows:

Size Range 1 = All meter and piping sizes greater than 2 inches up to and including 6 inches

Size Range 2 = All meter and piping sizes greater than 6 inches

This item shall be paid EACH (EA) when complete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

W METER/FIRE SERVICE COMBO VAULT This item is for payment for installation of an underground structure for housing of a water meter and fire service piping, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s), valve(s), all piping, and fitting materials associated with installing a functioning meter and fire service vault in accordance with the plans and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER WITH PRESSURE REDUCING VALVE (PRV) This item is for payment for installation of all standard water meters with pressure reducing valves (PRV) of all sizes 2 inches ID or less as specified on the plans. This item shall include all labor, equipment, meter, PRV, meter box, casting, yoke, and any other associated material needed for installation of a functioning water meter with PRV in accordance with the plans and specifications, complete and ready for use. This item shall include connections to the new or existing water service line. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W PIPE This description shall apply to all PVC, ductile iron, and polyethylene/plastic pipe bid items of every size and type to be used as water main, except those bid items defined as "Special". This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, sanitizing, backfill, and etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item includes material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. This item shall include all temporary and permanent materials and equipment required to pressure test and sanitize mains including, but not limited to, pressurization pumps, hoses, tubing, gauges, main taps, saddles, temporary main end caps or plugs and blocking, main end taps for flushing, chlorine liquids or tablets for sanitizing, water for testing/sanitizing and flushing (when not supplied by the utility), chlorine neutralization equipment and materials, and any other items needed to accomplish pressure testing and sanitizing the main installation. This item shall also include pipe anchors, at each end of polyethylene pipe runs when specified to prevent the creep or contraction of the pipe. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W PLUG EXISTING MAIN This item shall include the specified plug, concrete blocking and/or anchoring, labor, equipment, excavation, backfill, and restoration required to install the plug in an existing in-service main that is to remain at the location shown on the plans or as directed in accordance with the specifications. Any and all plugs on all existing in-service mains shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

NOTE: This utility bid item is not to be paid on new main installations or abandoned mains. This pay item is to plug existing in-service mains only. Plugs on new mains are incidental to the new main just like all other fittings.

NOTE: Plugging of existing abandon mains shall be performed and paid in accordance with Section 708.03.05 of KYTC Standard Specifications For Road And Bridge Construction and paid using Bid Code 01314 Plug Pipe.

W PRESSURE REDUCING VALVE This description shall apply to all pressure reducing valves (PRV) of every size required in the plans and specifications except those bid items defined as “Special”. Payment under this description is to be for PRVs being installed with new main. This item includes the PRV as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), pit or vault, backfill, restoration, testing, disinfection, and etc., required to install the specified PRV at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, PRVs shall be restrained. PRV restraint shall be considered incidental to the PRV and adjoining pipe. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W PUMP STATION This item is for payment for installation of pumps and an above or below ground structure for housing of the pumps. This item shall include all pumps, piping, fittings, valves, electrical components, building materials, concrete, any other appurtenances, labor, equipment, excavation, and backfill, to complete the pump station installation as required by the plans, standard drawings, and specifications, complete and ready for use. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LUMP SUM (LS) when complete.

W REMOVE TRANSITE (AC) PIPE This item shall include all labor, equipment, and materials needed for removal and disposal of the pipe as hazardous material. All work shall be performed by trained and certified personnel in accordance with all environmental laws and regulations. Any and all transite AC pipe removed shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W SERVICE LONG SIDE This bid item description shall apply to all service line installations of every size bid up to and including 2 inch inside diameter, except those service bid items defined as “Special”. This item includes the specified piping material, main tap, tapping saddle (if required), and corporation stop materials, coupling for connecting the new piping to the surviving existing piping, encasement of 2 inches or less internal diameter (if required by plan or specification), labor, equipment, excavation, backfill, testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service installations where the ends of the service connection are on opposite sides of the public roadway and the service line crosses the centerline of the public roadway as shown on the plans. The length of the service line is not to be specified. Payment under this item shall not be restricted by a minimum or maximum length. The contractor shall draw his own conclusions as to the length of piping that may be needed. Payment under this item shall include boring, jacking, or excavating across the public roadway for placement. Placement of a service across a private residential or commercial entrance alone shall not be reason to make payment under this item. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for special bedding required in rock excavation. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W SERVICE SHORT SIDE This bid item description shall apply to all service line installations of every size up to and including 2 inch internal diameter, except those service bid items defined as “Special”. This item includes installation of the specified piping material of the size specified on plans, encasement of 2 inches or less internal diameter (if required by plan or specification), main tap, tapping saddle (if required), corporation stop, coupling for connecting the new piping to the surviving existing piping, labor, equipment, excavation, backfill,

testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service installations where both ends of the service connection are on the same side of the public roadway, or when an existing service crossing a public roadway will remain and is being extended, reconnected, or relocated with all work on one side of the public roadway centerline as shown on the plans. The length of the service line is not to be specified and shall not be restricted to any minimum or maximum length. Payment shall be made under this item even if the service crosses a private residential or commercial entrance; but, not a public roadway. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. The contractor shall draw his own conclusions as to the length of piping that may be needed. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W SERVICE RELOCATE This item is for the relocation of an existing water service line where a meter is not involved, and where an existing service line can easily be adjusted by excavating alongside and moving the line horizontally and/or vertically a short distance without cutting the service line to avoid conflicts with road construction. This item shall include excavation, labor, equipment, bedding, and backfill to relocate the line in accordance with the plans and specifications complete and ready for use. Payment under this item shall be for each location requiring relocation. Payment shall be made under this item regardless of service size or relocation length. No separate pay items will be established for size or length variation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W STRUCTURE ABANDONMENT This item is to be used to pay for abandonment of larger above or below ground water structures such as meter vaults, fire pits, pump stations, tanks, and etc. Payment under this item shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to water construction, (i.e., abandonment of standard water meters up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted fill or flowable fill for abandonment of the structure in place and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W STRUCTURE REMOVAL This item is to be used to pay for removal of larger above or below ground water structures such as meter vaults, fire pits, pump stations, tanks, and etc. Payment under this item shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to water construction, (i.e., removal of standard water meters up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted backfill for removal of the structure and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W TAPPING SLEEVE AND VALVE SIZE 1 OR 2 This item shall include the specified tapping sleeve, valve, valve box, concrete pad around valve box (when required in specifications or plans), labor, and equipment to install the specified tapping sleeve and valve, complete and ready for use in accordance with the plans and specifications. The size shall be the measured internal diameter of the live pipe to be tapped. The size tapping sleeve and valve to be paid under sizes 1 or 2 shall be as follows:

- Size 1 = All live tapped main sizes up to and including 8 inches
- Size 2 = All live tapped main sizes greater than 8 inches

Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W TIE-IN This bid description shall be used for all main tie-in bid items of every size except those defined as “Special”. This item includes all labor, equipment, excavation, fittings, sleeves, reducers, couplings, blocking, anchoring, restoration, disinfection, testing and backfill required to make the water main tie-in as shown on the plans, and in accordance with the specifications complete and ready for use. Pipe for tie-ins shall be paid under separate bid items. This item shall be paid EACH (EA) when complete.

W VALVE This description shall apply to all valves of every size required in the plans and specifications except those bid items defined as “Special”. Payment under this description is to be for gate or butterfly valves being installed with new main. This item includes the valve as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), valve box and valve stem extensions, backfill, concrete pad around valve box (if required by specification), restoration, testing, disinfection, and etc., required to install the specified valve at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, valves shall be restrained. Valve restraint shall be considered incidental to the valve and adjoining pipe. This description does not apply to cut-in valves. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE ANCHOR EXISTING This bid item is intended to pay for installation of restraint hardware on an existing valve where no restraint exists to hold the valve in place to facilitate tie-ins and other procedures where restraint is prudent. This work shall be performed in accordance with water specifications and plans. This bid item shall include all labor equipment, excavation, materials and backfill to complete restraint of the designated valve, regardless of size, at the location shown on the plans, complete and ready for use. Materials to be provided may include, but is not limited to, retainer glands, lugs, threaded rod, concrete, reinforcing steel or any other material needed to complete the restraint. Should the associated valve box require removal to complete the restraint, the contractor shall reinstall the existing valve box, the cost of which shall be considered incidental to this bid item. No separate bid items are being provided for size variations. All sizes shall be paid under one bid item. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE BOX ADJUST Includes all labor, equipment, valve box and valve stem extensions (if required), excavation, backfill, concrete pad around valve box (when specified in specifications or plans), restoration, and etc., to adjust the top of the box to finished grade complete and ready for use. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE CUT-IN This bid description is for new cut-in valve installations of all sizes where installation is accomplished by cutting out a section of existing main. This item shall include cutting the existing pipe, supplying the specified valve, couplings or sleeves, valve box, concrete pad around valve box (when required in specifications or plans), labor, equipment, and materials to install the valve at the locations shown on the plans, or as directed by the engineer, complete and ready for use. Any pipe required for installation shall be cut from that pipe removed or supplied new by the contractor. No separate payment will be made for pipe required for cut-in valve installation. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE VAULT This item is for payment for installation of an underground structure for housing of specific valve(s) as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or doors, the specified valve(s), all piping, and fitting materials associated with installing a functioning valve vault in accordance with the plans, standard drawing, and specifications, complete and ready for use. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

Kentucky Transportation
Cabinet Project: 02-9013
KY 81 Safety improvements
McClean and Daviess Counties

NOTICE

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NATIONWIDE SECTION 404 PERMIT AUTHORIZATION

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
KENTUCKY DIVISION OF WATER
SECTION 401 WATER QUALITY CERTIFICATION

PROJECT DESCRIPTION: McClean & Daviess counties, Project Number 02-9013- Safety improvements on KY 81 from MP 17.839-MP 18.087 in McClean County and between MP 0.00-MP 8.673 in Daviess county

The Sections 404 and 401 activities for this project have previously been permitted under the authority of the Department of the Army, Nationwide Section 404 Permit Number 14, *Linear Transportation Projects* (with additional *Kentucky Regional General Conditions*), and the Division of Section 401 Water General Water Quality Certification. For these authorized permits to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Number 14 permit and General Water Quality Certification in a conspicuous location at the project site, with unencumbered public access, for the duration of construction and comply with the general conditions required.

Kentucky Transportation
Cabinet Project: 02-9013
KY 81 Safety improvements
McClean and Daviess Counties

Locations Impacting Water Quality

Station-Location	Description
Site #1 STA 950+05	Extend existing 6' X 4' RCBC with headwalls and apron utilizing 42" HDPE Pipe. Total additional stream impact: 17 LF upstream and 13 LF downstream with headwalls and apron on an intermittent stream an UT of Long Falls Creek with an associated increase in impacted area of 0.0083 acres. The watershed for this structure is 43 acres. Latitude: 37.59657 deg. Longitude: -87.19254 deg.
Site #2 STA 18+99	Extend existing 2.5' X 2.5' RCBC utilizing 24" HDPE Pipe. Total additional stream impact: 10 LF upstream and 10 LF downstream with headwalls and apron on an ephemeral stream an UT of Rhoades Creek with an associated increase in impacted area of 0.0001 acres. The watershed for this structure is 6 acres. Latitude: 37.60303 deg. Longitude: -87.19175 deg.
Site #3 STA 89+62	Extend existing 24" RCP utilizing 18" HDPE Pipe. Total additional stream impact: 9 LF upstream and 9 LF downstream with headwalls and apron on an ephemeral stream an UT of Rhoades Creek with an associated increase in impacted area of 0.0001 acres. The watershed for this structure is 6 acres. Latitude: 37.62202 deg. Longitude: -87.19096 deg.
Site #4 STA 111+43	Extend existing 3' x 2' RCBC utilizing 18" HDPE Pipe. Total additional stream impact: 7 LF upstream and 10 LF downstream with headwalls and apron on an ephemeral stream an UT of Rhoades Creek with an associated increase in impacted area of 0.0001 acres. The watershed for this structure is 6 acres. Latitude: 37.62787 deg. Longitude: -87.19270 deg.
Site #5 STA 119+98	Remove existing 3' x 3' RCBC and install new 30" CMP with Headwalls. Total additional stream impact: 6 LF upstream and 10 LF downstream with headwalls and apron on an ephemeral stream an UT of Rhoades Creek with an associated increase in impacted area of 0.0022 acres. The watershed for this structure is 7 acres. Latitude: 37.63018 deg. Longitude: -87.19317 deg.

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Station-Location	Description
Site #6 STA 132+82	Extend existing 10' x 5' RCBC. Total additional stream impact: 14 LF downstream with headwalls and apron on a perennial stream: Wolf Branch Ditch of Rhoades Creek with an associated increase in impacted area of 0.0096 acres. The watershed for this structure is 700 acres. Latitude: 37.63370 deg. Longitude: -87.19342 deg.
Site #7 STA 160+10	Extend existing 6' x 4' RCBC utilizing 2- 30" HDPE Pipes. Total additional stream impact: 7 LF upstream and 10 LF downstream with headwalls and apron on an intermittent stream an UT to Wolf Branch Ditch of Rhoades Creek with an associated increase in impacted area of 0.0047 acres. The watershed for this structure is 88 acres. Latitude: 37.6409 deg. Longitude: -87.19560 deg.
Site #8 STA 174+56	Extend existing 24" RCP utilizing 18" HDPE Pipe. Total additional stream impact: 7 LF upstream and 10 LF downstream with headwalls and apron on an ephemeral stream an UT of Wolf Branch Ditch of Rhoades Creek with an associated increase in impacted area of 0.0023 acres. The watershed for this structure is 11 acres. Latitude: 37.64476 deg. Longitude: -87.19651 deg.
Site #9 STA 177+65	Extend existing 8' x 5' RCBC utilizing 2- 36" HDPE Pipes. Total additional stream impact: 10 LF upstream and 16 LF downstream with headwalls and apron on a perennial stream an UT to Wolf Branch Ditch of Rhoades Creek with an associated increase in impacted area of 0.0084 acres. The watershed for this structure is 115 acres. Latitude: 37.64560 deg. Longitude: -87.19688 deg.
Site #10 STA 205+15	Extend existing 4.5' x 2' RCBC Total additional stream impact: 14 LF upstream and 12 LF downstream with headwalls and apron on an intermittent stream an UT of Vance Ditch of Panther Creek with an associated increase in impacted area of 0.0060 acres. The watershed for this structure is 14 acres. Latitude: 37.65273 deg. Longitude: -87.19590 deg.

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Station-Location	Description
Site #11 STA 227+41	Extend existing 3' x 2' RCBC Total additional stream impact: 10 LF upstream and 11 LF downstream with headwalls and apron on an intermittent stream an UT of Panther Creek with an associated increase in impacted area of 0.0034 acres. The watershed for this structure is 6 acres. Latitude: 37.65793 deg. Longitude: -87.19225 deg.
Site #12 STA 247+91	Extend existing 5' x 4' RCBC Total additional stream impact: 20 LF upstream and 14 LF downstream with headwalls and apron on an intermittent stream an UT of Panther Creek with an associated increase in impacted area of 0.0078 acres. The watershed for this structure is 25 acres. Latitude: 37.66343 deg. Longitude: -87.19311 deg.
Site #13 STA 323+99	Extend existing 3' x 3' RCBC using 30" HDPE Pipe. Total additional stream impact: 15 LF upstream and 15 LF downstream with headwalls and apron on an intermittent stream an UT of Panther Creek with an associated increase in impacted area of 0.0041 acres. The watershed for this structure is 37 acres. Latitude: 37.68408 deg. Longitude: -87.18989 deg.
Site #14 STA 356+81	Extend existing 4' x 4' RCBC utilizing 36" HDPE Pipe. Total additional stream impact: 15 LF upstream and 14 LF downstream with headwalls and apron on an intermittent stream an UT of Panther Creek with an associated increase in impacted area of 0.0080 acres. The watershed for this structure is 75 acres. Latitude: 37.69297 deg. Longitude: -87.19152 deg.
Site #15 STA 369+01	Extend existing 6' x 5' RCBC utilizing 48" HDPE Pipe. Total additional stream impact: 16 LF upstream and 15 LF downstream with headwalls and apron on an intermittent stream an UT of Panther Creek with an associated increase in impacted area of 0.0098 acres. The watershed for this structure is 64 acres. Latitude: 37.69627 deg. Longitude: -87.19074 deg.

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Station-Location	Description
Site #16 STA 378+72	Extend existing 5' x 3' RCBC utilizing 49"x 32" CMP arch pipe. Total additional stream impact: 10 LF upstream and 11 LF downstream with headwalls and apron on an intermittent stream an UT of Panther Creek with an associated increase in impacted area of 0.0048 acres. The watershed for this structure is 65 acres. Latitude: 37.69888 deg. Longitude: -87.18997 deg.
Site #17 STA 396+53	Extend existing 24" RCP. Total additional stream impact: 7 LF upstream and 10 LF downstream with headwalls and apron on an ephemeral stream an UT of Keller Ditch of Panther Creek with an associated increase in impacted area of 0.0191 acres. The watershed for this structure is 6 acres. Latitude: 37.70317 deg. Longitude: -87.18715 deg.
Site #18 STA 409+72	Extend existing 24" RCP. Total additional stream impact: 9 LF upstream and 9 LF downstream with headwalls and apron on an ephemeral stream an UT of Keller Ditch of Panther Creek with an associated increase in impacted area of 0.0017 acres. The watershed for this structure is 5 acres. Latitude: 37.70668deg. Longitude: -87.18592 deg.
Site #19 STA 445+39	Extend existing 8' x 6' RCBC. Total additional stream impact: 17 LF upstream and 17 LF Downstream with headwalls and apron on a perennial stream: Wolf Branch Ditch of Rhoades Creek with an associated increase in impacted area of 0.0156acres. Latitude: 37.71609 deg. Longitude: -87.18248 deg.

This project involves work near and/or within Jurisdictional Waters of the United States as defined by the U. S. Army Corps of Engineers; therefore, requiring a Nationwide Number 14 General Section 404 permit. The Division of Water conditionally certified this General Permit. Importantly, one of those conditions regards the use of heavy equipment in any stream channel, or streambed. If there is need to cross the stream channel with heavy equipment, or conduct work within the stream channel, a work platform or temporary crossing, is authorized. This should be constructed with clean rock (preferably sandstone or granite east of a line stretching from the McCreary-Wayne County line to the southwest, northeasterly to Lewis-Greenup County line), and sufficient pipe to allow stream flow to continue, unimpeded (refer to the attached standard drawing for low-water crossings at end of the document). Other conditions may be found under the heading, *General Certification—Nationwide Permit # 14 Linear Transportation Projects*.

Kentucky Transportation
Cabinet Project: 02-9013
KY 81 Safety improvements
McClean and Daviess Counties

In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Number 14 Approval in a conspicuous location at the project site, for the duration of the construction, and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design, or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain written permission from the Division of Construction and the Kentucky Transportation Cabinet, Division of Environmental Analysis. If such changes necessitate further permitting, then the contractor will be responsible for applying to the U. S. Army Corps of Engineers and the Kentucky Division of Water. A copy of any request to the Corps of Engineers or Division of Water to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.



**US Army Corps
of Engineers**

Louisville District ®

Public Notice No.
LRL-2020-00006

Please address all comments and inquiries to:
U.S. Army Corps of Engineers, Louisville District
ATTN: Meagan Knuckles, CELRL-RDS, Rm 752
P.O. Box 59
Louisville, Kentucky 40201-0059

Phone: (502) 315-6709

PUBLIC NOTICE FOR FEDERAL REGISTER NOTICE ANNOUNCING THE REISSUANCE OF THE NATIONWIDE PERMITS

On January 13, 2021, the U.S. Army Corps of Engineers (Corps) published a final rule in the *Federal Register* (86 FR 2744) announcing the reissuance of 12 existing nationwide permits (NWP) and four new NWP, as well as the reissuance of NWP general conditions and definitions with some modifications. The January 13, 2021, *Federal Register* notice is available for viewing at <https://www.federalregister.gov/documents/2021/01/13/2021-00102/reissuance-and-modification-of-nationwide-permits>. The 16 NWP, listed below, become effective on March 15, 2021, and will expire on March 14, 2026:

- NWP 12 – Oil or Natural Gas Pipeline Activities
- NWP 21 – Surface Coal Mining Activities
- NWP 29 – Residential Developments
- NWP 39 – Commercial and Institutional Developments
- NWP 40 – Agricultural Activities
- NWP 42 – Recreational Facilities
- NWP 43 – Stormwater Management Facilities
- NWP 44 – Mining Activities
- NWP 48 – Commercial Shellfish Mariculture Activities
- NWP 50 – Underground Coal Mining Activities
- NWP 51 – Land-Based Renewable Energy Generation Facilities
- NWP 52 – Water-Based Renewable Energy Generation Pilot Projects
- NWP 55 – Seaweed Mariculture Activities
- NWP 56 – Finfish Mariculture Activities
- NWP 57 – Electric Utility Line and Telecommunications Activities
- NWP 58 – Utility Line Activities for Water and Other Substances

On February 15, 2021, the Great Lakes and Ohio River Division (LRD) approved Kentucky regional conditions for the 2021 NWP in the Commonwealth of Kentucky. The Kentucky Regional Conditions for the 2021 NWP for the Commonwealth of Kentucky become effective on March 15, 2021 and are attached to this public notice. Additionally, the Louisville District has posted the Regional Conditions for the Commonwealth of Kentucky for the 2021 NWP on its

Regulatory Division
South Branch
Public Notice No. LRL-2020-00006

internet home page at: <http://www.lrl.usace.army.mil/Missions/Regulatory/Obtain-a-Permit/Nationwide/>.

KDOW denied the 401 WQC for NWP 43, NWP 44 and NWP 52, therefore an individual 401 WQC will be required for a project authorized by NWP 43, NWP 44 and NWP 52. The KDOW issued general WQCs for NWPs 12, 21, 29, 39, 42, 50, 51, 57 and 58. An individual 401 WQC will be required by the KDOW if the proposed activities do not meet the conditions of the general WQC. The KDOW certified NWPs 40, 48, 55 and 56 as written, therefore, projects authorized by these activities are certified as written and no further contact with KDOW would be required. The 401 WQC for the 2021 NWPs becomes effective on March 15, 2021 and is attached to this public notice. Additionally, the Louisville District has posted the 401 WQC on its internet homepage at the link noted above.

There are 40 existing NWPs that were not reissued or modified by the January 13, 2021 final rule. Those 40 NWPs were published in the January 6, 2017 issue of the Federal Register (82 FR 1860). The 40 2017 NWPs, accompanying regional conditions and 401 WQC will remain in effect until the Corps issues a final rule reissuing those NWPs, Regional Conditions, and 401 WQC, or until March 18, 2022, whichever comes first. Listed below are the 40 2017 NWPs that remain in effect, and the 2017 Kentucky Regional Conditions are on the Louisville Districts internet homepage at the link noted above.

- NWP 1 – Aids to Navigation
- NWP 2 – Structures in Artificial Canals
- NWP 3 – Maintenance
- NWP 4 – Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
- NWP 5 – Scientific Measurement Devices
- NWP 6 – Survey Activities
- NWP 7 – Outfall Structures and Associated Intake Structures
- NWP 8 – Oil and Gas Structures on the Outer Continental Shelf
- NWP 9 – Structures in Fleeting and Anchorage Areas
- NWP 10 – Mooring Buoys
- NWP 11 – Temporary Recreational Structures
- NWP 13 – Bank Stabilization
- NWP 14 – Linear Transportation Projects
- NWP 15 – U.S. Coast Guard Approved Bridges
- NWP 16 – Return Water From Upland Contained Disposal Areas
- NWP 17 – Hydropower Projects
- NWP 18 – Minor Discharges
- NWP 19 – Minor Dredging
- NWP 20 – Response Operations for Oil or Hazardous Substances
- NWP 22 – Removal of Vessels
- NWP 23 – Approved Categorical Exclusions

Regulatory Division

South Branch

Public Notice No. LRL-2020-00006

- NWP 24 – Indian Tribe or State Administered Section 404 Programs
- NWP 25 – Structural Discharges
- NWP 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities
- NWP 28 – Modifications of Existing Marinas
- NWP 30 – Moist Soil Management for Wildlife
- NWP 31 – Maintenance of Existing Flood Control Facilities
- NWP 32 – Completed Enforcement Actions
- NWP 33 – Temporary Construction, Access, and Dewatering
- NWP 34 – Cranberry Production Activities
- NWP 35 – Maintenance Dredging of Existing Basins
- NWP 36 – Boat Ramps
- NWP 37 – Emergency Watershed Protection and Rehabilitation
- NWP 38 – Cleanup of Hazardous and Toxic Waste
- NWP 41 – Reshaping Existing Drainage Ditches
- NWP 45 – Repair of Uplands Damaged by Discrete Events
- NWP 46 – Discharges in Ditches
- NWP 49 – Coal Remining Activities
- NWP 53 – Removal of Low-Head Dams
- NWP 54 – Living Shorelines

Questions concerning implementation of the NWPs and associated Regional Conditions should be sent to LRL.RegulatoryPublicComment@usace.army.mil or you can contact Ms. Meagan Knuckles at (502) 315-6709.

2021 KENTUCKY REGIONAL GENERAL CONDITIONS

These regional conditions are in addition to, but do not supersede, the requirements in the Federal Register (Volume 86, No. 8 on Date January 13, 2021, pp 2744).

Notifications for all Nationwide Permits (NWP) shall be in accordance with General Condition No. 32.

1. For activities that would result in a loss of Outstanding State or National Resource Waters (OSNRWs), Exceptional Waters (EWs), Coldwater Aquatic Habitat Waters (CAHs) and waters with Designated Critical Habitat (DCH) under the Endangered Species Act for the NWPs listed below, a Pre-Construction Notification (PCN) will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs for impacts to these waters.

NWP 12 (Oil or Natural Gas Pipeline Activities)

NWP 51 (Land-Based Renewable Energy Generation Facilities)

NWP 57 (Electric Utility Line and Telecommunications Activities)

NWP 58 (Utility Line Activities for Water and Other Substances)

2. All applications and requests should be submitted electronically. To submit applications or other requests electronically, all documents should be saved as a PDF document, and then submitted as an attachment in an email to the following email address:

CELRL.Door.To.The.Corps@usace.army.mil

Your email should include the following:

- a) Subject Line with the name of the applicant, type of request, and location (County and State). Example: RE: Doe, John, DA Permit Application, Jefferson County, KY
- b) Brief description of the request and contact information (phone number, mailing address, and email address) for the applicant and/or their agent.
- c) Project Location: Address and Latitude/Longitude in decimal degrees (e.g. 42.927883, -88.362576).

All forms that require signature must be digitally signed or signed manually, scanned and then sent electronically.

Electronic documents must have sufficient resolution to show project details. In order to have the highest quality documents, the original digital documents should be converted to PDF rather than providing scanned copies of original documents.

The electronic application and attached documents must not exceed 10 megabytes (10MB).

3. For all activities, the applicant shall review the U.S. Fish and Wildlife Service's IPaC website: <http://ecos.fws.gov/ipac> to determine if the activity might affect threatened and/or endangered species or designated critical habitat. If federally listed species or designated critical habitat are identified, a PCN in accordance with General Condition 18 and 32 would be triggered and the official species list generated from the IPaC website must be submitted with the PCN.

Further information:

Outstanding State or National Resource Water (OSNRWs), Exceptional Waters (EWs), and Coldwater Aquatic Habitat Waters (CAHs) are waters designated by the Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet. The list can be found at the following link: <http://eppcapp.ky.gov/spwaters/>

Designated Critical Habitat (DCH) under the Endangered Species Act is determined within the Commonwealth of Kentucky by the U.S. Fish and Wildlife Service. The current list of Kentucky's Threatened, Endangered, and Federal Candidate Species can be found at the following link: <http://www.fws.gov/frankfort/EndangeredSpecies.html>
Information on Pre-Construction Notification (PCN) can be found at NWP General Condition No. 32 in the Federal Register (Volume 86, No. 8 on Date January 13, 2021, pp 2873).

COORDINATING RESOURCE AGENCIES

Chief, Wetlands Regulatory Section
U.S. Environmental Protection Agency
Region IV
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303

Supervisor
U.S. Fish & Wildlife Service
JC Watts Federal Building, Room 265
330 West Broadway
Frankfort, Kentucky 40601

Supervisor
401 Water Quality Certification
Kentucky Division of Water
300 Sower Boulevard, 3rd Floor
Frankfort, KY 40601

Commissioner
Department of Fish and Wildlife Resources
#1 Sportsman's Lane
Frankfort, KY 40601

Executive Director and State Historic Preservation Officer
Kentucky Heritage Council
410 High Street
Frankfort, KY 40601



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

December 18, 2020

Mr. David Baldrige
Chief, South Branch
Regulatory Division
U.S. Army Corps of Engineers, Louisville District
600 Dr. Martin Luther King Jr Pl
Louisville, Kentucky 40202

Re: §401 Water Quality Certification
Nationwide Permits 2020
AI No.: 35050; Activity ID: APE20200005
USACE ID No.: LRL-2020-00006

Dear Mr. Baldrige:

The Kentucky Division of Water (Division) received requests for Section 401 Water Quality Certification from the U.S. Army Corps of Engineers, Louisville District for the proposed 2020 Nationwide Permits 3, 4, 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 46, 48, 49, 50, 51, 52, 53, 54, C, D and E on October 19, 2020 and proposed 2020 Nationwide Permits 1, 2, 8, 9, 10, 11, 24, 28, 35, A and B on December 10, 2020. The Division has reviewed the conditions specified in each proposed permit and the general conditions that apply to all Nationwide Permits and made determinations to certify, deny or waive. Please review the enclosed package for a summary of these determinations.

It is the determination of the Division that proposed Nationwide Permits 1, 2, 4, 6, 8, 9, 10, 11, 20, 22, 24, 28, 34, 35, 40, 41, 48, 54, A and B provide reasonable assurances as written, that the applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated. The Division considers Nationwide Permits 1, 2, 4, 6, 8, 9, 10, 11, 20, 22, 24, 28, 34, 35, 40, 41, 48, 54, A and B certified as written.

It is the determination of the Division that proposed Nationwide Permits 3, 5, 7, 12, 13, 14, 15, 18, 19, 21, 23, 25, 27, 29, 30, 31, 33, 36, 37, 39, 42, 45, 46, 49, 50, 51, C, D, and E can provide reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated if these activities are performed in compliance with the conditions included for each General Certification. The Division considers Nationwide Permits 3, 5, 7, 12, 13, 14, 15, 18, 19, 21, 23, 25, 27, 29, 30, 31, 33, 36, 37, 39, 42, 45, 46, 49, 50, 51, C, D, and E certified with conditions.

Consistent with Section 401 of the Clean Water Act, the General Certification conditions are designed to ensure activities carried out under Nationwide Permits authorized by the U.S. Army Corps of Engineers will comply with applicable water quality requirements. Where applicable, these conditions are in addition to, not a replacement for, any federal requirements or conditions.

It is the determination of the Division that proposed Nationwide Permits 16, 17, 32, 38, 43, 44, 52, and 53 will require a site-specific Individual Water Quality Certification and will be denied a general certification for these activities. The activities, as permitted in these proposed Nationwide Permits, do not provide sufficient information about the activity design and methodology or the discharge that may occur to be certified as written. The denial for a general certification is based on the Division's inability to generally condition these activities to ensure that the activities will comply with Kentucky's water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA.

The draft determinations were made available for public comment from November 17, 2020 through December 17, 2020. The final determinations will be available to the public on our website at <https://eec.ky.gov>. Please contact Elizabeth Harrod by phone at 502-782-6700 or email at Elizabeth.Harrod@ky.gov if you have any questions.

Sincerely,



Elizabeth Harrod, Supervisor
Water Quality Certification Section
Kentucky Division of Water

Enclosure

cc: Mike Ricketts, Louisville District [Michael.S.Ricketts@usace.army.mil]
Josh Frost, Nashville District [Joshua.W.Frost@usace.army.mil]
Timothy Wilder, Memphis District [Timothy.C.Wilder@usace.army.mil]
Ashley Monroe, U.S. EPA [Monroe.Ashley@epa.gov]
Lee Andrews, USFWS: Frankfort [kentuckyes@fws.gov]
Doug Dawson, Kentucky Department of Fish and Wildlife Resources [doug.dawson@ky.gov]



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

**ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

R. BRUCE SCOTT
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

**General Certification--Nationwide Permit # 14
Linear Transportation Projects**

This General Certification is issued March 19, 2017, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

For this and all nationwide permits, the definition of surface water is as per 401 KAR 10:001 Chapter 10, Section 1(80): Surface Waters means those waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered to be surface waters of the commonwealth.

Agricultural operations, as defined by KRS 224.71-100(1) conducting activities pursuant to KRS 224.71-100 (3), (4), (5), (6), or 10 are deemed to have certification if they are implementing an Agriculture Water Quality Plan pursuant to KRS 224.71-145.

For all other operations, the Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 14, namely Linear Transportation Projects, provided that the following conditions are met:

1. The activity will not occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Waters.
2. The activity will not occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) mitigation sites.
3. The activity will impact less than 1/2 acre of wetland/marsh.

General Certification--Nationwide Permit # 14
Linear Transportation Projects
Page 2

4. The activity will impact less than 300 linear feet of surface waters of the Commonwealth. Stream realignment greater than 100 feet and in-stream stormwater detention/retention basins are not covered under this general water quality certification.
5. For complete linear transportation projects, all impacts shall not exceed a cumulative length of 500 linear feet within each Hydrologic Unit Code (HUC) 14.
6. Any crossings must be constructed in a manner that does not impede natural water flow.
7. Stream impacts covered under this General Water Quality Certification and undertaken by those persons defined as an agricultural operation under the Agricultural Water Quality Act must be completed in compliance with the Kentucky Agricultural Water Quality Plan (KWQP).
8. The Kentucky Division of Water may require submission of a formal application for an individual certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
9. Activities that do not meet the conditions of this General Water Quality Certification require an Individual Section 401 Water Quality Certification.
10. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:
 - Projects requiring in-stream stormwater detention/retention basins shall require individual water quality certifications.
 - Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur (401 KAR 10:031 Section 2 and KRS 224.70-100).
 - Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to,

General Certification--Nationwide Permit # 14
Linear Transportation Projects
Page 3

upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.

- Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
- Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access.
- To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.
- Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.
- Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.
- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when such work will be done.
- Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the KDOW shall be notified immediately by calling (800) 928-2380.

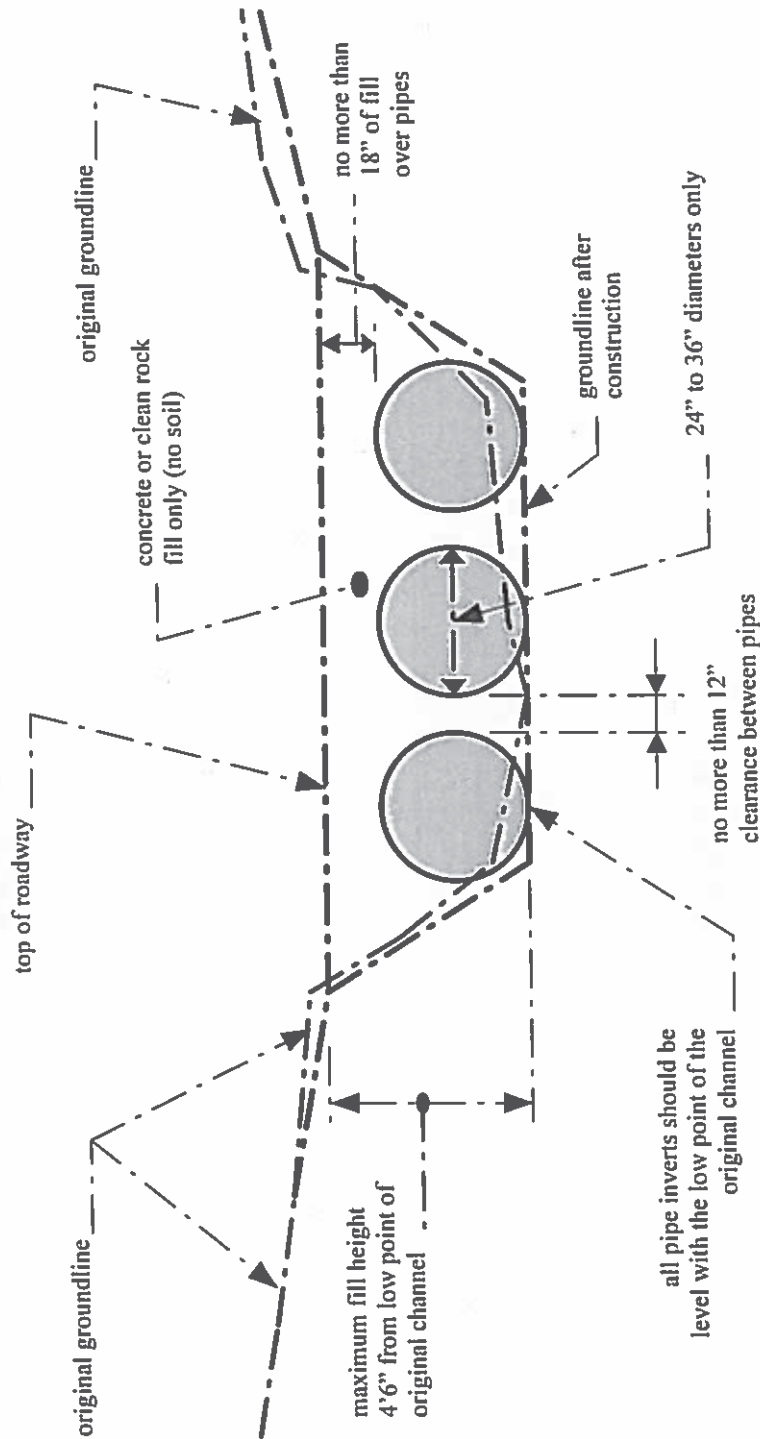
Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.

GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION

1. The Kentucky Division of Water may require submission of a formal application for an Individual Certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
2. Nationwide permits issued by the U.S. Army Corps of Engineers for projects in Outstanding State Resource Waters, Cold Water Aquatic Habitats, and Exceptional Waters as defined by 401 KAR 10:026 shall require individual water quality certifications.
3. Projects requiring in-stream stormwater detention/retention basins shall require individual water quality certifications.
4. Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur.
5. Sediment and erosion control measures (e.g., check-dams, silt fencing, or hay bales) shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, placement shall not be conducted in such a manner that may cause instability of streams that are adjacent to, upstream, or downstream of the structures. All sediment and erosion control measures shall be removed and the natural grade restored prior to withdrawal from the site.
6. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
7. To the maximum extent practicable, all in-stream work under this certification shall be performed during low flow.
8. Heavy equipment (e.g. bulldozers, backhoes, draglines, etc.), if required for this project, should not be used or operated within the stream channel. In those instances where such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize re-suspension of sediments and disturbance to the channel, banks, or riparian vegetation.
9. If there are water supply intakes located downstream that may be affected by increased turbidity, the permittee shall notify the operator when work will be performed.
10. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.

11. Should stream pollution, wetland impairment, and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/564-2380.

ATTACHMENT 1



NOTES:

1. This is a conceptual drawing. The number and size of pipes and other details will vary depending on specific site conditions.
2. The pipes and backfill must be contained within the stream channel as shown above. During the construction of the approaches and access roadway across the floodplain, unstable and unconsolidated materials unsuitable for roadways may be excavated and replaced with riprap, crushed stone, or other stable road construction materials. This may only be done, however, with the following provisions: (1) the disposal of excess, unconsolidated materials thus excavated must be outside of the floodplain and (2) the finished surface of the completed road may be no more than three inches (3") above the pre-construction surface of the floodplain at any point beyond the top of banks.

LOW-WATER CROSSING

STANDARD DRAWING
Not to Scale

KYTC BMP Plan for Project **02 – 9013.00**



Kentucky Transportation Cabinet

Highway District 2 (1)

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 KY 81 in
McLean and Daviess Counties (1)**

Project: 02 – 9013.00

KYTC BMP Plan for Project **02 – 9013.00**

Project information

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

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

Phone number: (2)
Contact: (2)
Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number: (2)
5. Route (Address): KY 81 (1)
6. Latitude/Longitude (project mid-point): 37° 39' 25", -87° 11' 33" (1)
7. County (project mid-point): Daviess(1)
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

A. Site description:

1. Nature of Construction Activity (from letting project description): Starting in McLean County, near the Daviess County Line, at the KY 81 intersection with KY 140, the project goes approximately 9 miles northward on KY 81 to the Wayne Bridge Road intersection. The work includes Roadside Regrading, Culvert and Pipe Extensions/Linings, Superelevation Improvements, Hillside cuts for sight distance improvements, re-designing

KYTC BMP Plan for Project **02 – 9013.00**

- of the Greenback Road Intersection, pavement striping, and guardrail replacement. (1)
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.* (1)
 4. Estimate of total project area (acres): 65(1)
 5. Estimate of area to be disturbed (acres): 3(1)
 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: Long Falls Creek, Rhodes Creek, Wolf Branch Ditch, Panther Creek, and Old Panther Creek (1)
 10. TMDLs and Pollutants of Concern in Receiving Waters: pH, Sedimentation/Siltation, total dissolved solids, fecal coliform, nutrient/eutrophication biological indicators, physical substrate habitat alterations, Phosphorus (Total). The causes are agriculture, acid mine drainage, loss of riparian habitat, channelization, and streambank modifications/destabilization (1)
 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.

KYTC BMP Plan for Project 02 – 9013.00

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. All DDA's will have adequate BMP's in place before being disturbed.
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

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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

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- 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: (1) *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.

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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

KYTC BMP Plan for Project **02 – 9013.00**

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.

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- 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 contact 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 clean up 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. (1) *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

KYTC BMP Plan for Project 02 – 9013.00

construction storm water management with specific guidance for any non-routine maintenance. (1) *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.

KYTC BMP Plan for Project 02 – 9013.00

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 from 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);

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

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

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

The contractor is responsible for the preparation of a plan that addresses the

401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

- (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.)

Contractor and Resident Engineer Plan certification

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 name² _____ signature _____

(3) Signed _____ title _____, _____
 Typed or printed name¹ _____ signature

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

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

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Sub-Contractor Certification

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

Subcontractor

Name:
Address:
Address:

Phone:

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

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

Signed _____title_____, _____
Typed or printed name¹signature

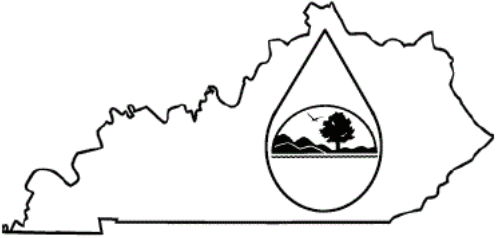
1. Sub Contractor Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, 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. 2-9013.00
McLean and Daviess Counties
Highway Safety Improvement Project along KY 81
McLean County from MP 17.839 to 18.087 and
Daviess County from MP 0.000 to 8.695

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: 323540

eForm Transaction ID: e2de6d26-fba0-489f-9b68-b17c70b293a7

		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:(*) Application for New Permit Coverage		Agency Interest ID: Agency Interest ID		Permit Number:(✓) 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:(✓) Kentucky Transportation Cabinet, District 2		First Name:(✓) Deneatra		M.I.: MI	Last Name:(✓) Henderson
Mailing Address:(*) 1840 N. Main Street		City:(*) Madison		State:(*) Kentucky	Zip:(*) 42431
eMail Address:(*) Deneatra.Henderson@ky.gov		Business Phone:(*) 270-824-7080		Alternate Phone: Phone	
SECTION II -- GENERAL SITE LOCATION INFORMATION					
Project Name:(*) KYTC Project: Item 2-9013.00		Status of Owner/Operator(*) State Government		SIC Code(*) 1611 Highway and Street Cons	
Company Name:(✓) Company Name		First Name:(✓) First Name		M.I.: MI	Last Name:(✓) Last Name
Site Physical Address:(*) McLean County KY 81 from MP 17.839 to 18.087 and Daviess County KY 81 from MP 0 to 8.695					
City:(*) Owensboro		State:(*) Kentucky		Zip:(*) 42301	
County:(*) Daviess		Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal) 37.656854		Longitude(decimal degrees)(*) -87.192423	
SECTION III -- SPECIFIC SITE ACTIVITY INFORMATION					
Project Description:(*) Highway Safety Improvement Project consisting of ox culvert extensions, replacement and extension of various pipes, roadside regrading, improvements to roadside					

a. For single projects provide the following information

Total Number of Acres in Project:(✓)

65.1

Total Number of Acres Disturbed:(✓)

3.2

Anticipated Start Date:(✓)

Anticipated Completion Date:(✓)

b. For common plans of development provide the following information

Total Number of Acres in Project:(✓)

Acre(s)

Total Number of Acres Disturbed:(✓)

Acre(s)

Number of individual lots in development, if applicable:(✓)

lot(s)

Number of lots in development:(✓)

lot(s)

Total acreage of lots intended to be developed:(✓)

Project Acres

Number of acres intended to be disturbed at any one time:(✓)

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):

14	Yes	27.657042	-87.192275	Old Panther Creek	Delete
15	Yes	37.596562	-87.192403	Long Falls Creek	Delete
16	Yes	37.627828	-87.192600	Wolf Branch Ditch	Delete
17	Yes	37.633642	-87.193536	Wolf Branch Ditch	Delete
18	Yes	37.663417	-87.193813	Old Panther Creek	Delete
19	Yes	37.640898	-87.195531	Wolf Branch Ditch	Delete
20	Yes	37.643020	-87.195729	Wolf Branch Ditch	Delete
21	Yes	37.652707	-87.195790	Old Panther Creek	Delete
22	Yes	37.644828	-87.196302	Wolf Branch Ditch	Delete
23	Yes	37.645577	-87.196943	Wolf Branch Ditch	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:

Date

Discharge Point(s):(*)

+ Latitude Longitude

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

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

Yes

If Yes, describe scope of activity: (✓)		Box culvert and culvert pipe extensions	
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:(*) First Name	M.I.: MI	Last Name:(*) Last Name	Company Name:(*) Company Name
Mailing Address:(*) Mailing Address		City:(*) City	State:(*)
eMail Address:(*) eMail Address		Business Phone:(*) Phone	Zip:(*) Zip
eMail Address:(*) eMail Address		Business Phone:(*) Phone	Alternate Phone: Phone

SECTION VIII -- ATTACHMENTS

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

SECTION IX -- CERTIFICATION

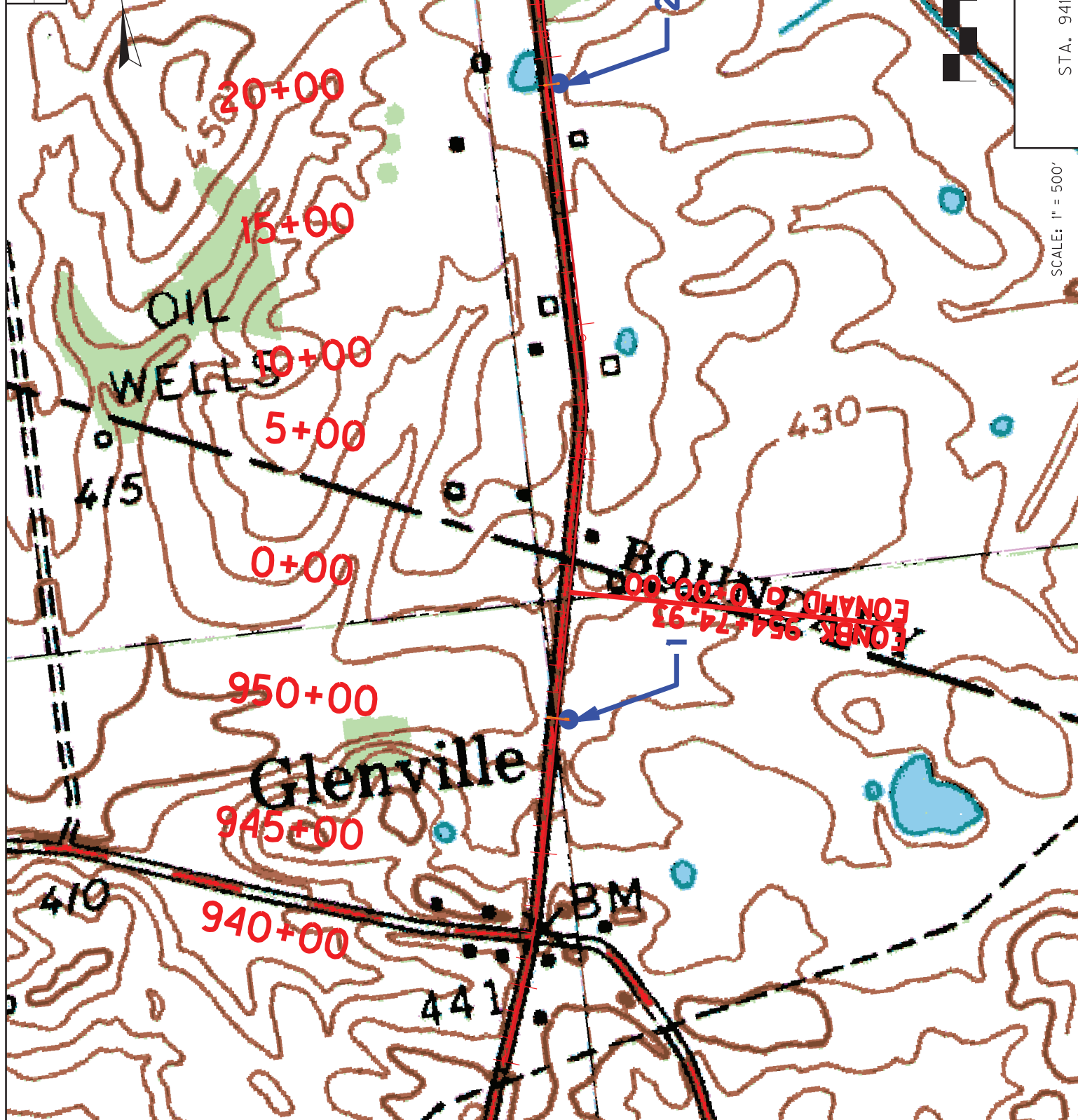
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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:(*) Signature		Title:(*) Title	
First Name:(*) First Name	M.I.: MI	Last Name:(*) Last Name	
eMail Address:(*) eMail Address	Business Phone:(*) Phone	Alternate Phone: Phone	Signature Date:(*) Date

Click to Save Values for Future Retrieval

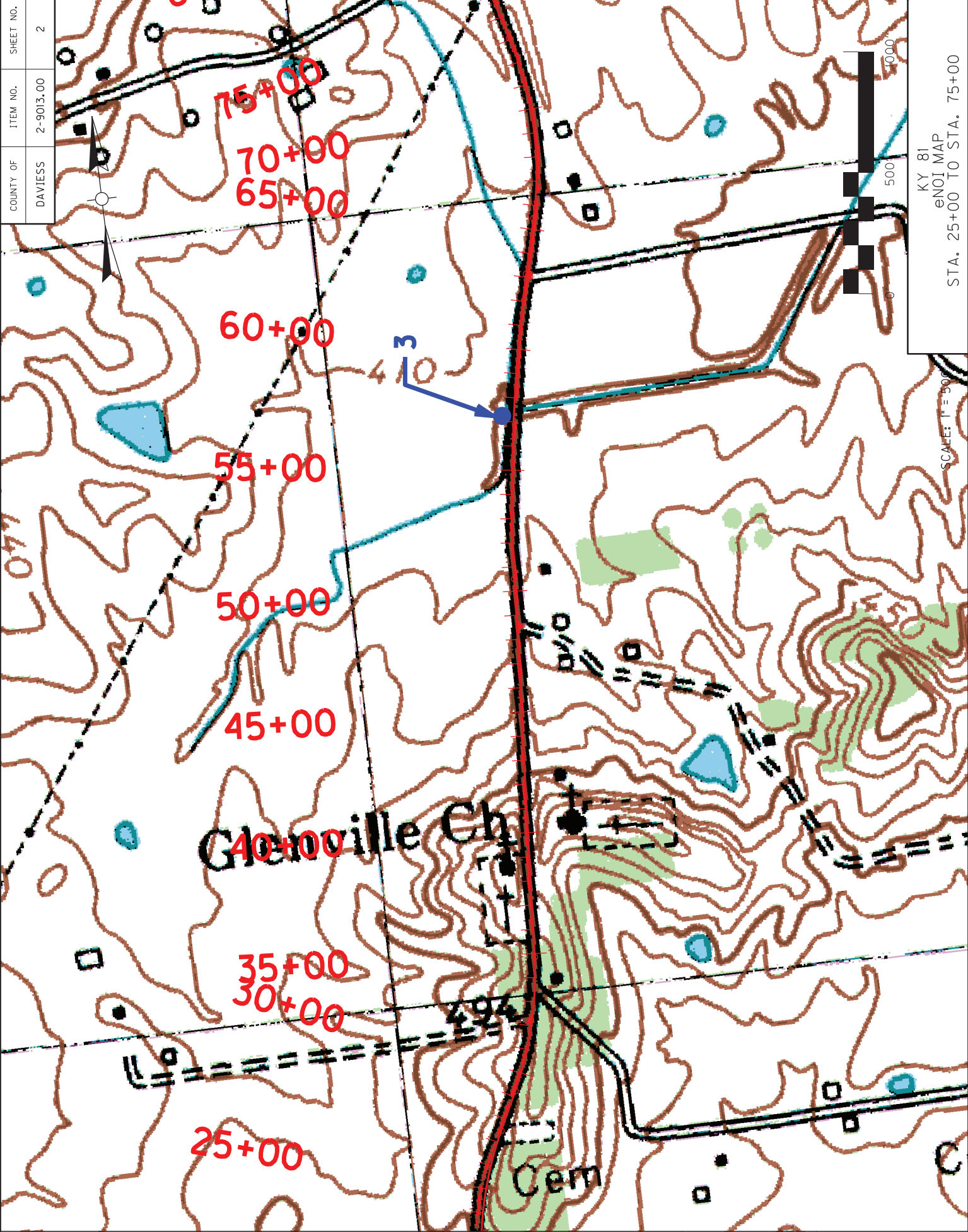
Click to Submit to EEC

COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN/DAVIES	2-9013.00	1



KY 81
eNOI MAP

SCALE: 1" = 500'

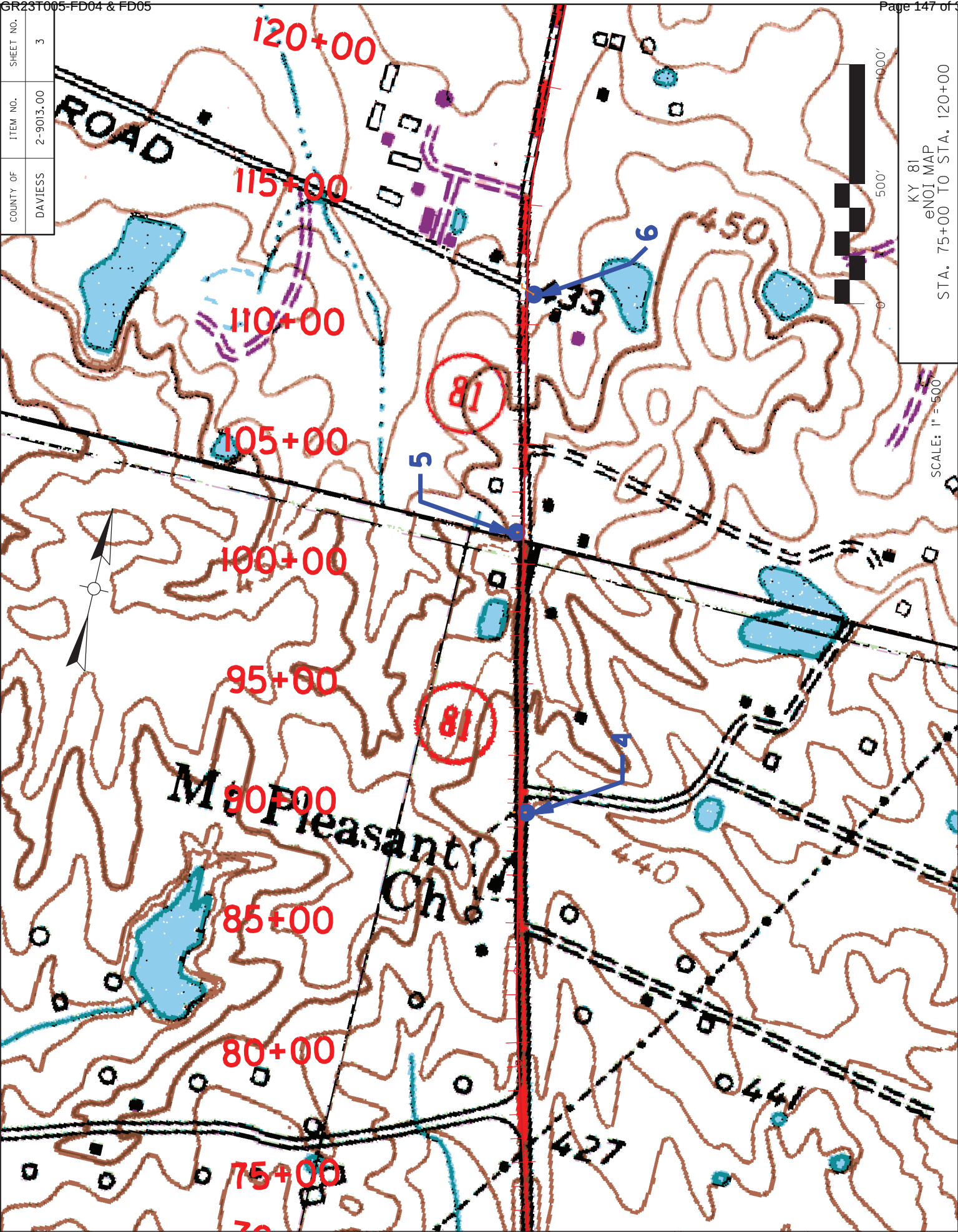


COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	2

STA. 25+00 TO STA. 75+00
eNOI MAP
KY 81

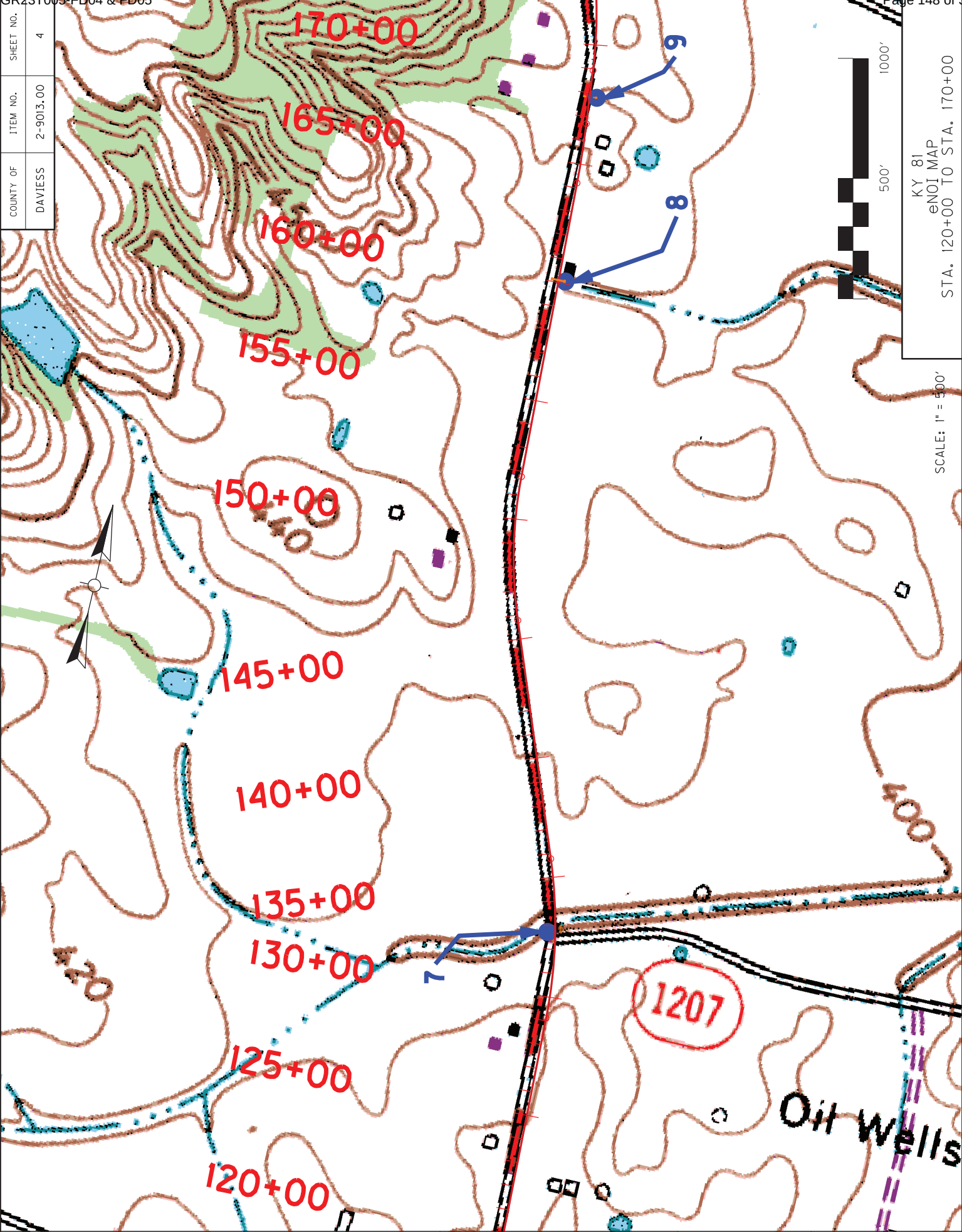
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COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	3



STA. 75+00 TO STA. 120+00
eNOI MAP
KY 81

SCALE: 1" = 500'



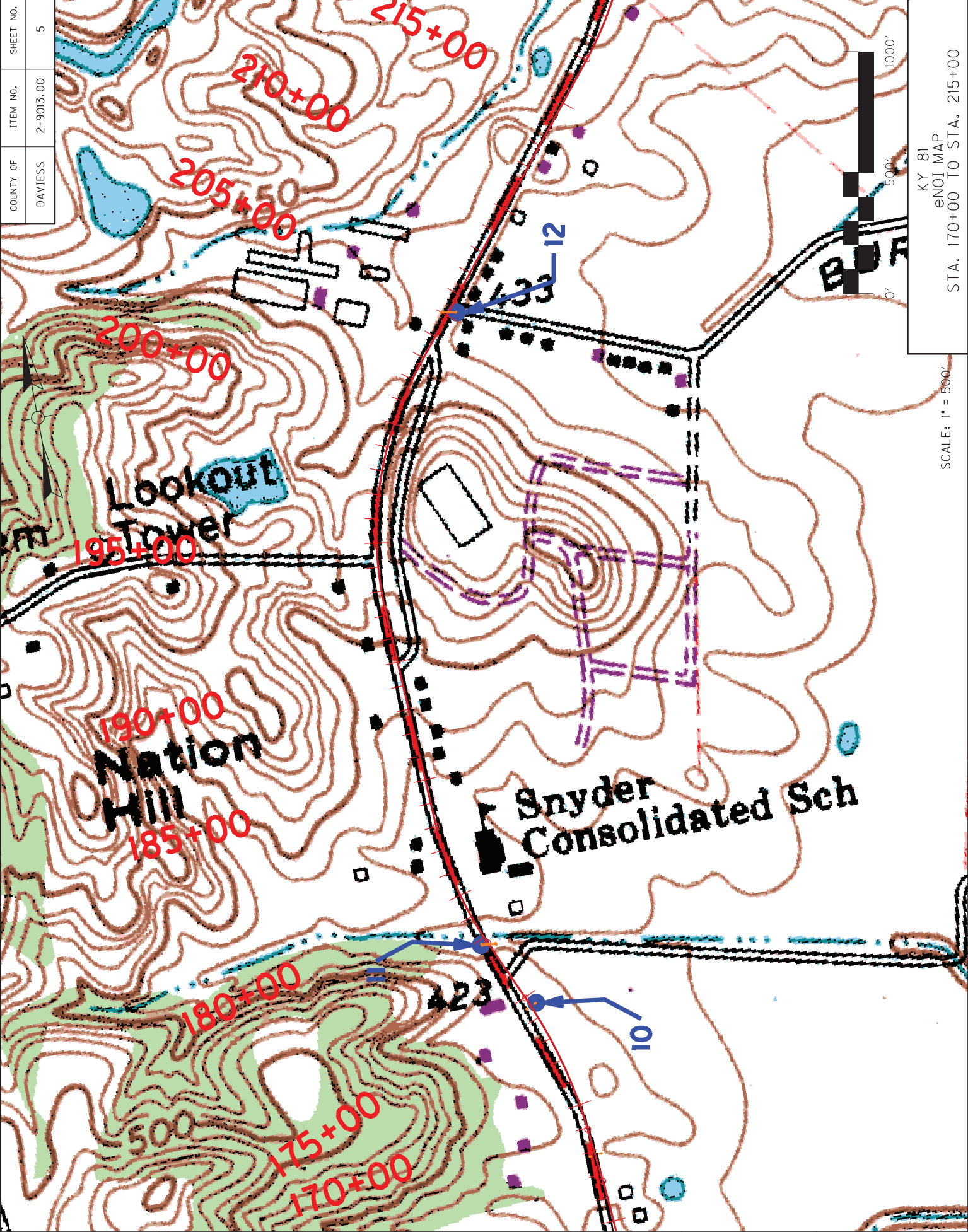
COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	4

Scale: 1" = 500'

500'

1000'

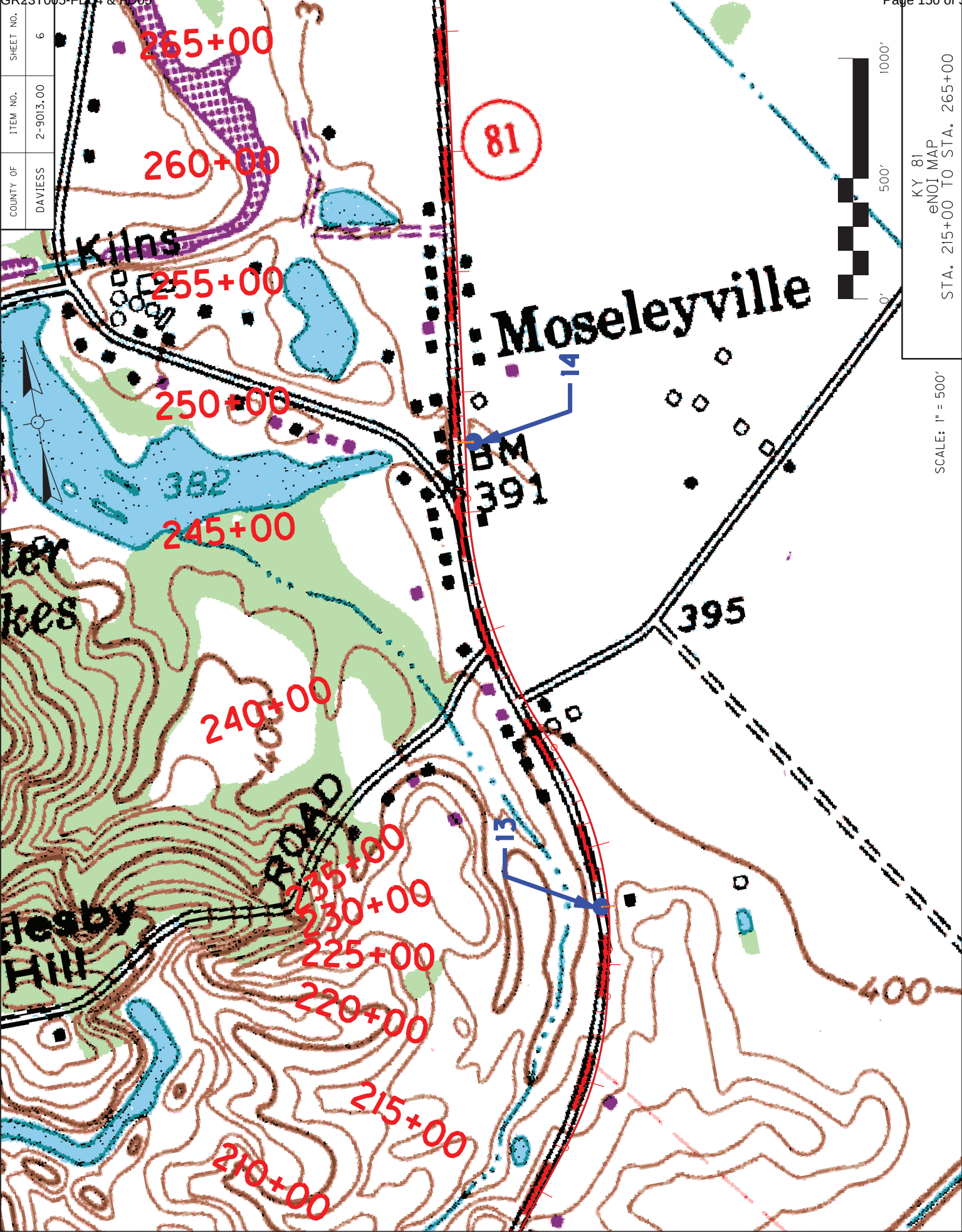
KY 81
ENOT MAP
STA. 120+00 TO STA. 170+00



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	5

SCALE: 1" = 500'

KY 81
ENR MAP
STA. 170+00 TO STA. 215+00



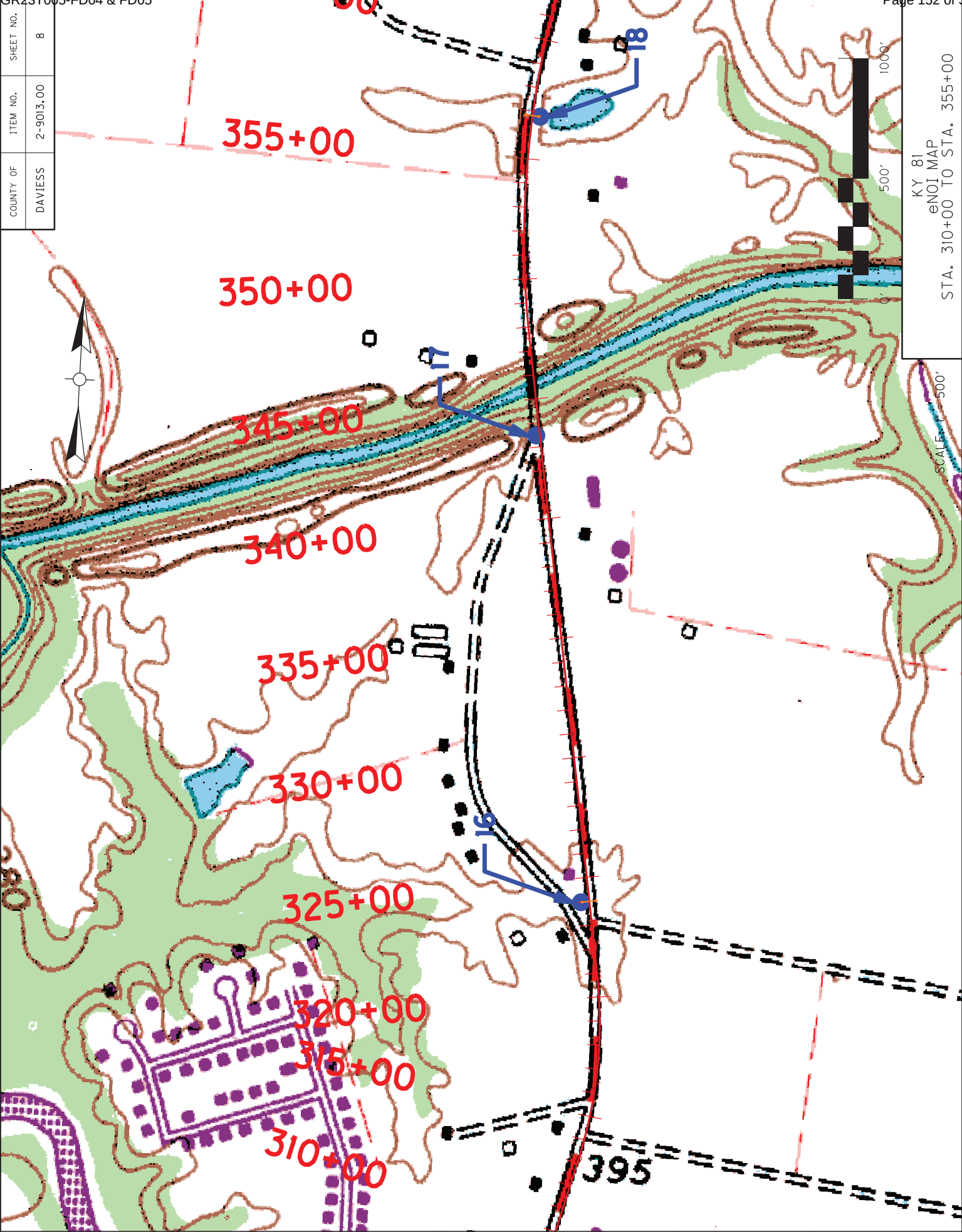
COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	6

SCALE: 1" = 500'

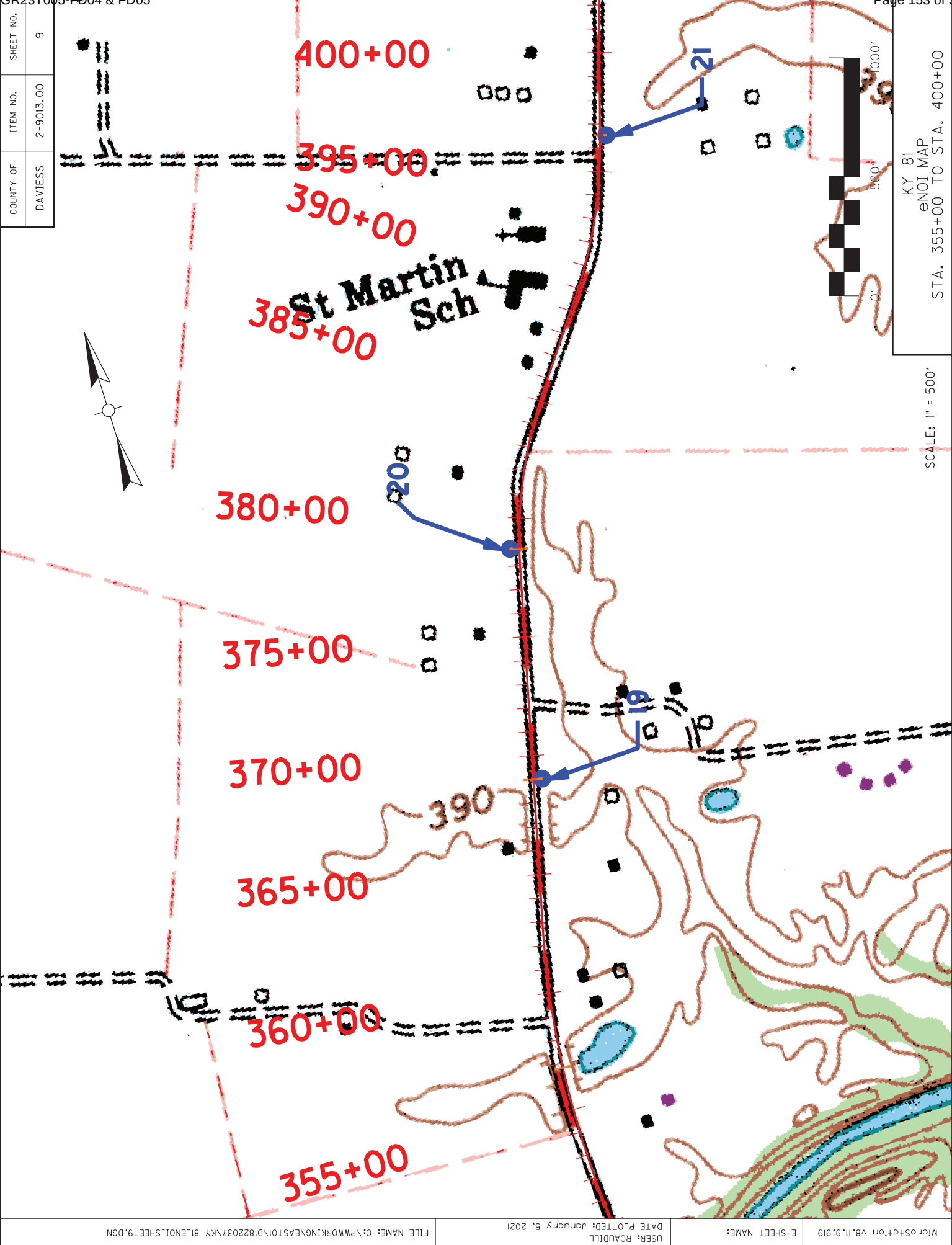
KY 81
eNOI MAP
STA. 215+00 TO STA. 265+00

Microsoft Word 2010 v8.11.9.919	E-SHEET NAME:	USER: RCAUDILL DATE PLOTTED: January 5, 2021	FILE NAME: C:\PWORKING\NEAST\10\1822037\KEY 81-EN01-SHEET1.DGN

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	8



KY 81
eNOI MAP
STA. 310+00 TO STA. 355+00



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	9

Scale: 1" = 500'

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DATE PLOTTED: January 5, 2021

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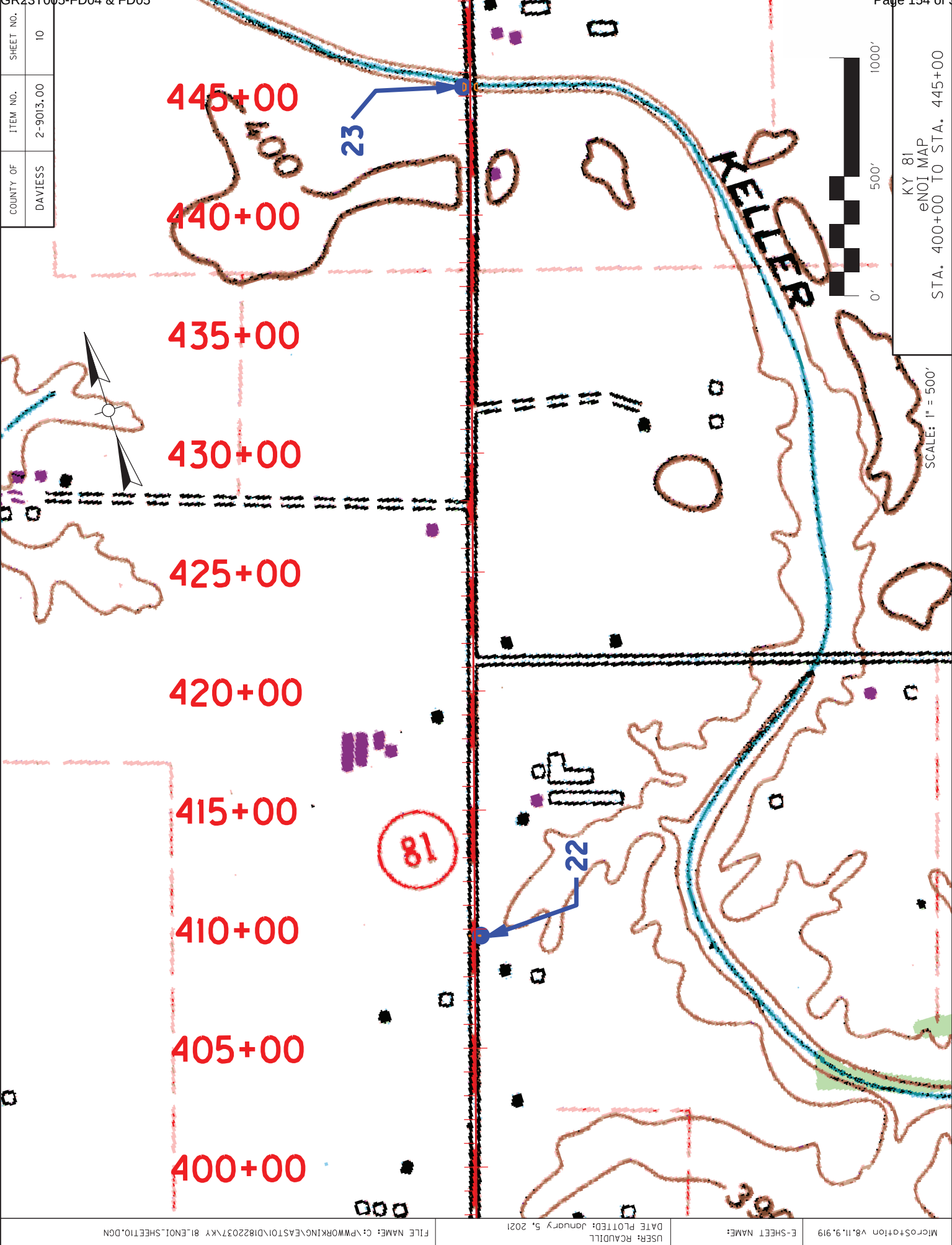
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E-SHEET NAME:

STA. 355+00 TO STA. 400+00

EN01 MAP

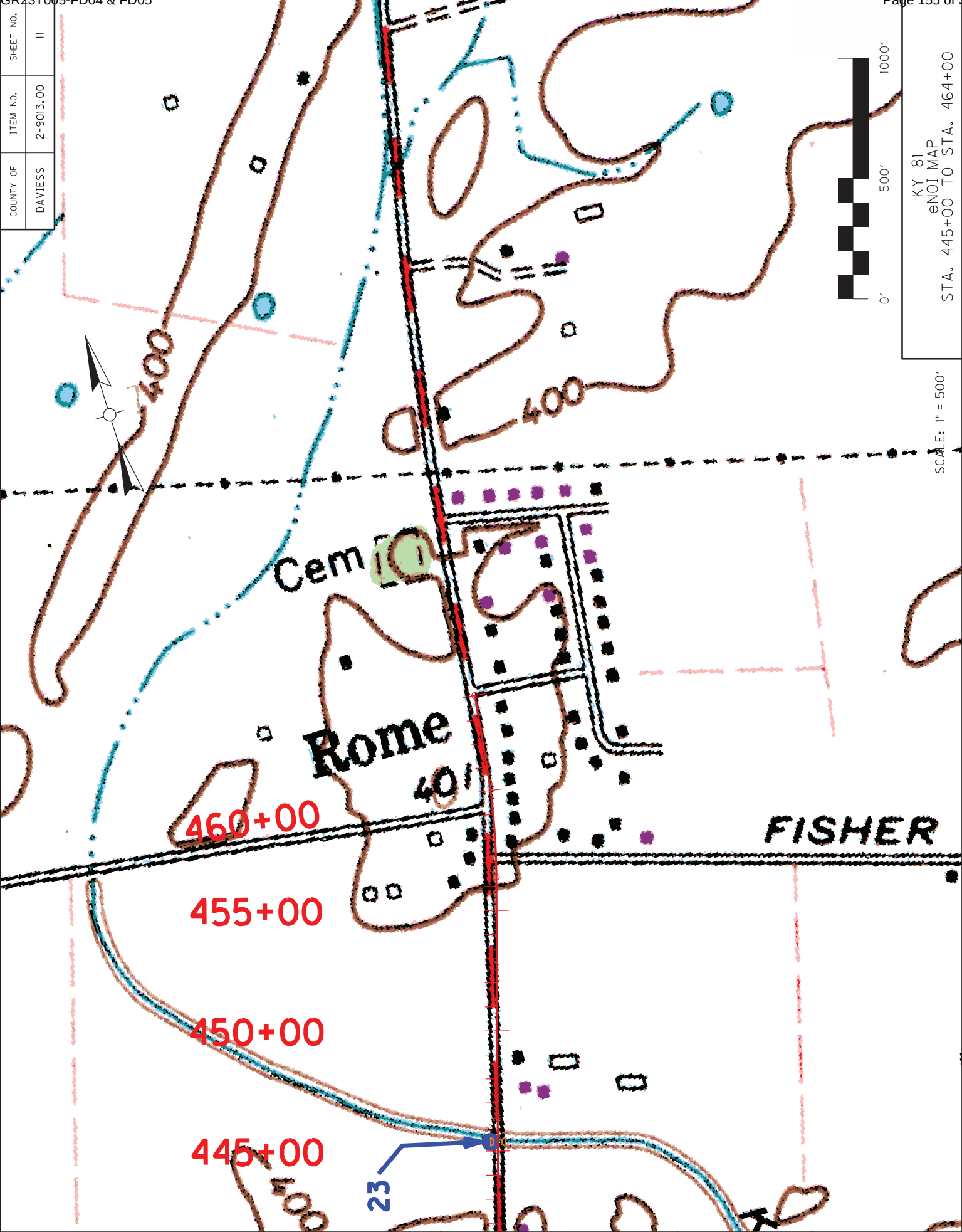
KY 81



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	10

SCALE: 1" = 500'

KY 81
ENR MAP
STA. 400+00 TO STA. 445+00



COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	11

MATERIAL SUMMARY

CONTRACT ID: 237000

121GR23M008 (FD51)

MB06011082301

HOLLYBUSH ROAD (CR 1108) BRIDGE 060C00022N OVER HOLLYBUSH CREEK AT MP 00.52 BRIDGE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0580	00001	DGA BASE	348.00	TON
0585	00020	TRAFFIC BOUND BASE	50.00	TON
0590	00078	CRUSHED AGGREGATE SIZE NO 2	97.00	TON
0595	00212	CL2 ASPH BASE 1.00D PG64-22	247.00	TON
0600	00301	CL2 ASPH SURF 0.38D PG64-22	29.00	TON
0605	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	.60	TON
0610	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	5.00	EACH
0615	02014	BARRICADE-TYPE III	2.00	EACH
0620	02159	TEMP DITCH	144.00	LF
0625	02160	CLEAN TEMP DITCH	72.00	LF
0630	02200	ROADWAY EXCAVATION	161.00	CUYD
0635	02242	WATER	100.00	MGAL
0640	02360	GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH
0645	02371	GUARDRAIL END TREATMENT TYPE 7	2.00	EACH
0650	02484	CHANNEL LINING CLASS III	630.00	TON
0655	02545	CLEARING AND GRUBBING - (C060022N)	1.00	LS
0660	02562	TEMPORARY SIGNS	300.00	SQFT
0665	02565	OBJECT MARKER TYPE 2	4.00	EACH
0670	02585	EDGE KEY	27.00	LF
0675	02603	FABRIC-GEOTEXTILE CLASS 2	225.00	SQYD
0680	02650	MAINTAIN & CONTROL TRAFFIC - (C060022N)	1.00	LS
0685	02651	DIVERSIONS (BY-PASS DETOURS) - (C060022N)	1.00	LS
0690	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0695	02701	TEMP SILT FENCE	576.00	LF
0700	02703	SILT TRAP TYPE A	1.00	EACH
0705	02704	SILT TRAP TYPE B	1.00	EACH
0710	02706	CLEAN SILT TRAP TYPE A	1.00	EACH
0715	02707	CLEAN SILT TRAP TYPE B	1.00	EACH
0720	02726	STAKING - (C060022N)	1.00	LS
0725	02731	REMOVE STRUCTURE - (C060022N)	1.00	LS
0730	03171	CONCRETE BARRIER WALL TYPE 9T	60.00	LF
0735	04933	TEMP SIGNAL 2 PHASE	2.00	EACH
0740	05950	EROSION CONTROL BLANKET	2,100.00	SQYD
0745	05952	TEMP MULCH	1,400.00	SQYD
0750	05953	TEMP SEEDING AND PROTECTION	1,050.00	SQYD
0755	05963	INITIAL FERTILIZER	.30	TON
0760	05964	MAINTENANCE FERTILIZER	.20	TON
0765	05985	SEEDING AND PROTECTION	2,100.00	SQYD
0770	05992	AGRICULTURAL LIMESTONE	1.00	TON
0775	06510	PAVE STRIPING-TEMP PAINT-4 IN	612.00	LF
0780	06514	PAVE STRIPING-PERM PAINT-4 IN	576.00	LF
0785	06587	PAVEMENT MARKER TY IVA-BW TEMP	20.00	EACH
0790	08901	CRASH CUSHION TY VI CLASS BT TL2	1.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0795	20430ED	SAW CUT	27.00	LF
0800	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	250.00	LF
0805	23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	24.00	LF
0810	02231	STRUCTURE GRANULAR BACKFILL	186.40	CUYD
0815	03299	ARMORED EDGE FOR CONCRETE	28.00	LF
0820	08003	FOUNDATION PREPARATION - (C060022N)	1.00	LS
0825	08033	TEST PILES	38.00	LF
0830	08039	PRE-DRILLING FOR PILES	50.00	LF
0835	08046	PILES-STEEL HP12X53	152.00	LF
0840	08100	CONCRETE-CLASS A	76.70	CUYD
0845	08104	CONCRETE-CLASS AA	30.70	CUYD
0850	08150	STEEL REINFORCEMENT	6,172.00	LB
0855	08151	STEEL REINFORCEMENT-EPOXY COATED	5,212.00	LB
0860	08160	STRUCTURAL STEEL - (C060022N)	1.00	LS
0865	23378EC	CONCRETE SEALING	2,022.00	SQFT
0870	23539EC	BRIDGE RAIL	70.00	LF
0875	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 237000

121GR23M008 (FD51)

MB06013762301

GLADYS DRIVE (CR 1376) BRIDGE 060C017 OVER BETTY TROUBLESOME CREEK AT MP 00.01 BRIDGE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00001	DGA BASE	87.00	TON
0010	00003	CRUSHED STONE BASE	24.00	TON
0015	00080	CRUSHED AGGREGATE SIZE NO 23	24.00	TON
0020	00100	ASPHALT SEAL AGGREGATE	.30	TON
0025	00103	ASPHALT SEAL COAT	.04	TON
0030	00212	CL2 ASPH BASE 1.00D PG64-22	15.00	TON
0035	00301	CL2 ASPH SURF 0.38D PG64-22	7.00	TON
0040	00356	ASPHALT MATERIAL FOR TACK	.02	TON
0045	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	6.00	EACH
0050	02230	EMBANKMENT IN PLACE	29.00	CUYD
0055	02351	GUARDRAIL-STEEL W BEAM-S FACE	137.50	LF
0060	02360	GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH
0065	02585	EDGE KEY	37.00	LF
0070	02604	FABRIC-GEOTEXTILE CLASS 1A	104.00	SQYD
0075	02650	MAINTAIN & CONTROL TRAFFIC - (060C017)	1.00	LS
0080	02726	STAKING - (060C017)	1.00	LS
0085	02731	REMOVE STRUCTURE - (060C017)	1.00	LS
0090	05952	TEMP MULCH	298.00	SQYD
0095	05953	TEMP SEEDING AND PROTECTION	224.00	SQYD
0100	05963	INITIAL FERTILIZER	.02	TON
0105	05964	MAINTENANCE FERTILIZER	.01	TON
0110	05985	SEEDING AND PROTECTION	448.00	SQYD
0115	05992	AGRICULTURAL LIMESTONE	.28	TON
0120	02231	STRUCTURE GRANULAR BACKFILL	145.00	CUYD
0125	02602	FABRIC-GEOTEXTILE CLASS 1	83.00	SQYD
0130	08002	STRUCTURE EXCAV-SOLID ROCK	13.00	CUYD
0135	08003	FOUNDATION PREPARATION - (060C017)	1.00	LS
0140	08100	CONCRETE-CLASS A	65.00	CUYD
0145	08150	STEEL REINFORCEMENT	7,596.00	LB
0150	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 237000

121GR23M008 (FD51)

MB06013872301

DOBSON DRIVE (CR 1387) BRIDGE 060C014 OVER BALLS FORK AT MP 00.03 BRIDGE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0400	00003	CRUSHED STONE BASE	38.00	TON
0405	00080	CRUSHED AGGREGATE SIZE NO 23	35.00	TON
0410	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	6.00	EACH
0415	02014	BARRICADE-TYPE III	2.00	EACH
0420	02351	GUARDRAIL-STEEL W BEAM-S FACE	100.00	LF
0425	02360	GUARDRAIL TERMINAL SECTION NO 1	4.00	EACH
0430	02562	TEMPORARY SIGNS	79.00	SQFT
0435	02650	MAINTAIN & CONTROL TRAFFIC - (060C014)	1.00	LS
0440	02726	STAKING - (060C014)	1.00	LS
0445	02731	REMOVE STRUCTURE - (060C014)	1.00	LS
0450	05952	TEMP MULCH	575.00	SQYD
0455	05953	TEMP SEEDING AND PROTECTION	431.00	SQYD
0460	05963	INITIAL FERTILIZER	.01	TON
0465	05964	MAINTENANCE FERTILIZER	.02	TON
0470	05985	SEEDING AND PROTECTION	307.00	SQYD
0475	05992	AGRICULTURAL LIMESTONE	.20	TON
0480	14004	W DIRECTIONAL BORE	40.00	LF
0485	14056	W PIPE PVC 02 INCH	140.00	LF
0490	14091	W TIE-IN 02 INCH	2.00	EACH
0495	14114	W VALVE CUT-IN 02 INCH	2.00	EACH
0500	20191ED	OBJECT MARKER TY 3	4.00	EACH
0505	02231	STRUCTURE GRANULAR BACKFILL	109.00	CUYD
0510	02998	MASONRY COATING	167.00	SQYD
0515	03299	ARMORED EDGE FOR CONCRETE	24.10	LF
0520	08001	STRUCTURE EXCAVATION-COMMON	89.00	CUYD
0525	08019	CYCLOPEAN STONE RIP RAP	394.00	TON
0530	08033	TEST PILES	38.00	LF
0535	08039	PRE-DRILLING FOR PILES	70.00	LF
0540	08046	PILES-STEEL HP12X53	67.50	LF
0545	08100	CONCRETE-CLASS A	41.20	CUYD
0550	08104	CONCRETE-CLASS AA	16.30	CUYD
0555	08151	STEEL REINFORCEMENT-EPOXY COATED	6,363.00	LB
0560	08665	PRECAST PC BOX BEAM CB33-48	250.50	LF
0565	23378EC	CONCRETE SEALING	1,072.00	SQFT
0570	25017ED	RAIL SYSTEM SIDE MOUNTED MGS	155.00	LF
0575	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 237000

121GR23M008 (FD51)

MB06015382301

DOVE CROSS LANE (CR 1538) BRIDGE 060C001 OVER CARR FORK AT MP 00.03 BRIDGE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0880	00001	DGA BASE	17.00	TON
0885	00103	ASPHALT SEAL COAT	1.00	TON
0890	00212	CL2 ASPH BASE 1.00D PG64-22	16.27	TON
0895	00301	CL2 ASPH SURF 0.38D PG64-22	2.50	TON
0900	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	1.00	TON
0905	02014	BARRICADE-TYPE III	2.00	EACH
0910	02200	ROADWAY EXCAVATION	20.00	CUYD
0915	02242	WATER	10.00	MGAL
0920	02545	CLEARING AND GRUBBING - (C060001)	1.00	LS
0925	02585	EDGE KEY	19.00	LF
0930	02650	MAINTAIN & CONTROL TRAFFIC - (C060001)	1.00	LS
0935	02726	STAKING - (C060001)	1.00	LS
0940	02731	REMOVE STRUCTURE - EXISTING BRIDGE (C060001)	1.00	LS
0945	02731	REMOVE STRUCTURE - EXISTING DIVERSION - (C060001)	1.00	LS
0950	05992	AGRICULTURAL LIMESTONE	1.00	TON
0955	21415ND	EROSION CONTROL - (C060001)	1.00	LS
0960	03299	ARMORED EDGE FOR CONCRETE	24.00	LF
0965	08003	FOUNDATION PREPARATION - (C060001)	1.00	LS
0970	08019	CYCLOPEAN STONE RIP RAP	95.00	TON
0975	08033	TEST PILES	50.00	LF
0980	08039	PRE-DRILLING FOR PILES	90.80	LF
0985	08051	PILES-STEEL HP14X89	99.80	LF
0990	08100	CONCRETE-CLASS A	56.80	CUYD
0995	08104	CONCRETE-CLASS AA	13.30	CUYD
1000	08151	STEEL REINFORCEMENT-EPOXY COATED	6,147.00	LB
1005	08663	PRECAST PC BOX BEAM CB21-48	168.00	LF
1010	23378EC	CONCRETE SEALING	1,826.00	SQFT
1015	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 237000

121GR23M008 (FD51)

MB06713392301

BLAIR BRANCH ROAD (CR 1339) BRIDGE 067C009 OVER BLAIR BRANCH AT MP 00.02 BRIDGE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1175	00001	DGA BASE	40.00	TON
1180	00100	ASPHALT SEAL AGGREGATE	3.80	TON
1185	00103	ASPHALT SEAL COAT	1.00	TON
1190	00212	CL2 ASPH BASE 1.00D PG64-22	29.00	TON
1195	00301	CL2 ASPH SURF 0.38D PG64-22	6.00	TON
1200	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	1.00	TON
1205	02014	BARRICADE-TYPE III	2.00	EACH
1210	02200	ROADWAY EXCAVATION	41.00	CUYD
1215	02223	GRANULAR EMBANKMENT	20.00	CUYD
1220	02242	WATER	20.00	MGAL
1225	02545	CLEARING AND GRUBBING - 0.1 ACRE (067C009)	1.00	LS
1230	02585	EDGE KEY	21.00	LF
1235	02650	MAINTAIN & CONTROL TRAFFIC - (067C009)	1.00	LS
1240	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
1245	02726	STAKING - (067C009)	1.00	LS
1250	02731	REMOVE STRUCTURE - (067C009)	1.00	LS
1255	21415ND	EROSION CONTROL - (067C009)	1.00	LS
1260	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	4.00	EACH
1265	02360	GUARDRAIL TERMINAL SECTION NO 1	4.00	EACH
1270	02565	OBJECT MARKER TYPE 2	4.00	EACH
1275	03299	ARMORED EDGE FOR CONCRETE	24.00	LF
1280	08003	FOUNDATION PREPARATION - (067C009)	1.00	LS
1285	08019	CYCLOPEAN STONE RIP RAP	137.00	TON
1290	08033	TEST PILES	54.00	LF
1295	08039	PRE-DRILLING FOR PILES	91.50	LF
1300	08046	PILES-STEEL HP12X53	81.00	LF
1305	08100	CONCRETE-CLASS A	38.00	CUYD
1310	08104	CONCRETE-CLASS AA	6.00	CUYD
1315	08151	STEEL REINFORCEMENT-EPOXY COATED	3,795.00	LB
1320	08661	PRECAST PC BOX BEAM CB12-48	90.00	LF
1325	23378EC	CONCRETE SEALING	864.00	SQFT
1330	23539EC	BRIDGE RAIL	60.00	LF
1335	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 237000

121GR23M008 (FD51)

MB06718352301

WORLEY LANE (CR 1835) BRIDGE 067C006 OVER THORTON CREEK AT MP 00.02 BRIDGE REPLACEMENT.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1020	00001	DGA BASE	39.00	TON
1025	00100	ASPHALT SEAL AGGREGATE	3.80	TON
1030	00103	ASPHALT SEAL COAT	1.00	TON
1035	00212	CL2 ASPH BASE 1.00D PG64-22	37.00	TON
1040	00301	CL2 ASPH SURF 0.38D PG64-22	11.00	TON
1045	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	1.00	TON
1050	02014	BARRICADE-TYPE III	2.00	EACH
1055	02091	REMOVE PAVEMENT	268.00	SQYD
1060	02200	ROADWAY EXCAVATION	10.00	CUYD
1065	02223	GRANULAR EMBANKMENT	20.00	CUYD
1070	02242	WATER	20.00	MGAL
1075	02545	CLEARING AND GRUBBING - 0.1 ACRE (067C006)	1.00	LS
1080	02650	MAINTAIN & CONTROL TRAFFIC - (067C006)	1.00	LS
1085	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
1090	02726	STAKING - (067C006)	1.00	LS
1095	02731	REMOVE STRUCTURE - (067C006)	1.00	LS
1100	20550ND	SAWCUT PAVEMENT	45.00	LF
1105	21415ND	EROSION CONTROL - (067C006)	1.00	LS
1110	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	4.00	EACH
1115	02351	GUARDRAIL-STEEL W BEAM-S FACE	50.00	LF
1120	02360	GUARDRAIL TERMINAL SECTION NO 1	4.00	EACH
1125	02565	OBJECT MARKER TYPE 2	4.00	EACH
1130	03250	WATERPROOFING MEMBRANE	43.50	SQYD
1135	08003	FOUNDATION PREPARATION - (067C006)	1.00	LS
1140	08019	CYCLOPEAN STONE RIP RAP	31.00	TON
1145	08100	CONCRETE-CLASS A	70.80	CUYD
1150	08150	STEEL REINFORCEMENT	5,018.00	LB
1155	08651	PRECAST PC BOX BEAM B12-48	100.00	LF
1160	23378EC	CONCRETE SEALING	305.00	SQFT
1165	24375EC	STRUCTURE EXCAVATION-SPECIAL SOLID ROCK	52.40	CUYD
1170	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 237000

121GR23M008 (FD51)

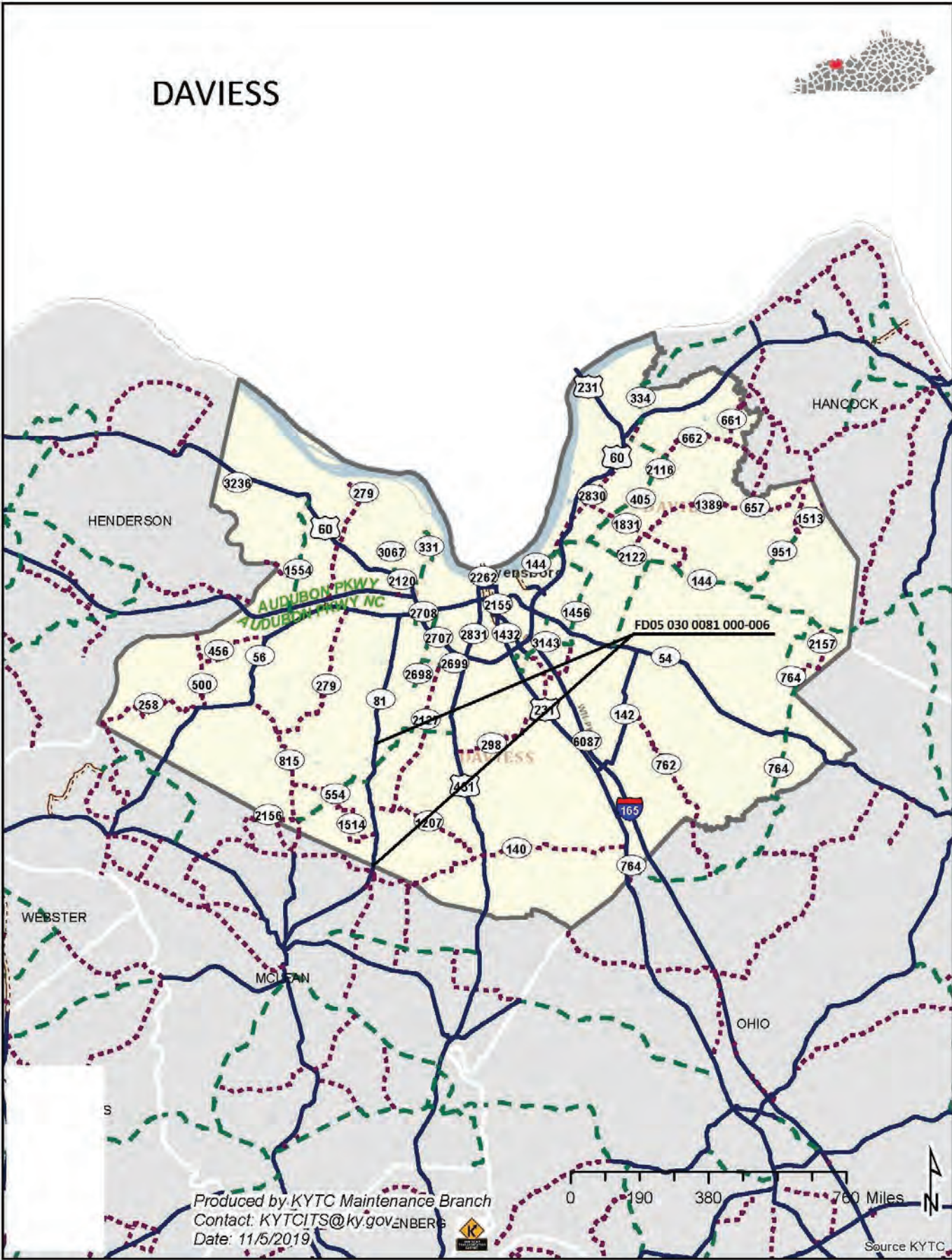
MB06718802301

JIM MCCRAY ROAD (CR 1880) BRIDGE 067C021 OVER ROCKHOUSE CREEK AT MP 00.01 BRIDGE REPLACEMENT.

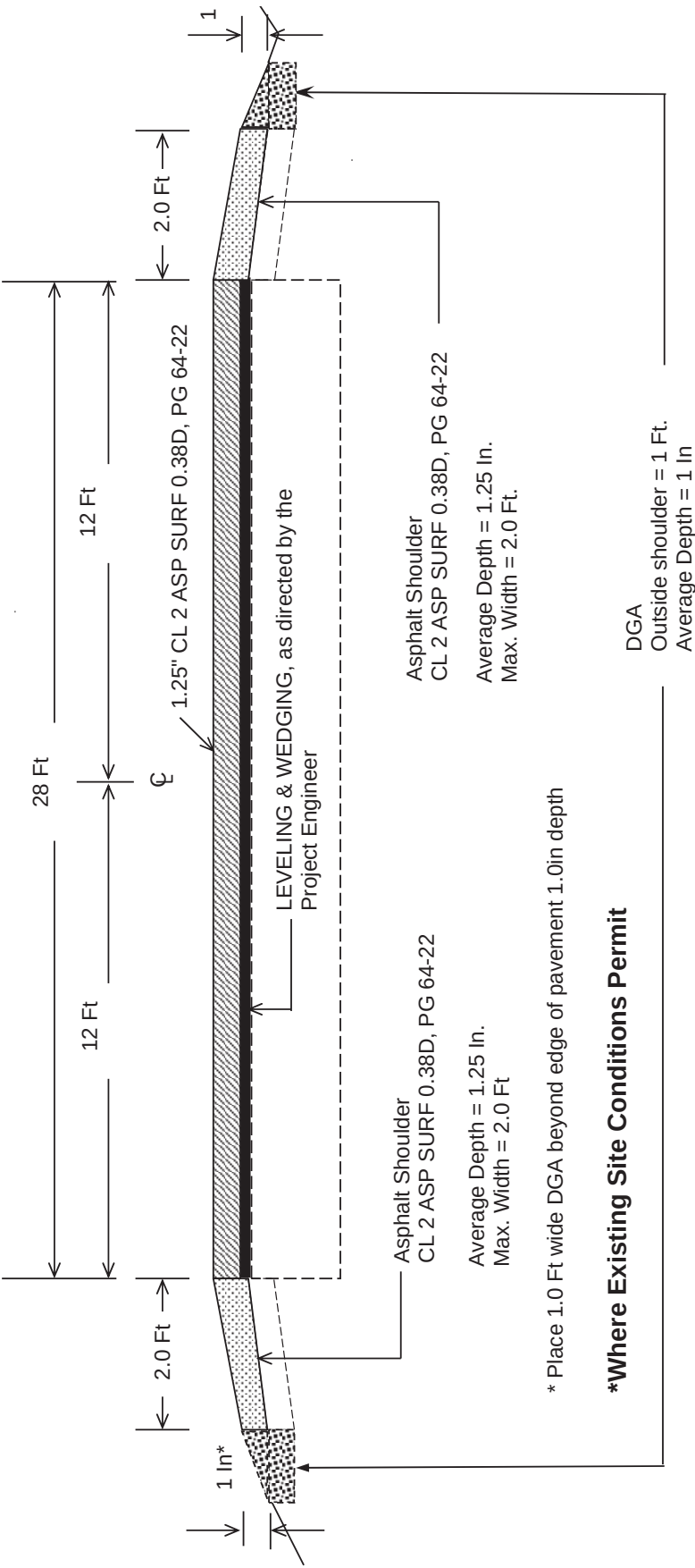
Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0155	00001	DGA BASE	234.00	TON
0160	00100	ASPHALT SEAL AGGREGATE	2.80	TON

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0165	00103	ASPHALT SEAL COAT	.30	TON
0170	00221	CL2 ASPH BASE 0.75D PG64-22	58.00	TON
0175	00296	ASPHALT PRIME COAT	.20	TON
0180	00301	CL2 ASPH SURF 0.38D PG64-22	24.00	TON
0185	00356	ASPHALT MATERIAL FOR TACK	.20	TON
0190	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	8.00	EACH
0195	02159	TEMP DITCH	107.00	LF
0200	02160	CLEAN TEMP DITCH	37.00	LF
0205	02200	ROADWAY EXCAVATION	73.00	CUYD
0210	02242	WATER	28.00	MGAL
0215	02273	FENCE-4 FT CHAIN LINK	42.00	LF
0220	02281	PEDESTRIAN GATE-CHAIN LINK	1.00	EACH
0225	02351	GUARDRAIL-STEEL W BEAM-S FACE	62.50	LF
0230	02360	GUARDRAIL TERMINAL SECTION NO 1	4.00	EACH
0235	02399	EXTRA LENGTH GUARDRAIL POST	12.00	EACH
0240	02545	CLEARING AND GRUBBING - -	1.00	LS
0245	02555	CONCRETE-CLASS B	4.30	CUYD
0250	02565	OBJECT MARKER TYPE 2	4.00	EACH
0255	02585	EDGE KEY	167.00	LF
0260	02602	FABRIC-GEOTEXTILE CLASS 1	59.00	SQYD
0265	02650	MAINTAIN & CONTROL TRAFFIC - (067C021)	1.00	LS
0270	02651	DIVERSIONS (BY-PASS DETOURS) - (067C021)	1.00	LS
0275	02701	TEMP SILT FENCE	73.00	LF
0280	02703	SILT TRAP TYPE A	1.00	EACH
0285	02704	SILT TRAP TYPE B	1.00	EACH
0290	02706	CLEAN SILT TRAP TYPE A	1.00	EACH
0295	02707	CLEAN SILT TRAP TYPE B	1.00	EACH
0300	02726	STAKING - (067C021)	1.00	LS
0305	05950	EROSION CONTROL BLANKET	81.00	SQYD
0310	05952	TEMP MULCH	1,090.00	SQYD
0315	05953	TEMP SEEDING AND PROTECTION	813.00	SQYD
0320	05963	INITIAL FERTILIZER	.04	TON
0325	05964	MAINTENANCE FERTILIZER	.06	TON
0330	05985	SEEDING AND PROTECTION	1,123.00	SQYD
0335	05992	AGRICULTURAL LIMESTONE	.75	TON
0340	24631EC	BARCODE SIGN INVENTORY	4.00	EACH
0345	24896ED	RAIL SYSTEM TYPE T631	37.50	LF
0350	02223	GRANULAR EMBANKMENT	65.60	CUYD
0355	02231	STRUCTURE GRANULAR BACKFILL	101.00	CUYD
0360	03299	ARMORED EDGE FOR CONCRETE	28.90	LF
0365	08002	STRUCTURE EXCAV-SOLID ROCK	48.80	CUYD
0370	08003	FOUNDATION PREPARATION - (067C021)	1.00	LS
0375	08100	CONCRETE-CLASS A	71.40	CUYD
0380	08150	STEEL REINFORCEMENT	4,701.00	LB
0385	08151	STEEL REINFORCEMENT-EPOXY COATED	3,950.00	LB
0390	23378EC	CONCRETE SEALING	525.00	SQFT
0395	02569	DEMOBILIZATION	1.00	LS



Daviess County
TYPICAL SECTION
FD05 030 0081 000-006
MP's 0.000 - 5.263



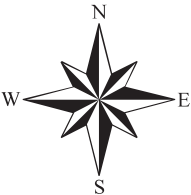
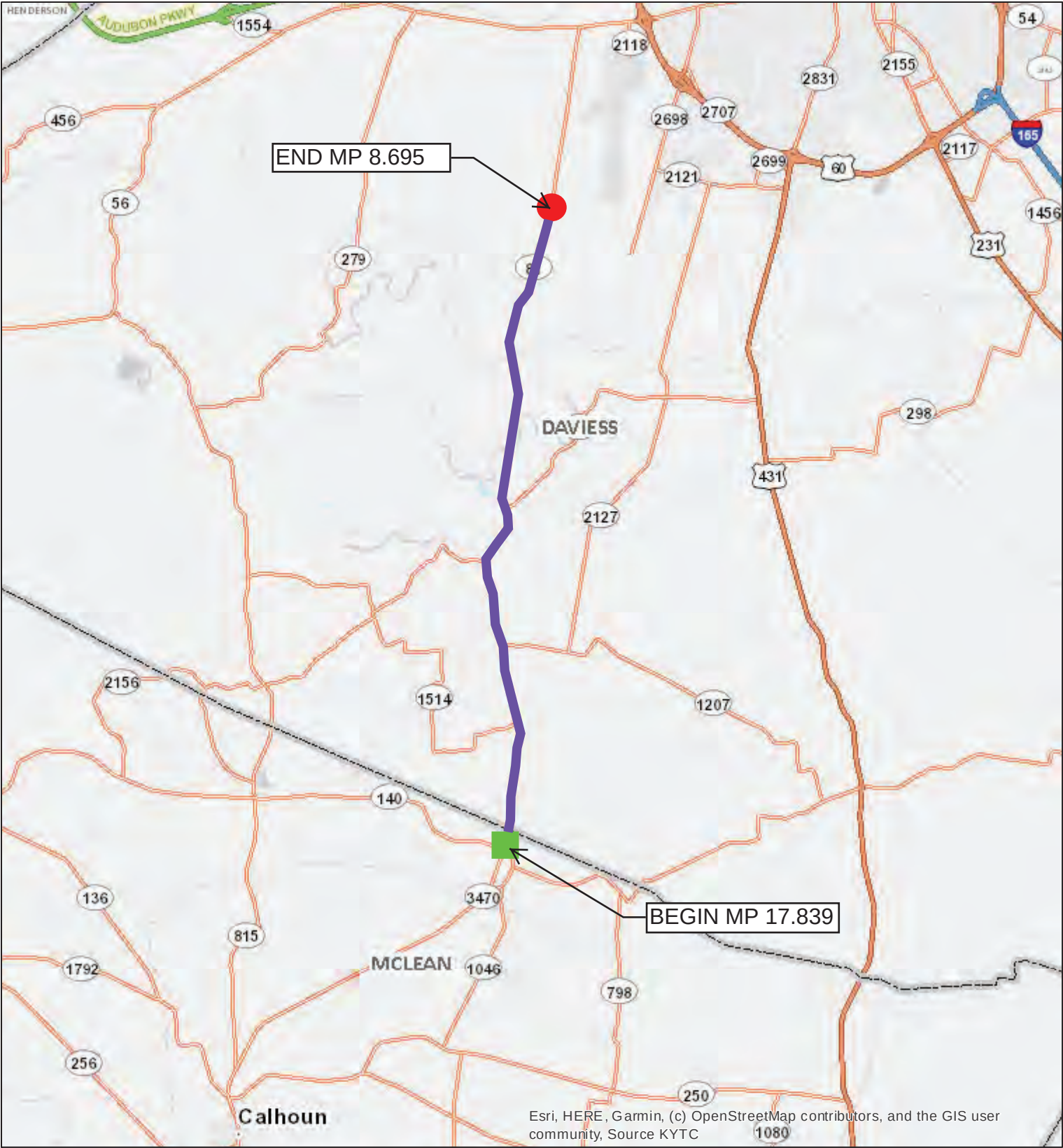
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0081 000 006

County: Daviess

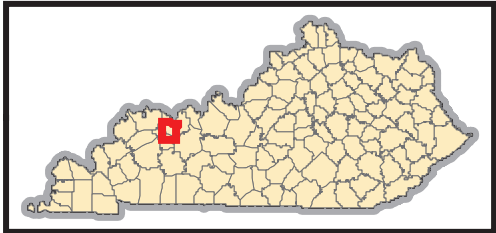
District: D2 - Madisonville

Mile Point	Notes	Length	Width	Avg Depth	Tons
0.000	Edge Key	100	28	0.63	10.7
1.173	Baird Rd.	45	22	0.63	3.8
1.462	KY1514 ("Y" to become "T" in HSIP project)	142	42	0.63	22.8
2.085	Vanover Rd	48	37	0.63	6.8
2.485	KY1207	71	34	0.63	9.2
3.657	KY554	42	142	0.63	22.8
3.870	Burns Rd	69	37	0.63	9.8
4.470	KY554	78	33	0.63	9.8
4.510	Ashbyburg Rd	31	100	0.63	11.8
4.600	Old Hwy 81	140	80	0.63	34.2
	Bridge Milling				50
				Total:	191.7

McLean/Daviess County - KY 81 - HSIP



3 1.5 0 3 mi



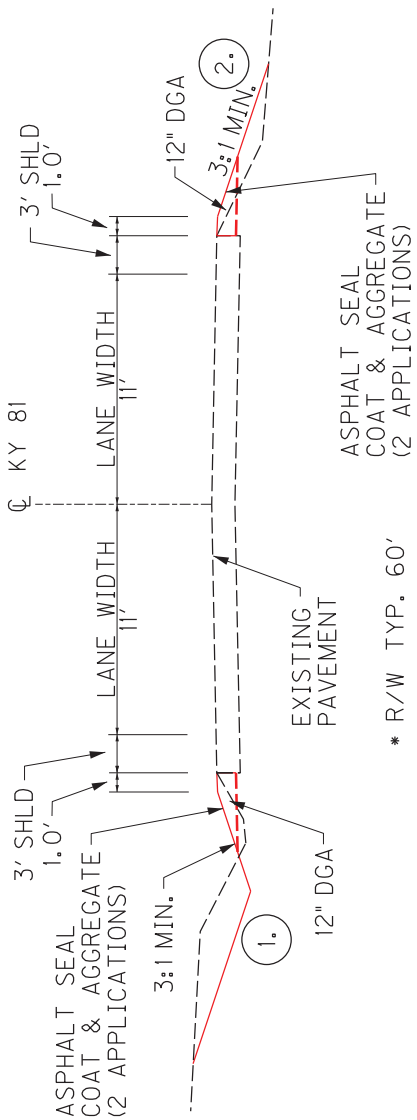
TYPICAL SECTIONS

COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN/DAVIESS	2-9013.00	

1.

ENSURE THAT POSITIVE DITCH DRAINAGE IS MAINTAINED IN THE EXISTING FLOW DIRECTIONS. MAKE ADJUSTMENTS AS DETERMINED BY THE ENGINEER.
2.

3:1 MIN. TIE DOWN SLOPE PREFERRED, BUT VARIES DUE TO ROW RESTRICTIONS. SEE CROSS SECTIONS AND ADJUST AS DETERMINED BY THE ENGINEER.

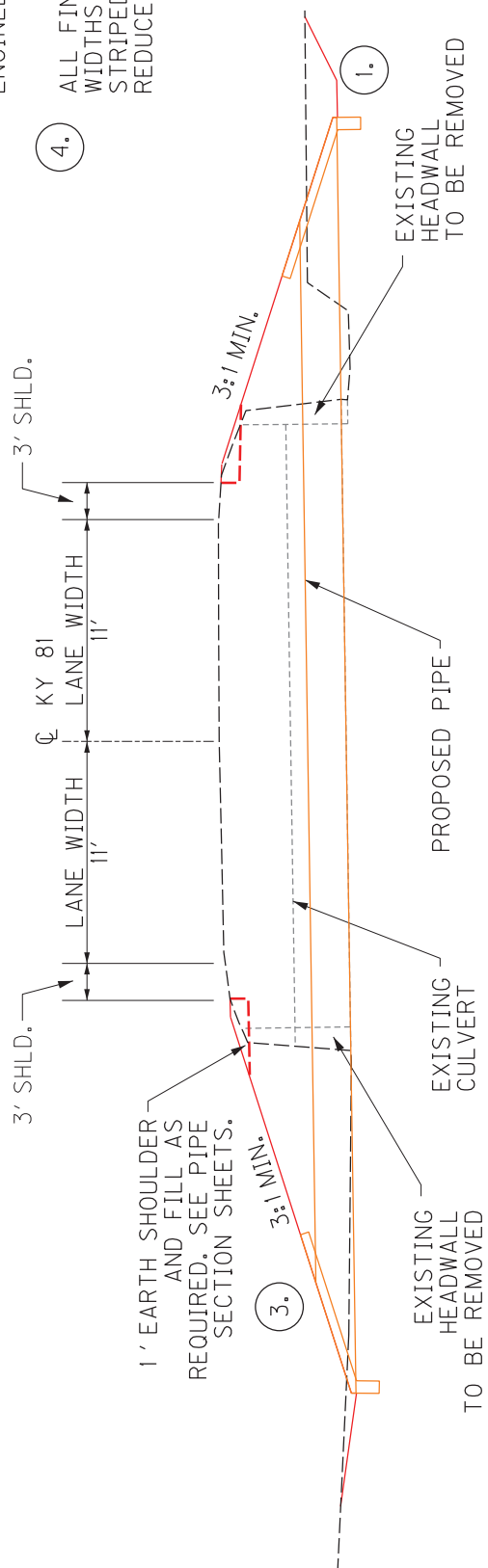


ROADSIDE REGRADING

3.

3:1 MIN. TIE DOWN SLOPE PREFERRED, BUT VARIES DUE TO ROW RESTRICTIONS. SEE PIPE SECTIONS AND ADJUST AS DETERMINED BY THE ENGINEER.
4.

ALL FINAL LANE WIDTHS TO BE STRIPED AT A REDUCED 11' WIDTH.



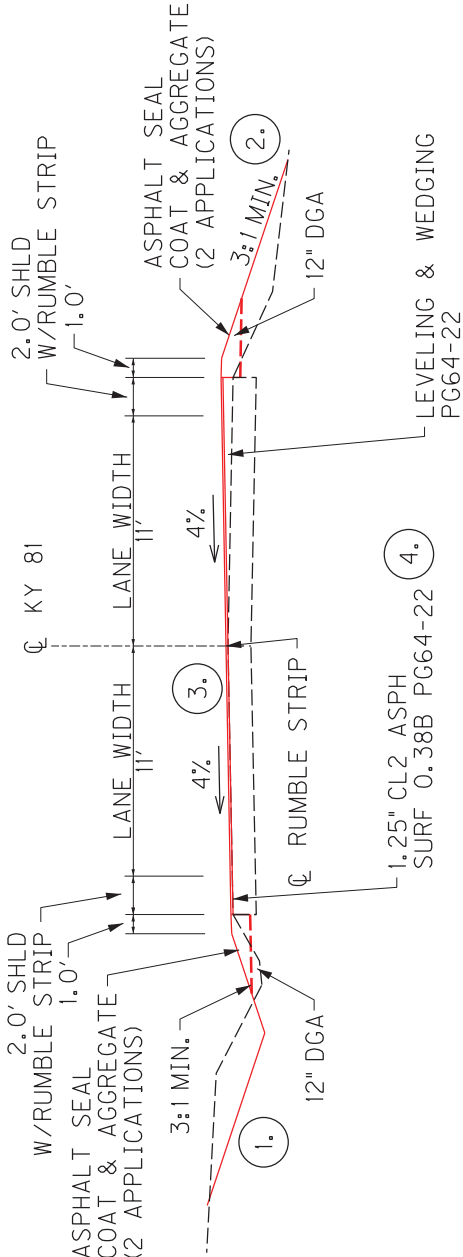
CULVERT/PIPE EXTENSION AND LINERS

TYPICAL SECTION SHEET

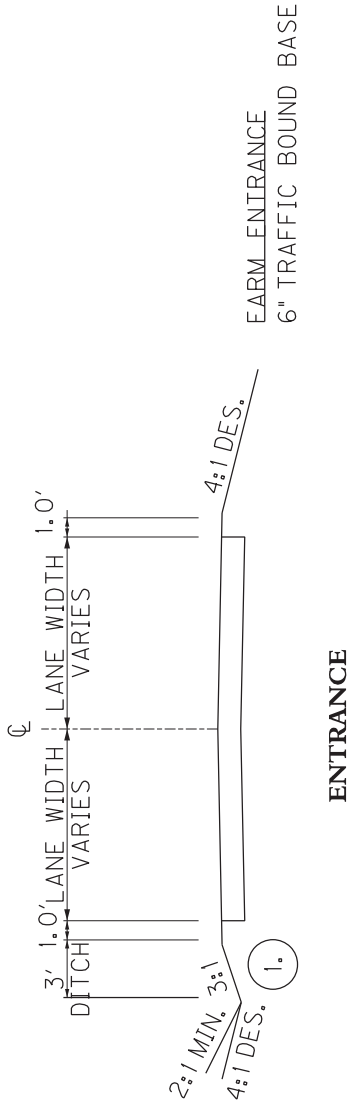
COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN/DAVIESS	2-9013.00	

TYPICAL SECTIONS

* R/W TYP. 60'



SUPERELEVATION IMPROVEMENTS



1. ENSURE THAT POSITIVE DITCH DRAINAGE IS MAINTAINED IN THE EXISTING FLOW DIRECTIONS. MAKE ADJUSTMENTS AS DETERMINED BY THE ENGINEER.

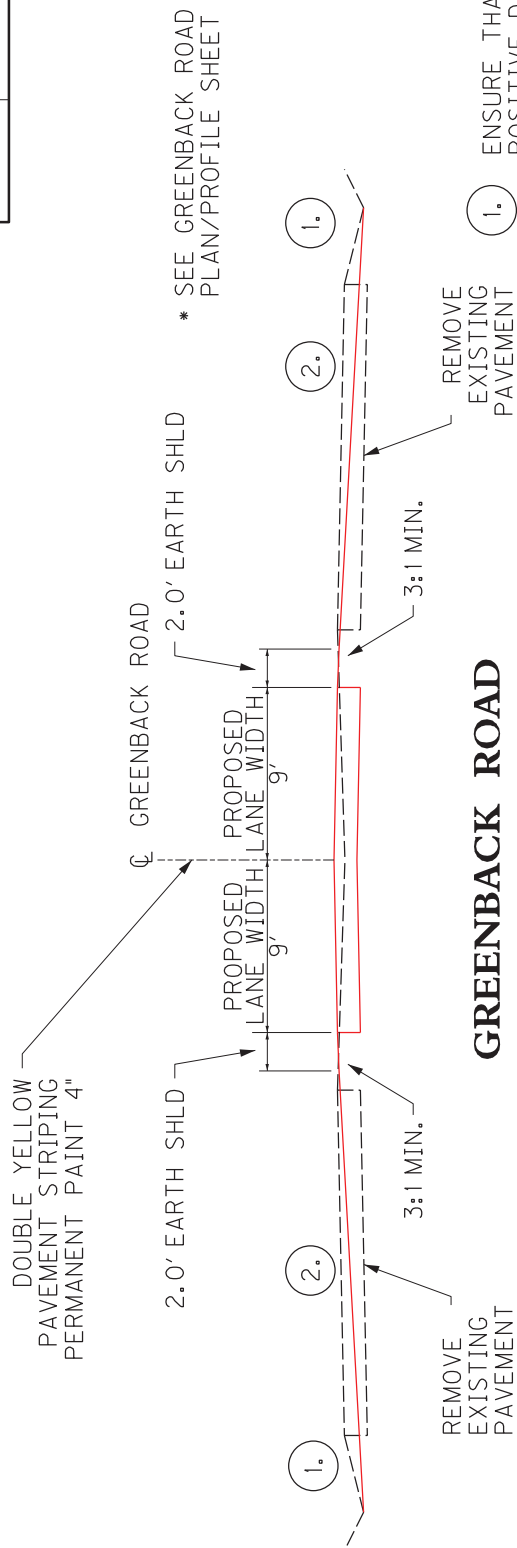
2. 3:1 MIN. TIE DOWN SLOPE PREFERRED, BUT VARIES DUE TO ROW RESTRICTIONS. SEE CROSS SECTIONS AND ADJUST AS DETERMINED BY THE ENGINEER.

3. HOLD LOW POINT AND USE ASPHALT PAVE MILLING & TEXTURING FOR SUPERELEVATION IMPROVEMENTS AS NEEDED.

4. FD05 FUNDING WILL PAY FOR ASPHALT SURFACE. RESURFACING LIMITS BEING PAID BY FD05 FUNDS INCLUDE MP 0 TO MP 5.263

TYPICAL SECTIONS

COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN/DAVIESS	2-9013.00	



ENSURE THAT POSITIVE DITCH DRAINAGE IS MAINTAINED IN THE EXISTING FLOW DIRECTIONS. MAKE ADJUSTMENTS AS DETERMINED BY THE ENGINEER.

3:1 MIN. TIE DOWN
SLOPE PREFERRED,
BUT VARIES DUE TO
ROW RESTRICTIONS.
SEE CROSS SECTIONS
AND ADJUST AS
DETERMINED BY THE
ENGINEER.

GREEN BACK ROAD PROPOSED PAVEMENT

1.25" CL2 ASPHALT SURFACE 0.38B PG64-22
4.50" CL2 ASPHALT BASE 1.00D PG64-22
4.50" CL2 ASPHALT BASE 1.00D PG64-22
4" DGA

* SEE CROSS SECTIONS

EX. R/W



CUT HILLSIDE AT
2:1 MATCHING
EXISTING
DITCH ELEVATION
(STAY WITHIN ROW)

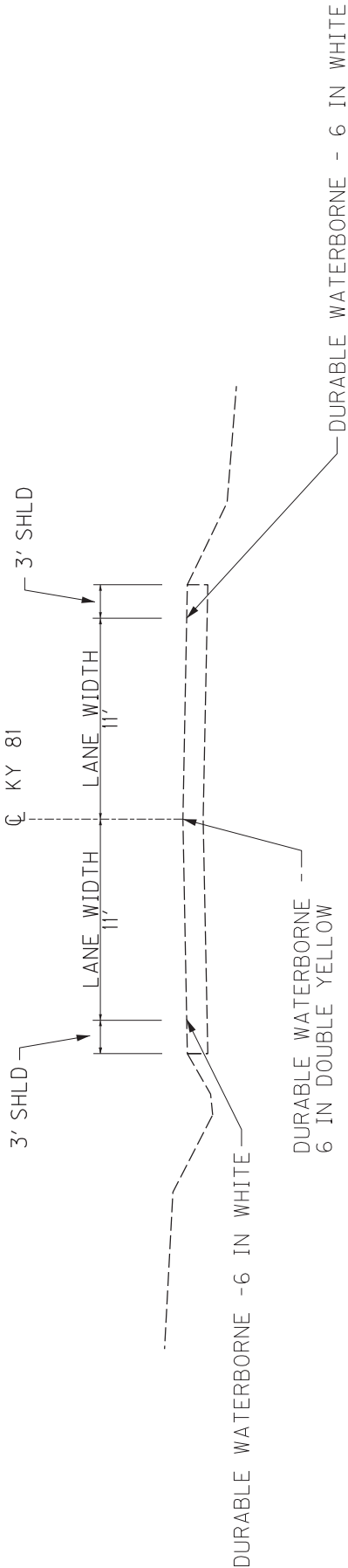
HILLSIDE CUTTING AT KY 140 INTERSECTION

SCALE = NTS

TYPICAL SECTION SHEET

COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN/DAVIESS	2-9013.00	

TYPICAL SECTIONS



2. PROPOSED FINAL STRIPING
M.P. 5.263 TO M.P. 8.7

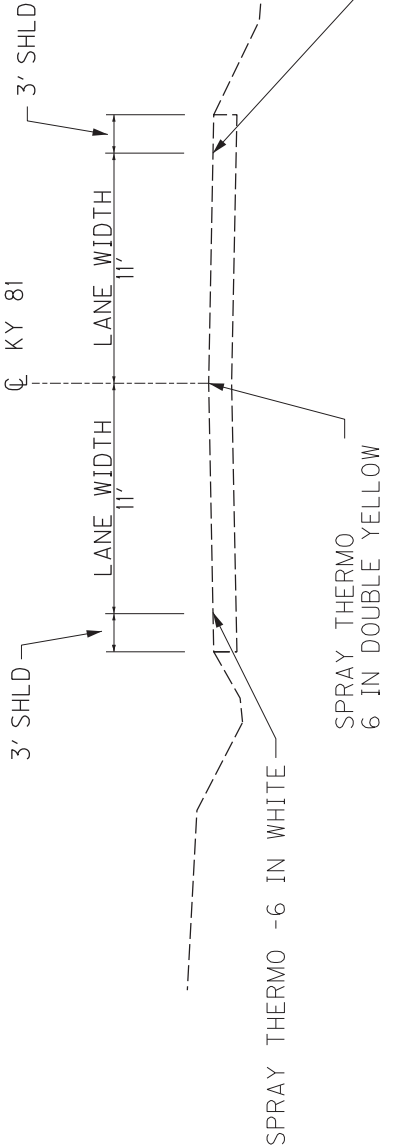
NOTES:
* NO PROPOSED STRIPING IN MCLEAN COUNTY. ALL STRIPING TO REMAIN AS IS.

1.

FD05 FUNDING WILL PAY FOR SPRAY THERMO RESTRIPIING IN DAVIESS COUNTY FROM M.P. 0 TO M.P. 5.263

2.

FD04 WILL PAY FOR DURABLE WATERBORNE STRIPING IN DAVIESS COUNTY FROM M.P. 5.263 TO M.P. 8.7



1. PROPOSED FINAL STRIPING
M.P. 0.0 TO M.P. 5.263

TYPICAL SECTION SHEET

SCALE = NTS

 Highway Safety Improvement Program Item No: 2-9013.00 County: McLean Route: KY 81			
MCLEAN COUNTY GENERAL SUMMARY			
Item No.	Item	Unit	Quantity
00078	Crushed Aggregate No 2	TON	57
02200	Roadway Excavation	CUYD	130
02483	Channel Lining Class II	TON	20
02562	Temporary Signs	SQFT	25
02602	Fabric-Geotextile Class 1	SQYD	149
02671	Portable Changeable Message Signs	EA	2
02704	Silt Trap Type B	EA	2
02705	Silt Trap Type C	EA	2
02707	Clean Silt Trap Type B	EA	2
02708	Clean Silt Trap Type C	EA	2
24543EC	Clean Pipe	LF	53
03269	Trim & Remove Trees & Brush	LF	165
05950	Erosion Control Blanket	SY	125
05953	Temp Seeding and Protection	SY	50
05963	Initial Fertilizer	TON	0.2
05964	Maintenance Fertilizer	TON	0.2
05985	Seeding and Protection	SY	754
05992	Agricultural Limestone	TON	0.6
06406	SMB Alum Sheet Signs .080 IN	SF	92.25
06407	SMB Alum Sheet Signs .125 IN	SF	64.81
06410	Steel Post Type 1	LF	243
21373ND	Remove Signs	EA	10
24631EC	Barcode Sign Inventory	EA	32
02625	Remove Headwall (6'X4' Box Culvert, Sta. 950+05)	EA	2
24583EC	HDPE Pipe Liner-42 IN	LF	82
26135ED	Sloped & Mitered Headwall - 42 IN	EA	2
14030	W METER RELOCATE	EA	1
14152	W SERV COPPER SHORT SIDE 3/4 IN	EA	1
14059	W PVC PIPE 06 INCH	LF	100
14105	W VALVE 06 INCH	EA	1

Highway Safety Improvement Program			
 		Item No: 2-9013.00	
		County: Daviess	
		Route: KY 81	
DAVIESS COUNTY GENERAL SUMMARY			
Item No.	Item	Unit	Quantity
00001	DGA Base	TON	1,747
00020	Traffic Bound Base	TON	27
00078	Crushed Aggregate No 2	TON	124
00100	Asphalt Seal Aggregate	TON	48.2
00103	Asphalt Seal Coat	TON	6.4
00190	Level and Wedging PG 64-22	TON	368
00212	CL2 Asph Base 1.00D PG64-22	TON	137
00307	CL2 Asph Surf 0.38D PG64-22*	TON	19
02585	Edge Key	LF	92
02676	Mobilization for Mill & Text	LS	1
02677	Asphalt Pave Milling & Texturizing	TON	277
02091	Remove Pavement	SY	570
20550ND	Sawcut Pavement	LF	336
01987	Delineator for Guardrail B/W	EA	37
02200	Roadway Excavation	CUYD	319
02351	Guardrail-Steel W Beam-S Face	LF	1,550
02360	Guardrail Terminal Section No. 1	EA	2
02367	Guardrail End Treatment Type 1	EA	6
02378	Guardrail Connector to Bridge End TY D	EA	8
02381	Remove Guardrail	LF	1,994
02391	Guardrail End Treatment Type 4A	EA	4
02483	Channel Lining Class II	TON	278
02562	Temporary Signs	SQFT	225
2617EC	Roadside Regrading	LF	5,992
02602	Fabric-Geotextile Class 1	SQYD	299
02650	Maintain and Control Traffic	LS	1
02671	Portable Changeable Message Signs	EA	2
02701	Silt Fence	LF	2,609
02704	Silt Trap Type B	EA	36
02705	Silt Trap Type C	EA	24
02707	Clean Silt Trap Type B	EA	36
02708	Clean Silt Trap Type C	EA	24
02726	Staking	LS	1
03269	Trim & Remove Trees & Brush	LF	1,180
05953	Temp Seeding and Protection	SY	720
05963	Initial Fertilizer	TON	0.7
05964	Maintenance Fertilizer	TON	0.9
05985	Seeding and Protection	SY	14,136
05992	Agricultural Limestone	TON	9.1
06406	SMB Alum Sheet Signs .080 IN	SF	697.00
06407	SMB Alum Sheet Signs .125 IN	SF	192.99
06410	Steel Post Type 1	LF	1,550
06510	Pave Striping-Temp Paint-4 IN	LF	3,358
06514	Pave Striping-Perm Paint-4 IN	LF	260
06530	Pave Striping Removal-4 IN	LF	72,516
06568	Pave Marking - Thermo Stop Bar 24 IN	LF	216
21373ND	Remove Signs	EA	115
24189ER	Durable Waterborne Marking-6 IN W	LF	36,258
24190ER	Durable Waterborne Marking-6 IN Y	LF	36,258
24631EC	Barcode Sign Inventory	EA	182
00461	Culvert Pipe - 15 IN	LF	6
00462	Culvert Pipe - 18 IN	LF	91

Item No.	Item	Unit	Quantity
00464	Culvert Pipe - 24 IN	LF	93
00498	Culvert Pipe - 42 IN EQUIV.	LF	75
01310	Remove Pipe	LF	55
01433	Sloped Box Outlet Type 1-18 IN	EA	1
01544	DBI TY 11	EA	3
02625	Remove Headwall	EA	15
02625	Remove Headwall (2.5'x2.5' Box Culvert, Sta. 18+99)	EA	1
02625	Remove Headwall (3'x2' Box Culvert, Sta. 111+43)	EA	3
02625	Remove Headwall (10'x5' Box Culvert, Sta. 160+10)	EA	2
02625	Remove Headwall (8'x5' Box Culvert, Sta. 177+65)	EA	2
02625	Remove Headwall (4.6'x2' Box Culvert, Sta. 205+15)	EA	2
02625	Remove Headwall (3'x2' Box Culvert, Sta. 227+41)	EA	2
02625	Remove Headwall (5'x4' Box Culvert, Sta. 247+91)	EA	2
02625	Remove Headwall (3'x3' Box Culvert, Sta. 323+99)	EA	2
02625	Remove Headwall (4'x4' Box Culvert, Sta. 356+81)	EA	2
02625	Remove Headwall (6'x5' Box Culvert, Sta. 369+01)	EA	2
02625	Remove Headwall (5'x3' Box Culvert, Sta. 378+72)	EA	2
24543EC	Clean Pipe	LF	915
08003	Foundation Preparation (10' x 5' Box Culvert, STA 132+82)	LS	1
08003	Foundation Preparation (8' x 6' Box Culvert, STA 445+39)	LS	1
08100	Concrete - Class A	CY	58
08150	Steel Reinforcement	LBS	7,350
23484EC	Pipe Liner Acceptance Testing	LS	1
23956EC	Pipe Repair	EA	8
23952EC	Drainage Junction Box TY B	EA	1
24583EC	HDPE Pipe Liner-18 IN	LF	236
24583EC	HDPE Pipe Liner-24 IN	LF	183
24583EC	HDPE Pipe Liner-30 IN	LF	172
24583EC	HDPE Pipe Liner-36 IN	LF	199
24583EC	HDPE Pipe Liner-48 IN	LF	77
24862EC	PVC Fold and Form Pipe Liner-18 IN	LF	161
24863EC	PVC Fold and Form Pipe Line-24 IN	LF	209
26131ED	Sloped & Mitered Headwall - 18 IN	EA	8
24575ES610	Headwall (Sloped & Mitered Concrete for Double 18 Inch Pipes)	EA	2
26132ED	Sloped & Mitered Headwall - 24 IN	EA	9
24575ES610	Headwall (Sloped & Mitered Concrete for Double 24 Inch Pipes)	EA	2
26133ED	Sloped & Mitered Headwall - 30 IN	EA	2
24575ES610	Headwall (Sloped & Mitered Concrete for Double 30 Inch Pipes)	EA	2
26134ED	Sloped & Mitered Headwall - 36 IN	EA	2
24575ES610	Headwall (Sloped & Mitered Concrete for 42 Inch Equiv. Pipe)	EA	2
24575ES610	Headwall (Sloped & Mitered Concrete for 48 Inch Pipe)	EA	2
2569	Demobilization	LS	1
14006	W ENCASEMENT STEEL BORED RANGE 1	LF	45
14059	W PIPE PVC 06 INCH	LF	60
14060	W PIPE PVC 08 INCH	LF	760
14089	W TAPPING SLEEVE AND VALVE SIZE (6"X6"X3")	EA	1
14089	W TAPPING SLEEVE AND VALVE SIZE (8"X8"X2")	EA	1
14089	W TAPPING SLEEVE AND VALVE SIZE (8"X8"X8")	EA	2
14074	W PLUG EXISTING MAIN (8")	EA	1
14094	W TIE IN 03 INCH	EA	2
14094	W TIE IN 06 INCH	EA	2
14095	W TIE IN 08 INCH	EA	2
14149	W SERV COPPER SHORT SIDE 1 INCH	EA	100
14152	W SERV COPPER SHORT SIDE 3/4 INCH	EA	100
40178	MOBILIZATION (Waterline Relocation)	LS	1
02569	DEMOBILIZATION (Waterline Relocation)	LS	1

*FD05 will pay for asphalt surface, tack, spray thermo and rumble strips from MP. 0 to MP 5.263 with the resurfacing project. The quantities above do not include quantities being paid for by FD05 funds. Those are shown on the individual summary sheets.

 Highway Safety Improvement Program Item No: 2-9013.00 County: McLean/Daviess Route: KY 81			
KY 81 MCLEAN COUNTY			
EROSION CONTROL SUMMARY			
Item No.	Item	Unit	Quantity
2701	Silt Fence	LF	0
2704	Silt Trap Type B	EA	2
2705	Silt Trap Type C	EA	2
2707	Clean Silt Trap Type B	EA	2
2708	Clean Silt Trap Type C	EA	2
5953	Temp Seeding And Protection	SY	50
5963	Initial Fertilizer	TON	0.2
5964	Maintenance Fertilizer	TON	0.2
5985	Seeding And Protection	SY	754
5992	Agricultural Limestone	TON	0.6
KY 81 DAVIESS COUNTY			
EROSION CONTROL SUMMARY			
Item No.	Item	Unit	Quantity
2701	Silt Fence	LF	2,609
2704	Silt Trap Type B	EA	36
2705	Silt Trap Type C	EA	24
2707	Clean Silt Trap Type B	EA	36
2708	Clean Silt Trap Type C	EA	24
5953	Temp Seeding And Protection	SY	720
5963	Initial Fertilizer	TON	0.7
5964	Maintenance Fertilizer	TON	0.9
5985	Seeding And Protection	SY	14,136
5992	Agricultural Limestone	TON	9.1

Route KY 81

DAVIESS County

HSIP - Roadside Regrading Summary

* 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.

Side of Road	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
	Approx. BEGIN Station	Approx. BEGIN Milepoint	Approx. END Station													
RIGHT	10+19	0.193	10+59	0.201	40	10	0	Figure 1	3 : 1	Yes	8	0.04	0.26			
RIGHT	11+39	0.216	12+19	0.231	80	21	0	Figure 1	3 : 1	Yes	15	0.07	0.52			
LEFT	30+84	0.584	31+84	0.603	100	6	86	Figure 2	3 : 1	Yes	22	0.10	0.78	No		Slope breaks to 2:1, after 13ft from EOP, to stay in RW.
LEFT	111+80	2.117	113+06	2.140	126	6	0	Figure 7	2 : 1	No	0	0.00	0.00	No		Shallow ditching to provide positive drainage away from outlet. Do not disturb waterline.
RIGHT	133+00	2.519	133+73	2.533	73	6	12	Figure 9	3 : 1	Yes	13	0.06	0.47	No		
LEFT	156+61	2.966	161+40	3.057	479	56	128	Figure 9	3 : 1	Yes	100	0.44	3.60	No		
RIGHT	177+71	3.366	178+42	3.379	71	7	8	Figure 3	4 : 1	Yes	16	0.07	0.58	No		Slope breaks to 2:1, after 10ft from EOP, to stay in RW.
LEFT	192+00	3.636	194+20	3.678	220	10	0	Figure 7	2 : 1	No						Shallow ditching to provide positive drainage along radius ditch. Do not disturb waterline.
LEFT	204+25	3.868	205+05	3.884	80	13	42	Figure 9	3 : 1	Yes	18	0.08	0.63	No		
LEFT	323+87	6.134	324+62	6.148	75	20	8	Figure 9	3 : 1	Yes	17	0.08	0.61	No		
RIGHT	323+67	6.130	325+27	6.160	160	40	13	Figure 9	4 : 1	Yes	38	0.17	1.36	No		
LEFT	356+36	6.749	357+65	6.774	129	39	32	Figure 9	3 : 1	Yes	30	0.13	1.08	No		
RIGHT	356+36	6.749	357+38	6.769	102	12	11	Figure 2	4 : 1	Yes	26	0.11	0.91	No		
LEFT	368+78	6.984	370+24	7.012	146	24	19	Figure 9	3 : 1	Yes	34	0.15	1.22	No		
RIGHT	368+60	6.981	369+56	6.999	96	10	13	Figure 2	4 : 1	Yes	22	0.10	0.78	No		
RIGHT	389+12	7.370	396+40	7.508	728	472	249	Figure 9	3 : 1	Yes	235	1.02	8.50	No		

Summary of Items					
Roadside Regrading		2,705	LF	Asphalt Seal Coat	
		DGA	594	TONS	TONS
				Channel Lining Class II	TONS
				Geotextile Fabric Type IV	SQ YD
				0	0

Highway Safety Improvement Program													
Item No: 2-9013.00 County: MCLEAN/DAVIESS Route: KY 81													
Pipe Extensions													
	Unit	Culvert Pipe 15 IN		Culvert Pipe 18 IN		Culvert Pipe 24 IN		Sloped Box Outlet Type 1- 18 IN	Drop Box Inlet TY 11	PVC Fold and Form Pipe Liner		Sloped & Mitered Headwall	
		LF	EA	LF	EA	LF	EA			18 IN	24 IN	18 Inch Pipe	24 Inch Pipe
	Item No.	461	462	464	1433	1544	24862EC	24863EC	26131ED	26132ED	26132ED	EA	EA
	Station	LT	RT	LT	RT	LT	RT						
DAVIESS COUNTY													
	89+62			13	13			53		2		2	
	101+32		8	11				53		2			8
	111+73		12		1						2		8
	167+82		10	15				56		2			4
	174+56			8	12			52				2	4
	301+88		10	11	5			52	1				4
	302+32 & 302+40	6	14						2				4
	396+53			10	10			53				2	4
	409+72			10	12			51				2	4
	TOTALS	6	91	93	1	3	161	209	5	8	2	15	55
													8
													491

Note: See Special Note for Pipe Replacement/Extensions for additional information.
See Special Note for Pipe Liner Acceptance Testing for additional information.
See Special Note for PVC Fold & Form Pipe Liner for additional information.

***Concrete Class A is for intermediate anchors

DAVIESS COUNTY

TRANSPORTATION

Highway Safety Improvement Program

Item No: 2-901.3.00
County: MCLEAN/DAVIESS
Route: KY81

Box Culvert Extensions/Linings

Unit Item No.	HDPE Pipe Liner								Clean Pipe	Culvert Pipe 42 IN Equiv. (49" x 33" Pipe Arch CMP)	Drainage Junction Box TY B	Sloped & Mitered Headwall - 18IN	Double Headwall (Sloped & Mitered Concrete for 18")	Sloped & Mitered Headwall - 24IN	Double Headwall (Sloped & Mitered Concrete for 24")	Sloped & Mitered Headwall - 30IN	Double Headwall (Sloped & Mitered Concrete for 30")	Sloped & Mitered Headwall - 36IN	Double Headwall (Sloped & Mitered Concrete for 36")	Sloped & Mitered Headwall - 42IN	Headwall (Sloped & Mitered Concrete for 48")		Class II Channel Lining	Remove Headwall	Fabric Geotextile Class I	Crushed Aggregate Size No. 2											
	(18 Inch)	(24 Inch)	(30 Inch)	(36 Inch)	(42 Inch)	(48 Inch)	LF	LF													LF	LF					EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
	24583EC								24543EC	498	EA	26131ED	24575E5610	EA	26132ED	24575E5610	EA	26134ED	24575E5610	EA	26135ED	24575E5610	EA	2483	EA	2602	78										
Station																																					
950+05									53															20	2	149	57										
TOTALS	0	0	0	0	0	0	0	0	53	0	0	0	0	0	0	0	0	0	0	0	0	0	20	2	149	57											
DAVIESS COUNTY																																					
18+99	47								35														8	1	75	42											
111+43	58								44			1											5	3	61	19											
160+10							110		36								2						20	2	92	41											
177+65									41									2					20	2	92	41											
205+15	124								44														20	2	92	41											
227+41	54								34			2											10	2													
247+91									32														20	2													
323+99									35														15	2													
356+81									38														15	2	71	22											
369+01									43														15	2													
378+72									42	75													2	2													
TOTALS	236	183	172	199	0	77	424	75	424	75	1	3	2	1	2	2	2	2	2	0	2	2	163	22	299	324											
Note: See Special Note for Pipe Replacement/Extensions for additional information. See Special Note For Box Culvert Lining and Extensions With HDPE Pipe for additional information. See Special Note for Box Culvert Extensions (b/c) for additional information. See Special Note for Pipe Liner Acceptance Testing for additional information.																																					
*** Grout for the lining/extension @ Sta. 378+72 with the CMP Pipe Arch is incidental																																					
Box Culvert Extensions																																					
Class II Channel Lining										Foundation Preparation										Concrete - Class A									Steel Reinforcement								
TON										LS										CY									LBS								
2483										8003										8100									8150								
Unit										Item No.																											
Description																																					
Ex. Dbl. 10' x 5' Box Culvert										1										19.3									2550								
Ex. Dbl. 8' x 6' Box Culvert										1										36.4									4800								
DAVIESS COUNTY TOTALS										2										55.7									7350								

Note: See Special Note for Pipe Replacement/Extensions for additional information.
See Special Note for Box Culvert Lining and Extensions With HDPE Pipe for additional information.
See Special Note for Box Culvert Extensions (BYCJ) for additional information.
See Special Note for Pipe Lining Acceptance Testing for additional information.

*** Grout for the lining/extension @ Sta. 378+72 with the CMP Pipe Arch is incidental

HSIP - Guardrail Summary

Summary of Items						
Guardrail-Steel W Beam-S Face	Remove Guardrail	1,550.00	LF	Delineator for Guardrail B/W GR Connector to Bridge End Type A GR Connector to Bridge End Type A-1 GR Connector to Bridge End Type C GR Connector to Bridge End Type D DGA Asphalt Seal Coat Asphalt Seal Aggregate Guardrail-Bridge Case I-A	37	EACH
	End Treatment Type 1	1,993.75	LF		0	EACH
	End Treatment Type 2A	6	EACH		0	EACH
	End Treatment Type 3	0	EACH		0	EACH
	End Treatment Type 4A	0	EACH		8	EACH
	End Treatment Type 7	4	EACH		312	TONS
	Terminal Section No. 1	0	EACH		1.39	TONS
	Guardrail-Steel W Beam-S Face A	2	EACH		11.16	TONS
		0	LF			LF

HSIP - Trim and Remove Trees and Brush Summary

County: MCLEAN/DAVIESS Route: KY 81

Notes:		* Intent of remarks is to provide the contractor with the an approximate level of effort for each location. Refer to the Staking note and Special Note for Tree Stump and Brush Removal for further details about expected level of effort, particularly Part B of the Construction Methods which describes when complete removal of trees are required. ** Approximate Dimensions for Tree Clearing. Actual Dimensions determined in the Field by Engineer. Refer to Staking note.												
Side of Road	Approx. BEGIN Station	LOCATION				Length (LF)	"X" Dimension**	"Y" Dimension **	Case 1 * Tree Trimming without Undergrowth Removal	Case 1B * Tree Trimming with Undergrowth Removal	Case 2 * Tree Trimming and/or Tree Removal without Undergrowth Removal	Case 2B * Tree Trimming and/or Tree Removal with Undergrowth Removal	Case 3B * Undergrowth Removal Only	Remarks *
		Approx. BEGIN Milepoint	Approx. END Station	Approx. END Milepoint										
MCLEAN COUNTY														
LT	942+15	17.844	943+35	17.866	120	10		35				X		
LT	949+75	17.988	950+20	17.996	45	20		35				X		
DAVIESS COUNTY														
LT	18+80	0.356	19+20	0.364	40	10		35				X		
LT	30+84	0.584	31+84	0.603	100	15		35				X		
LT	156+60	2.966	161+40	3.057	480	20		35				X		
LT	167+35	3.170	168+15	3.185	80	10		35				X		
LT	174+05	3.296	175+00	3.314	95	15		35		X				
LT	177+44	3.361	178+34	3.378	90	15		35				X		
LT	323+90	6.134	324+65	6.149	75	20		35					X	
DAVIESS COUNTY														
RT	18+60	0.352	19+20	0.364	60								X	
RT	132+70	2.513	133+75	2.533	105	30		35				X		
RT	177+30	3.358	178+45	3.380	115	12		35				X		

MCLEAN COUNTY - Total Estimated Quantity of 03269 TRIM & REMOVE TREES & BRUSH (LF)				165
DAVIESS COUNTY - Total Estimated Quantity of 03269 TRIM & REMOVE TREES & BRUSH (LF)				1,240



Highway Safety Improvement Program

Item No: 2-9013.00
County: McLean
Route: KY 81

KY 81 HILLSIDE @ KY 140 INTERSECTION QUANTITIES			
Item No.	Item	Unit	Quantity
2200	ROADWAY EXCAVATION	CY	130
5950	EROSION CONTROL BLANKET	SQYD	125

Highway Safety Improvement Program									
				Item No: 2-9013.00 County: Daviess Route: KY 81					
SUPERELEVATION IMPROVEMENT SUMMARY									
Begin			End		Length (LF)	Width of Section (LF)	Existing Superelevation (%)		Proposed Superelevation (%)
CURVE NUMBER	Mile Point	Station	Mile Point	Station			NB	SB	
9	2.426	128+07	2.591	136+83	876	28	0.2	2.4	4.0
10	2.742	144+77	2.894	152+80	803	28	3.5	1.8	4.0
CURVE 9 QUANTITIES									
Item No.		Item				Unit	Quantity		
001		DGA				TON	403		
020		Traffic Bound Base				TON	12		
100		Asphalt Seal Aggregate				TON	8		
103		Asphalt Seal Coat				TON	1		
190		Leveling & Wedging PG64-22				TON	282		
307		CL2 Asphalt Surface 0.38B PG64-22				TON	197		
356		Asphalt Material for Tack				TON	3		
2617EC		Roadside Regrading				LF	1,679		
2677		Asphalt Pave Milling & Texturing				TON	148		
2697		Edgeline Rumble Strips				LF	1,752		
20458ES403		Centerline Rumble Strips				LF	876		
CURVE 10 QUANTITIES									
Item No.		Item				Unit	Quantity		
001		DGA				TON	370		
020		Traffic Bound Base				TON	15		
100		Asphalt Seal Aggregate				TON	7		
103		Asphalt Seal Coat				TON	1		
190		Leveling & Wedging PG64-22				TON	86		
307		CL2 Asphalt Surface 0.38B PG64-22				TON	172		
356		Asphalt Material for Tack				TON	3.0		
2617EC		Roadside Regrading				LF	1,608		
2677		Asphalt Pave Milling & Texturing				TON	129		
2697		Edgeline Rumble Strips				LF	1,608		
20458ES403		Centerline Rumble Strips				LF	804		

Notes: FD05 funding to pay for asphalt surface, tack and edgeline and rumble strips. These quantities for these items above are NOT included in the general summary or cost estimate. All other items for the superelevation improvements to be paid for using HSIP funds.



Highway Safety Improvement Program

Item No: 2-9013.00
County: Daviess
Route: KY 81

GREENBACK ROAD IMPROVEMENT SUMMARY

Item No.	Item	Unit	Quantity
001	DGA	TON	68
212	CL2 Asphalt Base 1.00D PG64-23	TON	137
307	CL2 Asphalt Surface 0.38B PG64-22	TON	19
2091	Remove Pavement	SY	570
2200	Roadway Excavation	CY	319
2585	Edge Key	LF	92
6514	Pavement Striping - Permanent Paint 4"	LF	260
20550ND	Sawcut Pavement	LF	336



Highway Safety Improvement Program

Item No: 2-9013.00

County: Daviess

Route: KY 81

PAVEMENT MARKINGS SUMMARY

DAVISS COUNTY

Begin		End		Side	Length (LF)	PAVEMENT MARKING	Comments
Mile Point	Station	Mile Point	Station				
2.4	128+07	2.6	136+83	Center	1752	Pave Striping-Temp Paint-4 IN	Temporary Striping for the double yellow center of the curve 9 superelevation improvement
2.7	144+77	2.9	152+80	Center	1606	Pave Striping-Temp Paint-4 IN	Temporary Striping for the double yellow center of the curve 10 superelevation improvement
0.0	0+00	5.3	277+88	Left	27788	Pave Striping-Spray Thermo-6 IN W*	Restripe left edgeline to 11' lane width after surface operations are complete throughout the project. FD05 Funds will pay for 27,788 LF of spray thermo in this section.
0.0	0+00	5.3	277+88	Right	27788	Pave Striping-Spray Thermo-6 IN W*	Restripe right edgeline to 11' lane width after surface operations are complete throughout the project. FD05 Funds will pay for 27,788 LF of spray thermo in this section.
0.0	0+00	5.3	277+88	Center	55576	Pave Striping-Spray Thermo-6 IN Y*	Match existing centerline striping, except a Sta. 295+68 to Sta. 305+53, which shall become a "No Passing Zone". See Signing plans for further detail. FD05 Funds will pay for 55,576 LF of spray thermo in this section.
5.3	277+88	8.7	459+17	Left	18129	Pave Striping Removal-4 IN	Waterblast the existing left side edge line
5.3	277+88	8.7	459+17	Right	18129	Pave Striping Removal-4 IN	Waterblast the existing right side edge line
5.3	277+88	8.7	459+17	Center	36258	Pave Striping Removal-4 IN	Waterblast the existing centerline double yellow
5.3	277+88	8.7	459+17	Left	18129	Pave Striping - Durable Waterborne-6IN W	Restripe left edgeline to 11' lane width
5.3	277+88	8.7	459+17	Right	18129	Pave Striping - Durable Waterborne-6IN W	Restripe right edgeline to 11' lane width
5.3	277+88	8.7	459+17	Center	36258	Pave Striping - Durable Waterborne-6IN Y	Restripe center double yellow to 11' lane width

THERMOPLASTIC INTERSECTION MARKINGS				
DAVISS COUNTY				
Mile Point	Station	Intersection	Stop Bar 24 Inch (LF)	Comments
1.462	77+18	KY 1514 Greenback Road	23	KY 1514 Greenback Road Intersection
2.109	111+33	Vanover Road	11	Vanover Road Intersection
2.508	132+44	KY 1207	15	KY 1207 Intersection
3.682	194+43	KY 554	26	KY 554 Intersection
3.895	205+67	Burns Road	11	Burns Road Intersection
4.495	237+32	KY 554	15	KY 554 Intersection
4.529	239+11	Ashyburg Road	15	Ashyburg Road Intersection
4.647	245+37	Old KY 81	12	Old KY 81 Intersection
5.511	291+00	Old KY 81	14	Old KY 81 Intersection
5.790	305+71	Park Drive	14	Park Drive Intersection
6.121	323+19	Old KY 81	9	Old KY 81 Intersection
6.476	341+92	Old KY 82	11	Old KY 81 Intersection
7.978	421+25	Keller Road	15	Keller Road Intersection
8.658	457+15	Fischer Road	12	Fischer Road Intersection
8.693	459+01	Wayne Bridge Road	13	Wayne Bridge Road Intersection

DAVISS COUNTY		
Item No.	Summary	Totals
6530	Pave Striping Removal-4 IN	72,516 LF
24993EC	Pave Striping-Spray Thermo-6 IN W*	55,576 LF
24994EC	Pave Striping-Spray Thermo-6 IN Y*	55,576 LF
06510	Pave Striping-Temp Paint-4 IN	3,358 LF
06568	Thermo Stop Bar - 24 Inch	216 LF
24189ER	Durable Waterborne Marking-6 IN W	36,258 LF
24190ER	Durable Waterborne Marking-6 IN Y	36,258 LF
*FD05 funding will pay for the restriping from MP 0 TO MP 5.263. The quantities for this section of restriping are for information purposes only and are not included in the general summary or cost estimate. All other striping quantities will be paid for by HSIP funds.		

 Highway Safety Improvement Program Item No: 2-9013.00 County: McLean/Daviess Route: KY 81						
Remove Sign Summary						
Bid Item No.						21373ND
Direction	Mile Point	Station	Location	MUTCD Code	Text / Description	Remove Sign (Each) One per Assembly
McLean County						
NB	17.834	941+61	RT	M1-5	140	1
NB	17.834	941+61	RT	M6-4		
NB	17.834	941+61	RT	M1-5	81	1
NB	17.834	941+61	RT	M6-3		
NB	17.834	941+66	RT	M1-5	140	1
NB	17.834	941+66	RT	M6-3		
NB	17.834	941+66	RT	M1-5	81	1
NB	17.834	941+66	RT	M6-4		
NB	17.837	941+78	RT		CONGESTED AREA AHEAD	1
NB	17.843	942+11	RT	R1-1	STOP	1
NB	17.889	944+52	RT	M1-5	81	1
NB	17.889	944+52	RT	M3-1	NORTH	
SB	17.835	941+67	LT	R1-1	STOP	1
NB	17.842	942+06	LT	R1-1	STOP	1
SB	17.923	946+35	LT	M1-5	140	1
SB	17.923	946+35	LT	M2-1	JCT	
Daviess County						
NB	0.000	0+00	RT		DAVIESS COUNTY	1
NB	0.336	17+75	RT	W1-4		1
NB	0.336	17+75	RT	W14-3	NO PASSING ZONE	
NB	0.871	45+98	RT	W14-3	NO PASSING ZONE	1
NB	1.137	60+04	RT	W1-2		1
NB	1.164	61+48	RT	W14-3	NO PASSING ZONE	1
NB	1.198	63+25	RT	R1-1	STOP	1
NB	1.343	70+89	RT	M1-5	1514	1
NB	1.343	70+89	RT	M2-1	JCT	1
NB	1.441	76+10	RT	M1-5	1514	1
NB	1.441	76+10	RT	M3-4	WEST	
NB	1.441	76+10	RT	M6-1		
NB	1.464	77+29	RT	M1-5	81	1
NB	1.464	77+29	RT	M6-4		
NB	1.501	79+27	RT	M1-5	81	1
NB	1.501	79+27	RT	M3-1	NORTH	
NB	1.517	80+11	RT	W14-3	NO PASSING ZONE	1
NB	2.053	108+39	RT	W14-3	NO PASSING ZONE	1
NB	2.327	122+87	RT	W14-3	NO PASSING ZONE	1
NB	2.383	125+84	RT	M1-5	1207	1
NB	2.383	125+84	RT	M2-1	JCT	
NB	2.498	131+90	RT	M1-5	81	1
NB	2.498	131+90	RT	M3-1	NORTH	
NB	2.498	131+90	RT	M6-3		
NB	2.498	131+90	RT	M1-5	1207	1
NB	2.498	131+90	RT	M3-2	EAST	
NB	2.498	131+90	RT	M6-1		
NB	2.505	132+26	RT	W1-4		1

Remove Sign Summary						
Bid Item No.						21373ND
Direction	Mile Point	Station	Location	MUTCD Code	Text / Description	Remove Sign (Each) One per Assembly
NB	2.511	132+59	RT	R1-1	STOP	1
NB	2.696	142+34	RT	W14-3	NO PASSING ZONE	1
NB	2.991	157+94	RT	W14-3	NO PASSING ZONE	1
NB	3.254	171+83	RT	S3-1	SCHOOL BUS STOP AHEAD	1
NB	3.497	184+66	RT	W1-2R	45 MPH	1
NB	3.530	186+37	RT	W11-10		1
NB	3.595	189+79	RT	M1-5	554	1
NB	3.595	189+79	RT	M2-1	JCT	
NB	3.673	193+94	RT	M1-5	554	1
NB	3.673	193+94	RT	M6-6		
NB	3.673	193+94	RT	M1-5	81	1
NB	3.673	193+94	RT	M3-1	NORTH	
NB	3.673	193+94	RT	M6-3		
NB	3.683	194+44	RT	M1-5	554	1
NB	3.683	194+44	RT	M3-1	NORTH	
NB	3.683	194+44	RT	M6-1		
NB	3.683	194+44	RT	M1-5	81	1
NB	3.683	194+44	RT	M6-4		
NB	3.720	196+41	RT	M1-5	554	1
NB	3.720	196+41	RT	M3-1	NORTH	
NB	3.720	196+41	RT	M1-5	81	1
NB	3.720	196+41	RT	M3-1	NORTH	
NB	3.753	198+15	RT	S3-1	SCHOOL BUS STOP AHEAD	1
NB	3.894	205+61	RT	W11-2		1
NB	3.894	205+61	RT	R2-1	SPEED LIMIT 35	
NB	3.898	205+83	RT	R1-1	STOP	1
NB	4.218	222+73	RT	W3-5	REDUCED SPEED AHEAD 45 MPH	1
NB	4.266	225+22	RT	S3-1	SCHOOL BUS STOP AHEAD	1
NB	4.323	228+23	RT	R2-1	SPEED LIMIT 45	1
NB	4.367	230+57	RT	W11-8		1
NB	4.385	231+54	RT	M1-5	554	1
NB	4.385	231+54	RT	M6-1		
NB	4.486	236+86	RT	M1-5	554	1
NB	4.486	236+86	RT	M3-1	NORTH	
NB	4.486	236+86	RT	M6-1		
NB	4.486	236+86	RT	W1-5	81	1
NB	4.486	236+86	RT	M3-1	NORTH	
NB	4.486	236+86	RT	M6-3		
NB	4.497	237+42	RT	R1-1	STOP	1
NB	4.531	239+22	RT	W1-5	81	1
NB	4.531	239+22	RT	M3-1	NORTH	
NB	4.608	243+28	RT			1
NB	4.717	249+06	RT	R2-1	SPEED LIMIT 45	1
NB	4.717	249+06	RT	W14-3	NO PASSING ZONE	
NB	4.918	259+65	RT	R2-1	SPEED LIMIT 55	1
NB	5.446	287+55	RT		CONGESTED AREA AHEAD (45MPH)	1
NB	5.648	298+23	RT	W2-4	45 MPH	1
NB	6.174	326+01	RT	W14-3	NO PASSING ZONE	1
NB	6.923	365+53	RT	W14-3	NO PASSING ZONE	1
NB	7.030	371+19	RT	W1-4	45 MPH	1
NB	7.571	399+75	RT	W14-3	NO PASSING ZONE	1

Remove Sign Summary						
Bid Item No.						21373ND
Direction	Mile Point	Station	Location	MUTCD Code	Text / Description	Remove Sign (Each) One per Assembly
NB	7.844	414+16	RT	W2-4		1
NB	7.975	421+09	RT	R1-1	STOP	1
NB	7.983	421+49	RT	R1-1	STOP	1
NB	8.089	427+10	RT	W14-3	NO PASSING ZONE	1
NB	8.461	446+76	RT		CONGESTED AREA AHEAD 45 MPH	1
NB	8.659	457+20	RT	R1-1	STOP	1
SB	0.000	0+00.00	LT		MCLEAN COUNTY	1
SB	0.285	15+05	LT	W14-3	NO PASSING ZONE	1
SB	0.814	42+97	LT	W1-4	45 MPH	1
SB	0.870	45+96	LT	W14-3	NO PASSING ZONE	1
SB	1.115	58+89	LT	W14-3	NO PASSING ZONE	1
SB	1.433	75+66	LT	M1-5	81	1
SB	1.433	75+66	LT	M3-3	SOUTH	
SB	1.450	76+56	LT	R1-1	STOP	1
SB	1.470	77+59	LT	R1-1	STOP	1
SB	1.485	78+39	LT	M1-5	1514	1
SB	1.485	78+39	LT	M3-4	WEST	
SB	1.485	78+39	LT	M6-1		
SB	1.521	80+31	LT	W1-2R		1
SB	1.568	82+79	LT	M1-5	1514	1
SB	1.568	82+79	LT	M2-1	JCT	
SB	1.769	93+41	LT	W14-3	NO PASSING ZONE	1
SB	2.053	108+39	LT	W14-3	NO PASSING ZONE	1
SB	2.106	111+18	LT	R1-1	STOP	1
SB	2.329	122+95	LT	W14-3	NO PASSING ZONE	1
SB	2.478	130+83	LT	M1-5	81	1
SB	2.478	130+83	LT	M3-3	SOUTH	
SB	2.507	132+35	LT	M1-5	81	1
SB	2.507	132+35	LT	M6-4		
SB	2.606	137+58	LT	M1-5	1207	1
SB	2.606	137+58	LT	M2-1	JCT	
SB	2.650	139+91	LT	W14-3	NO PASSING ZONE	1
SB	3.065	161+84	LT	W14-3	NO PASSING ZONE	1
SB	3.509	185+30	LT	W14-3	NO PASSING ZONE	1
SB	3.559	187+90	LT	W1-4	45 MPH	1
SB	3.653	192+88	LT	M1-5	81	1
SB	3.653	192+88	LT	M3-3	SOUTH	
SB	3.678	194+19	LT	R1-1	STOP	1
SB	3.702	195+49	LT	M1-5	81	1
SB	3.702	195+49	LT	M3-3	SOUTH	
SB	3.702	195+49	LT	M6-3		
SB	3.702	195+49	LT	M1-5	554	1
SB	3.702	195+49	LT	M3-3	SOUTH	
SB	3.702	195+49	LT	M6-1		
SB	3.816	201+48	LT	M1-5	554	1
SB	3.816	201+48	LT	M5-1		
SB	3.911	206+50	LT	W14-3	NO PASSING ZONE	1
SB	3.937	207+86	LT	W1-2L	45 MPH	1
SB	3.970	209+62	LT	W11-10		1
SB	4.398	232+22	LT	M1-5	81	1
SB	4.398	232+22	LT	M3-3	SOUTH	

Remove Sign Summary						
Bid Item No.						21373ND
Direction	Mile Point	Station	Location	MUTCD Code	Text / Description	Remove Sign (Each) One per Assembly
SB	4.398	232+22	LT	M1-5	554	1
SB	4.398	232+22	LT	M3-3	SOUTH	
SB	4.496	237+38	LT	M1-5	554	1
SB	4.496	237+38	LT	M3-3	SOUTH	
SB	4.496	237+38	LT	M6-1		
SB	4.496	237+38	LT	M1-5	81	1
SB	4.496	237+38	LT	M6-4		
SB	4.496	237+38	LT	M1-5	554	1
SB	4.496	237+38	LT	M6-6		
SB	4.496	237+38	LT	M1-5	81	1
SB	4.496	237+38	LT	M3-3	SOUTH	
SB	4.496	237+38	LT	M6-3		
SB	4.526	238+96	LT	R1-1	STOP	1
SB	4.572	241+38	LT	M1-5	554	1
SB	4.572	241+38	LT	M2-1	JCT	
SB	4.644	245+22	LT	R1-1	STOP	1
SB	4.651	245+59	LT	W11-8		1
SB	4.918	259+65	LT		SPEED LIMIT 45	1
SB	5.012	264+65	LT	W3-5	SPEED LIMIT 45	1
SB	5.509	290+86	LT	R1-1	STOP	1
SB	5.652	298+42	LT	W14-3	NO PASSING ZONE	1
SB	5.787	305+57	LT	R1-1	STOP	1
SB	5.994	316+46	LT	W2-4	45 MPH	1
SB	6.118	323+01	LT	R1-1	STOP	1
SB	6.307	333+00	LT		CONGESTED AREA AHEAD 45 MPH	1
SB	6.425	339+26	LT	W14-3	NO PASSING ZONE	1
SB	6.474	341+81	LT	R1-1	STOP	1
SB	7.046	372+04	LT	W14-3	NO PASSING ZONE	1
SB	7.627	402+70	LT	W1-4	45 MPH	1
SB	7.874	415+74	LT	W14-3	NO PASSING ZONE	1
SB	7.979	421+28	LT	W1-7		1
SB	8.169	431+34	LT	W2-4		1
SB	8.550	451+42	LT	W14-3	NO PASSING ZONE	1
SB	8.658	457+13	LT	W1-7		1
Total McLean County						10
Total Daviess County						115

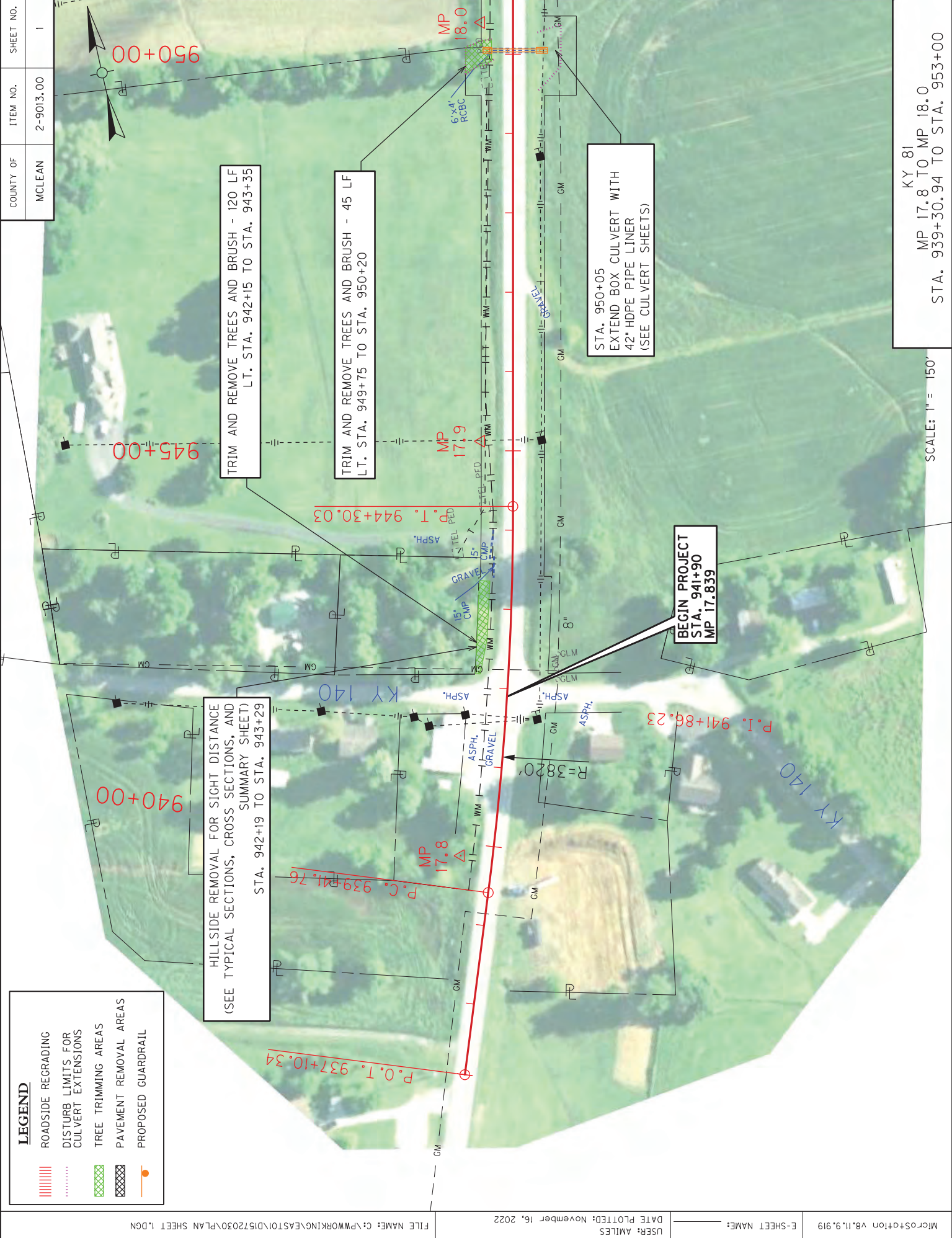
SIGN LOCATION										MCLEAN COUNTY										DAVISS COUNTY									
Assembly ID	Side of Road	Offset (ft)	Approx Station	Approx. Mile Point	Facing Traffic Traveling	MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)	Text/ Symbol Color	Background Color	Sheeting Type	SBM Alum Sheet Signs 0.125 IN (SQ FT)	SBM Alum Signs 0.080 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 (includ to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. Length (EACH)							
S-1	RT	21.0	935+80	17.723	NB	W2-1	Cross Road Junction		30 x 30	Black	Yellow	XI	6.25		Std w/ Soil Plate		1	11				11	1						
S-2	RT	21.0	937+79	17.761	NB	M2-1	State Route Sign (3 or 4 digit)	140	21 x 15	Black	White	XI	2.19		Std w/ Soil Plate	Yes	1		16	Yes		16	2						
S-3	LT	-21	939+79	17.799	SB	M1-5a	South		30 x 24	Black	White	XI	5.00		Std w/ Soil Plate														
S-3	LT	-21	939+79	17.799	SB	M3-3	State Route Sign (1 or 2 digit)	81	24 x 12	Black	White	XI	2.00		Std w/ Soil Plate	Yes	1		16	Yes		16	2						
S-4	RT	29	941+30	17.828	NB	M1-5a	State Route Sign (3 or 4 digit)	140	30 x 24	Black	White	XI	5.00		Std w/ Soil Plate	Yes	1		16	Yes		16	2						
S-4	RT	29	941+30	17.828	NB	M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19		Std w/ Soil Plate														
S-5	RT	36.0	941+60	17.833	EB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XI	4.00		Std w/ Soil Plate		1	12				12	4						
S-5	RT	36.0	941+60	17.833	EB	M6-4	Horizontal Double Arrow	140	30 x 24	Black	White	XI	5.00		Std w/ Soil Plate		1	12				12							
S-6	RT	75.0	941+80	17.837	EB	M6-3	Straight Arrow		21 x 15	Black	White	XI	2.19		Std w/ Soil Plate														
S-6	RT	75.0	941+80	17.837	EB	SP-1	Congested Area Ahead		30 x 30	Black	Yellow	XI	6.25		Std w/ Soil Plate		1	11				11	1						
S-7	LT	-64.0	941+68	17.835	EB	R1-1	Stop		48 x 48	White	Red	XI		16.00	Std w/ Soil Plate		1	11				11	2						
S-7	LT	-64.0	941+68	17.835	EB	W4-4P	Cross Traffic Does Not Stop		24 x 12	Black	Yellow	XI	2.00		Std w/ Soil Plate														
S-8	LT	-68.0	942+05	17.842	EB	R1-1	Stop		48 x 48	White	Red	XI		16.00	Std w/ Soil Plate		1	11				11	2						
S-8	LT	-68.0	942+05	17.842	EB	W4-4P	Cross Traffic Does Not Stop		24 x 12	Black	Yellow	XI	2.00		Std w/ Soil Plate														
S-9	RT	58.0	942+14	17.844	WB	R1-1	Stop		48 x 48	White	Red	XI		16.00	Std w/ Soil Plate		1	11				11	2						
S-9	RT	58.0	942+14	17.844	WB	W4-4P	Cross Traffic Does Not Stop		24 x 12	Black	Yellow	XI	2.00		Std w/ Soil Plate														
S-10	LT	-38.0	942+19	17.845	WB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XI	4.00		Std w/ Soil Plate		1	12				12	4						
S-10	LT	-38.0	942+19	17.845	WB	M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19		Std w/ Soil Plate														
S-10	LT	-38.0	942+19	17.845	WB	M1-5a	State Route Sign (3 or 4 digit)	140	30 x 24	Black	White	XI	5.00		Std w/ Soil Plate		1	12				12							
S-10	LT	-38.0	942+19	17.845	WB	M6-3	Straight Arrow		21 x 15	Black	White	XI	2.19		Std w/ Soil Plate														
S-11	LT	-27	942+47	17.850	SB	M1-5a	State Route Sign (3 or 4 digit)	140	30 x 24	Black	White	XI	5.00		Std w/ Soil Plate		1	16		Yes		16	2						
S-11	LT	-27	942+47	17.850	SB	M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19		Std w/ Soil Plate	Yes	1		16	Yes		16							
S-12	RT	23	943+80	17.875	NB	M3-1	North		24 x 12	Black	White	XI	2.00		Std w/ Soil Plate	Yes	1		16	Yes		16	2						
S-12	RT	23	943+80	17.875	NB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XI	4.00		Std w/ Soil Plate														
S-13	LT	-18.0	946+34	17.923	SB	M2-1	Junction		21 x 15	Black	White	XI	2.19		Std w/ Soil Plate	Yes	1		16	Yes		16	2						
S-13	LT	-18.0	946+34	17.923	SB	M1-5a	State Route Sign (3 or 4 digit)	140	30 x 24	Black	White	XI	5.00		Std w/ Soil Plate														
S-14	LT	-18.0	948+35	17.961	SB	W2-1	Cross Road		30 x 30	Black	Yellow	XI	6.25		Std w/ Soil Plate		1	11				11	1						
S-15	LT	-19.0	952+93	18.048	NB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Std w/ Soil Plate		1	11				11	1						
S-16	RT	22.0	954+74	18.082	NB	D1-1	Destination (1 line)	DAVISS COUNTY	42 x 18	White	Green	XI		5.25	Std w/ Soil Plate		1	11				11	1						
S-17	LT	-22.0	954+74	18.082	SB	D1-1	Destination (1 line)	MCLEAN COUNTY	48 x 18	White	Green	XI		6.00	Std w/ Soil Plate		1	11				11	1						
S-18	LT	-21.0	15+00	0.284	NB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Std w/ Soil Plate		1	11				11	1						
S-19	RT	17.0	17+75	0.336	NB	W1-4R	Right Reverse Curve		30 x 30	Black	FL Yellow	XI	6.25		Std w/ Soil Plate		1	11				11	1						
S-20	RT	19.0	17+99	0.341	SB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Std w/ Soil Plate		1	11				11	1						
S-21	LT	-22.0	40+00	0.758	SB	W1-4R	Right Reverse Curve		30 x 30	Black	FL Yellow	XI	6.25		Std w/ Soil Plate		1	11				11	1						
S-22	RT	19.0	46+00	0.871	SB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Std w/ Soil Plate		1	11				11	1						
S-23	LT	-19.0	46+00	0.871	NB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Std w/ Soil Plate		1	11				11	1						
S-24	LT	-19.0	58+88	1.115	NB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Std w/ Soil Plate		1	11				11	1						
S-25	RT	21.0	60+00	1.136	NB	W1-2L	Left Curve		30 x 30	Black	FL Yellow	XI	6.25		Std w/ Soil Plate		1	11				11	1						
S-26	RT	20.0	61+48	1.164	SB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Std w/ Soil Plate		1	11				11	1						
S-27	RT	26.0	63+26	1.198	WB	R1-1	Stop		36 x 36	White	Red	XI	9.00		Std w/ Soil Plate		1	11				11	1						
S-28	RT	25.0	68+39	1.295	NB	W2-2L	Slide Road Left		30 x 30	Black	Yellow	XI	6.25		Std w/ Soil Plate		1	11				11	1						
S-29	RT	19.0	70+89	1.343	NB	M2-1	Junction		21 x 15	Black	White	XI	2.19		Std w/ Soil Plate	Yes	1	16		Yes		16	2						
S-29	RT	19.0	70+89	1.343	NB	M1-5a	State Route Sign (3 or 4 digit)	1514	30 x 24	Black	White	XI	5.00		Std w/ Soil Plate														
S-30	LT	-21	75+00	1.420	SB	M3-3	South		24 x 12	Black	White	XI	2.00		Std w/ Soil Plate	Yes	1		16	Yes		16	2						
S-30	LT	-21	75+00	1.420	SB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XI	4.00		Std w/ Soil Plate														
S-31	RT	19.0	76+09	1.441	NB	M3-4	West		24 x 12	Black	White	XI	2.00		Std w/ Soil Plate	Yes	1		16	Yes		16	3						
S-31	RT	19.0	76+09	1.441	NB	M1-5a	State Route Sign (3 or 4 digit)	1514	30 x 24	Black	White	XI	5.00		Std w/ Soil Plate														
S-32	LT	-32.0	76+96	1.458	EB	M6-1L	Left Arrow		24 x 12	Black	White	XI	2.00		Std w/ Soil Plate	Yes	1	11				11	1						
S-32	LT	-32.0	76+96	1.458	EB	R1-1	Stop		36 x 36	White	Red	XI	9.00		Std w/ Soil Plate		1	11				11	1						
S-33	RT	16.0	77+29	1.464	EB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XI	4.00		Std w/ Soil Plate	Yes	1		16	Yes		16	2						
S-33	RT	16.0	77+29	1.464	EB	M6-4	Horizontal Double Arrow		21 x 15	Black	White	XI	2.19		Std w/ Soil Plate														
S-34	LT	-22.0	78+39	1.485	SB	M3-4	West		24 x 12	Black	White	XI	2.00		Std w/ Soil Plate	Yes	1		16	Yes		16	3						
S-34	LT	-22.0	78+39	1.485	SB	M1-5a	State Route Sign (3 or 4 digit)	1514	30 x 24	Black	White	XI	5.00		Std w/ Soil Plate														
S-34	LT	-22.0	78+39	1.485	SB	M6-1R	Right Arrow		24 x 12	Black	White	XI	2.00		Std w/ Soil Plate	Yes	1		16	Yes		16	3						
S-35	RT	19	79+25	1.501	NB	M3-1	North		24 x 12	Black	White	XI	2.00		Std w/ Soil Plate	Yes	1		16	Yes		16	2						
S-35	RT	19	79+25	1.501	NB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XI	4.00		Std w/ Soil Plate														
S-36	RT	17.0	80+11	1.517	SB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XI		5.56	Std w/ Soil Plate		1	11				11	1						

SIGN LOCATION										BRACED SIGN										Barcode					
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx. Mile Point	Facing Traffic Traveling	MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)	Text/ Symbol Color	Background Color	Sheeting Type	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)	Stiffener Req'd (includ to post)	Sign Post Length (LF)	TOTAL			
S-37	LT	-22.0	80+32	1.521	SB	W1-2R	Right Curve		30 x 30	Black	FL Yellow	XL	6.25		Std w/ Soil Plate		1	11			Yes	16	1		
S-38	LT	-19.0	82+79	1.568	SB	M2-1	Junction		21 x 15	Black	White	XL	2.19		Std w/ Soil Plate	Yes	1		16		Yes	16	2		
S-39	LT	-17.0	85+91	1.627	SB	M1-5a	State Route Sign (3 or 4 digit)	1514	30 x 24	Black	White	XL	5.00		Std w/ Soil Plate		1	11				11	1		
S-40	LT	-19.0	93+41	1.769	NB	W2-2R	Side Road Right		30 x 30	Black	Yellow	XL	6.25		Std w/ Soil Plate		1	11				11	1		
S-41	LT	-20.0	108+38	2.053	NB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XL		5.56	Std w/ Soil Plate		1	11				11	1		
S-42	RT	20.0	108+38	2.053	SB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XL		5.56	Std w/ Soil Plate		1	11				11	1		
S-43	LT	-37.0	111+14	2.105	EB	R1-1	Stop		36 x 36	White	Red	XL	9.00		Std w/ Soil Plate		1	11				11	1		
S-44	RT	20.0	122+87	2.327	SB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XL		5.56	Std w/ Soil Plate		1	11				11	1		
S-45	LT	-20.0	122+94	2.328	NB	W2-1	No Passing Zone		48 x 48 x 36	Black	Yellow	XL		5.56	Std w/ Soil Plate		1	11				11	1		
S-46	RT	19.0	125+85	2.384	NB	M1-5a	Junction	1207	30 x 24	Black	White	XL	5.00		Std w/ Soil Plate	Yes	1	16		Yes	16	2			
S-47	RT	29	131+85	2.497	NB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 12	Black	White	XL	2.00		Std w/ Soil Plate	Yes	1		16		Yes	16	6		
						M6-3	Straight Arrow		21 x 15	Black	White	XL	2.19												
						M3-2	East		24 x 12	Black	White	XL	2.00												
						M1-5a	State Route Sign (3 or 4 digit)	1207	30 x 24	Black	White	XL	5.00												
						M6-1R	Right Arrow		24 x 12	Black	White	XL	2.00												
S-48	RT	119.0	132+26		EB	W1-4R	Right Reverse Curve		30 x 30	Black	FL Yellow	XL	6.25		Std w/ Soil Plate		1	11				11	2		
S-49	LT	-21.0	132+34	2.506	WB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XL	4.00		Std w/ Soil Plate	Yes	1		16		Yes	16	2		
S-50	RT	28.0	132+60		WB	R1-1	Stop		36 x 36	White	Red	XL	9.00		Std w/ Soil Plate		1	11				11	1		
S-51	LT	-25.0	132+83	2.516	SB	M3-2	East		24 x 12	Black	White	XL	2.00		Std w/ Soil Plate	Yes	1		16		Yes	16	3		
						M1-5a	State Route Sign (3 or 4 digit)	1207	30 x 24	Black	White	XL	5.00												
						M6-1L	Left Arrow		24 x 12	Black	White	XL	2.00												
						M3-3	South		24 x 12	Black	White	XL	2.00												
						M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XL	4.00						Yes	16					
S-52	RT	21	133+77	2.534	NB	M6-3	Straight Arrow		21 x 15	Black	White	XL	2.19		Std w/ Soil Plate	Yes	1		16		Yes	16	2		
S-53	LT	-18.0	137+58	2.606	SB	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XL	4.00		Std w/ Soil Plate	Yes	1		16		Yes	16	2		
S-54	LT	-19.0	142+35	2.696	NB	M2-1	Junction		21 x 15	Black	White	XL	2.19		Std w/ Soil Plate	Yes	1		16		Yes	16	2		
S-55	RT	18.0	142+35	2.696	SB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XL		5.56	Std w/ Soil Plate		1	11				11	1		
S-56	RT	17.0	157+94	2.991	SB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XL		5.56	Std w/ Soil Plate		1	11				11	1		
S-57	RT	25.0	161+46	3.058	NB	W1-4R	Right Reverse Curve		30 x 30	Black	FL Yellow	XL	6.25		Std w/ Soil Plate		1	11				11	1		
S-58	LT	-19.0	161+83	3.065	NB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XL		5.56	Std w/ Soil Plate		1	11				11	1		
S-59	RT	18.0	171+83	3.254	NB	S3-1	School Bus Stop Ahead		36 x 36	Black	FL Yellow- Green	XL	9.00		Std w/ Soil Plate		1	11				11	1		
S-60	LT	-21.0	185+04	3.505	NB	W14-3	No Passing Zone		48 x 48 x 36	Black	Yellow	XL		5.56	Std w/ Soil Plate		1	11				11	1		
S-61	LT	-17.0	186+30	3.528	SB	W1-4R	Right Reverse Curve		30 x 30	Black	FL Yellow	XL	6.25		Std w/ Soil Plate		1	11				11	1		
S-62	RT	19.0	186+38	3.530	NB	W11-10	Truck		30 x 30	Black	Yellow	XL	6.25		Std w/ Soil Plate		1	11				11	1		
S-63	RT	19.0	188+40	3.568	NB	W1-10R	Right Curve & Side Road		36 x 36	Black	FL Yellow	XL	9.00		Std w/ Soil Plate		1	11				11	1		
S-64	RT	15.0	189+79	3.595	NB	M2-1	Junction		21 x 15	Black	White	XL	2.19		Std w/ Soil Plate	Yes	1	16		Yes	16	2			
S-65	LT	-21	192+88	3.653	SB	M1-5a	State Route Sign (3 or 4 digit)	554	30 x 24	Black	White	XL	5.00		Std w/ Soil Plate	Yes	1		16		Yes	16	2		
						M3-3	South		24 x 12	Black	White	XL	2.00												
						M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XL	4.00						Yes	16					
						M3-1	North		24 x 12	Black	White	XL	2.00												
						M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XL	4.00						Yes	16					
S-66	RT	33.0	193+93	3.673	NB	M6-3	Straight Arrow		21 x 15	Black	White	XL	2.19		Std w/ Soil Plate	Yes	1	16		Yes	16	5			
S-67	LT	-56.0	194+19	3.678	EB	M1-5a	State Route Sign (3 or 4 digit)	554	30 x 24	Black	White	XL	5.00		Std w/ Soil Plate	Yes	1		16		Yes	16	5		
						M6-3	Straight Arrow		21 x 15	Black	White	XL	2.19												
						M1-5a	State Route Sign (3 or 4 digit)	554	30 x 24	Black	White	XL	5.00						Yes	16					
						M6-6L	Straight & Left Arrows		21 x 15	Black	White	XL	2.19												
						R1-1	Stop		36 x 36	White	Red	XL	9.00						11						
S-68	RT	18.0	194+44	3.683	EB	M3-1	North		24 x 12	Black	White	XL	2.00		Std w/ Soil Plate	Yes	1		16		Yes	16	5		
M1-5a	State Route Sign (3 or 4 digit)	554	30 x 24	Black	White	XL	5.00																		
	M6-1L	Left Arrow		24 x 12	Black	White	XL	2.00																	
	M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XL	4.00							Yes	16									
	M6-4	Horizontal Double Arrow		21 x 15	Black	White	XL	2.19																	
S-69	LT	-37	195+56	3.704	SB	M3-3	South		24 x 12	Black	White	XL	2.00		Std w/ Soil Plate	Yes	1		16		Yes	16	6		
						M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XL	4.00						Yes	16					
						M6-3	Straight Arrow		21 x 15	Black	White	XL	2.19												
						M1-5	State Route Sign (1 or 2 digit)	81	24 x 24	Black	White	XL	4.00						Yes	16					
						M6-3	Straight Arrow		24 x 12	Black	White	XL	2.00												

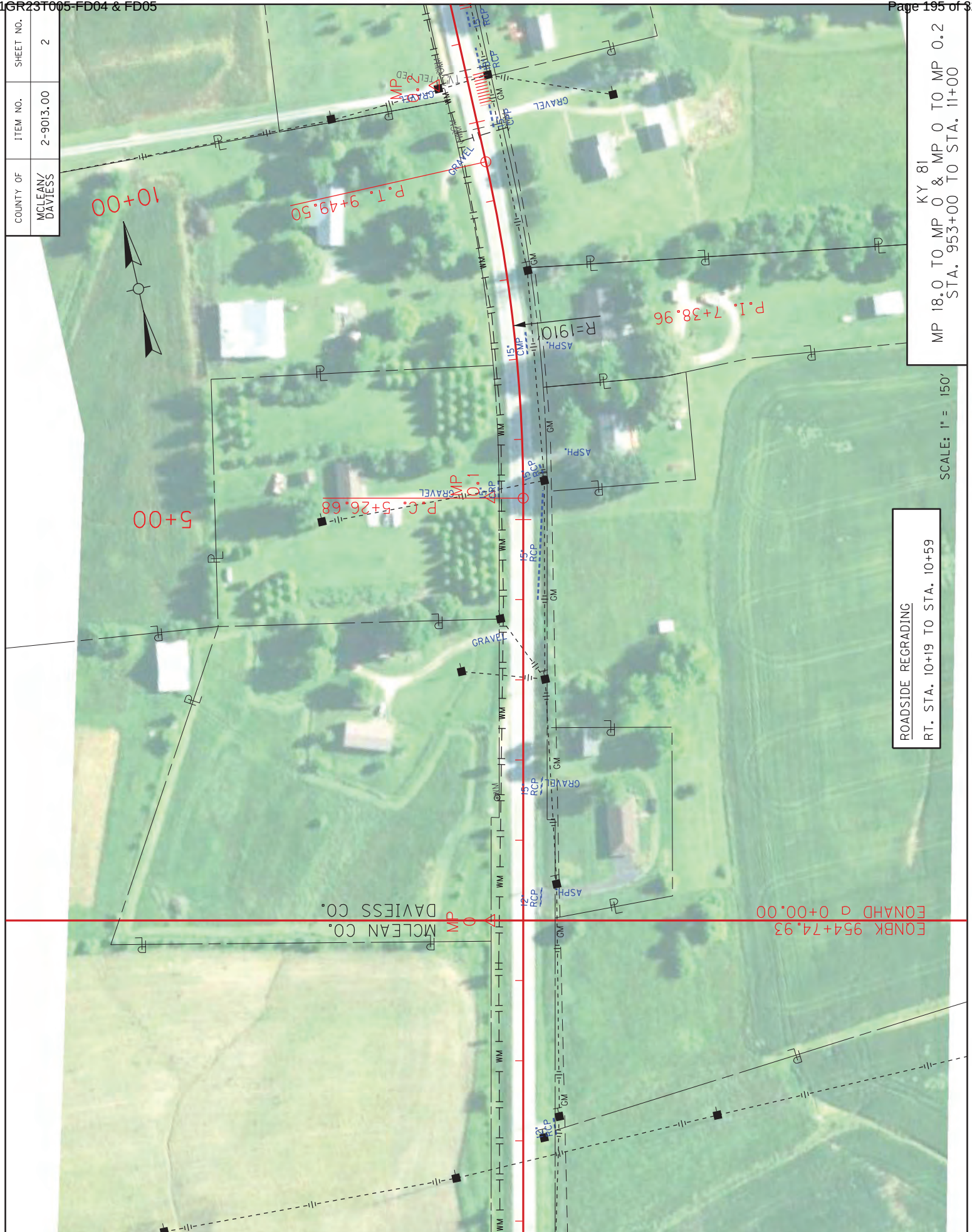
SIGN LOCATION										SHEETING										SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM Alum		SBM	

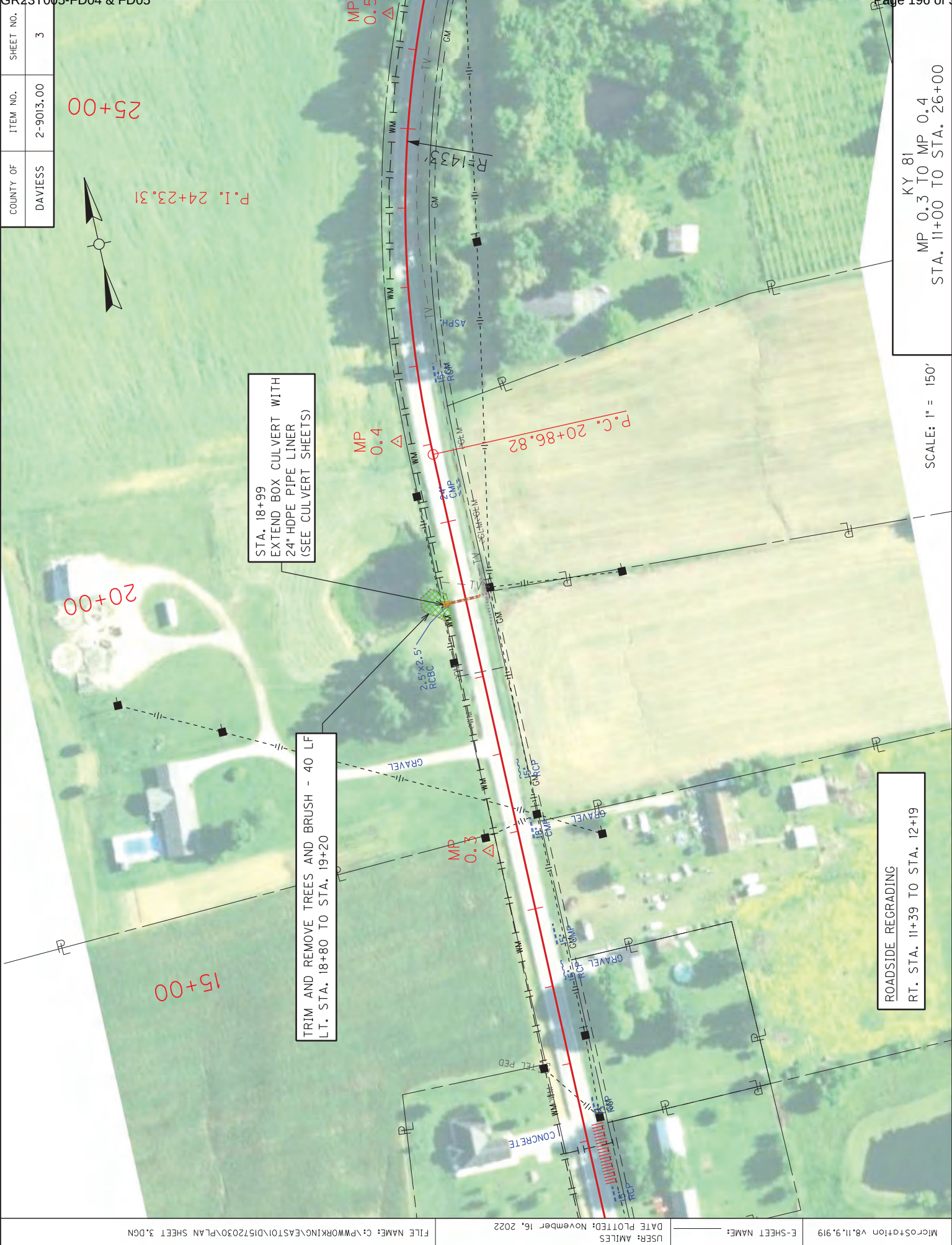
MCLEAN COUNTY				
Summary of Items		Summary of Items		
SBM Alum Sheet Signs 0.080 INCH	92.25	SQ FT	Steel Post - Type 1	243
SBM Alum Sheet Signs 0.125 INCH	64.81	SQ FT	GMSS Type D	0
Barcode Sign Inventory	32	EACH	GMSS Type D (Surface Mount)	0
			Class A Concrete for Signs	0
				CU YD
DAVIESS COUNTY				
Summary of Items		Summary of Items		
SBM Alum Sheet Signs 0.080 INCH	697.00	SQ FT	Steel Post - Type 1	1550
SBM Alum Sheet Signs 0.125 INCH	192.99	SQ FT	GMSS Type D	0
Barcode Sign Inventory	182	EACH	GMSS Type D (Surface Mount)	0
			Class A Concrete for Signs	0
				CU YD

 Highway Safety Improvement Program Item No: 2-9013.00 County: McLean/Daviess Route: KY 81			
KY 81 MCLEAN COUNTY			
WATERLINE RELOCATION SUMMARY			
Item No.	Item	Unit	Quantity
14030	W METER RELOCATE	EA	1
14152	W SERV COPPER SHORT SIDE 3/4 IN	EA	1
14059	W PVC PIPE 06 INCH	LF	100
14105	W VALVE 06 INCH	EA	1
KY 81 DAVIESS COUNTY			
WATERLINE RELOCATION SUMMARY			
Item No.	Item	Unit	Quantity
14006	W ENCASEMENT STEEL BORED RANGE 1	LF	45
14059	W PIPE PVC 06 INCH	LF	60
14060	W PIPE PVC 08 INCH	LF	760
14089	W TAPPING SLEEVE AND VALVE SIZE (6"X6"X3")	EA	1
14089	W TAPPING SLEEVE AND VALVE SIZE (8"X8"X2")	EA	1
14089	W TAPPING SLEEVE AND VALVE SIZE (8"X8"X8")	EA	2
14074	W PLUG EXISTING MAIN (8")	EA	1.0
14094	W TIE IN 03 INCH	EA	2.0
14094	W TIE IN 06 INCH	EA	2
14095	W TIE IN 08 INCH	EA	2.0
14149	W SERV COPPER SHORT SIDE 1 INCH	EA	100.0
14152	W SERV COPPER SHORT SIDE 3/4 INCH	EA	100
40178	MOBILIZATION	LS	1
02569	DEMOBILIZATION	LS	1



MicroStation v8.11.9.19	E-SHEET NAME: _____	USER: AMILES DATE PLOTTED: November 16, 2022	FILE NAME: C:\PWWORKING\EASTO\1512030\PLAN SHEET 2.DGN





COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	3

MicroStation v8.11.9.919

E-SHEET NAME:

USER: AMILES
DATE PLOTTED: November 16, 2022

FILE NAME: C:\PWORKING\EA5T01\5172030\PLAN SHEET 3.DGN

ROADSIDE REGRADING
RT. STA. 11+39 TO STA. 12+19

SCALE: 1" = 150'
MP 0.3 TO MP 0.4
KY 81
STA. 11+00 TO STA. 26+00

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	4



FILE NAME: C:\PWORKING\EA5T01\15172030\PLAN SHEET 4.DGN

DATE PLOTTED: November 16, 2022

USER: AMILES

E-SHEET NAME: MicroStation v8.11.9.919

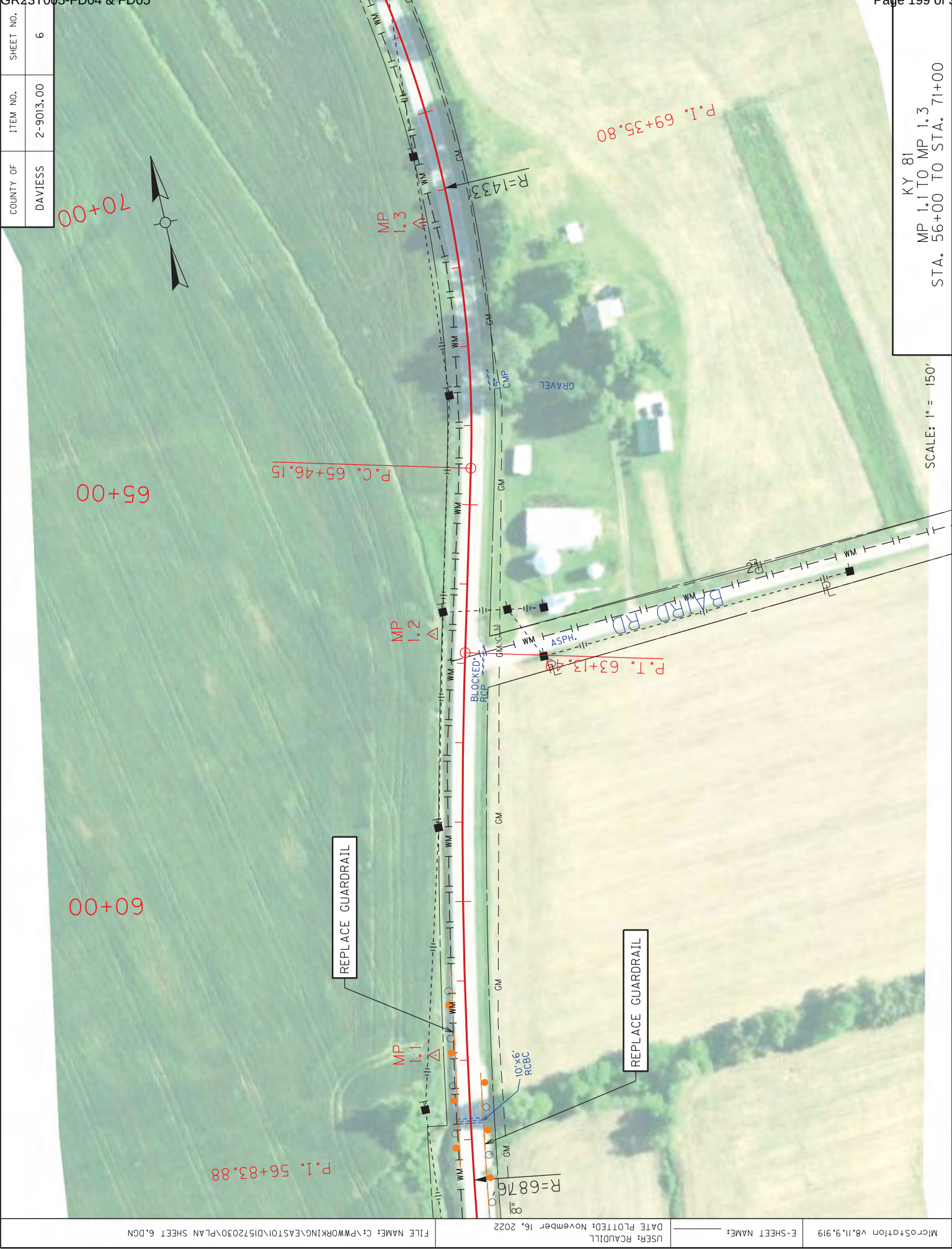
COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	5



KY 81
MP 0.8 TO MP 1.0
STA. 41+00 TO STA. 56+00

SCALE: 1" = 150'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	6



FILE NAME: C:\PWORKING\EA5T01\15172030\PLAN SHEET 6.DGN

DATE PLOTTED: November 16, 2022
USER: RCAUDILL

E-SHEET NAME:

MicroStation v8.11.9.919



COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	8

STA. 101+32
18" RCP PIPE EXTENSION WITH
PVC FOLD AND FORM LINER
(SEE CULVERT SHEETS)

STA. 89+62
24" RCP PIPE EXTENSION WITH
PVC FOLD AND FORM LINER
(SEE CULVERT SHEETS)

MP 1.7 TO MP 1.9
STA. 87+00 TO STA. 104+00

SCALE: 1" = 150'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	9



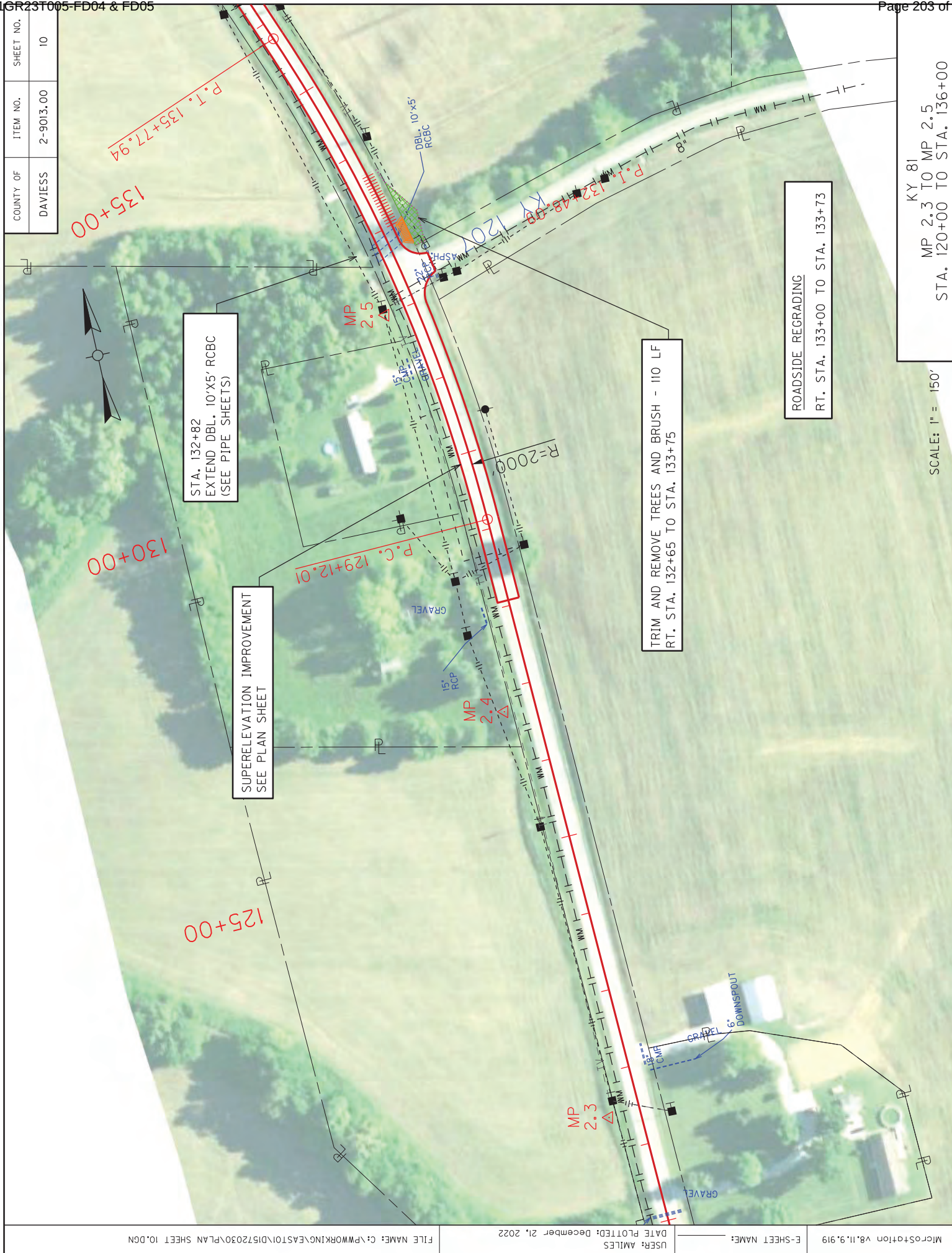
KY 81

MP 2.0 TO MP 2.2 K101

MP 2.0 TO MP 2.2
STA. 104+00 TO STA. 120+00

SCALE: 1" = 150'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	10



ROADSIDE REGRADING

RT. STA. 133+00 TO STA. 133+73

KY 81

MP 2.3 TO MP 2.5
STA. 120+00 TO STA. 136+00

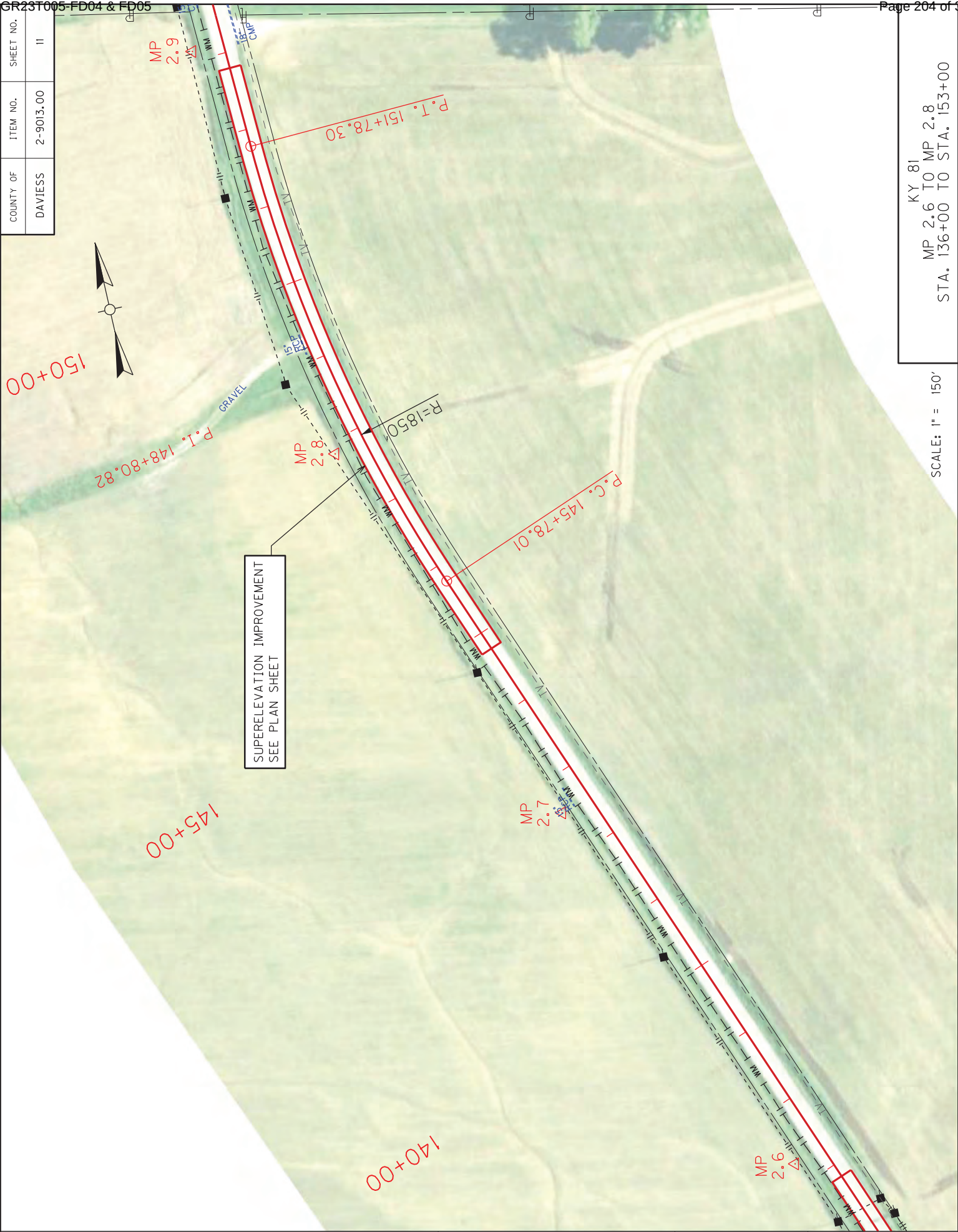
SCALE: 1" = 150'

FILE NAME: C:\PWORKING\EASTO\ID1572030\PLAN SHEET 10.DGN

USER: AMILES
DATE PLOTTED: December 21, 2022

E-SHEET NAME: _____

MicroStation v8.11.9.919

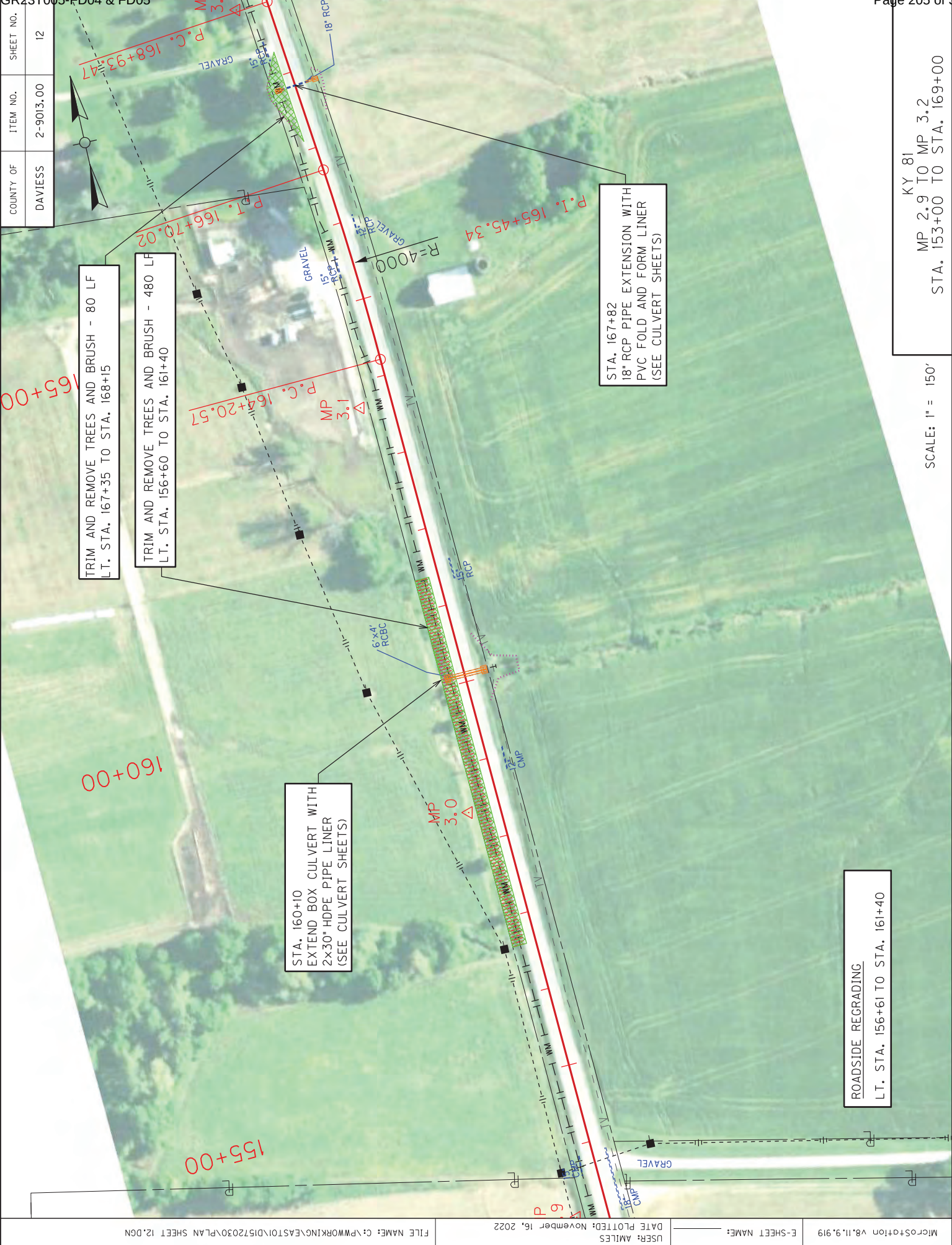


COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	11

MP 2.6 TO MP 2.8
STA. 136+00 TO STA. 153+00

KY 81

SCALE: 1" = 150'



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	12

TRIM AND REMOVE TREES AND BRUSH - 80 LF
L.T. STA. 167+35 TO STA. 168+15

TRIM AND REMOVE TREES AND BRUSH - 480 LF
L.T. STA. 156+60 TO STA. 161+40

STA. 160+10
EXTEND BOX CULVERT WITH
2x30" HDPE PIPE LINER
(SEE CULVERT SHEETS)

ROADSIDE REGRADING
L.T. STA. 156+61 TO STA. 161+40

STA. 167+82
18" RCP PIPE EXTENSION WITH
PVC FOLD AND FORM LINER
(SEE CULVERT SHEETS)



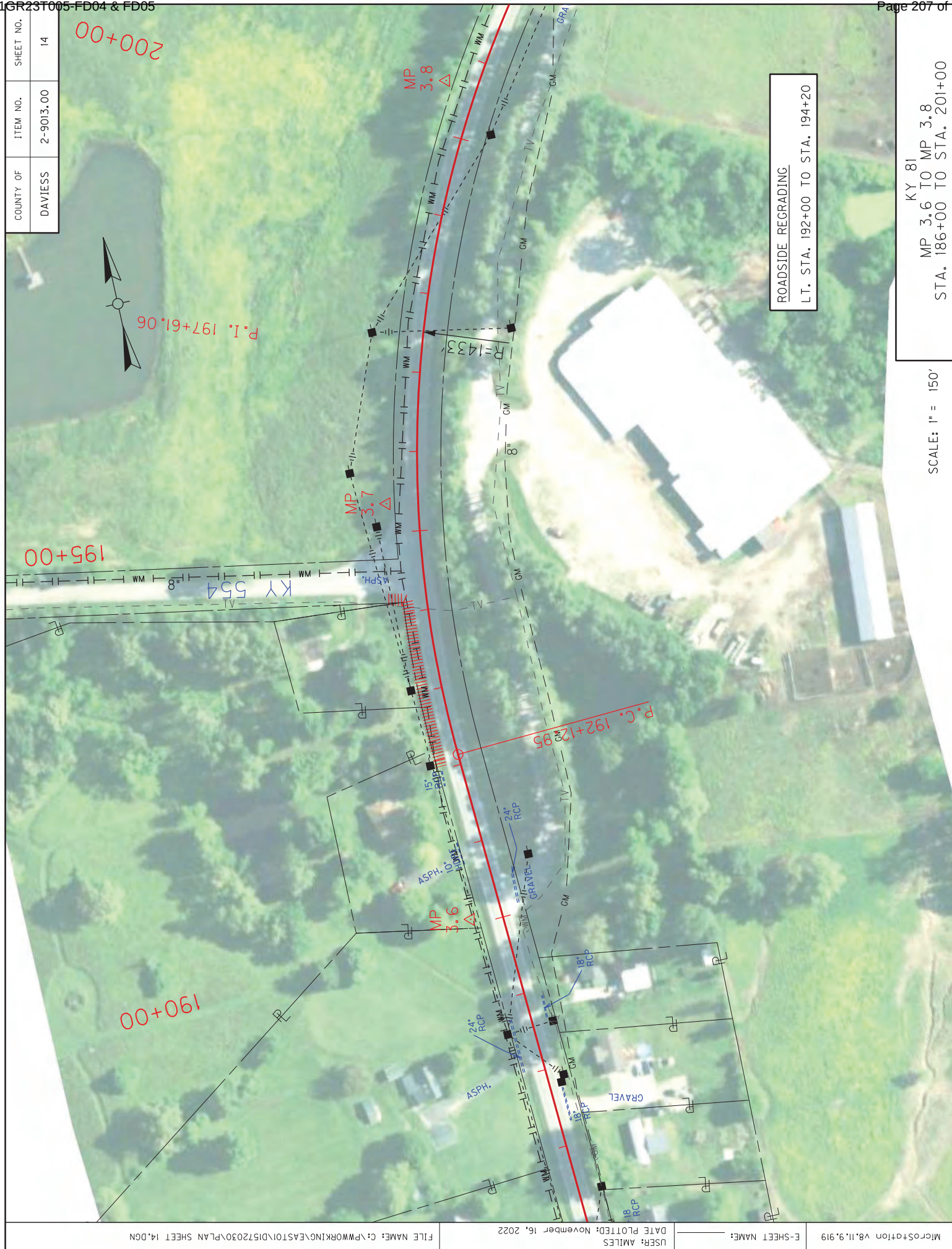
COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	13

SCALE: 1" = 150'

KY 81

MP 3.2 TO MP 3.5

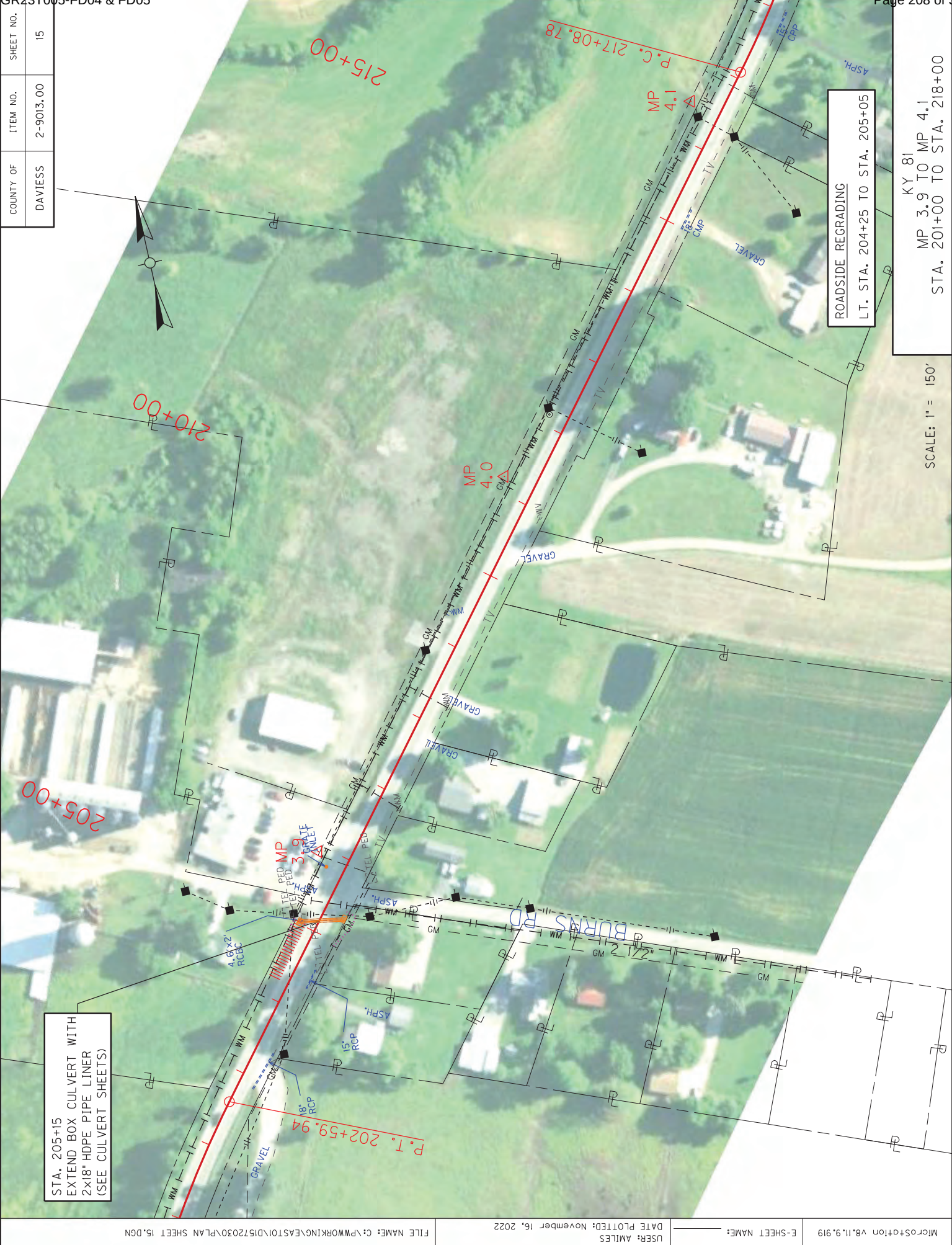
STA. 169+00 TO STA. 186+00



KY 81
MP 3.6 TO MP 3.8
STA. 186+00 TO STA. 201+00

SCALE: 1" = 150'

COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	15



STA. 205+15
EXTEND BOX CULVERT WITH
2x18" HDPE PIPE LINER
(SEE CULVERT SHEETS)

ROADSIDE REGRADING
LT. STA. 204+25 TO STA. 205+05

MP 3.9 TO MP 4.1
STA. 201+00 TO STA. 218+00

KY 81

SCALE: 1" = 150'

FILE NAME: C:\PWORKING\EA\STO\15172030\PLAN SHEET 15.DGN

DATE PLOTTED: November 16, 2022

USER: AMILES

E-SHEET NAME: MicroStation v8.11.9.919

COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	16



SCALE: 1" = 150'

KY 81

MP 4.2 TO MP 4.4

STA. 218+00 TO STA. 234+00



COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	17

KY 81
MP 4.5 TO MP 4.7
STA. 234+00 TO STA. 250+00

SCALE: 1" = 150'



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	18

MP 4.8 TO MP 5.0
STA. 250+00 TO STA. 265+00

KY 81

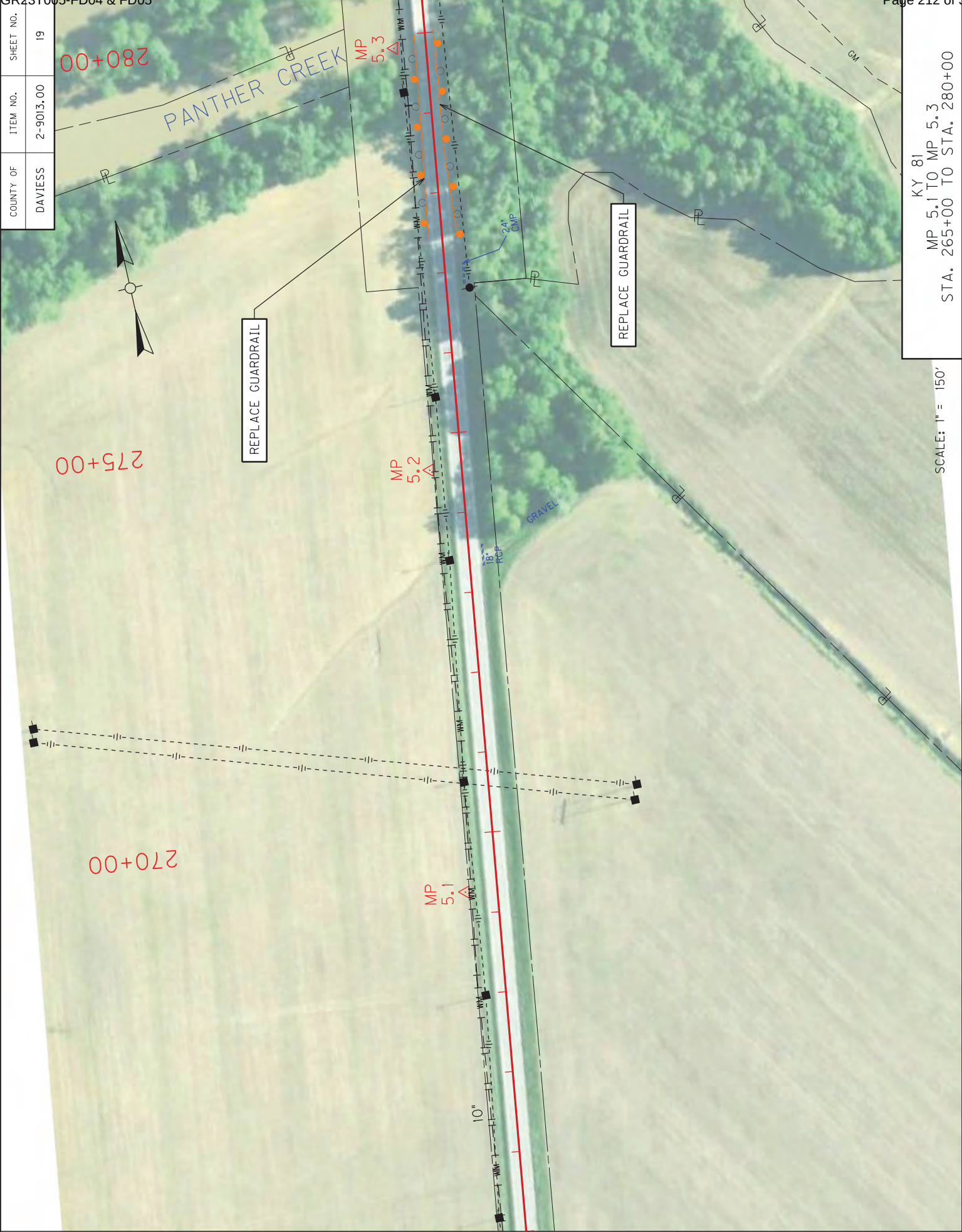
SCALE: 1" = 150'

FILE NAME: C:\PWORKING\EASTON\15172030\PLAN SHEET 18.DGN

DATE PLOTTED: November 16, 2022
USER: RCAUDILL

E-SHEET NAME:

MicroStation v8.11.9.919



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	19

MP 5.1 TO MP 5.3
STA. 265+00 TO STA. 280+00

SCALE: 1" = 150'

MicroStation v8.11.9.919

USER: RCAUDILL
DATE PLOTTED: November 16, 2022

FILE NAME: C:\PWORKING\EA\ST01\DI572030\PLAN SHEET 19.DGN

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	20



MP 5.4 TO MP 5.5
STA. 280+00 TO STA. 295+00

KY 81

SCALE: 1" = 150'

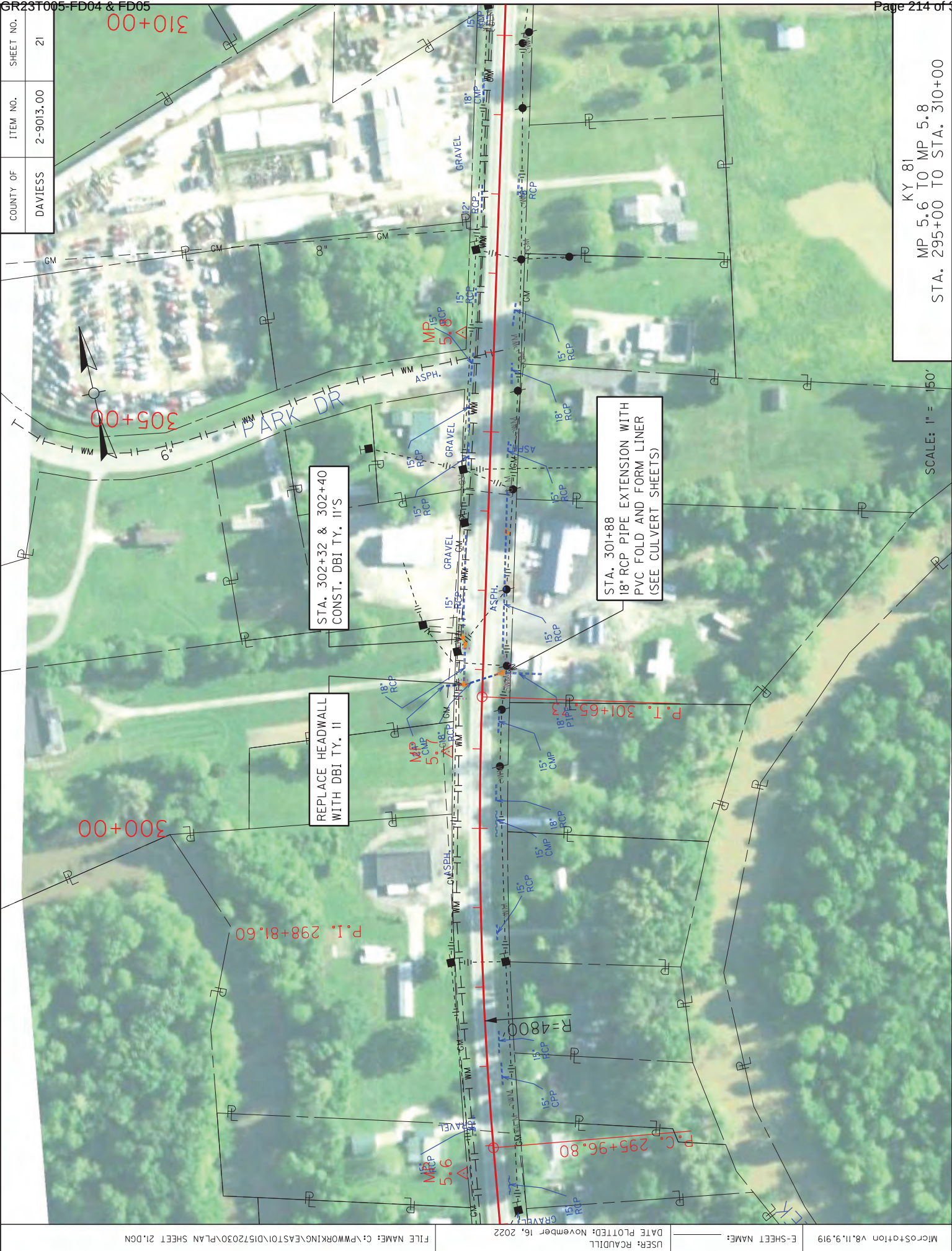
FILE NAME: C:\PWORKING\EA\STO\15172030\PLAN SHEET 20.DGN

DATE PLOTTED: November 16, 2022

USER: RCAUDILL

E-SHEET NAME:

MicroStation v8.11.9.919



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	21

MP 5.6 TO MP 5.8
STA. 295+00 TO STA. 310+00

SCALE: 1" = 150'



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	22

TRIM AND REMOVE TREES AND BRUSH - 75 LF
LT. STA. 323+90 TO STA. 324+65

STA. 323+99
EXTEND BOX CULVERT WITH
30" HDPE PIPE LINER
(SEE CULVERT SHEETS)

ROADSIDE REGRADING
LT. STA. 323+87 TO STA. 324+62
RT. STA. 323+67 TO STA. 325+27

KY 81
MP 5.9 TO MP 6.1
STA. 310+00 TO STA. 325+00

SCALE: 1" = 150'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	23



FILE NAME: C:\PWORKING\EA5T01\1572030\PLAN SHEET 23.DGN

DATE PLOTTED: November 16, 2022
USER: AUERKER

E-SHEET NAME:

Microsoft Word 2010, 9.8.38

MP 6.2 TO MP 6.4
STA. 325+00 TO STA. 341+00

SCALE: 1" = 150'

KY 81



COUNTY OF	DAVISS	ITEM NO.	2-9013.00	SHEET NO.	24

MP 6.5 TO MP 6.7
STA. 341+00 TO STA. 357+00

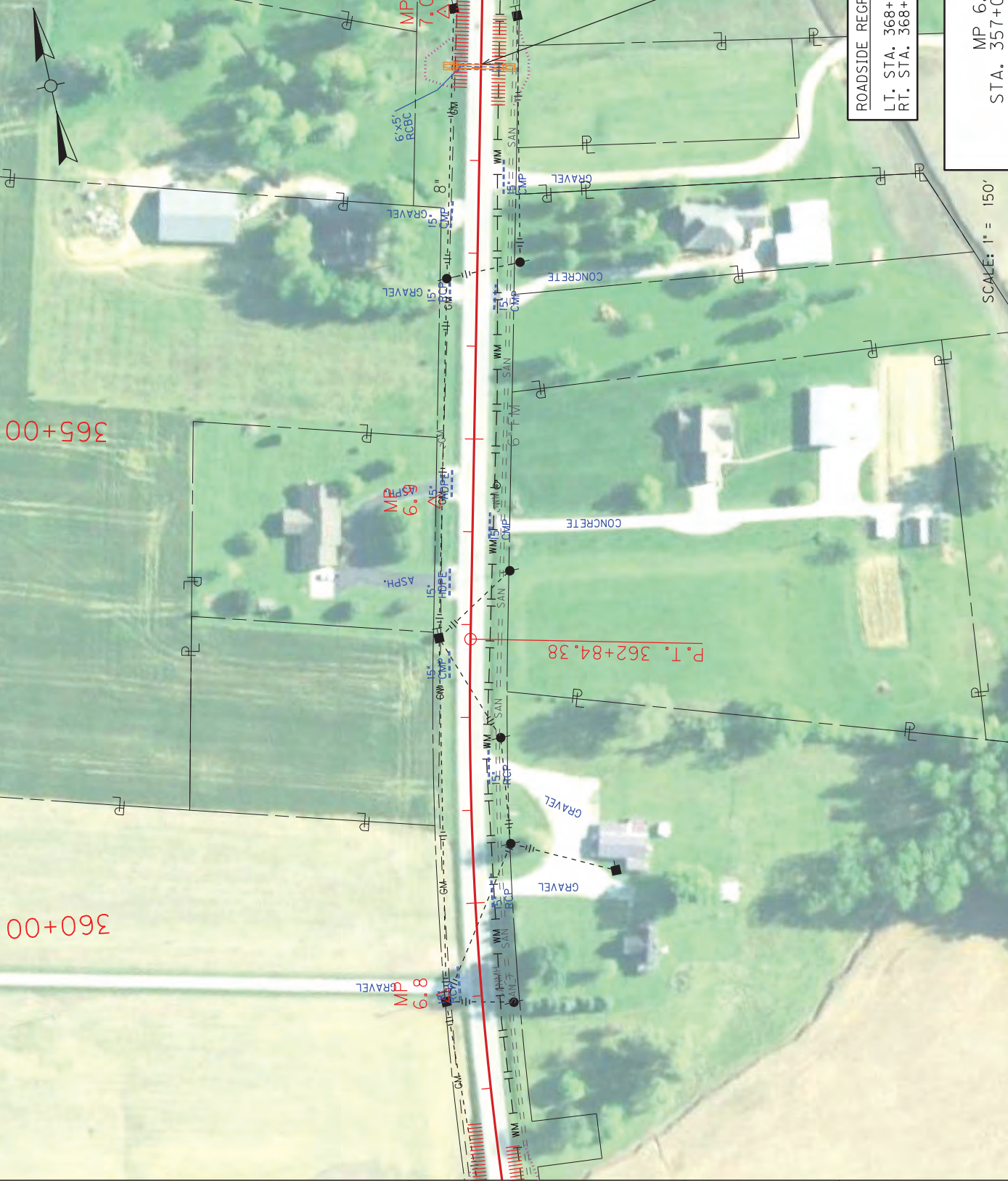
SCALE: 1" = 150'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	25

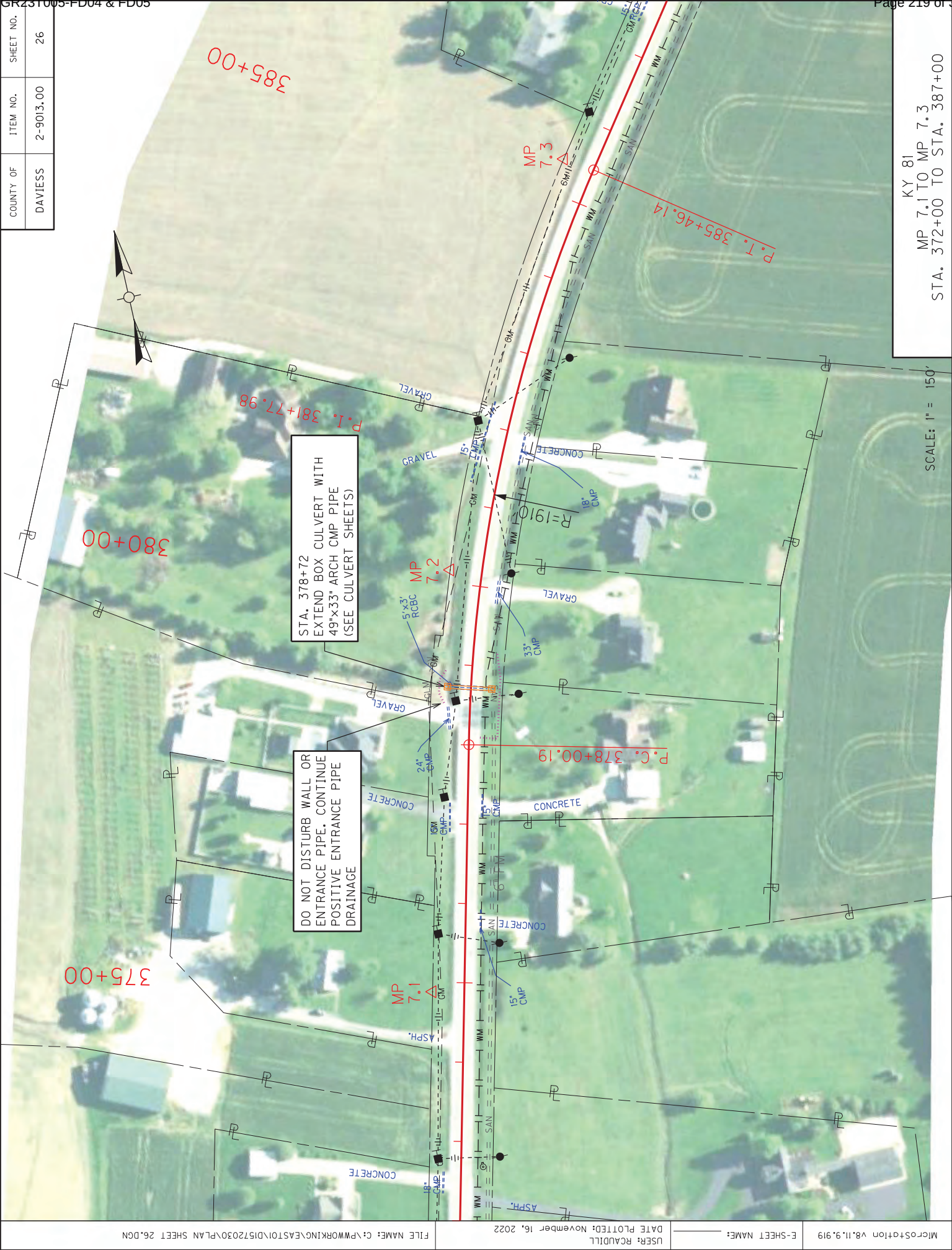
370+00

365+00

360+00



COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	26



MP 7.1 TO MP 7.3
STA. 372+00 TO STA. 387+00

1" = 150'

FILE NAME: C:\PWORKING\EA5T0\15720230\PLAN SHEET 26.DGN

DATE PLOTTED: November 16, 2022

USER: RCAUDILL

E-SHEET NAME: MicroStation v8.11.9.919

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	27



FILE NAME: C:\PWORKING\6\EA5T01\572030\PLAN SHEET 27.DGN

DATE PLOTTED: November 16, 2022

USER: AMILES

E-SHEET NAME:

MicroStation v8.11.9.919



COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	28

MP 7.7 TO MP 7.8
STA. 402+00 TO STA. 417+00

SCALE: 1" = 150'

KY 81

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	29



FILE NAME: C:\PWORKING\EA5T01\15172030\PLAN SHEET 29.DGN

DATE PLOTTED: November 16, 2022
USER: RCAUDILL

E-SHEET NAME:

MicroStation v8.11.9.919

SCALE: 1" = 150'
KY 81
MP 7.9 TO MP 8.1
STA. 417+00 TO STA. 432+00

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	30



FILE NAME: C:\PWORKING\EA\ST01\5172030\PLAN SHEET 30.DGN

DATE PLOTTED: November 16, 2022

USER: RCAUDILL

E-SHEET NAME: _____

SCALE: 1" = 150'

KY 81

MP 8.2 TO MP 8.4

STA. 432+00 TO STA. 447+00

COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	31



FILE NAME: C:\PWORKING\EA5T01\1572030\PLAN SHEET 31.DGN

DATE PLOTTED: November 16, 2022

USER: RCDILL

E-SHEET NAME: MicroStation v8.11.9.919

MP 8.5 TO MP 8.7
STA. 447+00 TO STA. 462+00

81

SCALE 1" = 150'

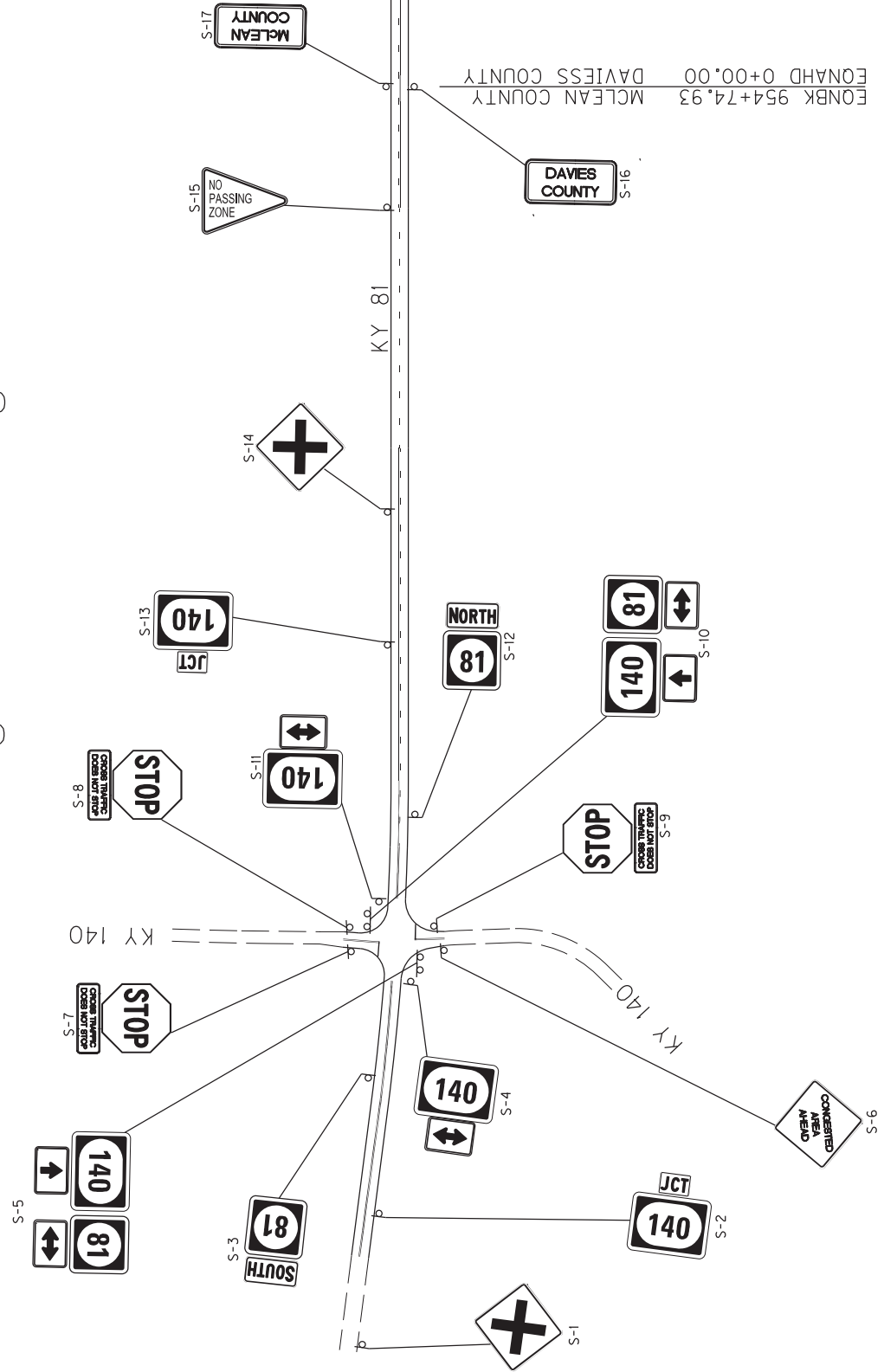
KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



5+00
950+00
945+00
940+00



COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	

25+00



20+00

15+00

10+00

KY 81



COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



55+00

50+00

45+00

40+00

35+00

30+00

KY 81

L.B. CRAVENS RD.



KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



80+00

75+00

70+00

65+00

60+00

GREENBACK RD

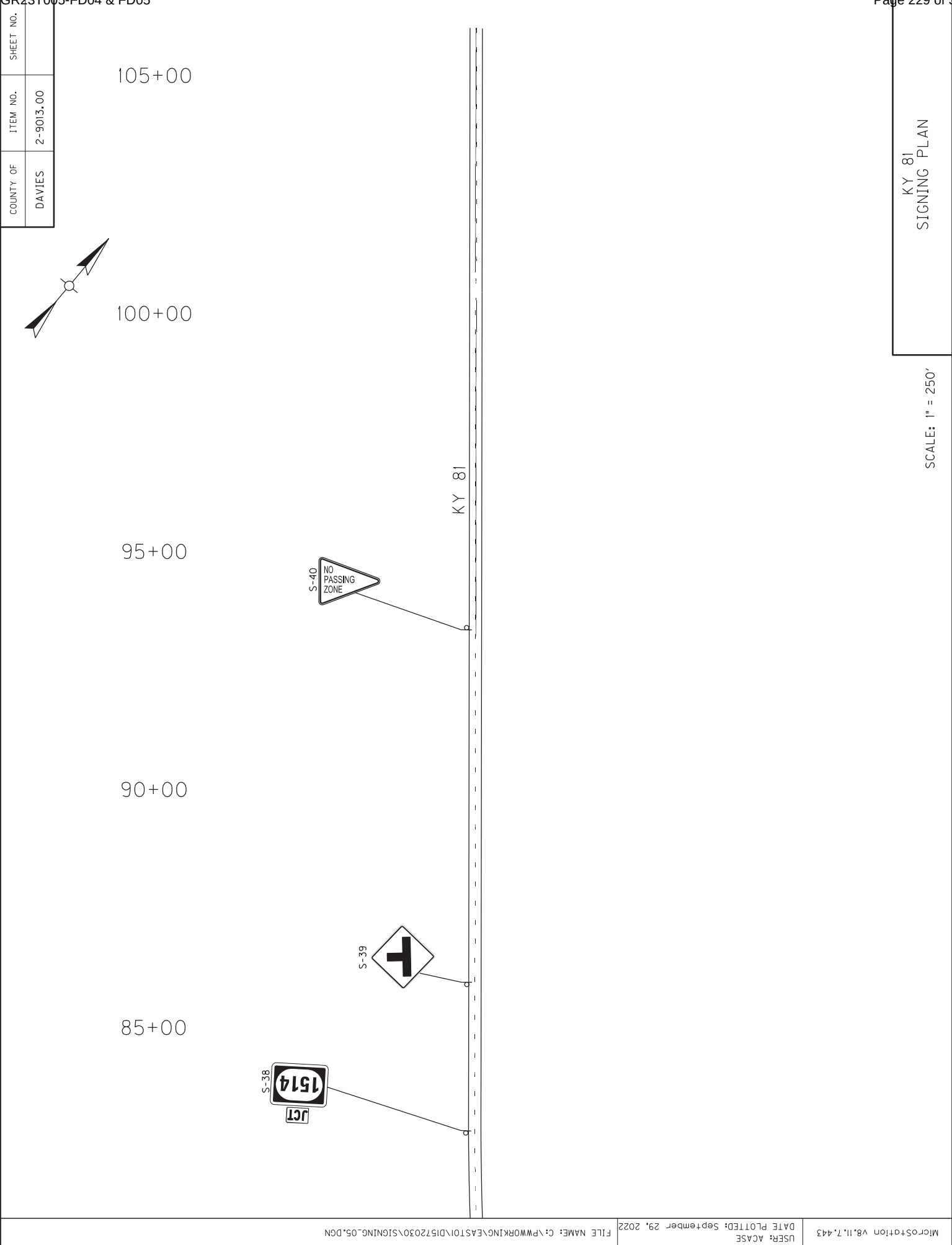
KY 81

BAIRD RD

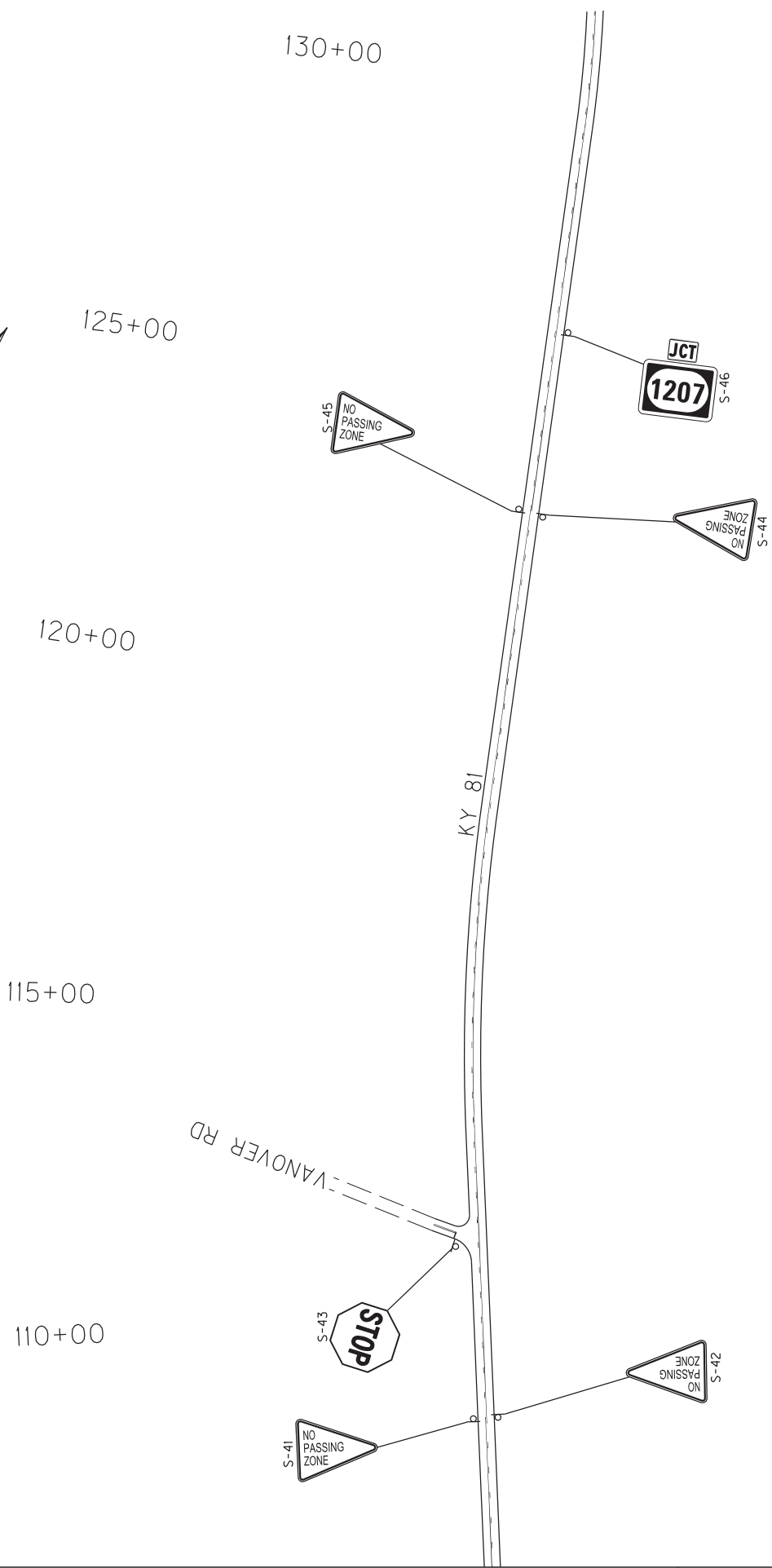
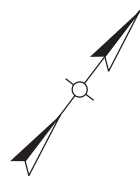


KY 81
SIGNING PLAN

SCALE: 1" = 250'



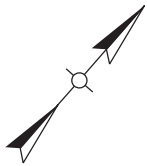
COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



130+00

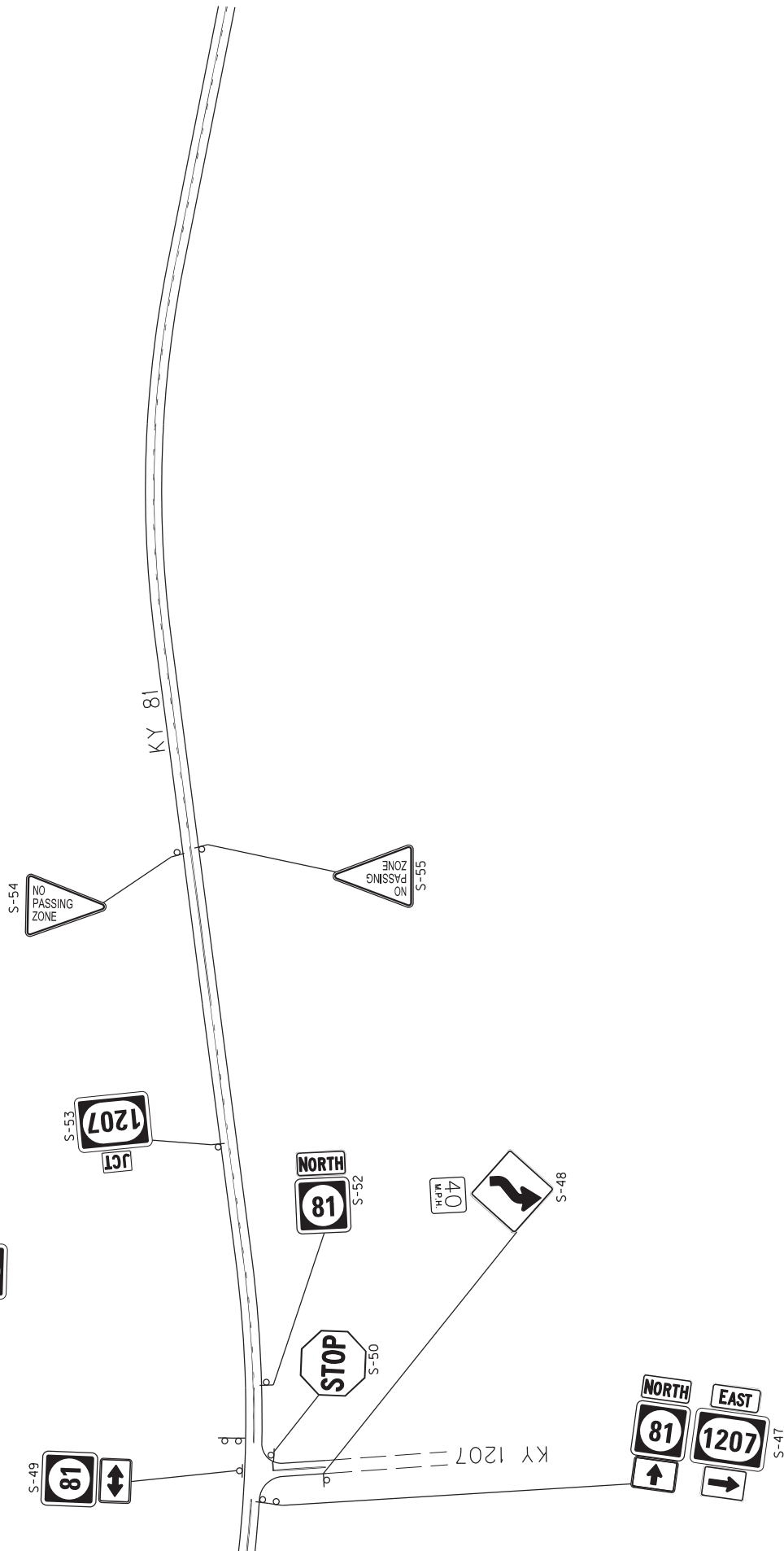
135+00

140+00

145+00

150+00

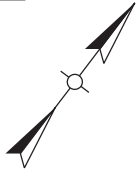
155+00



KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



180+00

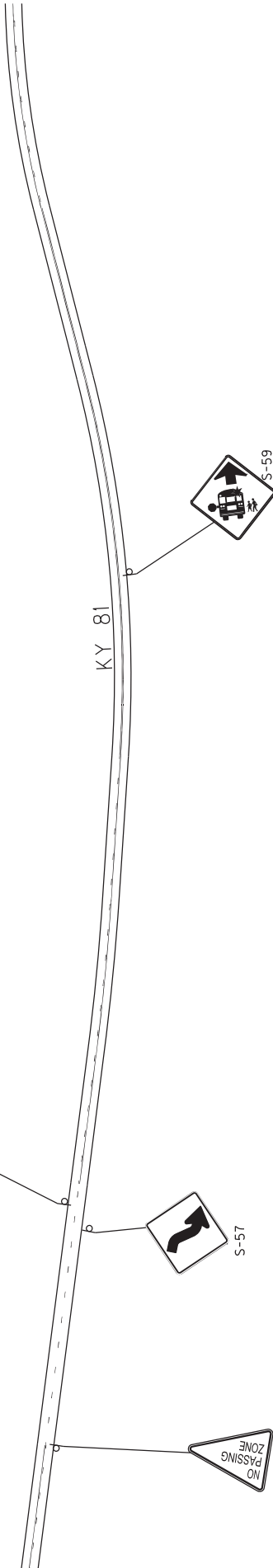
175+00

170+00

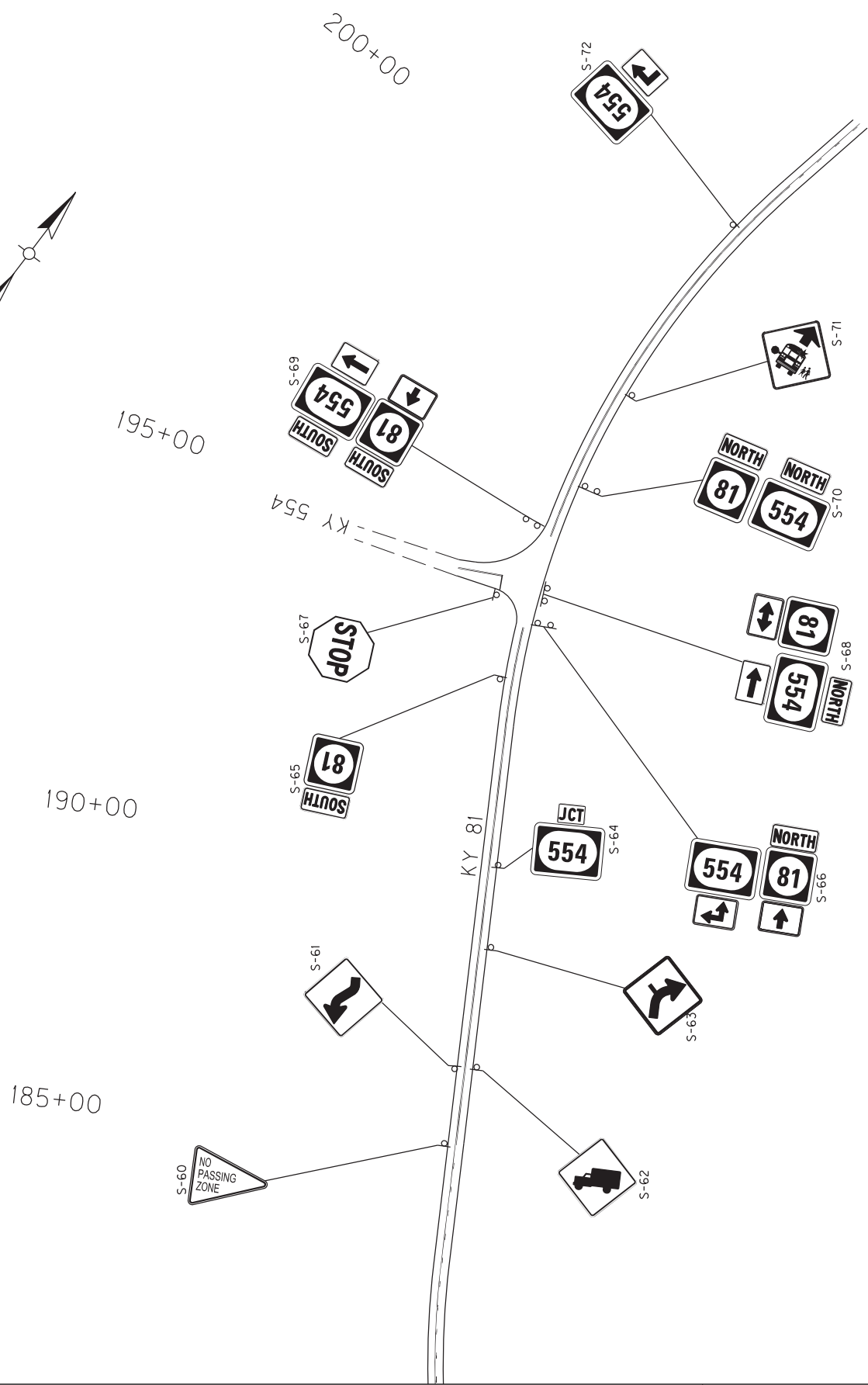
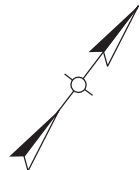
165+00

160+00

155+00



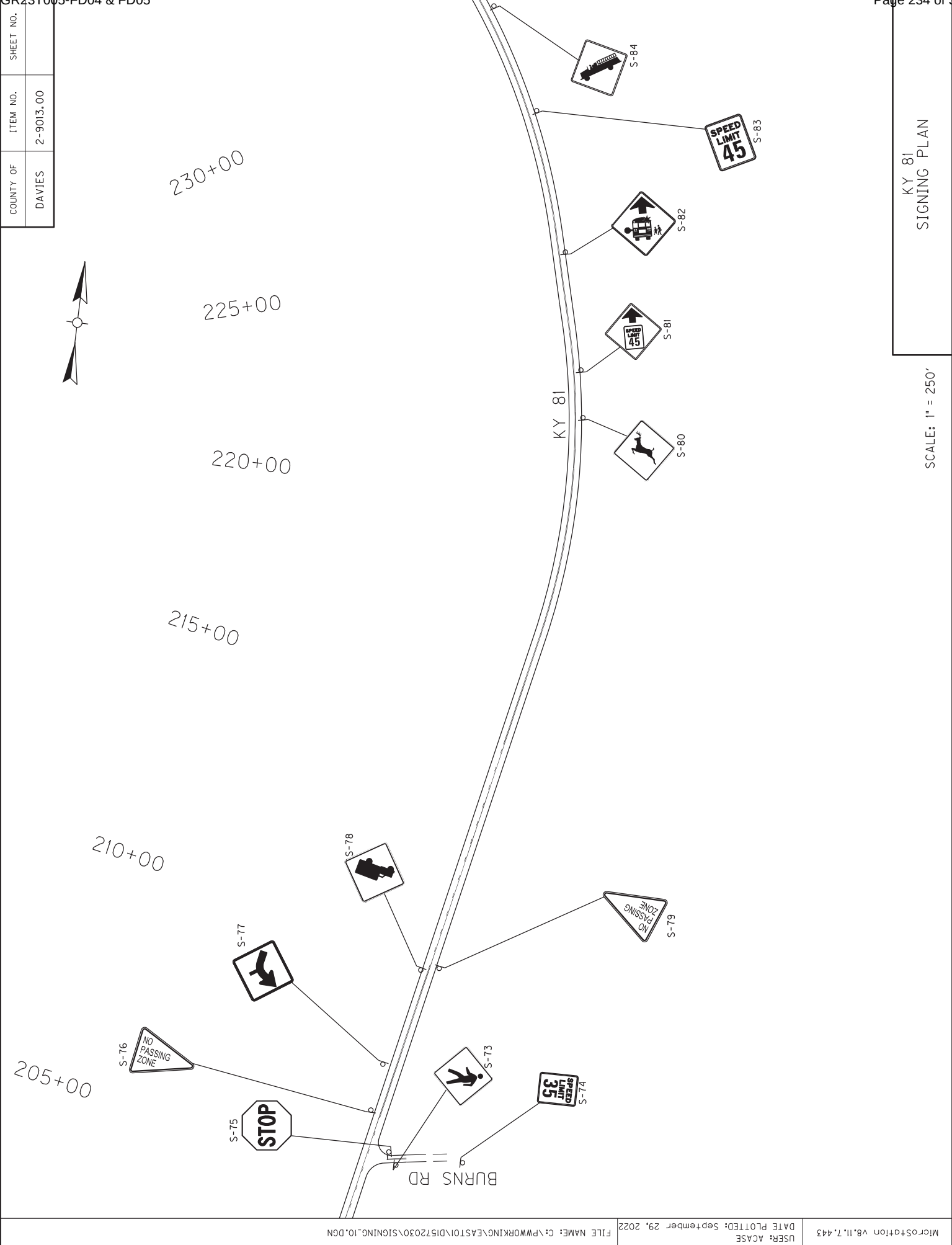
COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



KY 81
SIGNING PLAN

SCALE: 1" = 250'

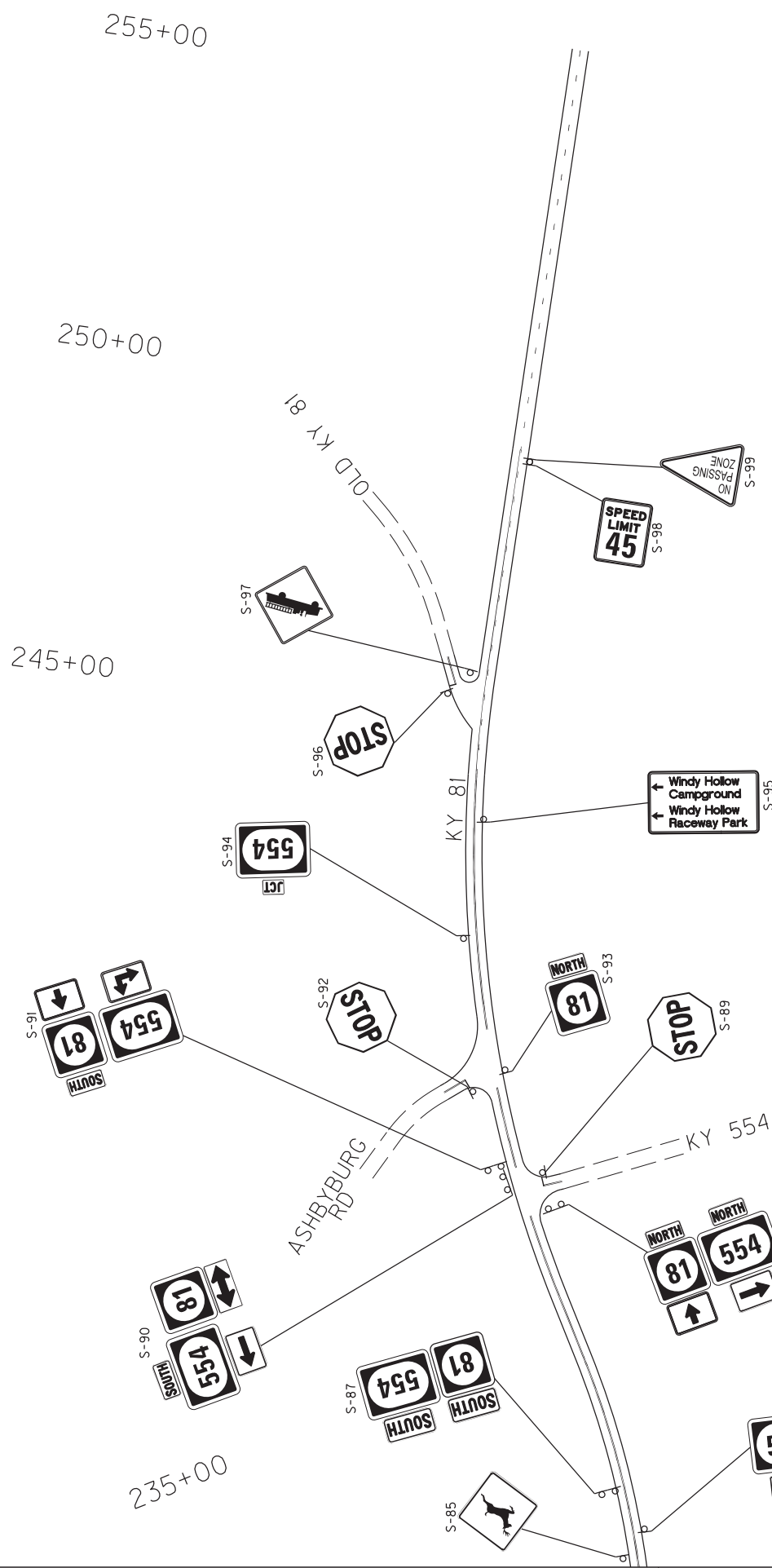
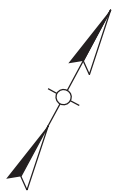
COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



280+00

275+00

270+00

265+00

260+00

KY 81



S-102



S-101-S

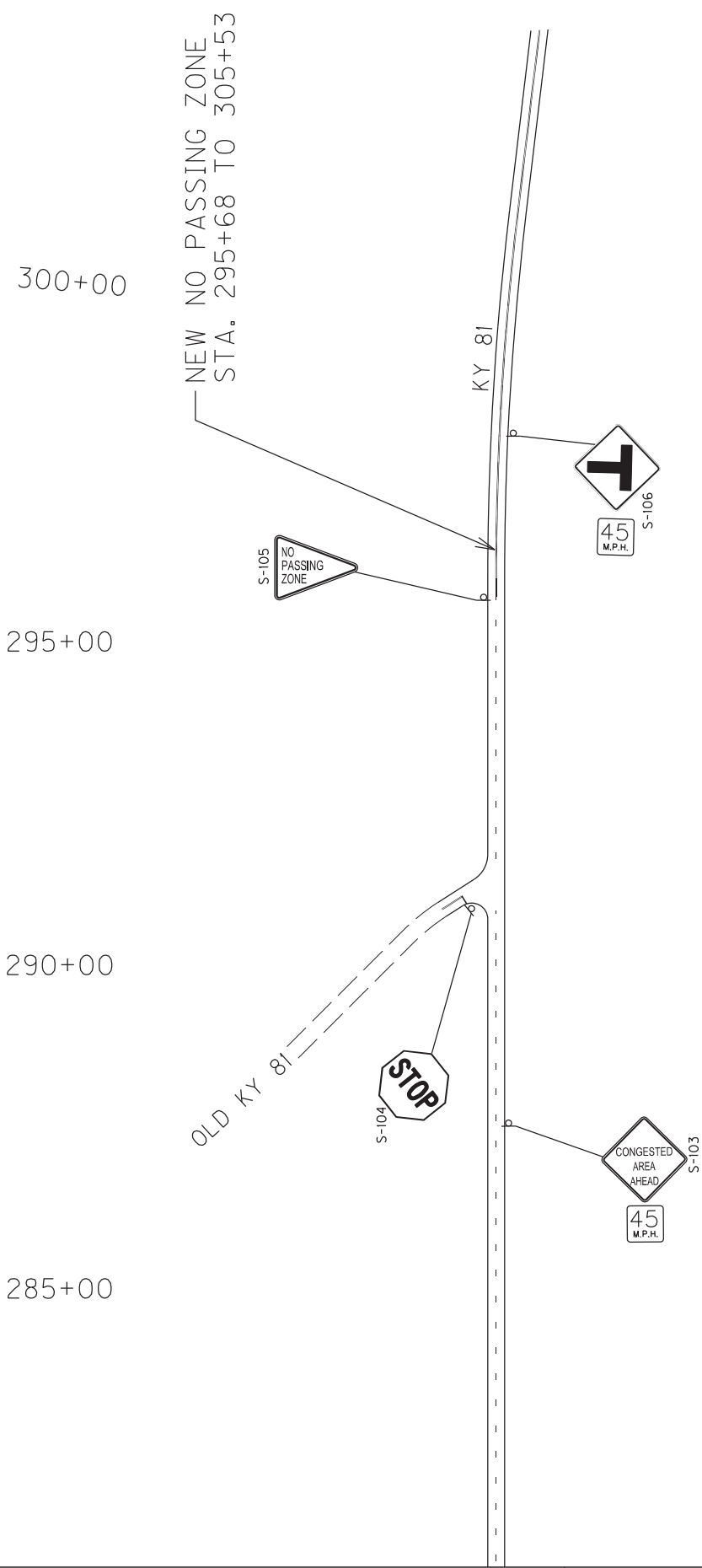


S-100

KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	

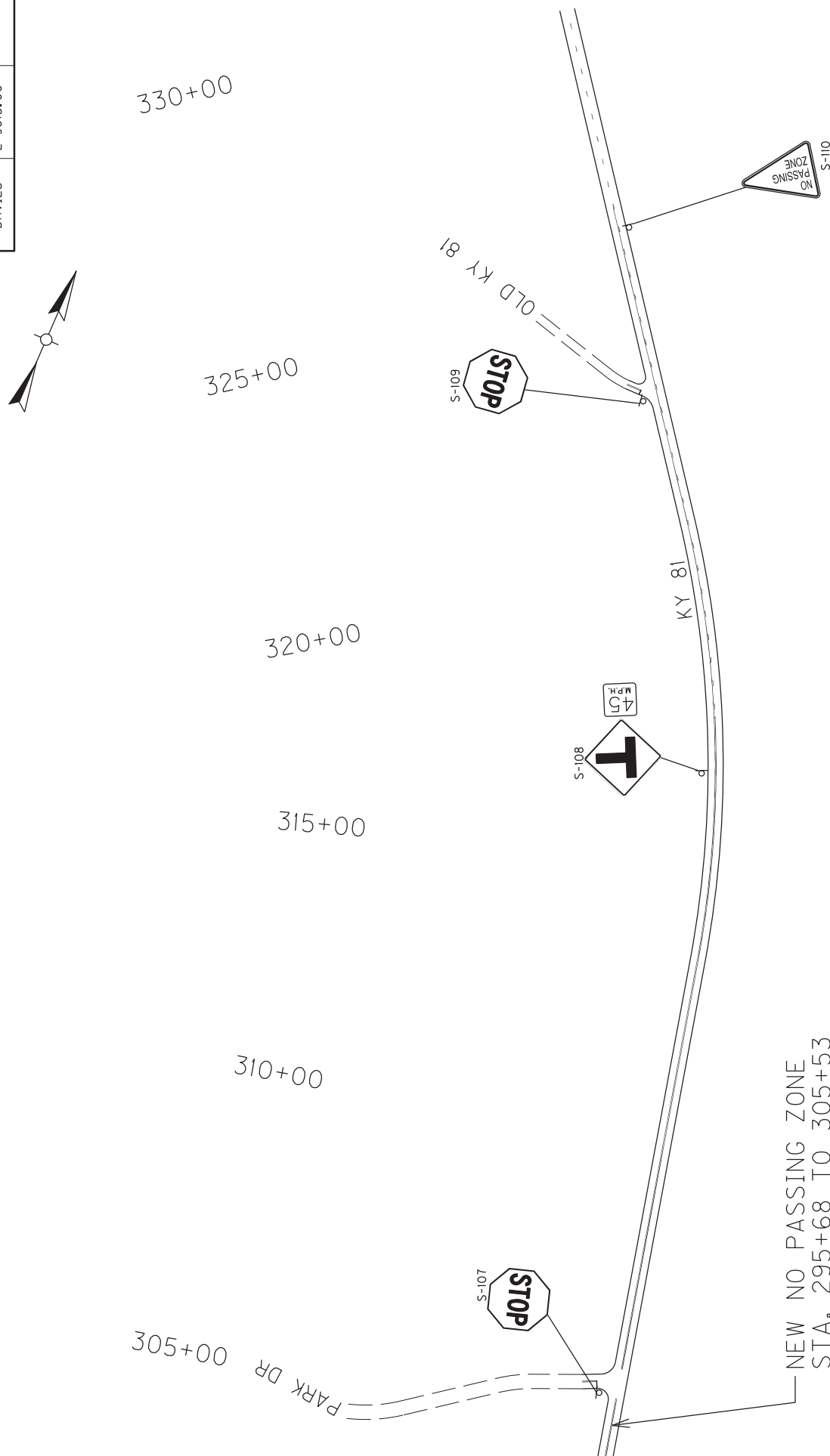


KY 81
SIGNING PLAN

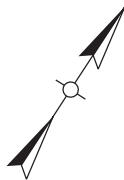
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SCALE: 1" = 250'



COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



350+00

345+00

340+00

335+00



OLD KY 81



KY 81

KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



375+00

370+00

365+00

360+00

355+00



S-115



S-116



S-114

KY 81

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



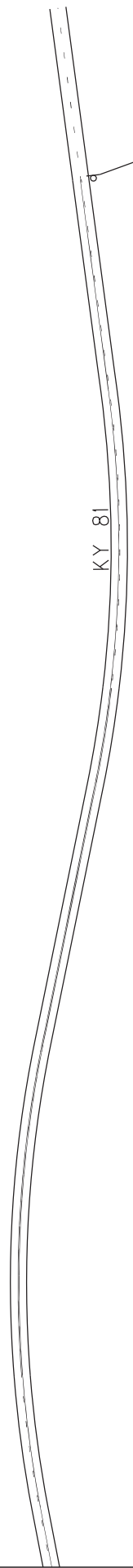
380+00

385+00

390+00

395+00

400+00



COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



425+00

420+00

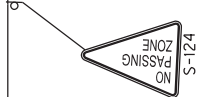
415+00

410+00

405+00



KY 81



KELLER RD

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	



450+00

445+00

440+00

435+00

430+00

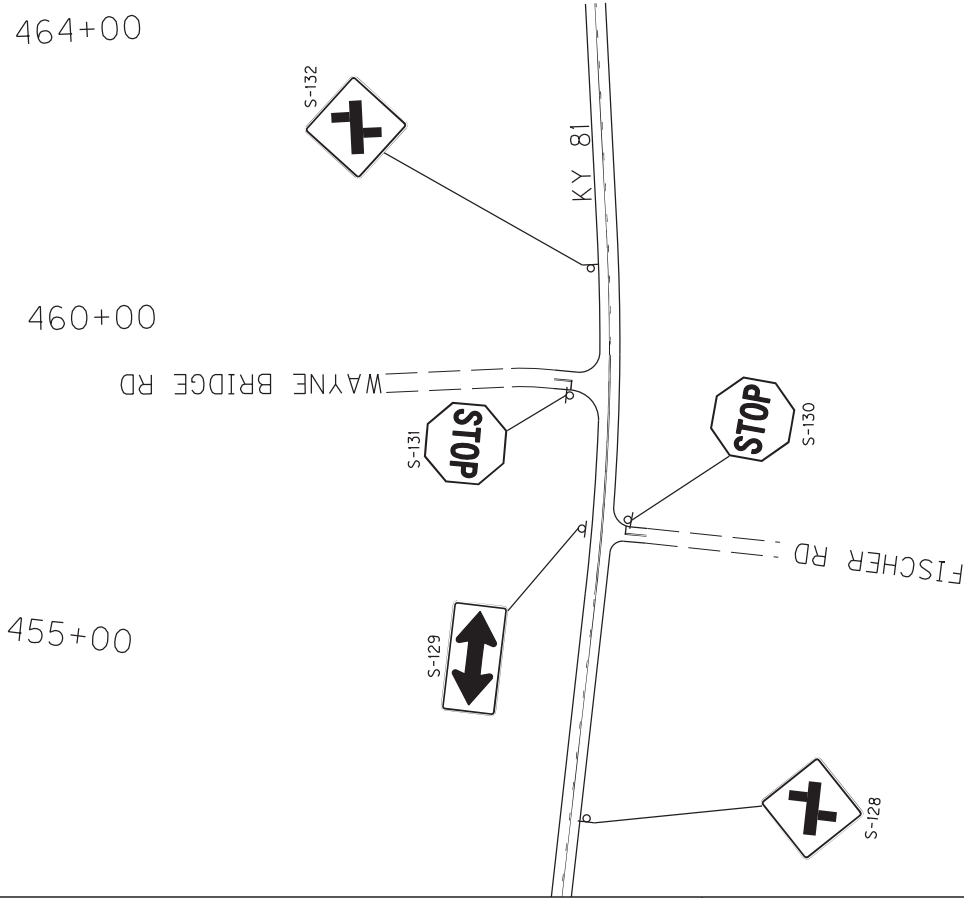


KY 81

KY 81
SIGNING PLAN

SCALE: 1" = 250'

COUNTY OF	ITEM NO.	SHEET NO.
DAVIES	2-9013.00	

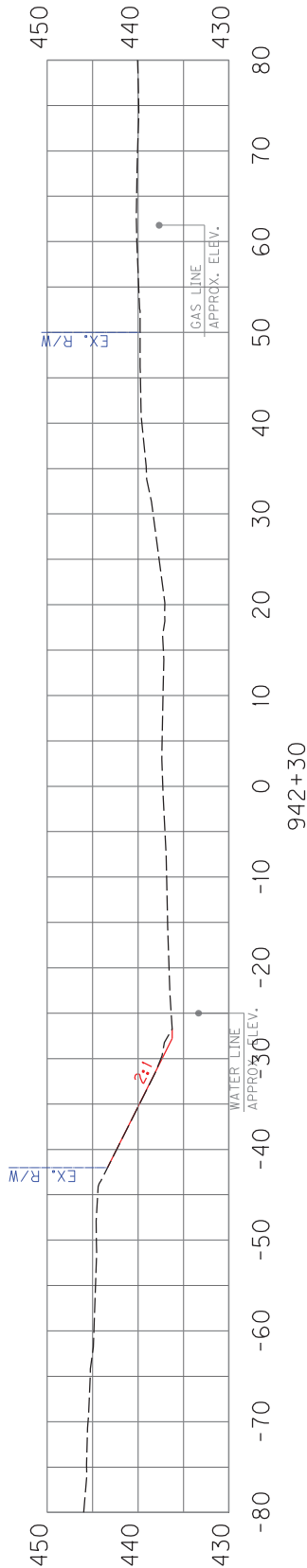
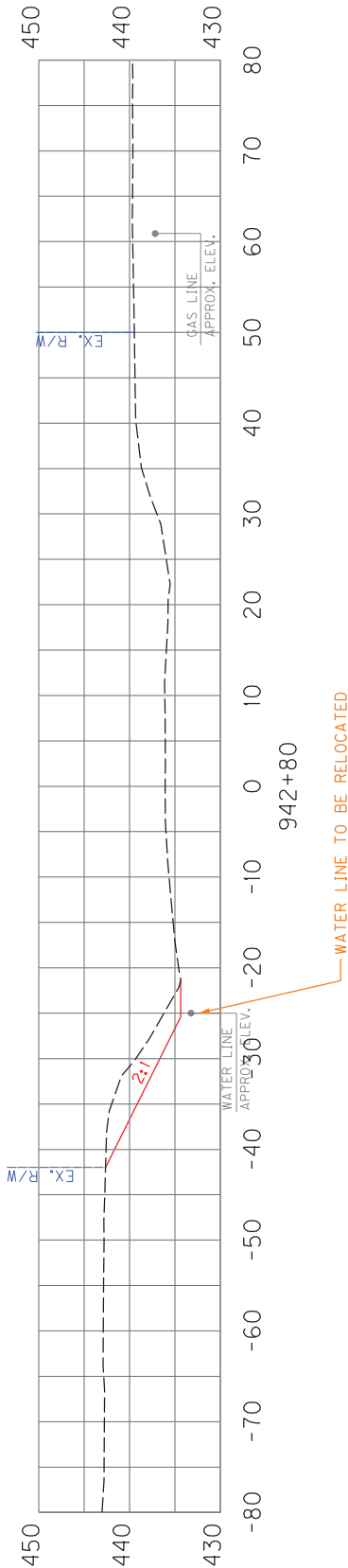
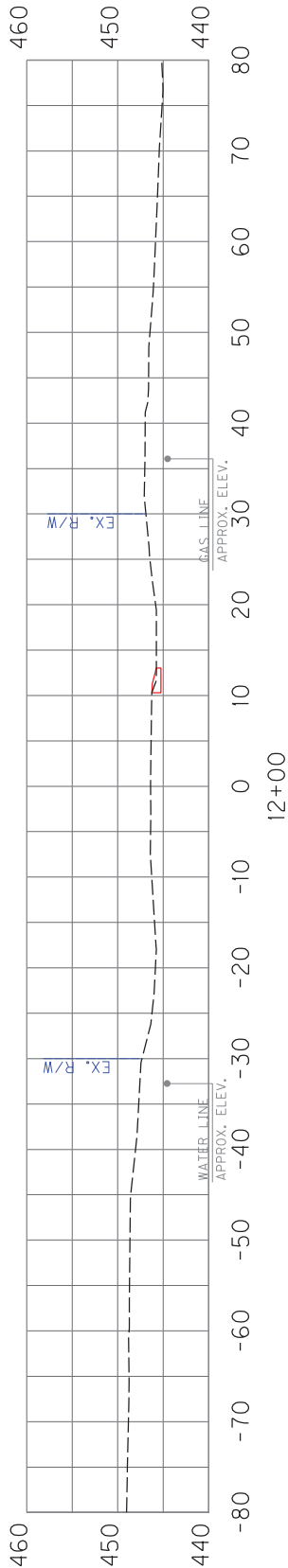


KY 81
SIGNING PLAN

SCALE: 1" = 250'

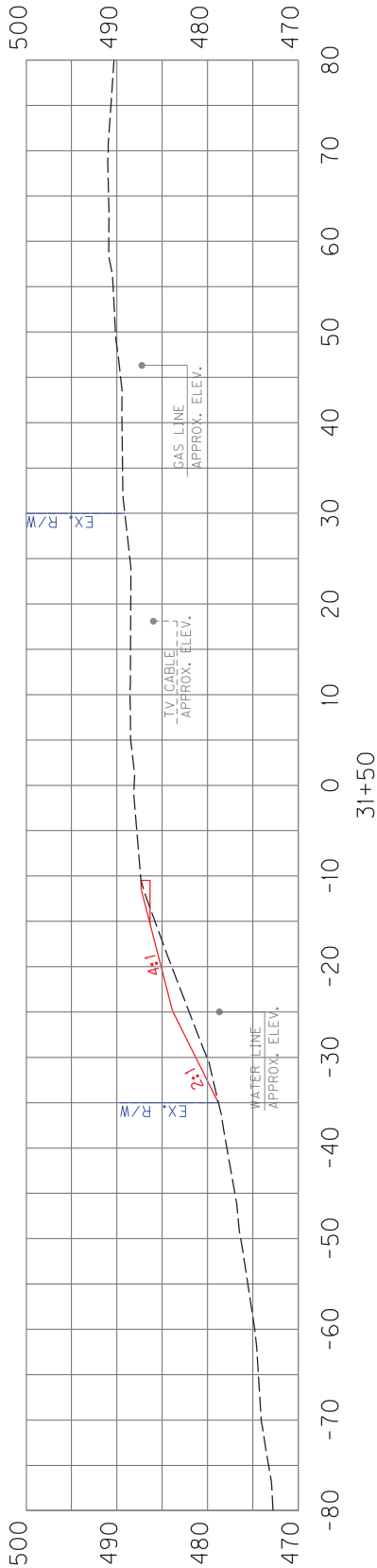
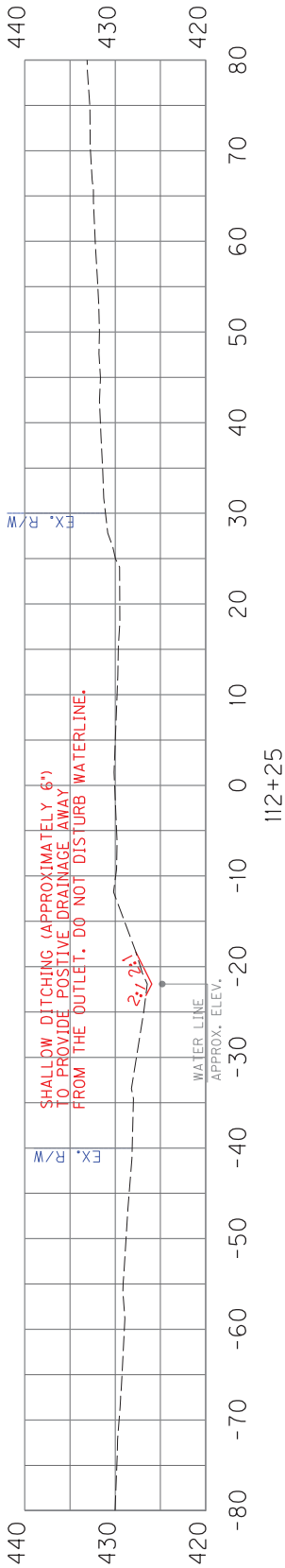
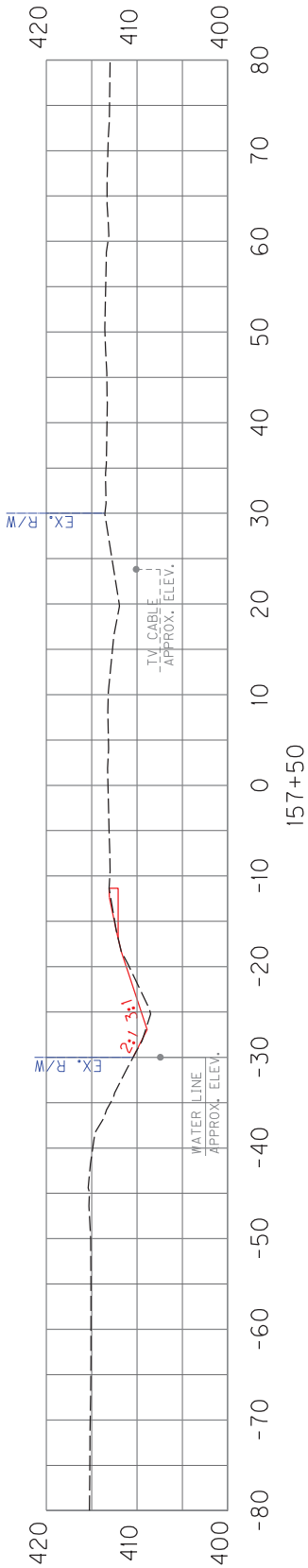
COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN/DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

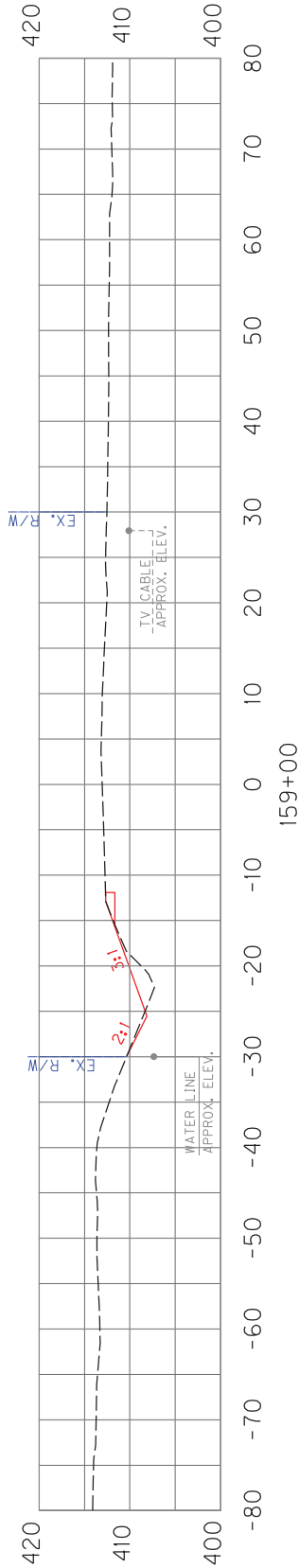
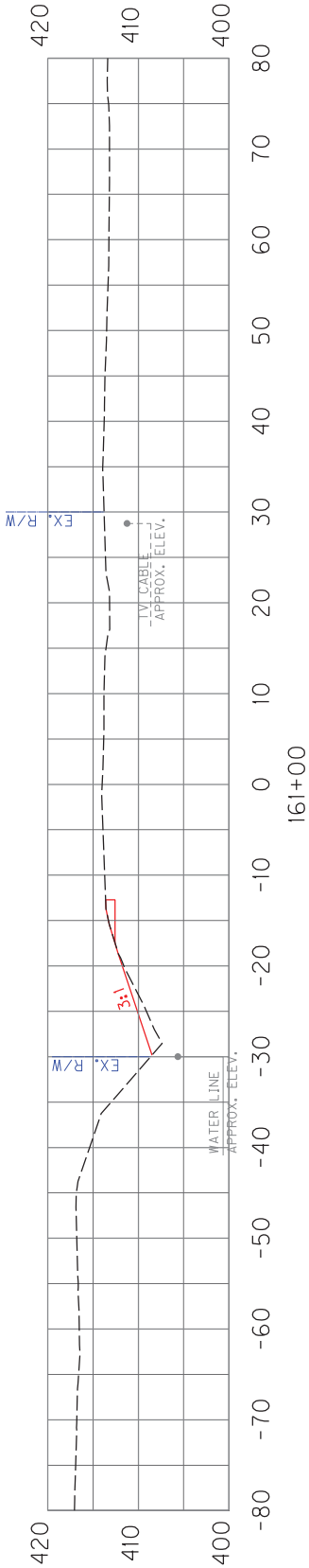
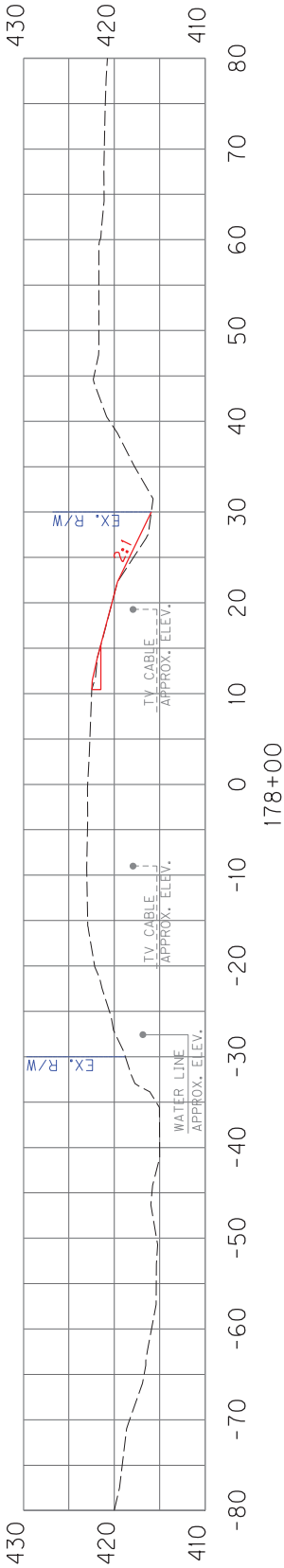


SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

CROSS SECTION SHEET
STA. 31+50 TO STA. 157+50

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE
LOCATIONS. CONTRACTOR SHALL FIELD VERIFY
LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

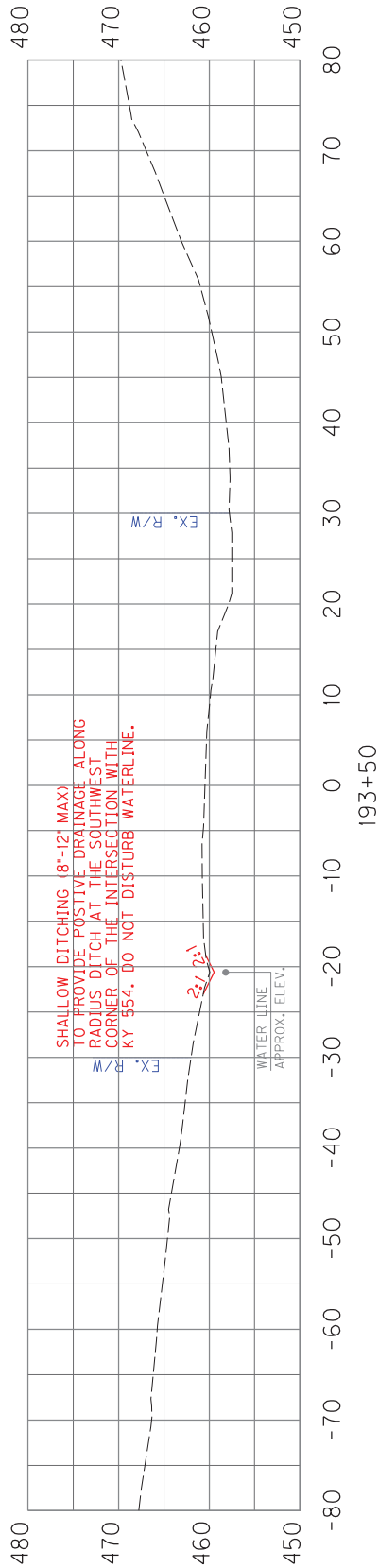
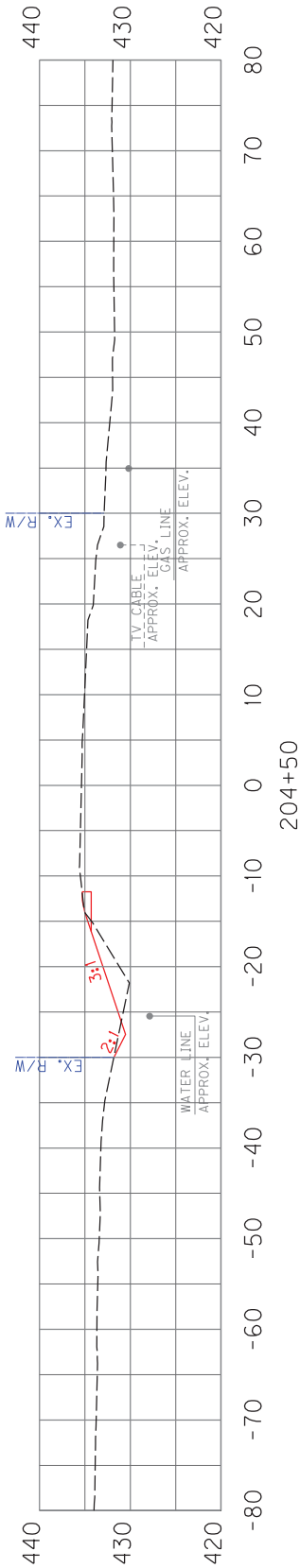
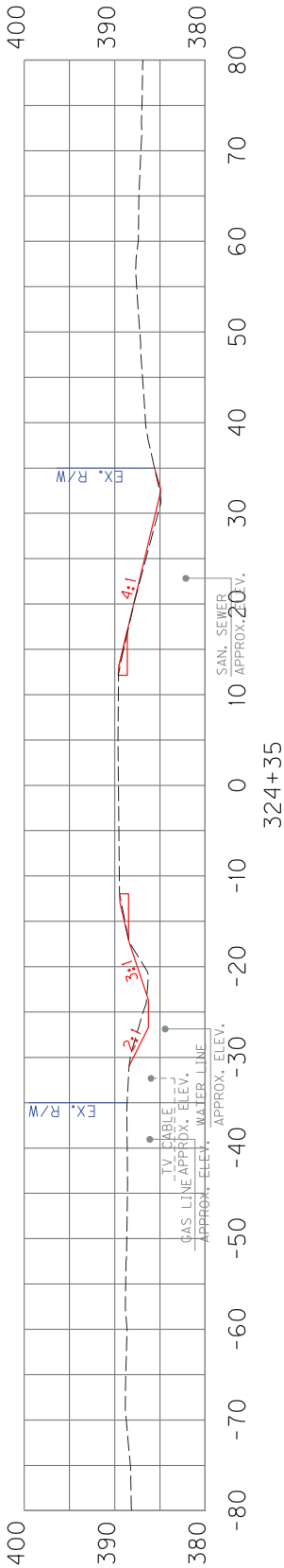


SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

CROSS SECTION SHEET
STA. 159+00 TO STA. 178+00

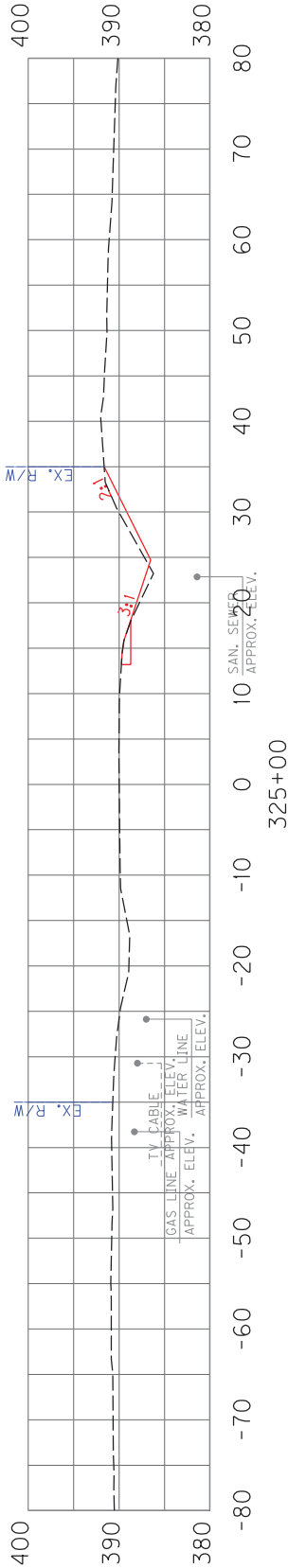
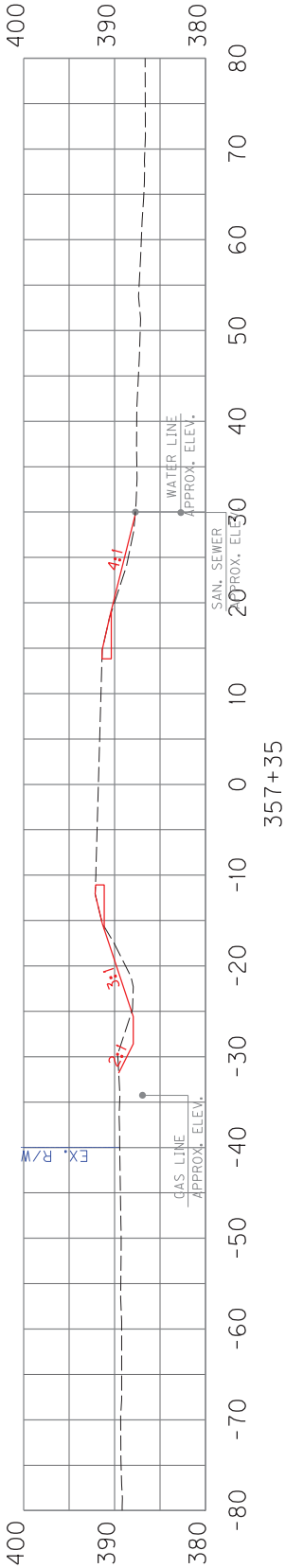
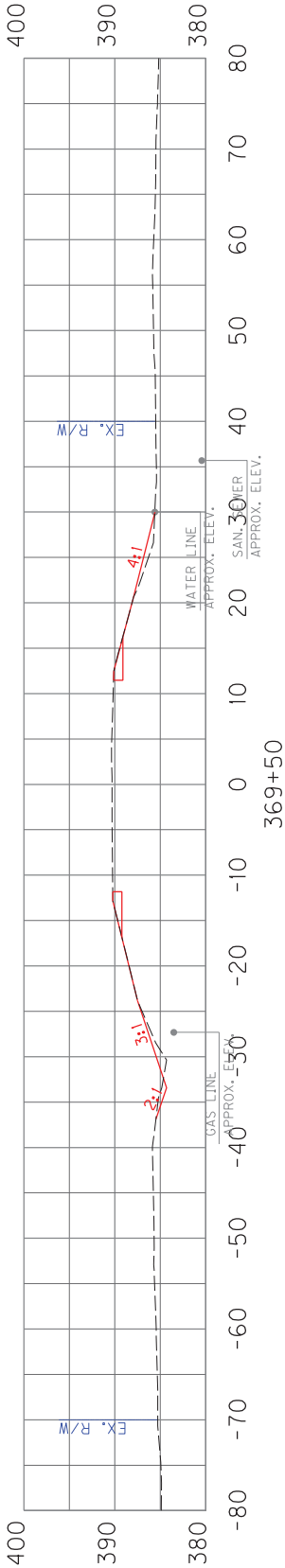
COUNTY OF	ITEM NO.	SHEET NO.

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE
LOCATIONS, CONTRACTOR SHALL FIELD VERIFY
LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE
LOCATIONS. CONTRACTOR SHALL FIELD VERIFY
LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

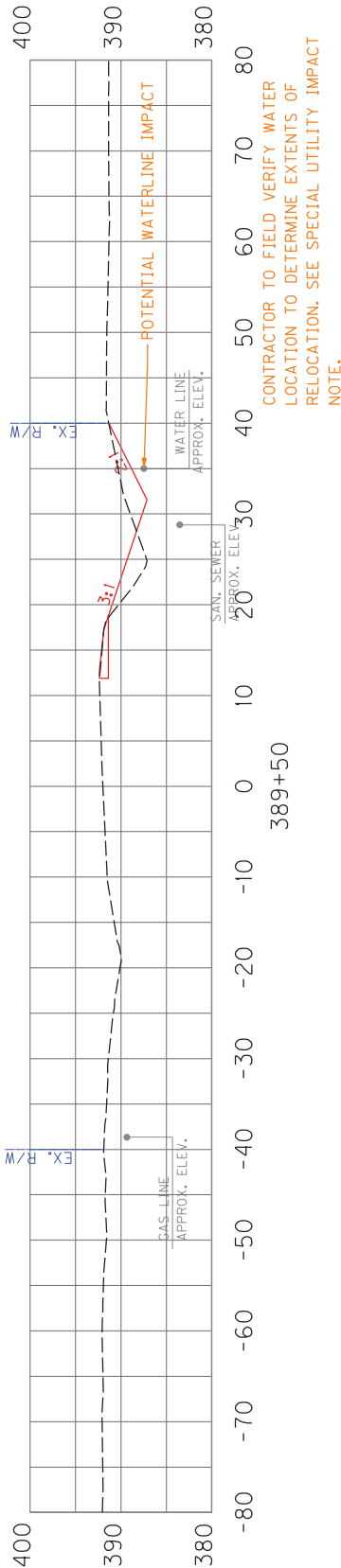
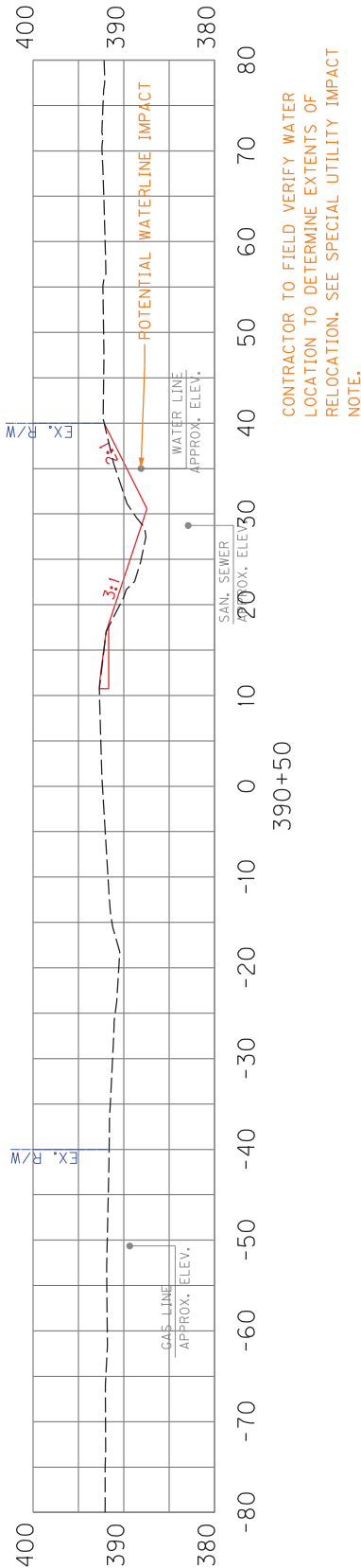
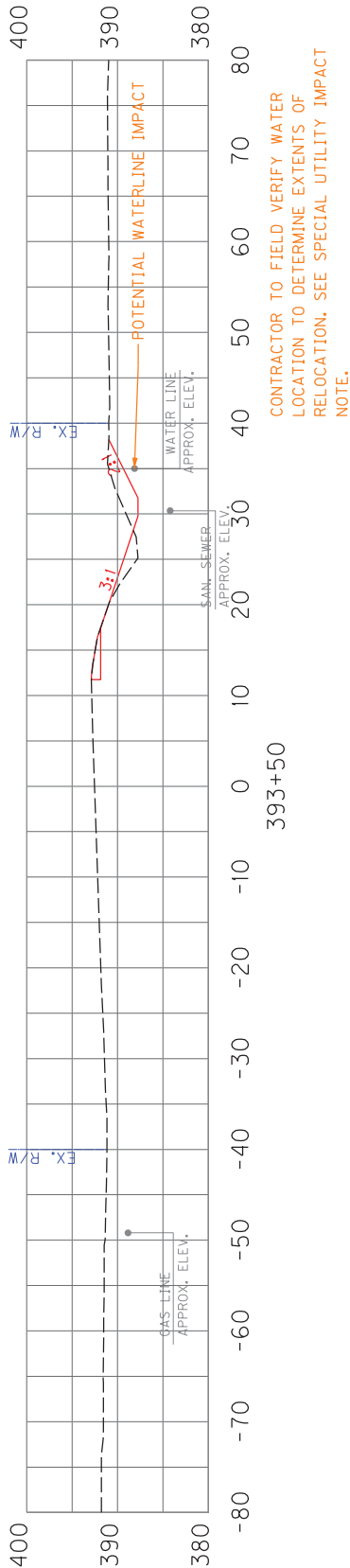


SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

CROSS SECTION SHEET
STA. 325+00 TO STA. 369+50

COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

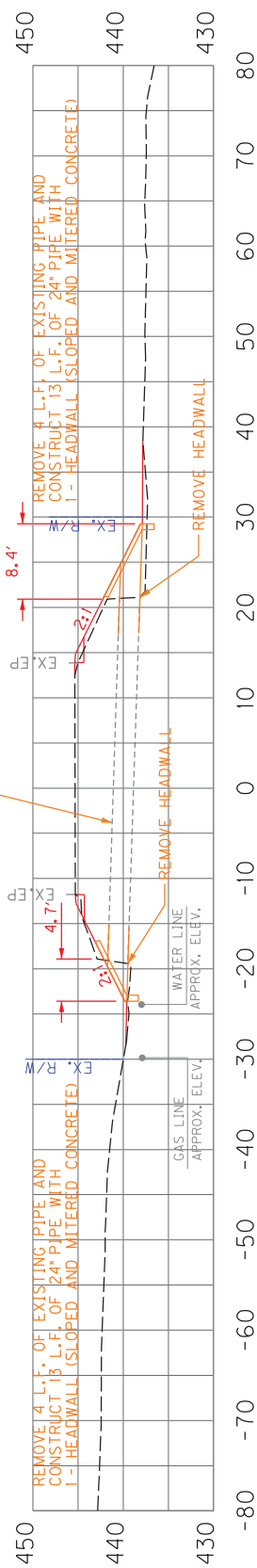


SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

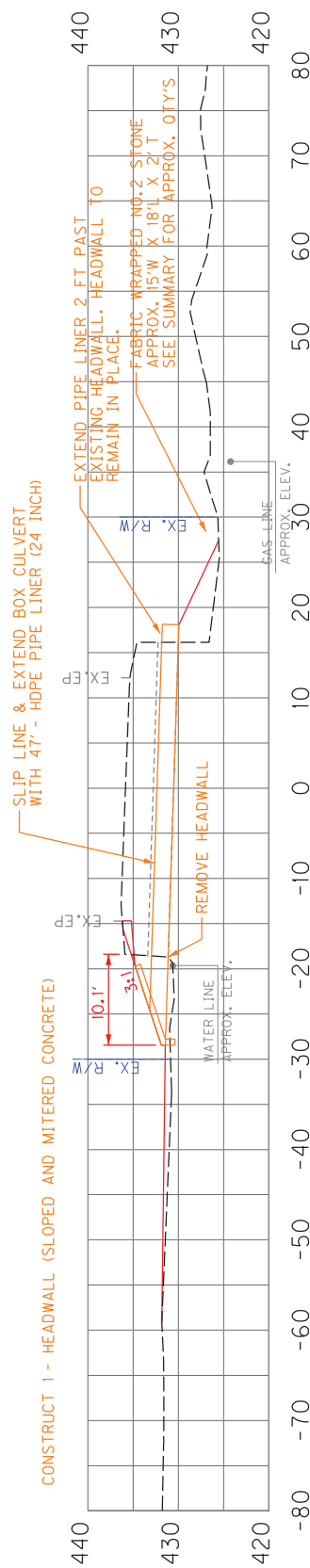
CROSS SECTION SHEET
STA. 389+50 TO STA. 393+50

COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN/DAVIESS	2-9013.00	

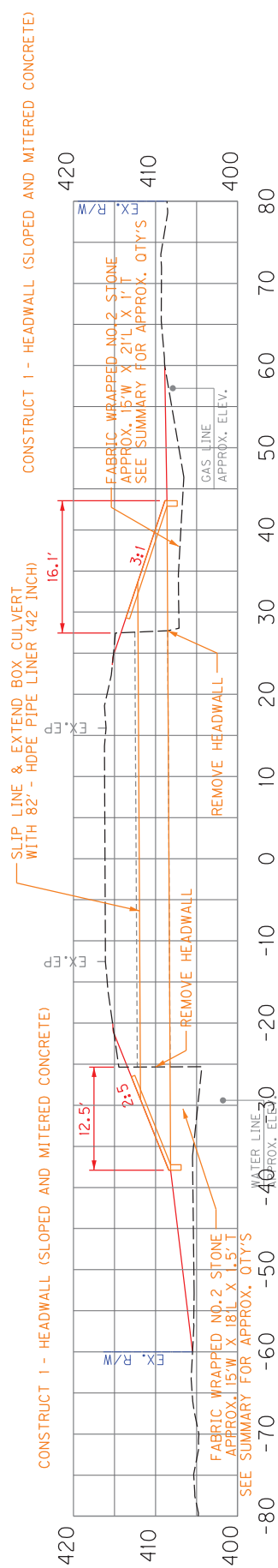
NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS, CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



89+62
EX. 24" RCP



EX. $2.5' \times 2.5'$ RBC



HDPE PIPE LINER (42 INCH) EX. 6'x4' RCBC 950+05

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

KY 81 CULVERT EXTENSIONS

FILE NAME: C:\PWORKING\EAST01\DIS72030\KY 81 PIPE EXTENSION SHEETS.DGN

DATE PLOTTED: November 16, 2022

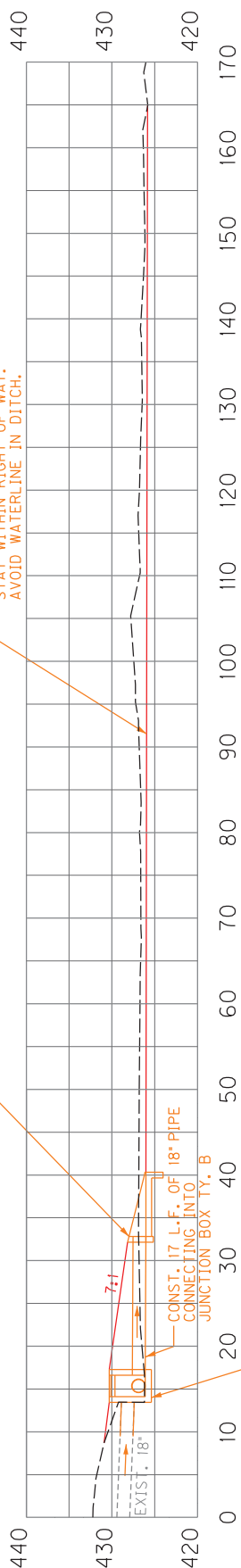
MicroStation v8.11.9.919



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS, CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

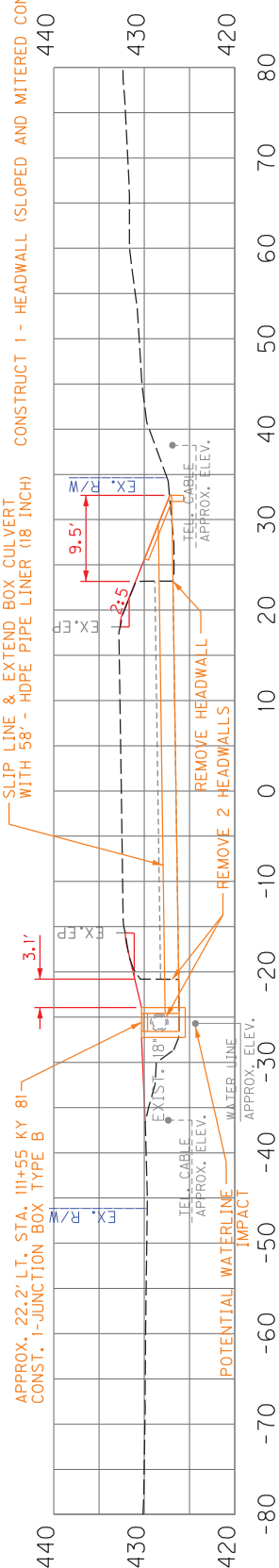
APPROX. 23.2' LT. STA. III+73 KY 81
CONST. 1-SLOPED BOX OUTLET TYPE 1
SHALLOW DITCHING IN ORDER TO
CREATE POSITIVE DRAINAGE.
ADJUST TO FIELD CONDITIONS.
STAY WITHIN RIGHT OF WAY.
AVOID WATERLINE IN DITCH.



PROPOSED SLOPED BOX OUTLET
@ 111+73

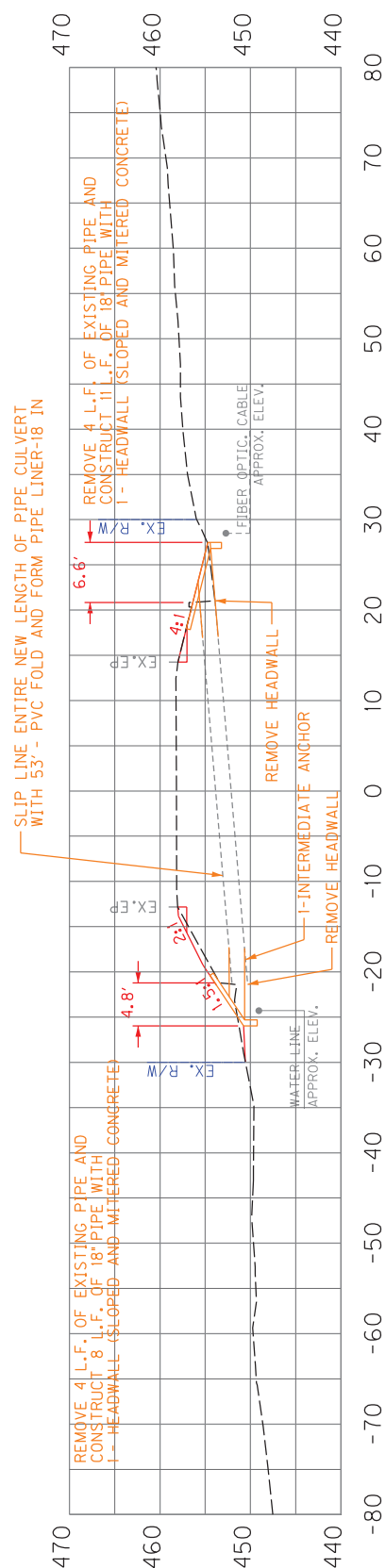
REMOVE 4 L.F. OF EXISTING PIPE AND
CONST. 5 L.F. OF 18" PIPE CONNECTING INTO
JUNCTION BOX TY. B

APPROX. 22.2' LT. STA. 111+55 KY 81



111+43
EX. 3'x2' RCBC
29°55'31" SKEW RT.

CONTRACTOR TO FIELD VERIFY WATERLINE LOCATION TO DETERMINE THE EXTENTS OF RELOCATION. SEE SPECIAL UTILITY IMPACT NOTE.



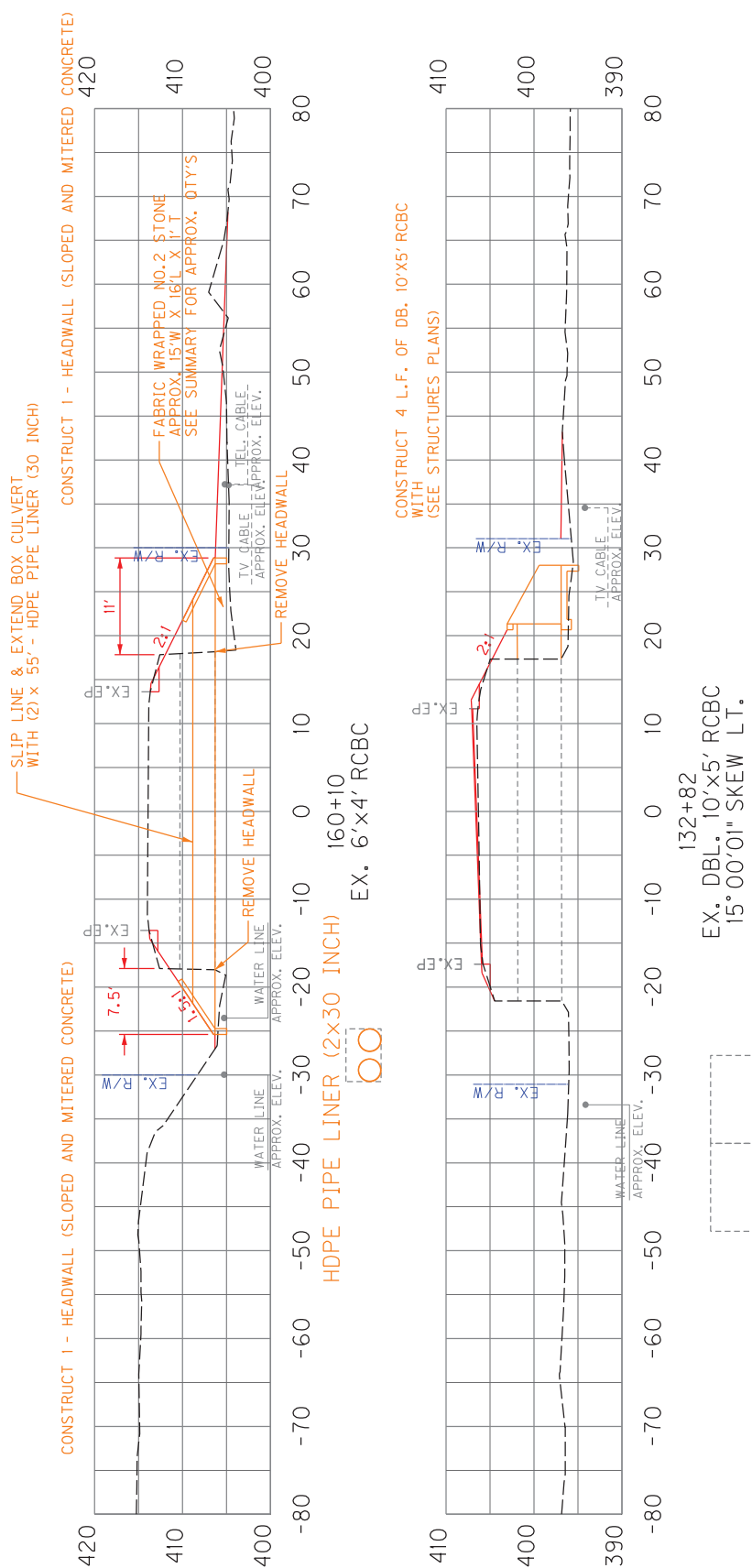
101+32
EX. 18" RCP

KY 81 CULVERT EXTENSIONS

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

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS, CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

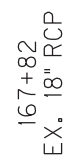
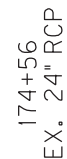
COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	



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

FILE NAME: C:\PWORKING\EAST01\DIS72030\KY 81 PIPE EXTENSION SHEETS.DGN

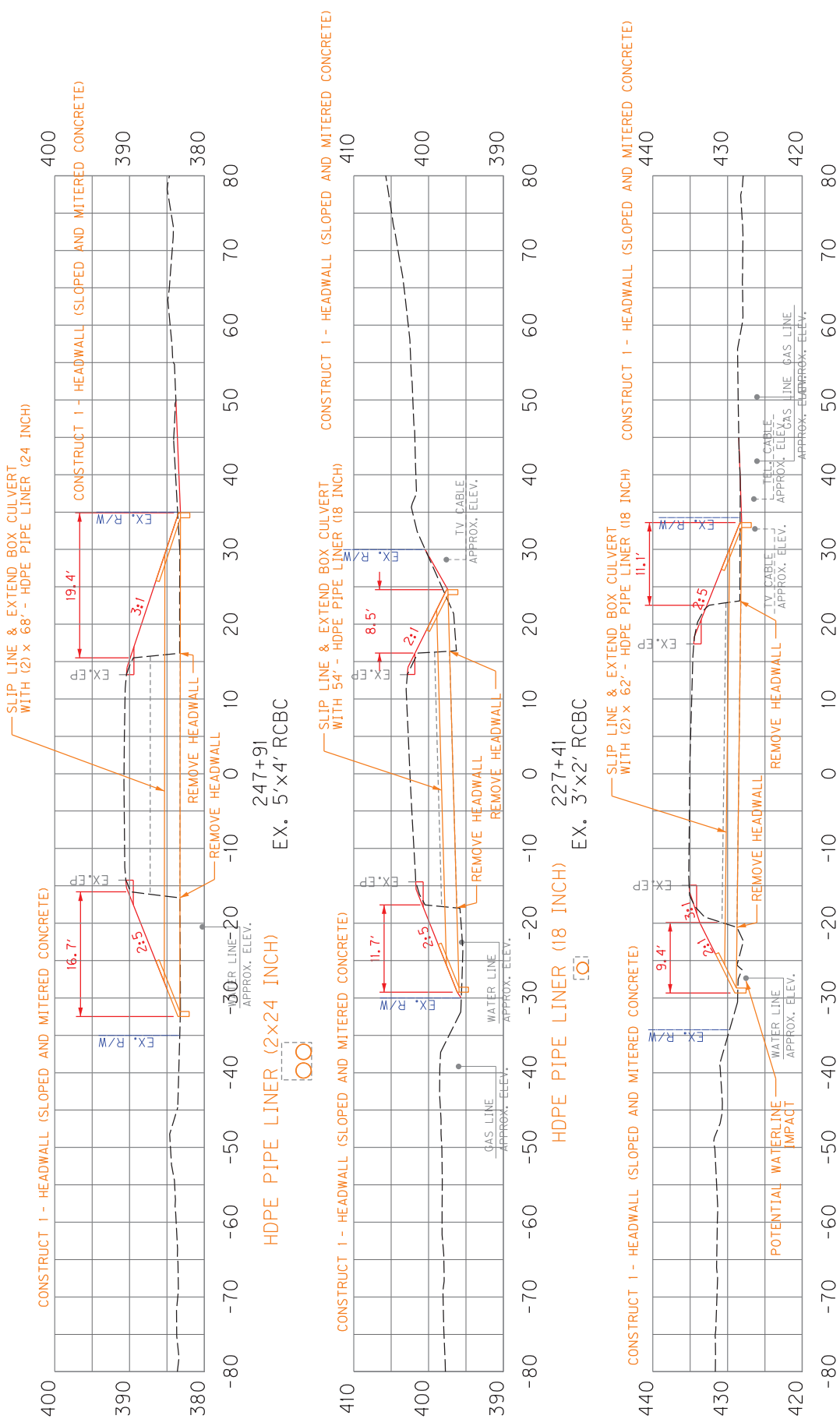
MicroStation v8.11.9.919



KY 81 CULVERT EXTENSIONS

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



HDPE PIPE LINER (2x24 INCH)
EX. 5'x4' RCBC
247+91

HDPE PIPE LINER (2x18 INCH)
EX. 4.6'x2' RCBC
205+15

HDPE PIPE LINER (2x18 INCH)
EX. 4.6'x2' RCBC
28°54'16" SKEW LT.

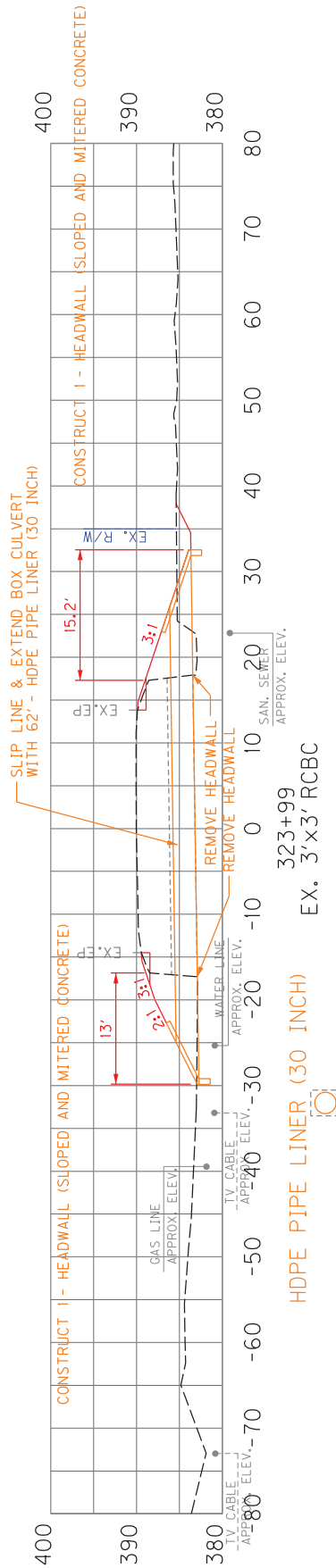
CONTRACTOR TO FIELD VERIFY WATERLINE LOCATION TO DETERMINE THE EXTENTS OF RELOCATION. SEE SPECIAL UTILITY IMPACT NOTE.

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

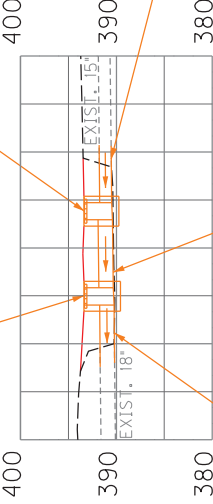
KY 81 CULVERT EXTENSIONS

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



APPROX. 23.6' LT. STA. 302+32 KY 81
CONST. 1-DROP BOX INLET, TYPE II



REMOVE 2 L.F. OF EXISTING PIPE AND
CONST. 2 L.F. OF 18" PIPE, CONNECTING INTO
DBI TY. II

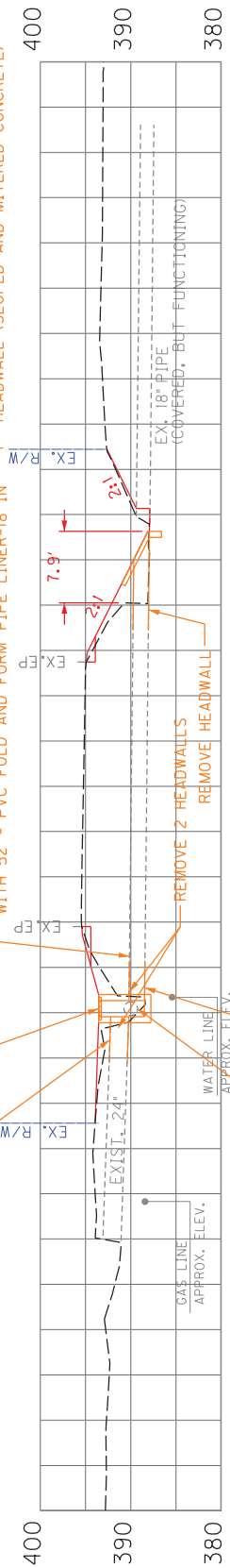
PROPOSED DBI TY. II'S
@ APPROX. 302+32
& 302+40

REMOVE 2 L.F. OF EXISTING PIPE AND
CONST. 2 L.F. OF 15" PIPE, CONNECTING INTO
DBI TY. II

CONST. 1-DROP BOX INLET, TYPE II

REMOVE 4 L.F. OF EXISTING PIPE AND
CONST. 5 L.F. OF 24" PIPE, CONNECTING INTO
DBI TY. II

SLIP LINE ENTIRE NEW LENGTH OF PIPE CULVERT
WITH 52' - PVC FOLD AND FORM PIPE LINER-18 IN



APPROX. 23.3' LT. STA. 301+83(PARALLEL WITH KY 81)
REMOVE 4 L.F. OF EXISTING PIPE AND
CONST. 5 L.F. OF 18" PIPE, CONNECTING INTO
DBI TY. II

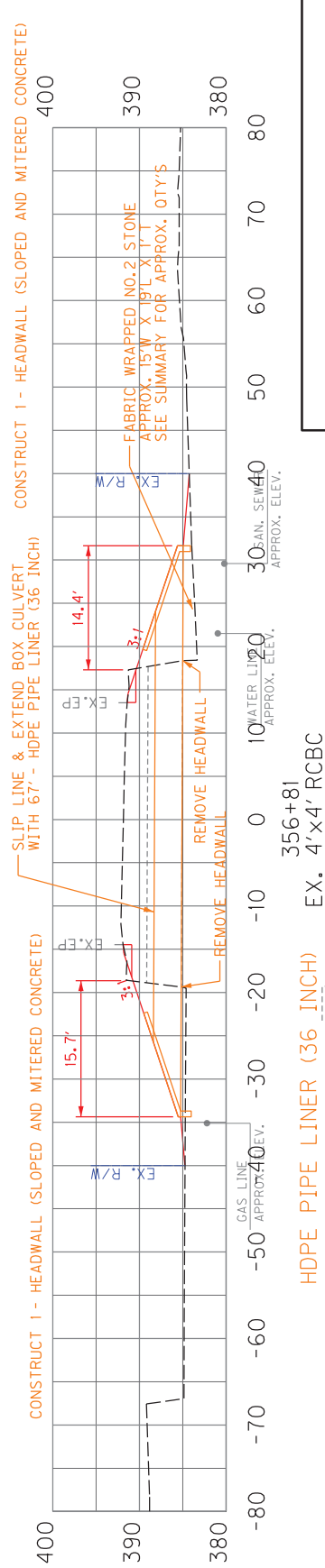
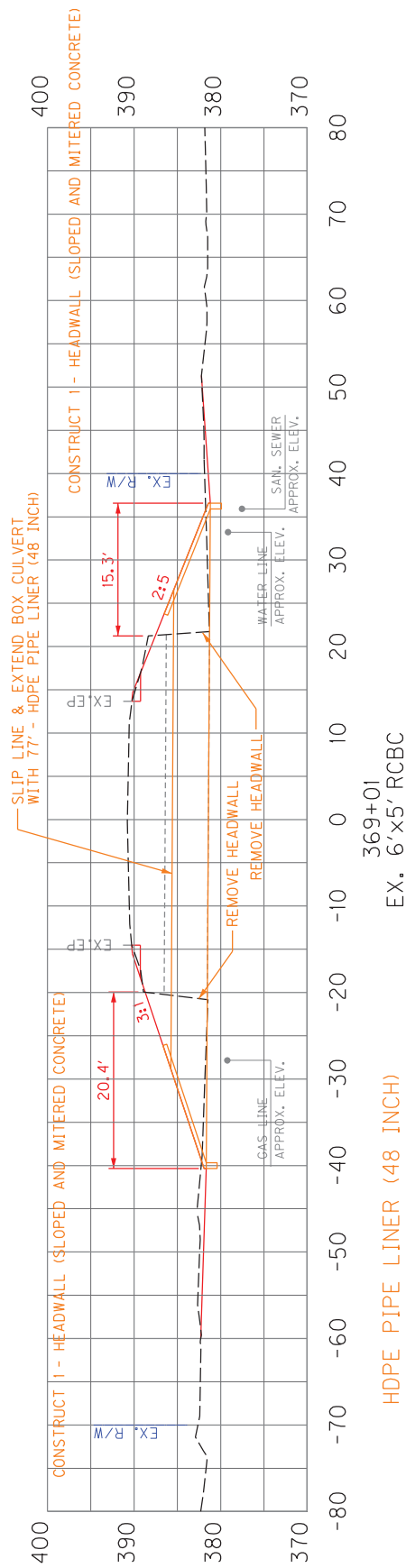
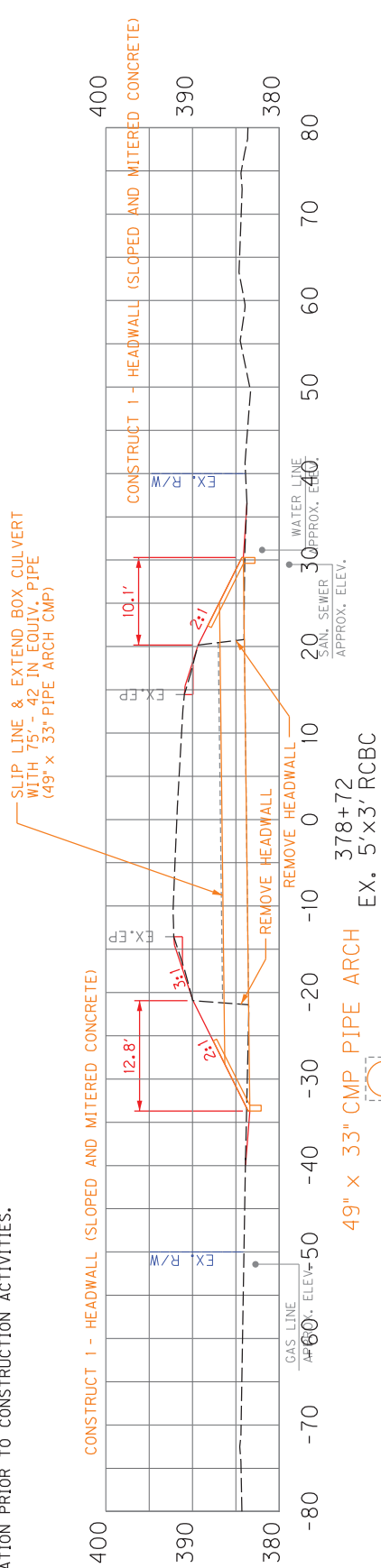
REMOVE 4 L.F. OF EXISTING PIPE AND
CONST. 5 L.F. OF 18" PIPE
CONNECTING INTO DBI TY. II

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

KY 81 CULVERT EXTENSIONS

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

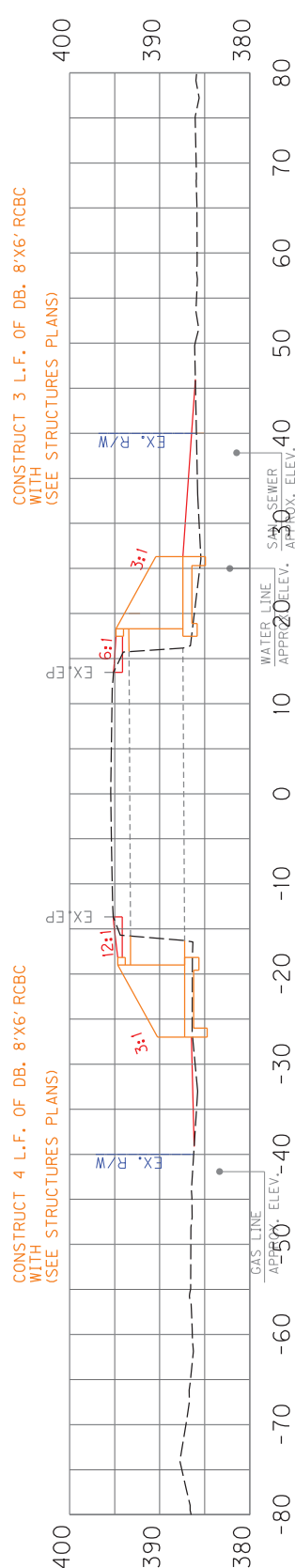


SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

KY 81 CULVERT EXTENSIONS

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

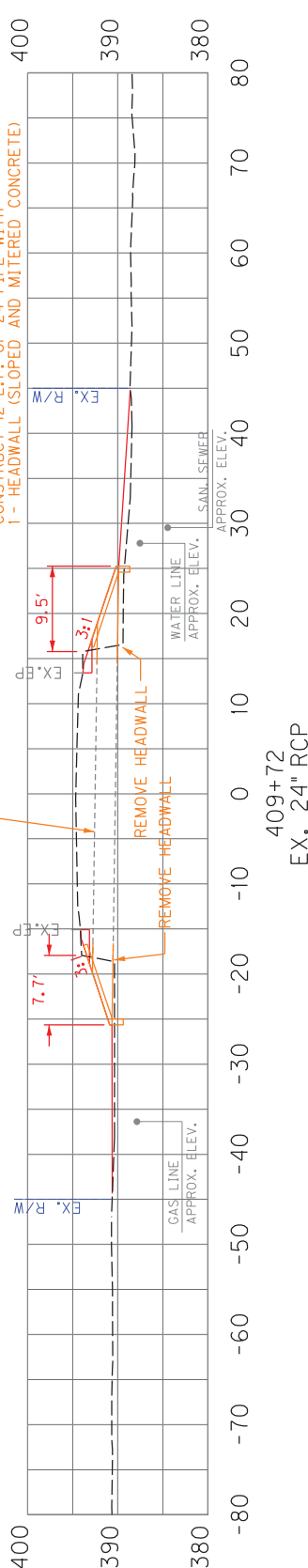
NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS, CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



445+39
EX. DBL. 8'x6' RCBC

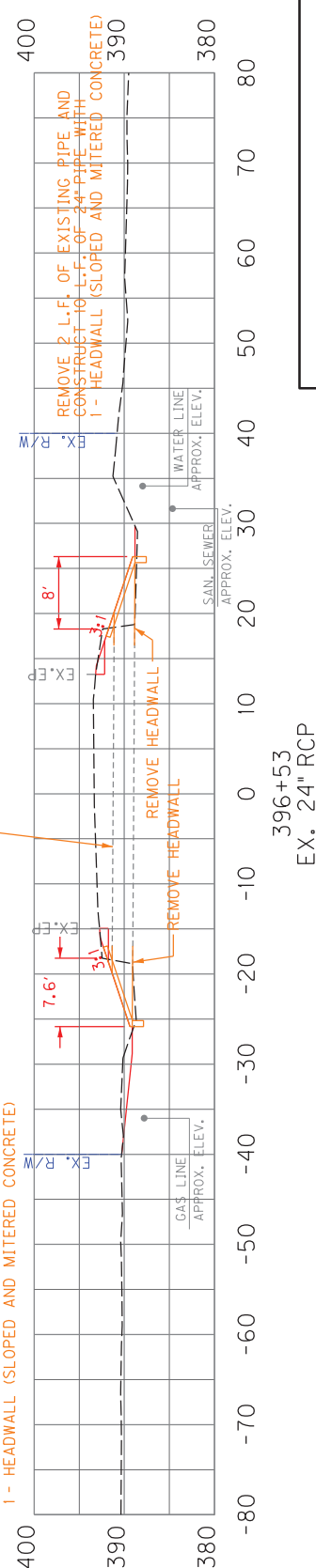
-SLIP LINE ENTIRE NEW LENGTH OF PIPE CULVERT WITH 51' - PVC FOLD AND FORM PIPE LINER-24 IN

REMOVE 2 L.F. OF EXISTING PIPE AND
CONSTRUCT 10 L.F. OF 24" PIPE WITH
1 - HEADWALL (SLOPED AND MITERED CONCRETE)



REMOVE 2 L.F. OF EXISTING PIPE AND
CONSTRUCT 10 L.F. OF 24" PIPE WITH
- HEADWALL (SLOPED AND MITERED CONCRETE)

LIP LINE ENTIRE NEW LENGTH OF PIPE CULVERT WITH 53' - PVC FOLD AND FORM PIPE LINER-24 IN



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

KEY 81 CULVERT EXTENSIONS

GENERAL NOTES

COUNTY OF	ITEM NO.	TAB NO.
DAVIESS	2-9013.00	

SPECIFICATIONS: References to the Specifications are to the 2019 Edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction including any current Supplemental Specifications.

DESIGN LOAD: These culvert extensions are designed for HS20 live load. The assumed weight of normal fill material is 120 lbs per cubic foot.

CULVERT FOUNDATIONS: The contractor shall excavate to 2 feet below the bottom of the proposed bottom slab and wing footings and backfill with "Granular Embankment" meeting the requirements of Section 805 of the Standard Specifications, except that the maximum size shall be 4 inches. All materials and labor are incidental to Foundation Preparation.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. The clear distance to the face of concrete is 2 inches unless noted otherwise.

BEVELED EDGES: All exposed edges shall be beveled 3/4" unless otherwise noted.

WEEP HOLES: Provide weep holes in the sidewalls and wingwalls of the culvert in accordance with Section 610.03.03 of the Specifications.

DESIGN STRESSES:
Concrete Class "A" - 3,500 psi
Steel Reinforcement - 60,000 psi

CONCRETE: Class "A" Concrete shall be used throughout.

FLOWLINE REINFORCEMENT: Construct the 6 inch paved flowline between wing footings using #4 bars at 18" on centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 inches into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. Care shall be taken to prevent damage to the existing structure that is to remain. The cost of cutting concrete shall be included in the unit price bid for Remove Concrete Masonry.

TEMPORARY SHORING: Temporary Sheet piling, Shoring, and/or Dewatering Method may be required for the installation of the culvert extension, wingwalls, and footings. Payment for this work shall be included in the Lump Sum Bid for Foundation Preparation.

COMPLETION OF STRUCTURE: The Contractor is required to complete the structure in accordance with the Plans and Specifications. Material, Labor and/or Construction Operations not otherwise specified, are to be included in the Bid Item most appropriate to the work involved. This may include Cofferdams, Shorings, Excavations, Backfilling, Removal of All or Parts of Existing Structures, Phase Construction, Incidental Materials, Labor or anything else required to complete the structure.

DOWELING REINFORCEMENT IN HARDENED CONCRETE: Where required, drill and use an epoxy adhesive for bonding new reinforcement into existing concrete using a two component epoxy resin system conforming to Section 826 of the Specifications. Embedment of the reinforcing steel shall be sufficient to develop the full tensile strength of the reinforcing bar in accordance with the Manufacturer's recommendations. In no case shall the embedment be less than 8". The cost of drilling holes and applying adhesive shall be incidental to the Unit Price Bid for Class "A" Concrete.

BONDING NEW CONCRETE TO EXISTING CONCRETE: New concrete shall be bonded to existing concrete with a two-component epoxy resin system conforming to Section 826 of the Specifications.

VERIFY EXISTING DIMENSIONS: Dimensions shown in the Plans are based on rudimentary field measurements. Prior to beginning any work or ordering any materials, the Contractor shall verify all dimensions.

PROPOSED FLOWLINE: The slope of the proposed culvert bottom slab shall provide a smooth transition from the existing culvert to the existing stream bed.

WING ADJUSTMENT: With approval of the Engineer, the proposed wing flare angle may be adjusted in the field up to 20° in order to provide the best fit for the site.

REBAR LAP SPLICE: Should the Contractor choose to introduce lap splices in addition to what is specified here, use the following minimum lap splice lengths with Class "A" Concrete:
#4 bar: 2'-3"
#5 bar: 2'-9"

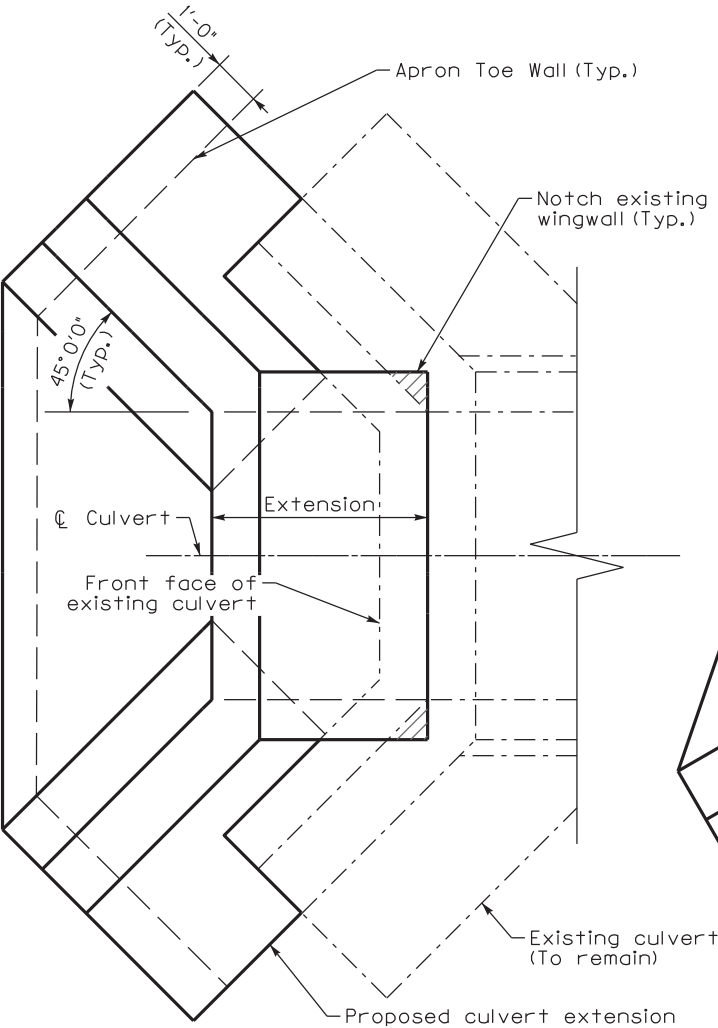
CULVERT EXTENSIONS				
Culvert	Station	Clear Span	Clear Height	Skewed Headwall
1	132+82	10' x 10'	5'-0"	Y
2	445+39	8' x 8'	6'-0"	N

Note: A headwall that forms a 90° angle with respect to the centerline of culvert is not skewed. All other orientations are skewed.

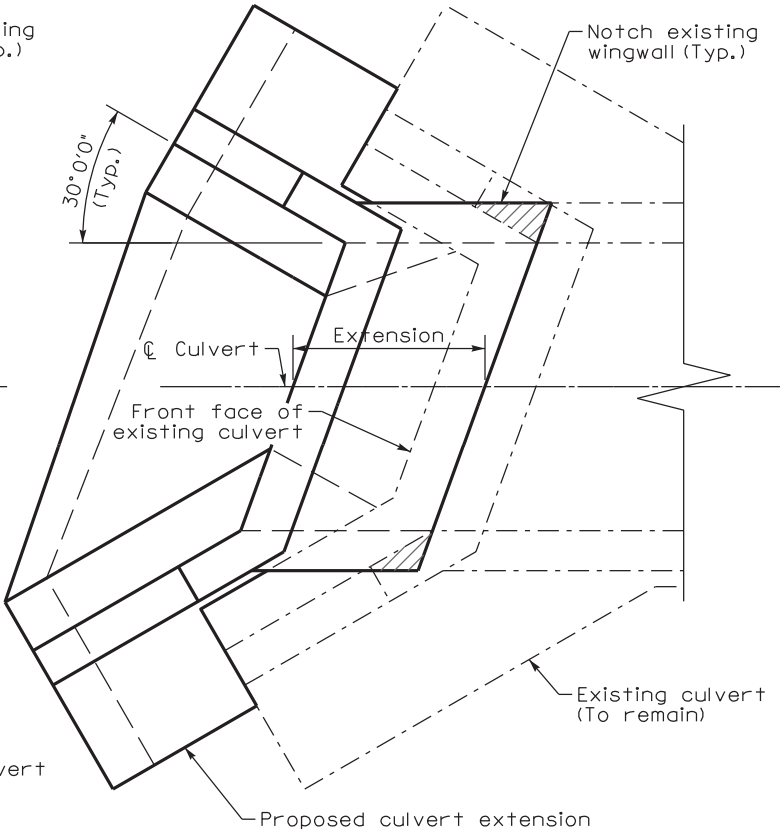
ESTIMATE OF QUANTITIES			
Culvert	08100 - Concrete, Class "A" (C.Y.)	08150 - Steel Reinforcement (LBS.)	08003 - Foundation Prep. (L.S.)
1	19.3	2,550	1
2	36.4	4,800	1

COUNTY OF	ITEM NO.	TAB NO.
DAVIESS	2-9013.00	

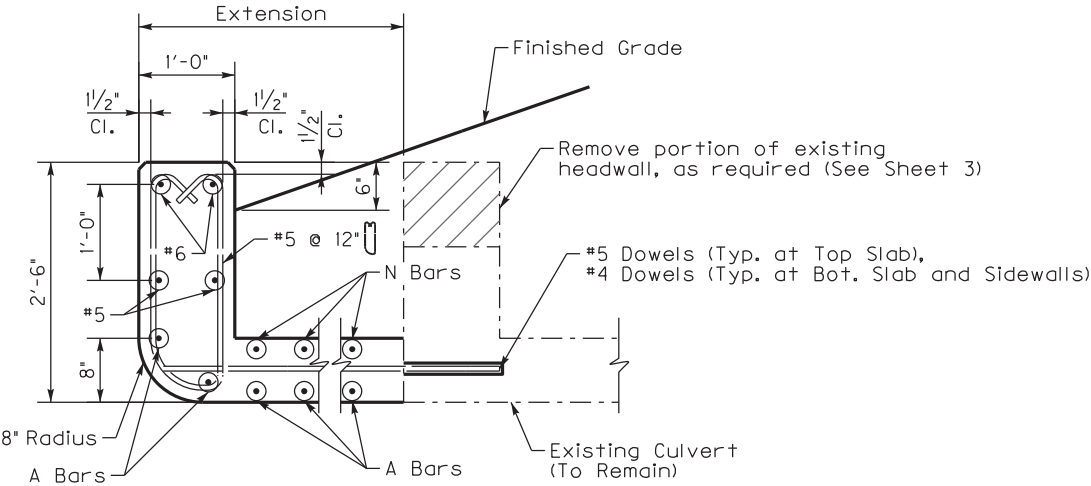
"Extension" DIMENSIONS		
Culvert	West End	East End
1	0'-0"	4'-0"
2	4'-0"	4'-0"



NON-SKEWED HEADWALL



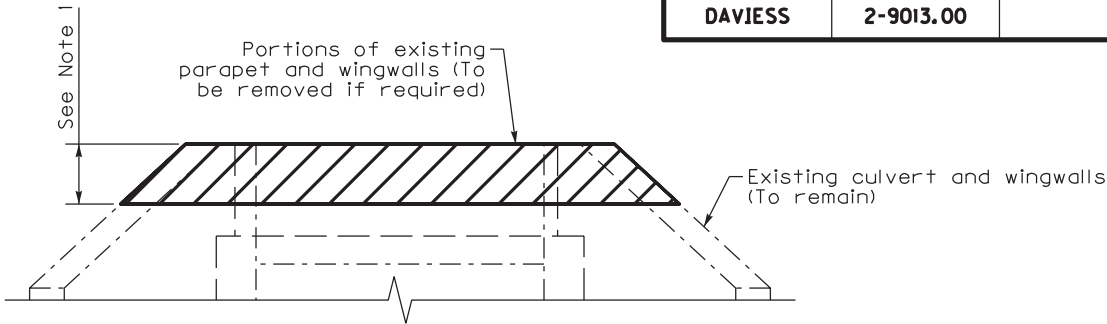
SKEWED HEADWALL



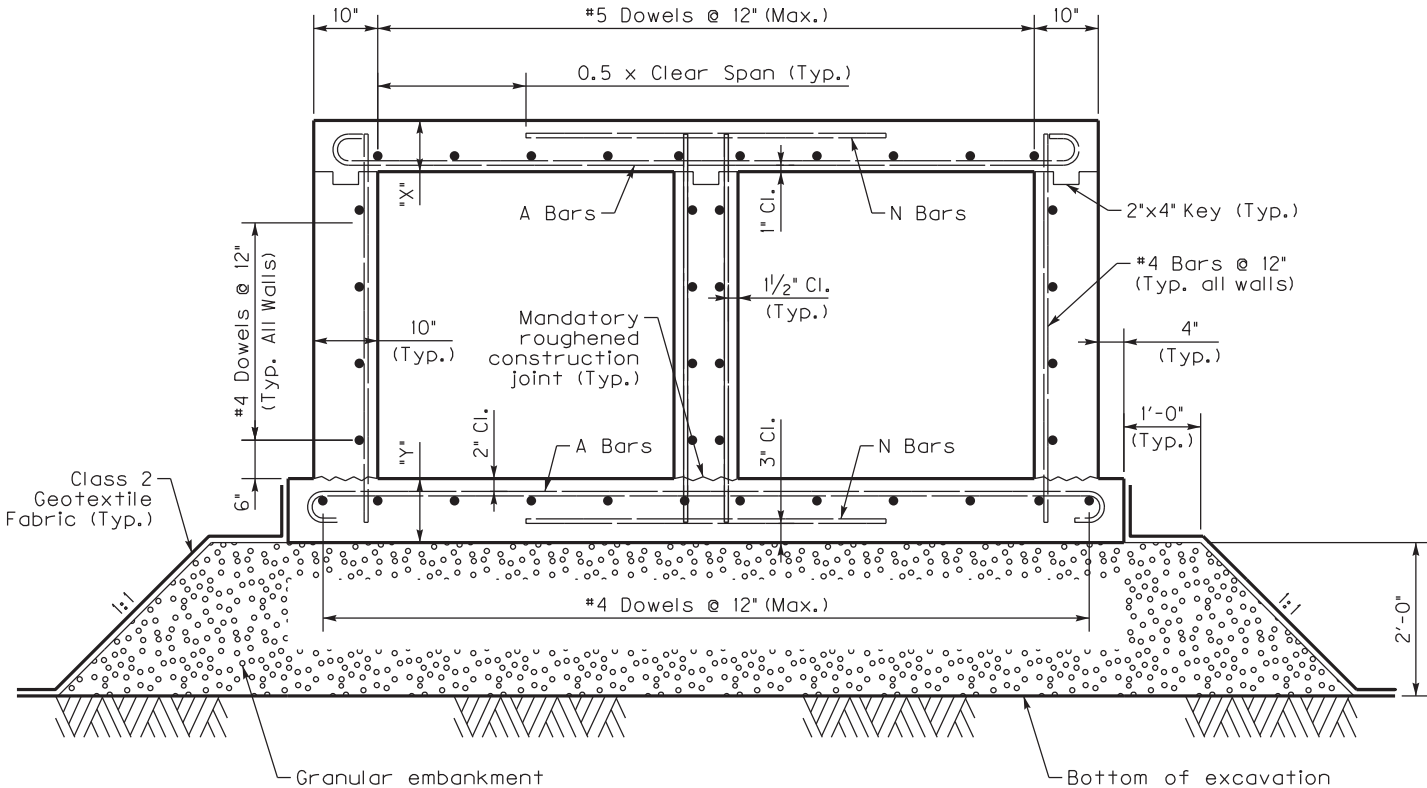
PARAPET DETAIL

(Typ. Both Ends)
Note: See Sheet 3 for A Bars.

COUNTY OF	ITEM NO.	TAB NO.
DAVIESS	2-9013.00	



PARAPET REMOVAL DETAIL



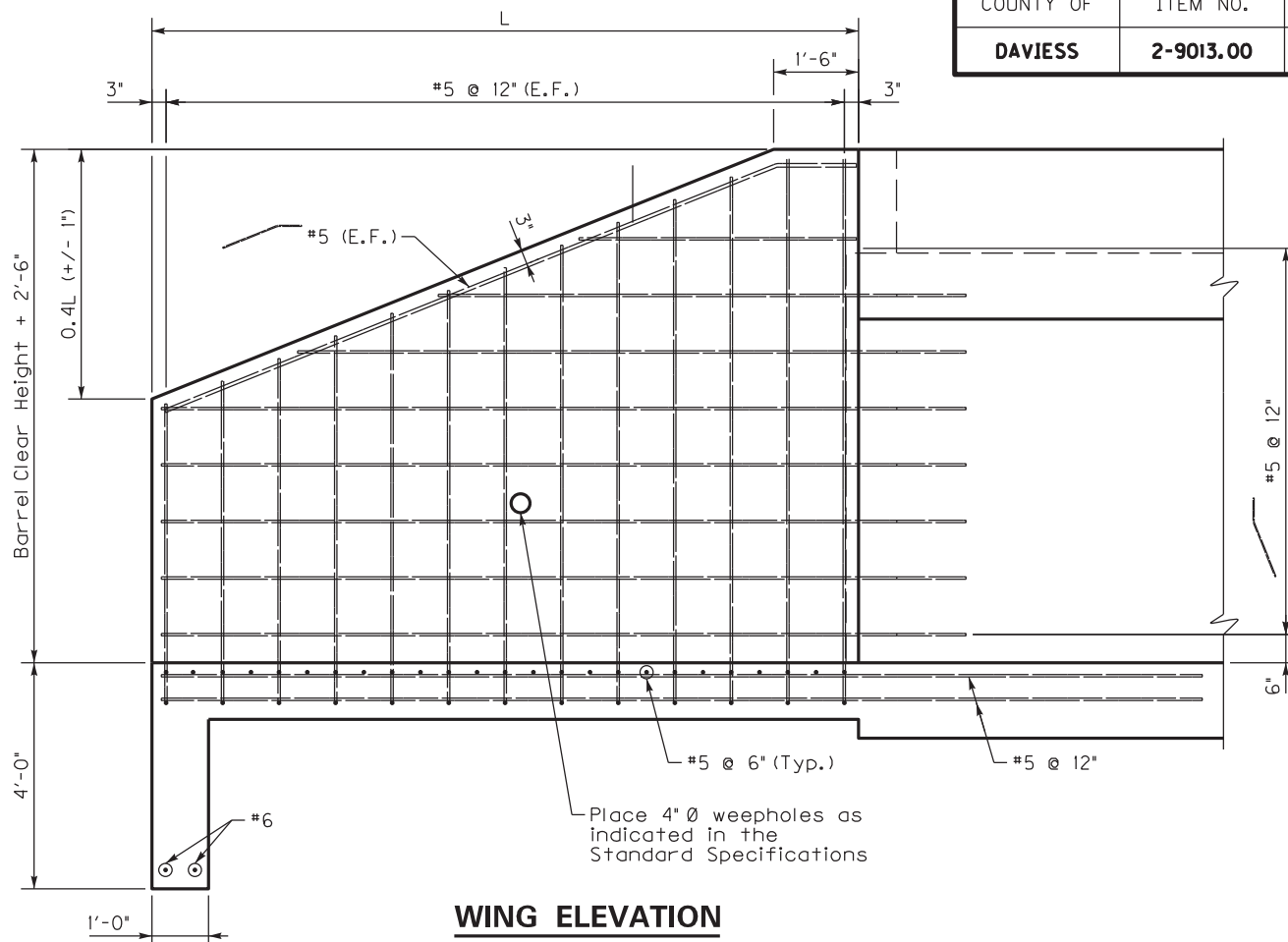
TYPICAL MULTI-BARREL EXTENSION SECTION

NOTES:

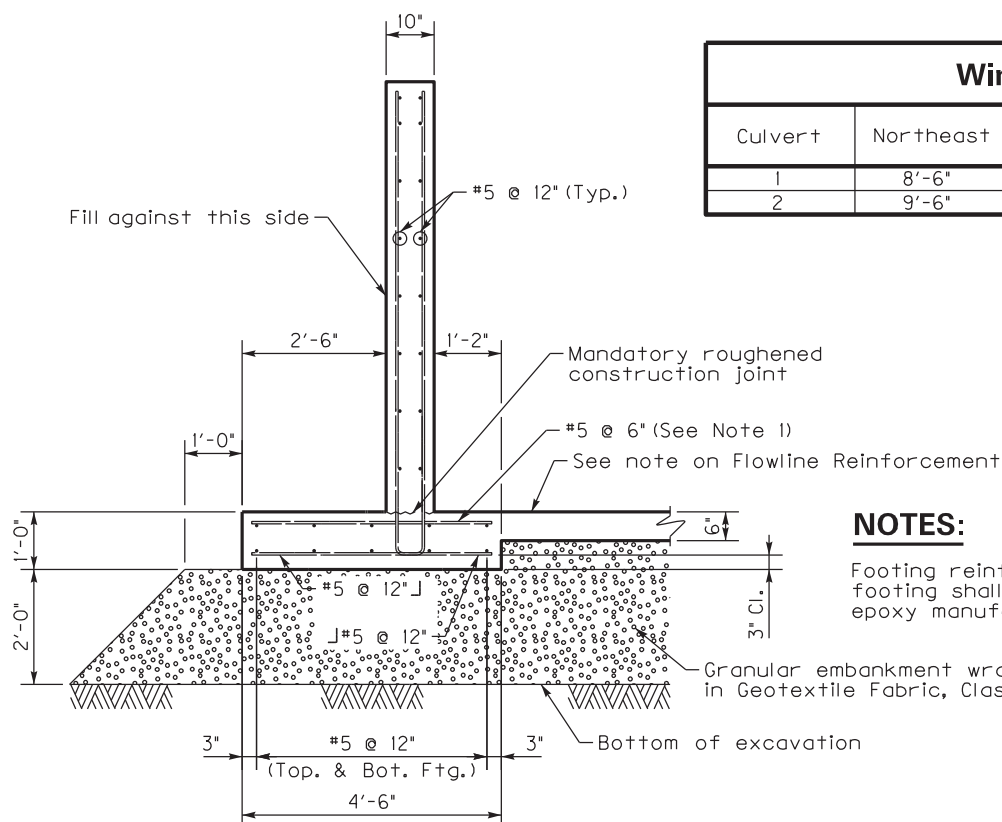
1. The Contractor shall remove portions of the existing headwall and wingwalls as required to provide a minimum of 1'-0" of fill over the remaining portions of the existing culvert headwall and wingwalls.
2. The Contractor shall not remove any portions of the existing headwall until construction of the new culvert extension is complete including connecting the new top slab to the existing culvert headwall using dowels and construction of the new culvert headwall. Only the minimum amount necessary to provide 1'-0" of fill shall be removed. Full depth saw cuts should be used for removal.
3. If partial removal of the existing headwall or wingwalls is required, all exposed steel shall be cut flush with face of concrete and coated with a bituminous paint capable of protecting the steel from moisture. All labor and materials associated with this work shall be considered incidental to the bid for Foundation Preparation.
4. All labor and materials associated with the Geotextile fabric shall be incidental to Foundation Preparation.

BARREL DIMENSIONS				
Culvert	X	Y	A Bars	N Bars
1	10"	12"	#6 @ 6"	#6 @ 6"
2	9"	11"	#6 @ 6"	#6 @ 6"

* Bars shall be placed parallel to headwall.
Two additional A Bars shall be placed
at the connection to the existing culvert.



WING ELEVATION



WING SECTION

Wing Length (L)

Culvert†	Northeast	Northwest	Southeast	Southwest
1	8'-6"	0'-0"	9'-6"	0'-0"
2	9'-6"	9'-6"	9'-6"	9'-6"

NOTES:

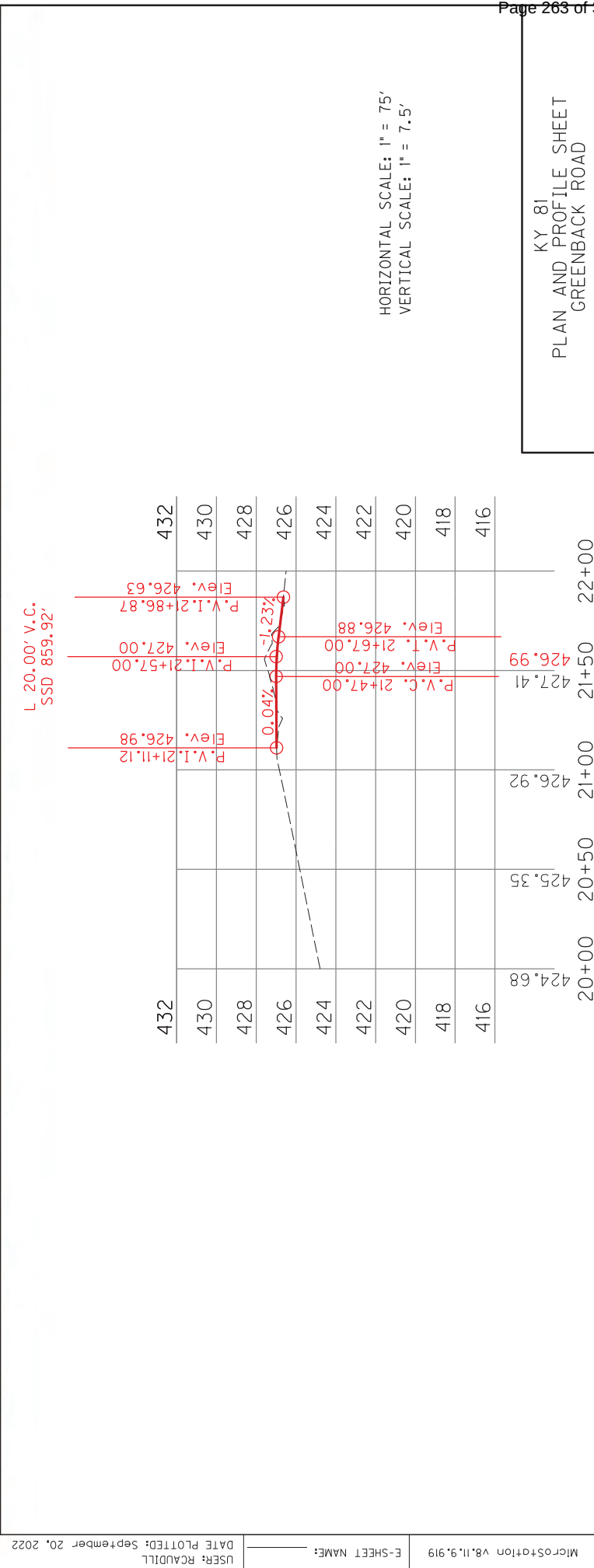
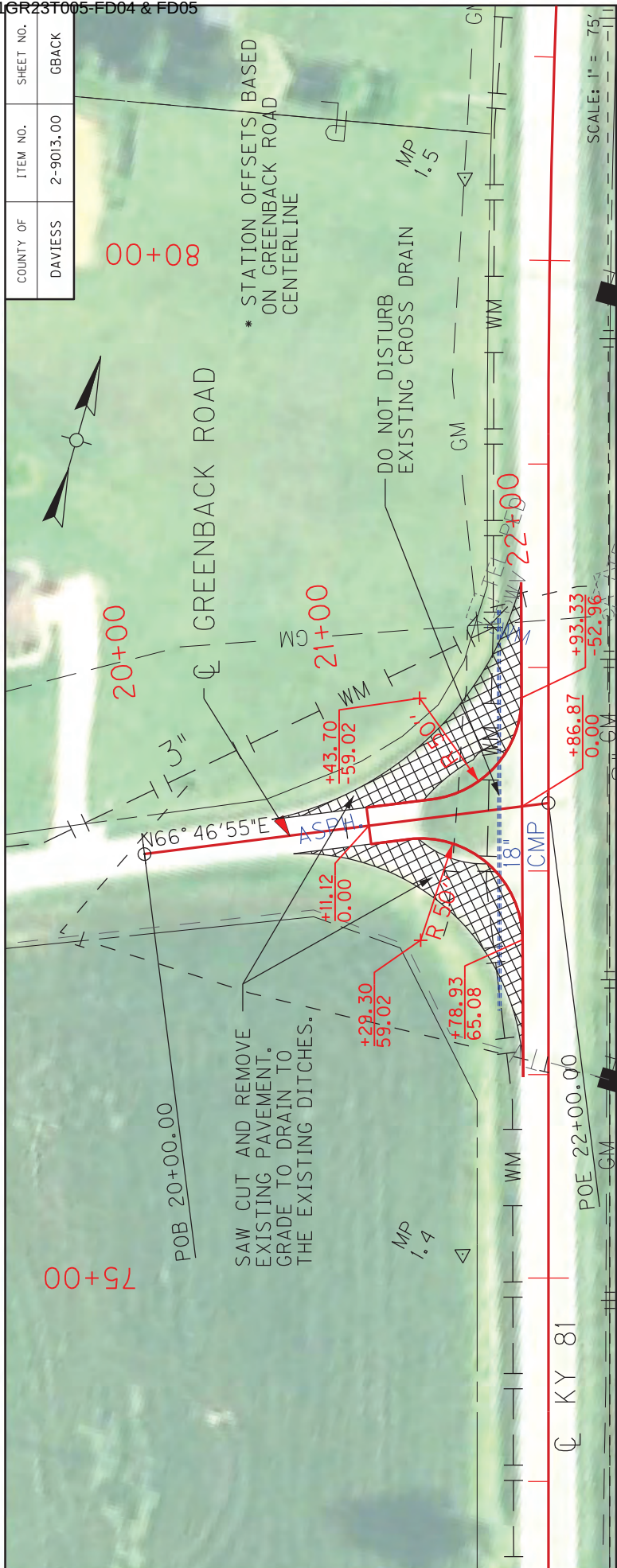
Footing reinforcement doweled into existing footing shall be cut to fit in accordance with epoxy manufacturers required embedment depth.

- Granular embankment wrapped in Geotextile Fabric, Class 2

Bottom of excavation

KY 81
CULVERT EXTENSIONS
(4 OF 4)

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	GBACK





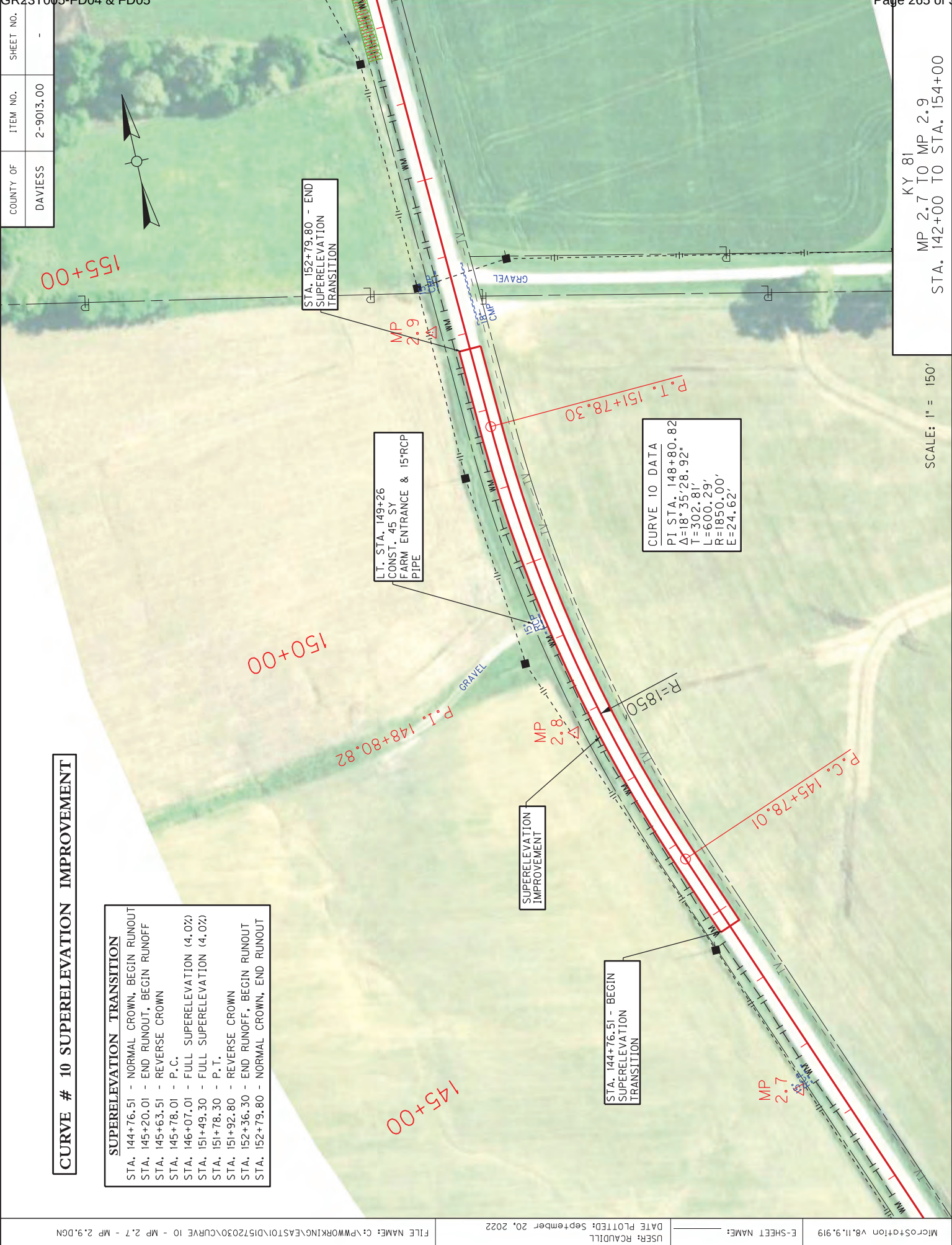
CURVE # 9 SUPERELEVATION IMPROVEMENT

SUPERELEVATION TRANSITION	
STA. 128+07.01	- NORMAL CROWN, BEGIN RUNOUT
STA. 128+52.01	- END RUNOUT, BEGIN RUNOFF
STA. 128+97.01	- REVERSE CROWN
STA. 129+12.01	- P.C.
STA. 129+42.01	- FULL SUPERELEVATION (4.0%)
STA. 135+47.94	- FULL SUPERELEVATION (4.0%)
STA. 135+77.94	- P.T.
STA. 135+92.94	- REVERSE CROWN
STA. 136+37.94	- END RUNOFF, BEGIN RUNOUT
STA. 136+82.94	- NORMAL CROWN, END RUNOUT

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	-

MP 2.4 TO MP 2.6
STA. 126+00 TO STA. 138+00

SCALE: 1" = 150'

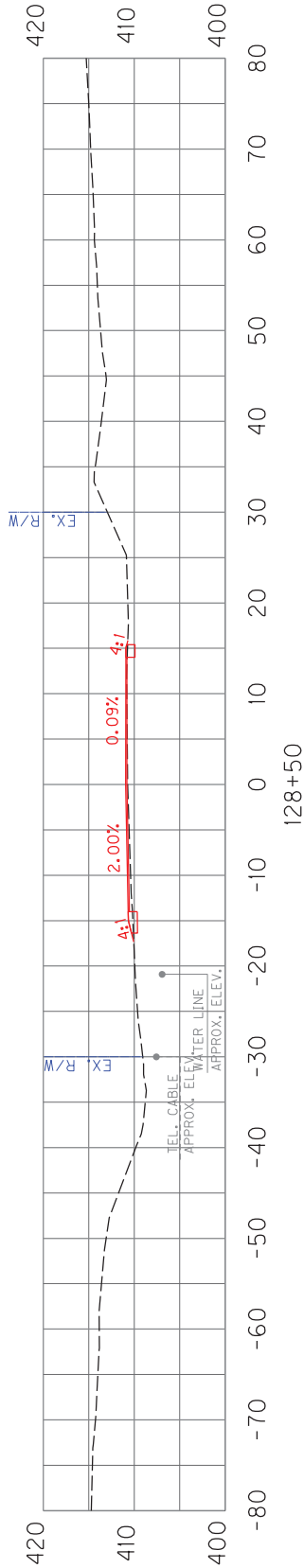
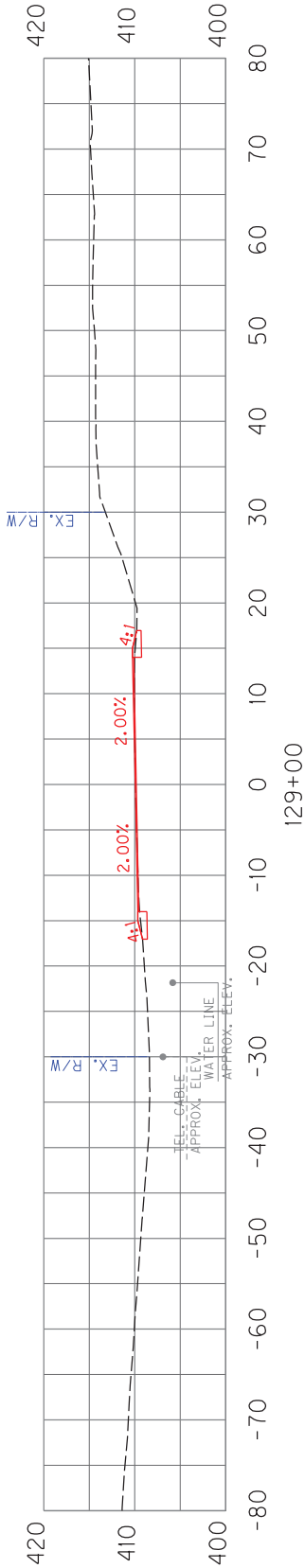


CURVE # 10 SUPERELEVATION IMPROVEMENT

SUPERELEVATION TRANSITION	
STA. 144+76.51	- NORMAL CROWN, BEGIN RUNOUT
STA. 145+20.01	- END RUNOUT, BEGIN RUNOFF
STA. 145+63.51	- REVERSE CROWN
STA. 145+78.01	- P.C.
STA. 146+07.01	- FULL SUPERELEVATION (4.0%)
STA. 151+49.30	- FULL SUPERELEVATION (4.0%)
STA. 151+78.30	- P.T.
STA. 151+92.80	- REVERSE CROWN
STA. 152+36.30	- END RUNOFF, BEGIN RUNOUT
STA. 152+79.80	- NORMAL CROWN, END RUNOUT

COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE
LOCATIONS. CONTRACTOR SHALL FIELD VERIFY
LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



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DATE PLOTTED: January 11, 2019
USER: RCAUDILL

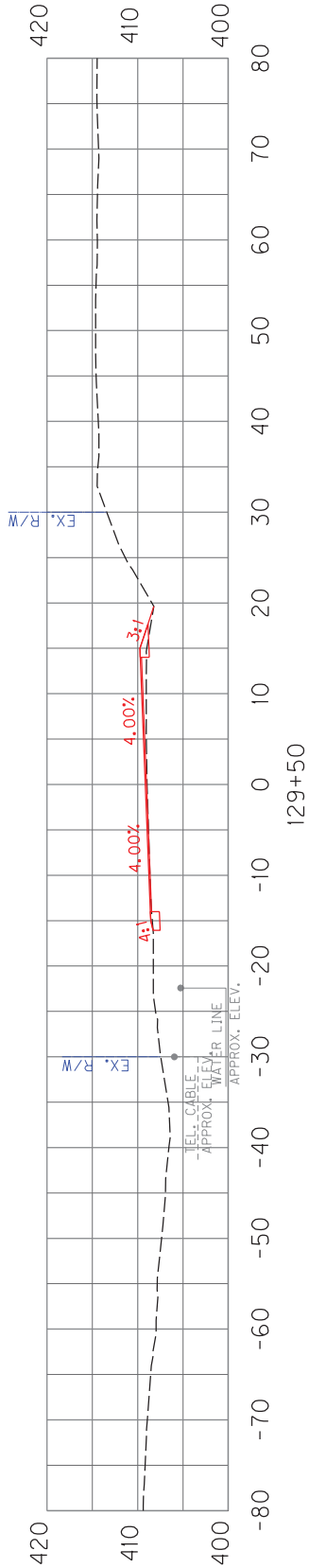
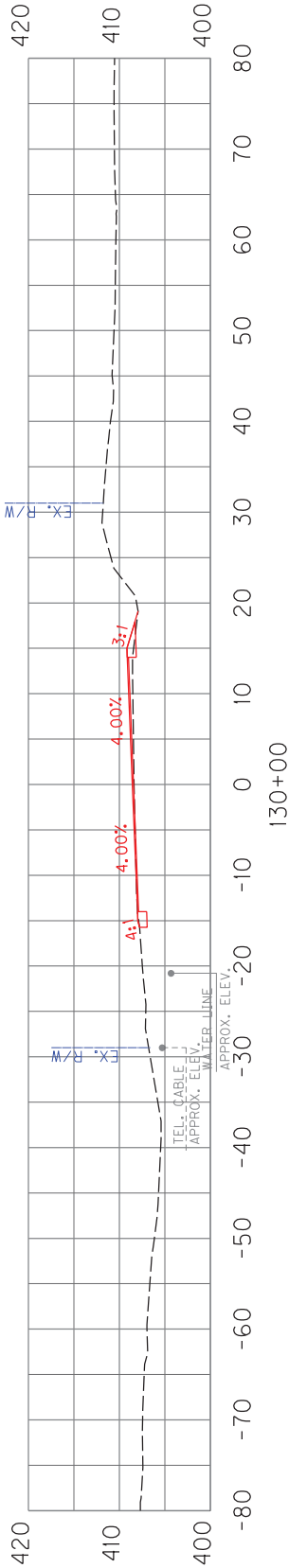
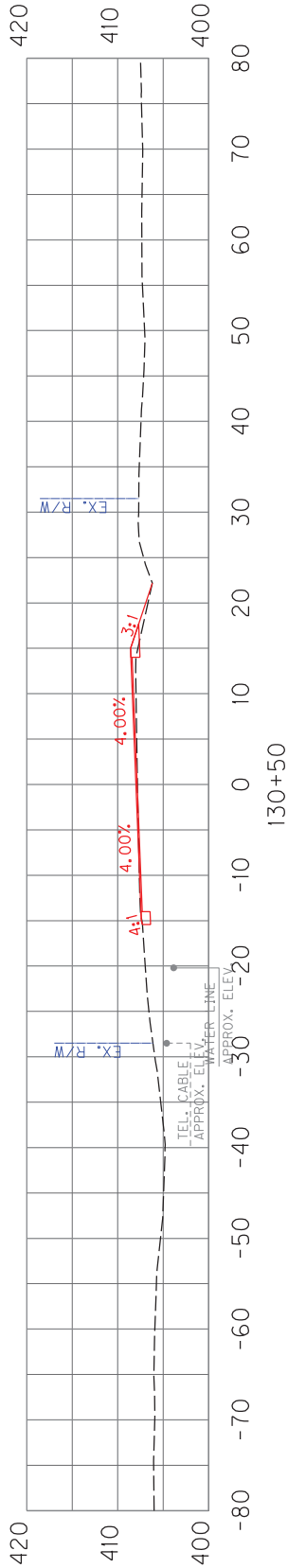
MicroStation v8.11.9.919

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

SUPERELEVATION IMPROVEMENT CURVE 9
CROSS SECTION SHEET
STA. 128+00 TO STA. 129+00

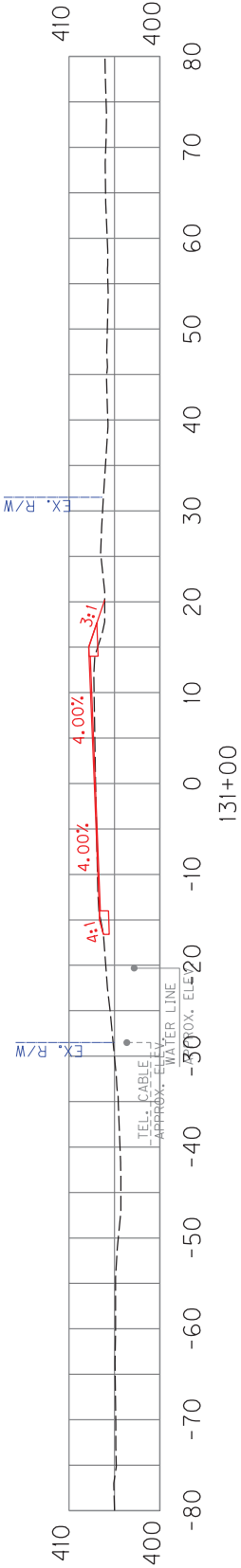
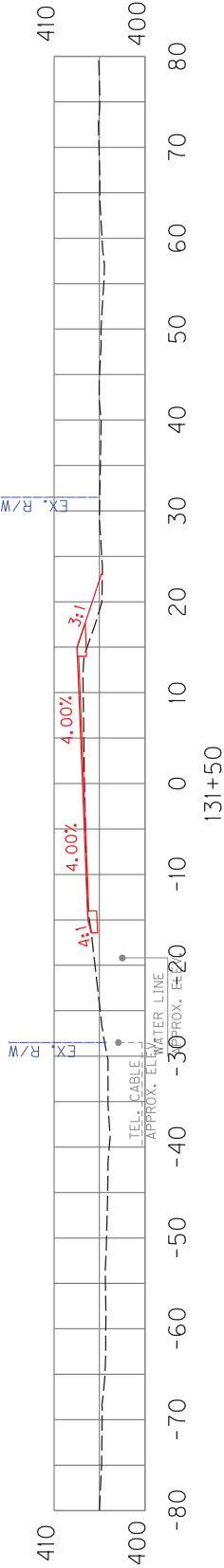
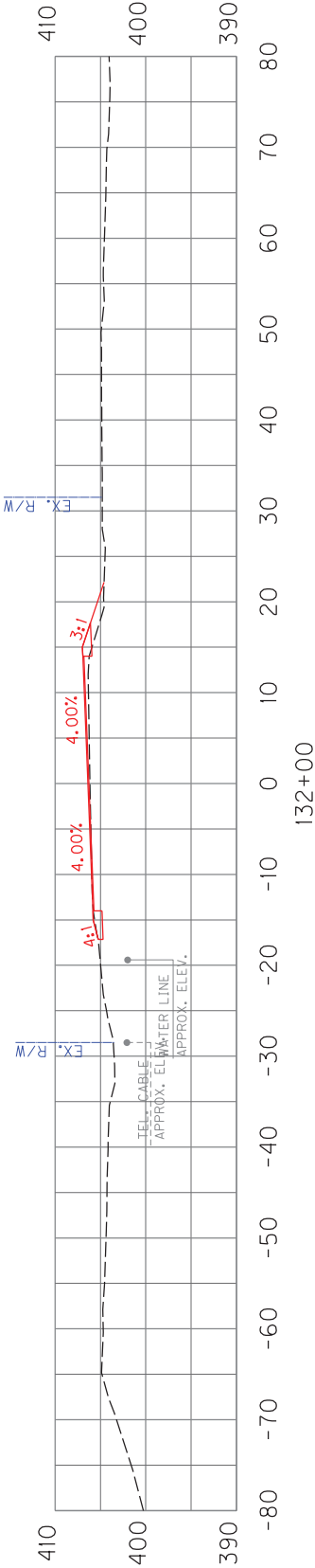
COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE
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COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	

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DATE PLOTTED: January 11, 2019

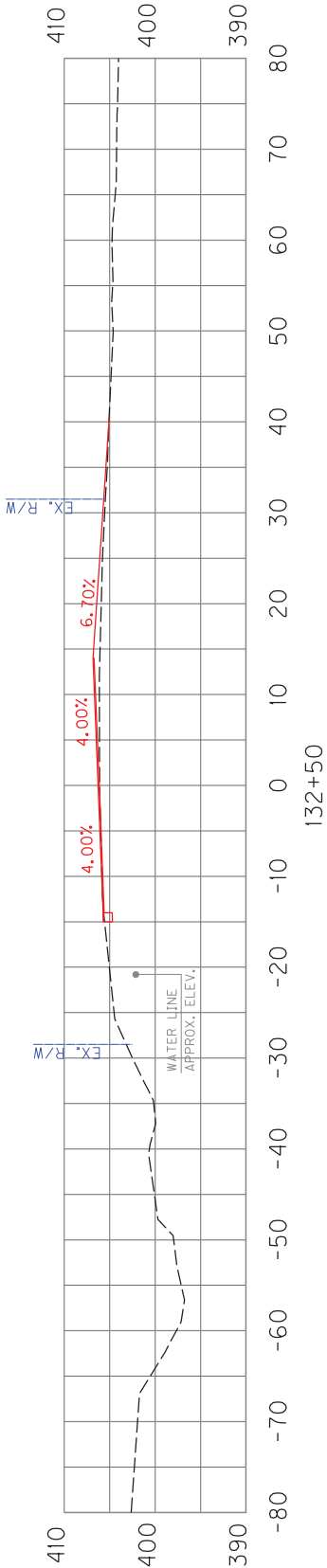
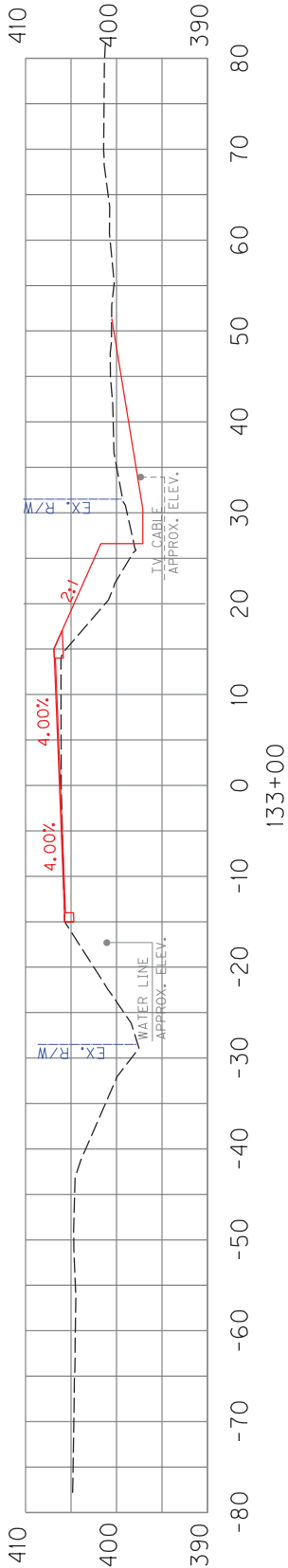
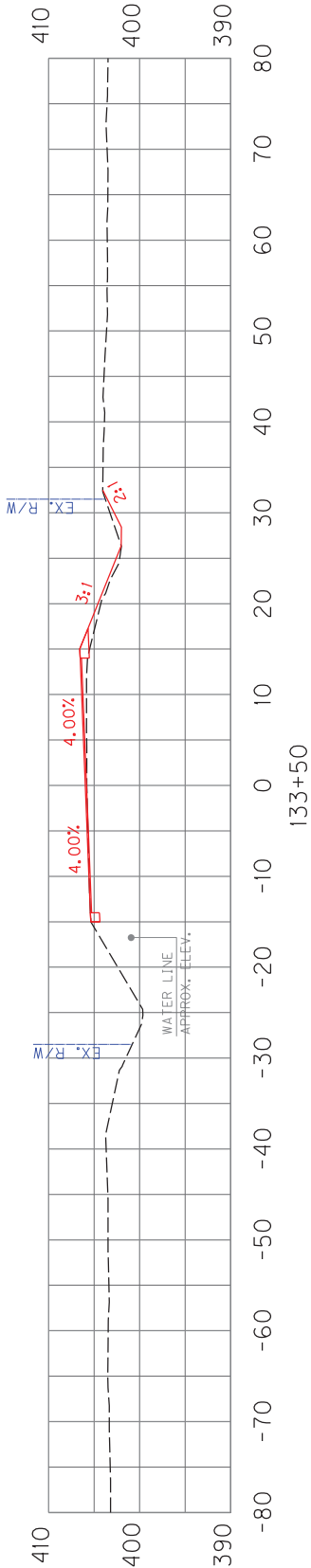
MicroStation v8.11.9.919

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

SUPERELEVATION IMPROVEMENT CURVE 9
CROSS SECTION SHEET
STA. 131+00 TO STA. 132+00

COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

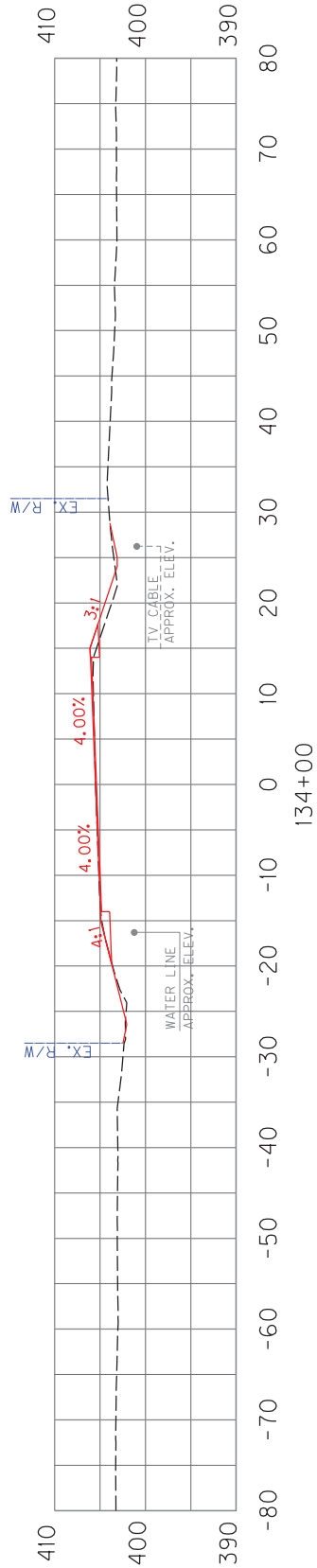
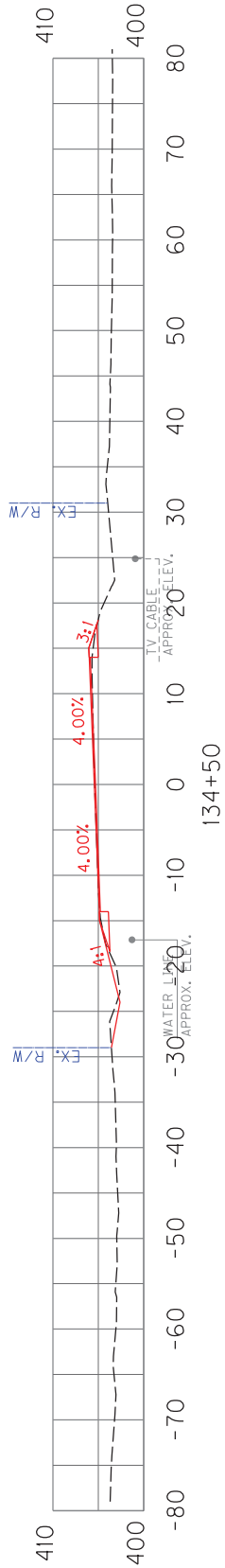
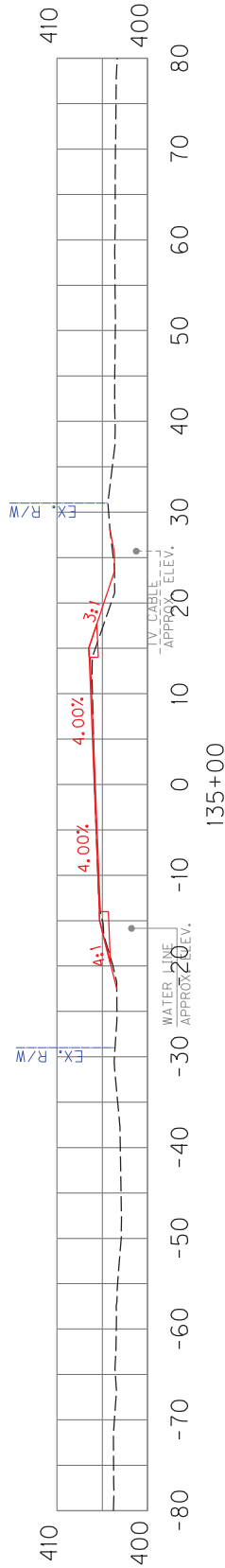
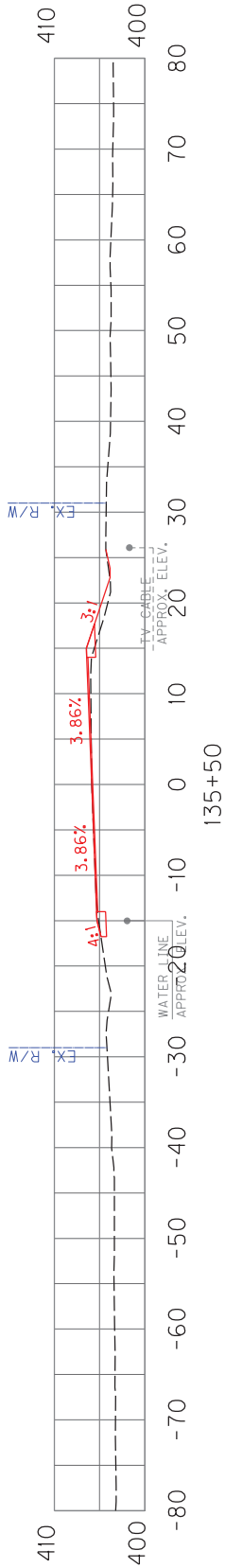


SUPERELEVATION IMPROVEMENT CURVE 9
CROSS SECTION SHEET
STA. 132+50 TO STA. 133+50

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

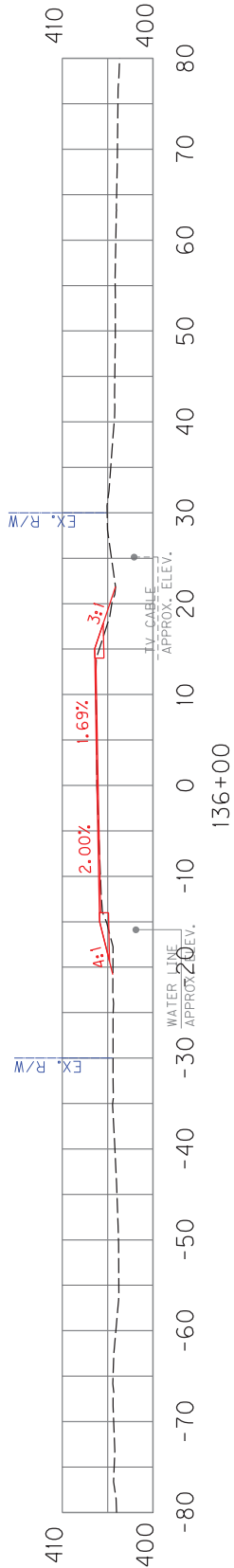
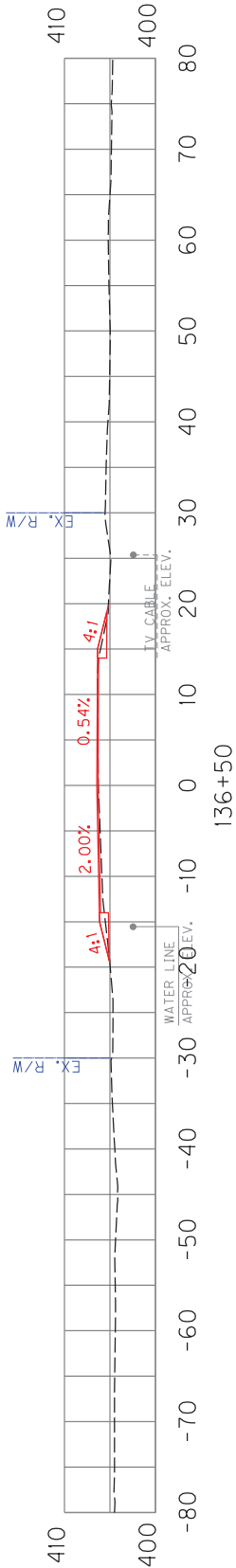
COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE
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COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	

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DATE PLOTTED: January 11, 2019

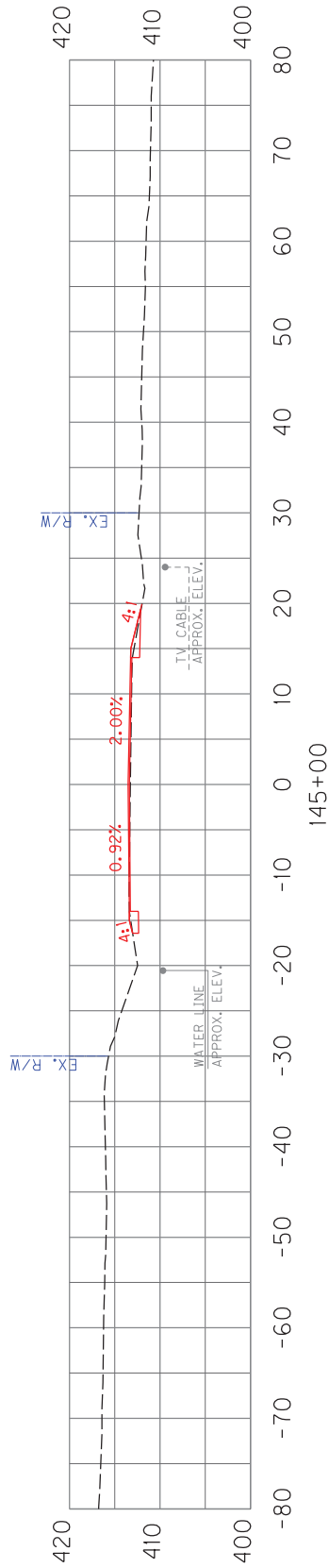
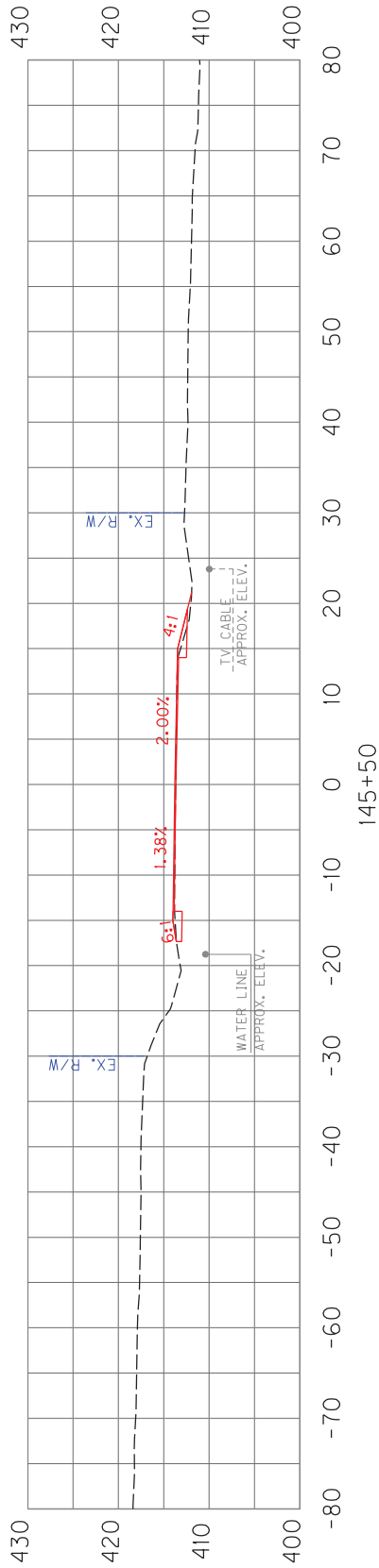
MicroStation v8.11.9.919

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

SUPERELEVATION IMPROVEMENT CURVE 9
CROSS SECTION SHEET
STA. 136+00 TO STA. 137+00

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



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DATE PLOTTED: January 11, 2019

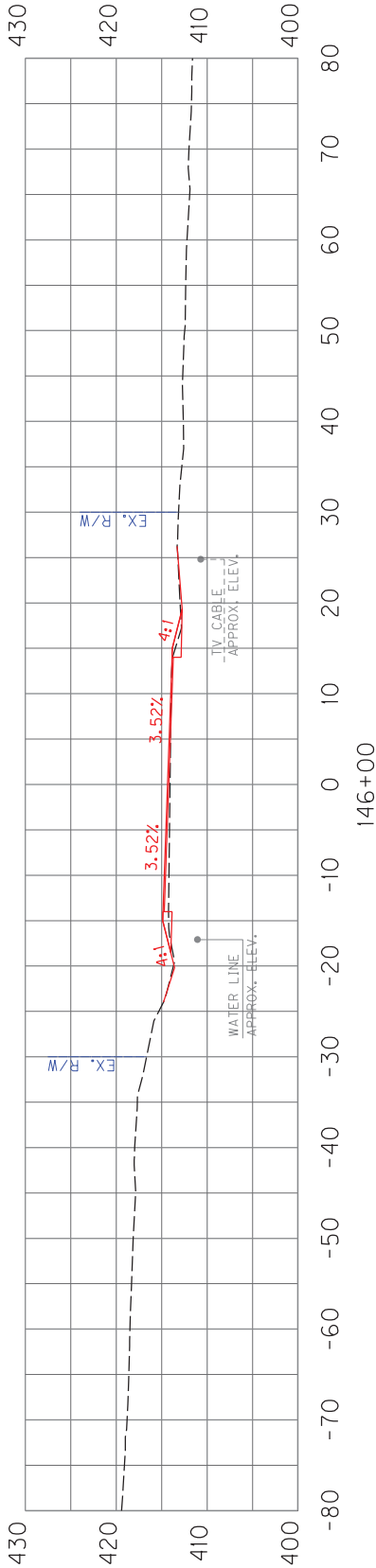
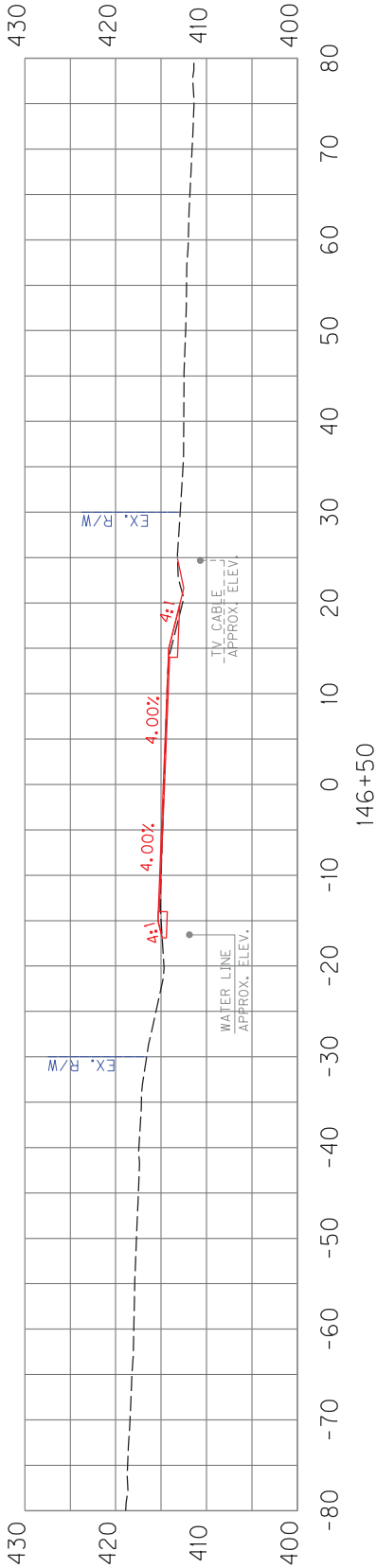
MicroStation v8.11.9.919

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

SUPERELEVATION IMPROVEMENT CURVE 10
CROSS SECTION SHEET
STA. 145+00 TO STA. 145+50

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.

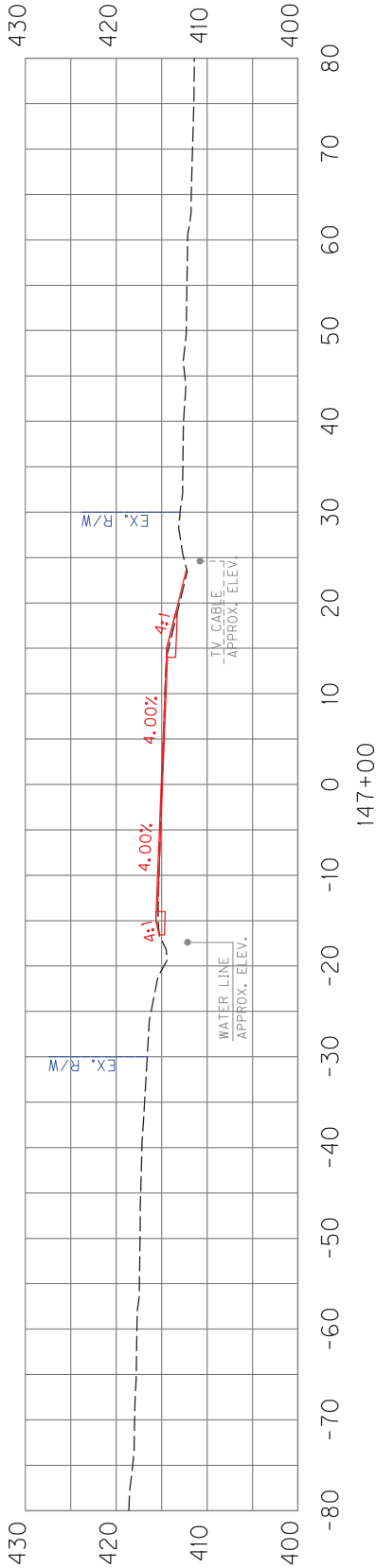
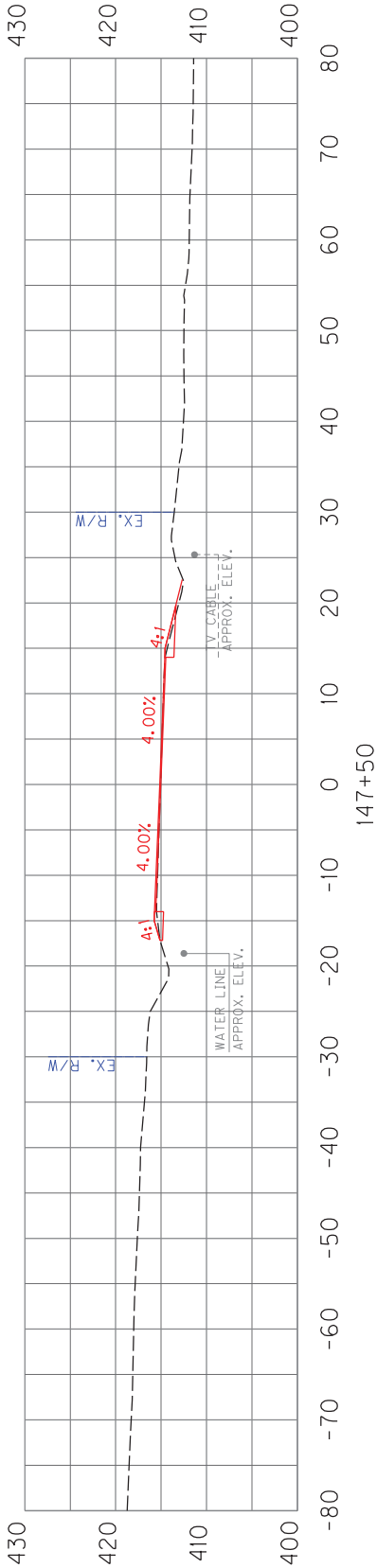


SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

SUPERELEVATION IMPROVEMENT CURVE 10
CROSS SECTION SHEET
STA. 146+00 TO STA. 146+50

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE
LOCATIONS. CONTRACTOR SHALL FIELD VERIFY
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DATE PLOTTED: January 11, 2019

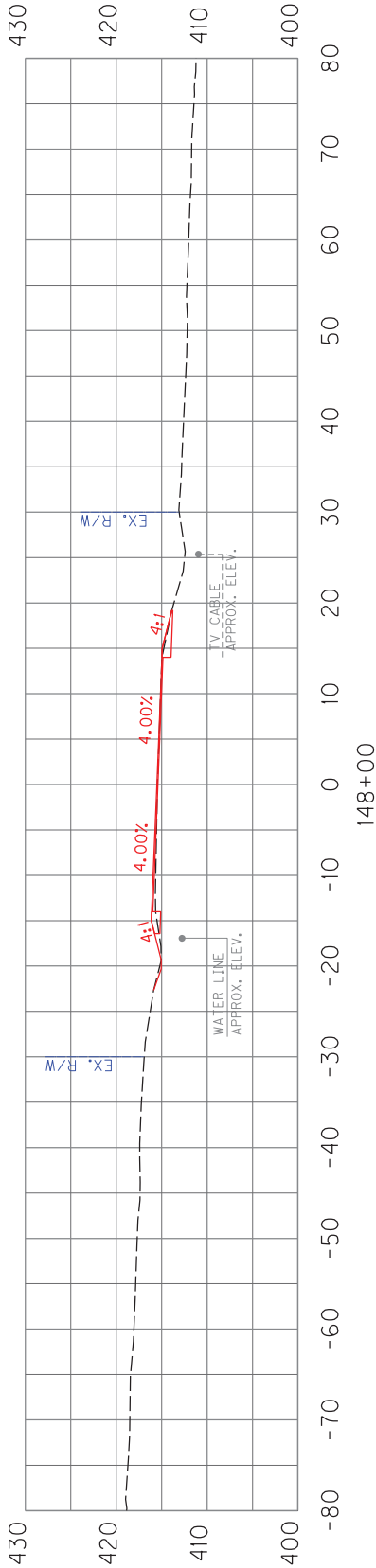
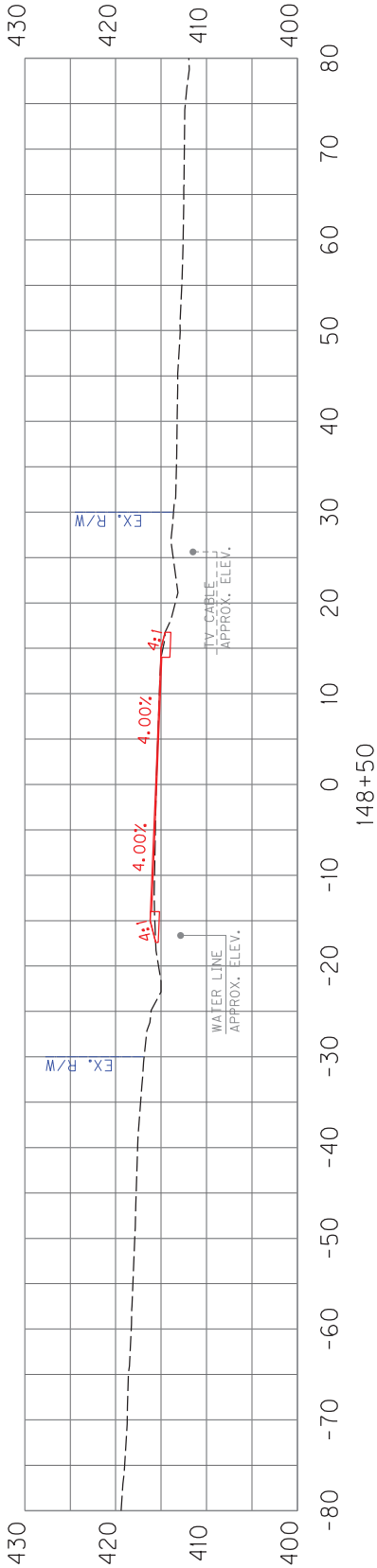
MicroStation v8.11.9.919

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

SUPERELEVATION IMPROVEMENT CURVE 10
CROSS SECTION SHEET
STA. 147+00 TO STA. 147+50

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

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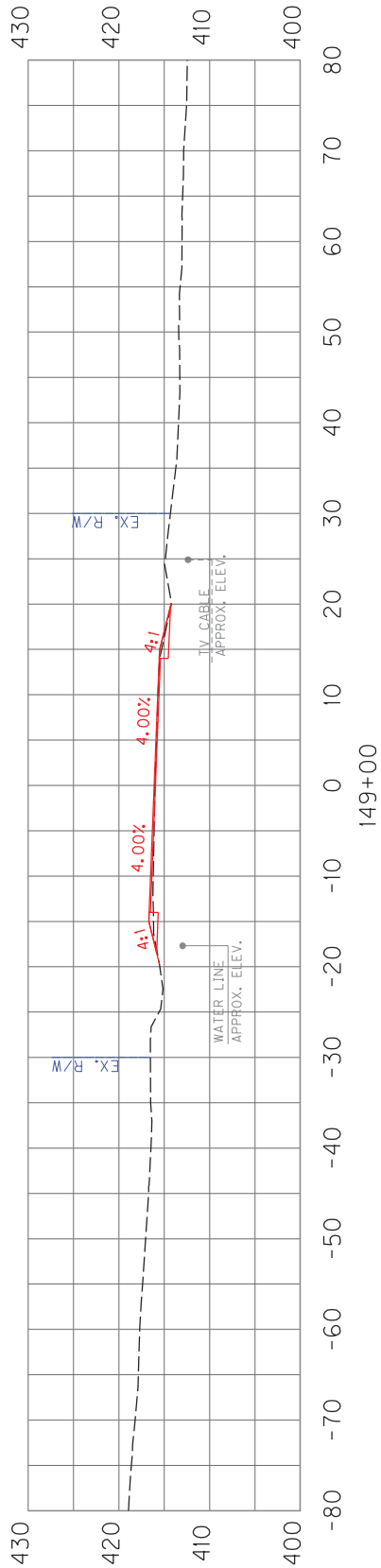
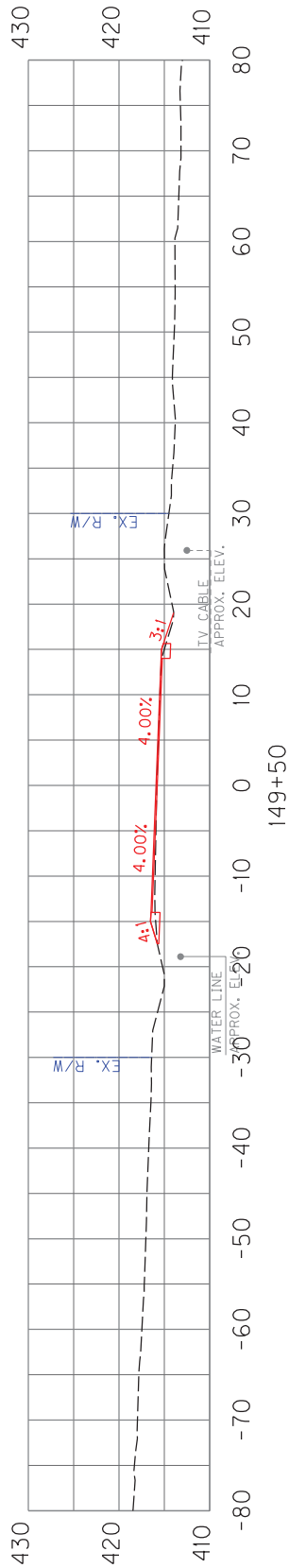
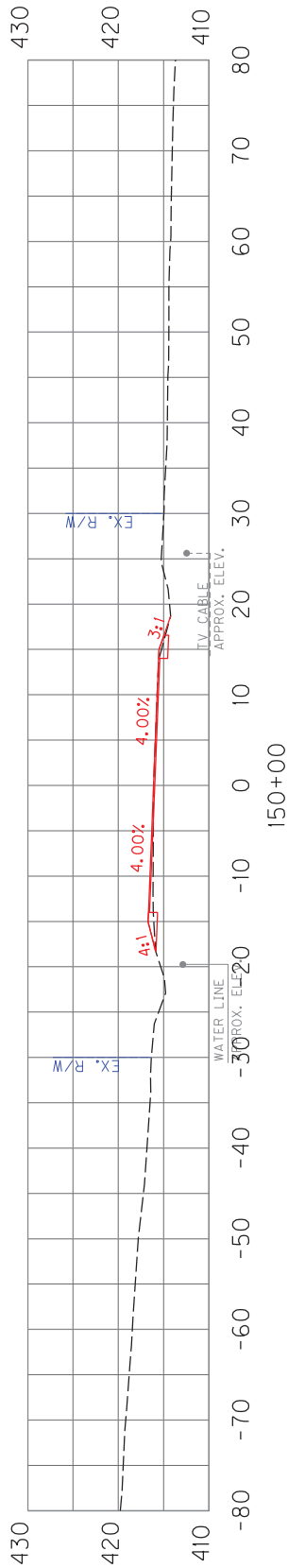
MicroStation v8.11.9.919

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

SUPERELEVATION IMPROVEMENT CURVE 10
CROSS SECTION SHEET
STA. 148+00 TO STA. 148+50

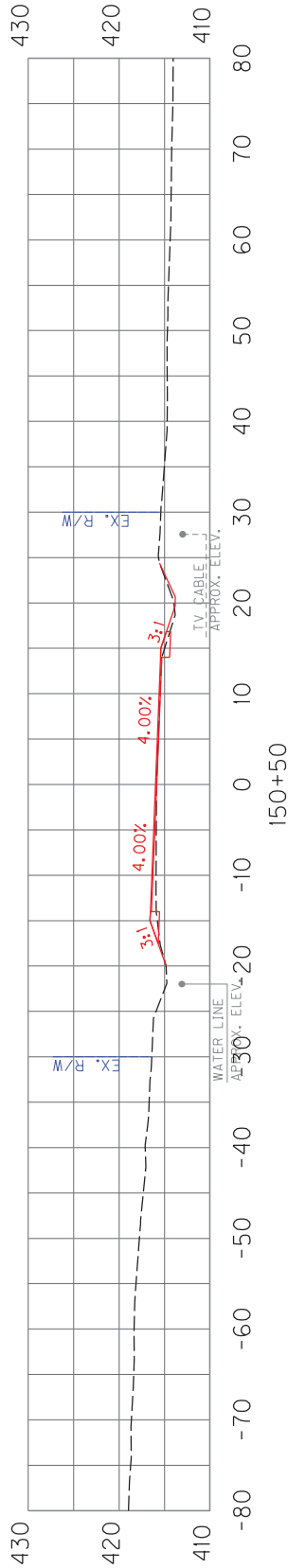
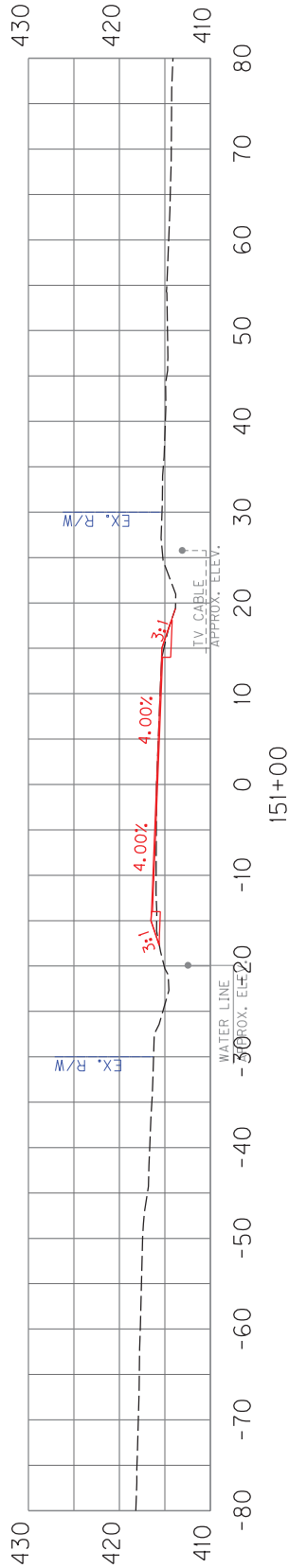
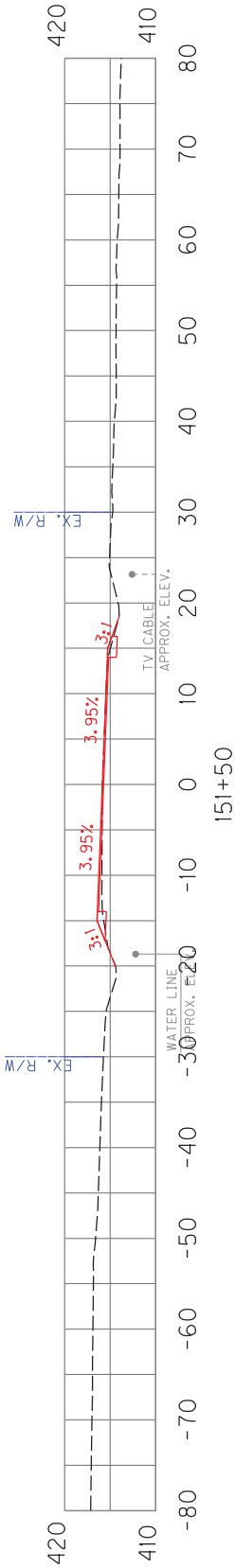
COUNTY OF	ITEM NO.	SHEET NO.
DAVISS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE
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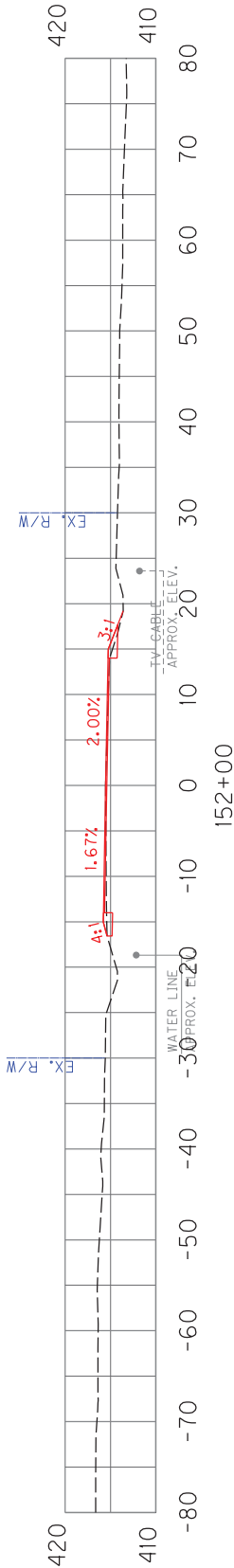
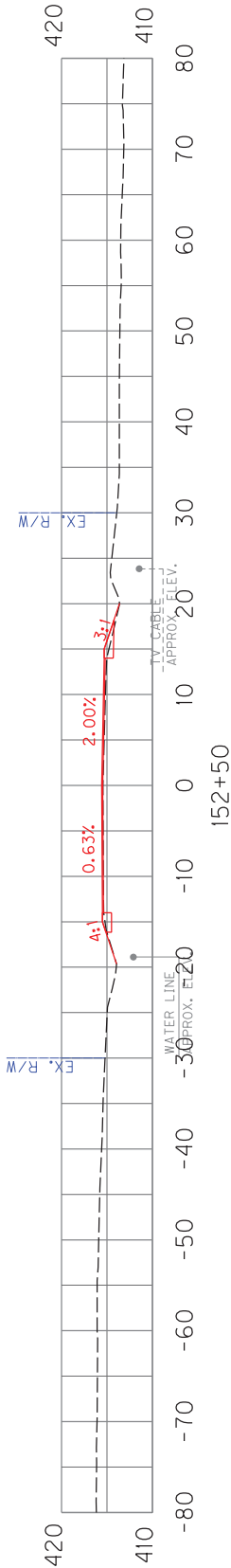
MicroStation v8.11.9.919

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

SUPERELEVATION IMPROVEMENT CURVE 10
CROSS SECTION SHEET
STA. 150+50 TO STA. 151+50

COUNTY OF	ITEM NO.	SHEET NO.
DAVIESS	2-9013.00	

NOTE: UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION ACTIVITIES.



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

SUPERELEVATION IMPROVEMENT CURVE 10
CROSS SECTION SHEET
STA. 152+00 TO STA. 152+50

KY 81 WATER LINE RELOCATIONS

MCLEAN COUNTY GENERAL SUMMARY

ITEM CODE	ITEM DESCRIPTION	UNIT	SHEET U2	SHEET U3		TOTAL PROJECT	NOTES
21346ND	W SERVICE RECONNECT - 34 IN -1 IN	EA	1			1	
14030	W METER RELOCATE	EA	1			1	
	W PVC PIPE 01 INCH	EA	25			25	
14105	W VALVE 6 INCH	EA	1			1	
14059	W PVC PIPE 06 INCH ⓪	LF	100			100	
14094	W TIE IN 06 INCH	EA	2			2	
	TESTING - DISINFECTION	LS	1			1	
	EROSION CONTROL	LS	1			1	
	MOBILIZATION	EA	1			1	
	DEMOLITION	EA	1			1	

DAVIESS COUNTY GENERAL SUMMARY

ITEM CODE	ITEM DESCRIPTION	UNIT					TOTAL PROJECT	NOTES
	6" x 6" x 3" SS TAP SLEEVE AND HOT TAP	EA	1				1	
	3 INCH TIE IN WITH SLEEVE	EA	1	1			2	
	PVC PIPE 6" C-900	LF	60				60	
	TIE IN WITH SLEEVE	EA	2				2	
	8" X 8" X 2" SS TAP SLEEVE AND HOT TAP	EA	1				1	
	JACK AND BORE - 3" - 6" STEEL CASING	LF	45					
	PVC PIPE - 8" C-900	LF		760			760	
	8" X 8" X 8" SS TAP SLEEVE AND HOT TAP	EA	2	2			2	
	8 INCH TIE IN WITH SLEEVE	EA		2			2	
	CUT & PLUG 8"	EA		1			1	
	MOBILIZATION	EA	1	1			1	
	DEMOLITION	EA	1	1			1	
	COPPER SERVICE - 3/4"	LF		100			100	
	COPPER SERVICE - 1"	LF		100			100	
	TESTING - DISINFECTION	LS		1			1	
	EROSION CONTROL	LS		1			1	

GENERAL NOTES:

- ① ALL PIPE FITTINGS (MCLEAN COUNTY ONLY) ARE CONSIDERED INCIDENTAL TO BID ITEM 14059 - W PVC PIPE 06 INCH.

SCALE: 1" = NTS

KY 81
WATER LINE RELOCATIONS
GENERAL NOTES AND QUANTITIES

COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN/DAVIESS	2-9013.00	UI

COUNTY OF	ITEM NO.	SHEET NO.
MCLEAN	2-9013.00	U2

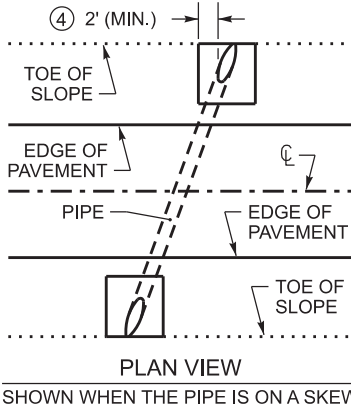
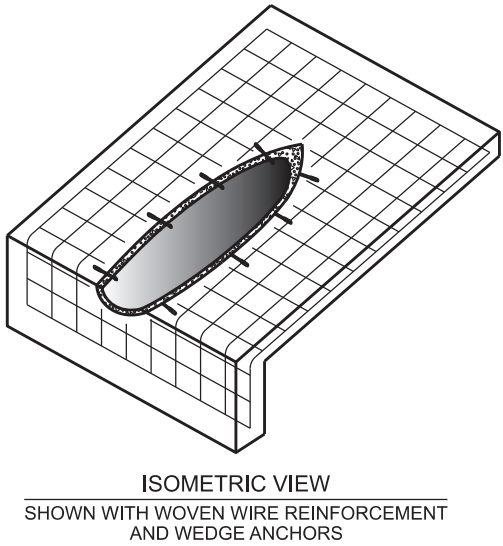
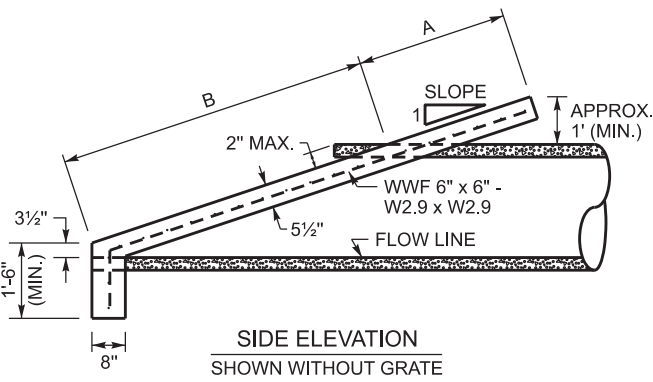
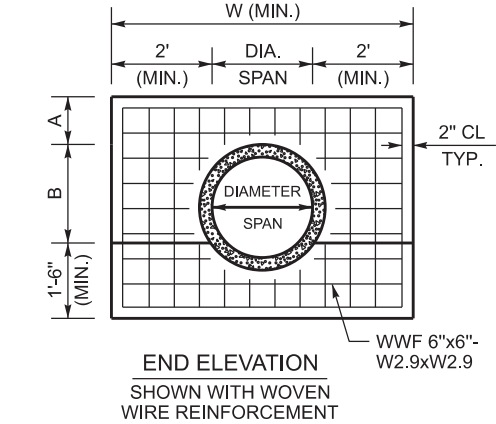


RELOCATIONS SHOWN ARE APPROXIMATE AND WILL BE DETERMINED IN THE FIELD DURING CONSTRUCTION

KY 81
 WATER LINE RELOCATION
 PLAN VIEW - SITE 1

SCALE: 1" = 50'





- ~ NOTES ~
- FOR PIPES THAT RECEIVE THE SLOPED & MITERED CONCRETE HEADWALL, THE PIPE LENGTH SHALL BE MEASURED TO THE FURTHEST POINT ALONG THE MITERED END OF THE PIPE.
 - THE EMBANKMENT FILL MATERIAL IS TO BE PLACED, COMPACTED, AND GRADED AROUND THE PIPE BEFORE THE CONCRETE SLOPE PAVING IS PLACED. THE INTENT IS FOR THE SLOPED & MITERED HEADWALL TO MATCH THE FINAL EMBANKMENT SLOPE.
 - THE PIPE SHALL BE MITERED AFTER THE CONCRETE SLOPE PAVING HAS BEEN PLACED AND SUFFICIENTLY CURED. THE PIPE SHOULD BE MITERED AS CLOSE TO FLUSH WITH THE SLOPE PAVING AS POSSIBLE, AND NO HIGHER THAN 2" ABOVE THE SLOPE PAVING. HAND FINISHING AND/OR CUTTING MAY BE NECESSARY.
 - WHEN THE PIPE IS ON A SKEW, INSTALL THE HEADWALL AND MITER THE PIPE SO THAT THE CONCRETE SLOPE PAVING IS PERPENDICULAR TO THE ROADWAY. FOR HEADWALLS ON SKEWED PIPES, THE HEADWALL WIDTH, W, SHALL BE WIDENED, AS NEEDED, SO THAT THE OUTSIDE EDGE OF THE CONCRETE SLOPE PAVING IS A MINIMUM OF 2' FROM THE OUTER MOST EDGE OF THE PIPE.
 - THE DIMENSION 'A' IS BASED ON THE FINAL GRADED SLOPE. THE DIMENSION 'B' IS BASED ON CIRCULAR REINFORCED CONCRETE PIPE AT 0° SKEW FOR THE LISTED SLOPE. THE DIMENSION 'W' IS BASED ON THE DIAMETER, OR SPAN, OF THE PIPE. THE FINAL HEADWALL DIMENSIONS AND CONCRETE QUANTITIES MAY VARY BASED ON THE FINAL GRADED SLOPE, PIPE SKEW, AND/OR TYPE OF PIPE.
 - WOVEN WIRE REINFORCEMENT (WWF 6"x6" - W2.9xW2.9) IS REQUIRED FOR THE SLOPE PAVING AND TOE WALL. UTILIZE 2" CLEARANCE FROM ALL EDGES.
 - DIMENSIONS AND CONCRETE QUANTITIES SHOWN ARE FOR ONE (1) HEADWALL, INSTALLED ON A PIPE WITH SKEW = 0°.
 - AFTER THE PIPE HAS BEEN MITERED, ANCHOR THE PIPE TO THE CONCRETE SLOPE PAVING BY CORE DRILLING AND INSTALLING 1/2" DIAMETER x 7" LENGTH STEEL WEDGE ANCHORS (3" MINIMUM EMBEDMENT) ON 18" CENTERS ALONG THE SIDES OF THE PIPE. HOLE SIZE & DEPTH, TORQUE, & INSTALLATION PROCEDURES PER RECOMMENDATION OF ANCHOR MANUFACTURE. NOTE: STEEL WEDGE ANCHORS ARE NOT REQUIRED FOR REINFORCED CONCRETE PIPE.
 - THE FOLLOWING SITUATIONS REQUIRE A HEADWALL WITH A GRATE:
 - 24" DIAMETER PIPE ON GREATER THAN 30° SKEW
 - 30" DIAMETER PIPE ON GREATER THAN 15° SKEW
 - PIPE WITH GREATER THAN 30" DIAMETER.
 - ELLIPTICAL PIPE GREATER THAN 24" EQUIVALENT DIAMETERSEE SHEET 2 FOR GRATE DETAILS
 - ALL BOLTS AND HARDWARE SHALL BE RUST RESISTANT: ZINC PLATED, STAINLESS STEEL, OR STEEL THAT HAS BEEN GALVANIZED IN ACCORDANCE WITH AASHTO M 232.

** DIMENSIONS AND CONCRETE QUANTITIES ARE APPROXIMATE AND ARE LISTED FOR INFORMATIONAL PURPOSES ONLY **

DIMENSIONS AND CONCRETE QUANTITIES (FOR PIPE WITH SKEW = 0°) ④													
PIPE SIZE	3:1 SLOPE				4:1 SLOPE				6:1 SLOPE				GRATE REQUIRED
	A	B	W	CU. YDS. CONCRETE	A	B	W	CU. YDS. CONCRETE	A	B	W	CU. YDS. CONCRETE	
15"	3'	3'-7½"	5'-3"	0.79	4'	4'-8¾"	5'-3"	0.97	6'	6'-11¼"	5'-3"	1.35	NO
18"	3'	4'-5¾"	5'-6"	0.89	4'	5'-10"	5'-6"	1.10	6'	8'-7¼"	5'-6"	1.54	NO
24"	3'	6'-2½"	6'-0"	1.11	4'	8'-1"	6'-0"	1.38	6'	11'-11"	6'-0"	1.93	SEE ⑨
30"	3'	7'-10¾"	6'-6"	1.33	4'	10'-3¾"	6'-6"	1.67	6'	15'-2½"	6'-6"	2.35	SEE ⑨

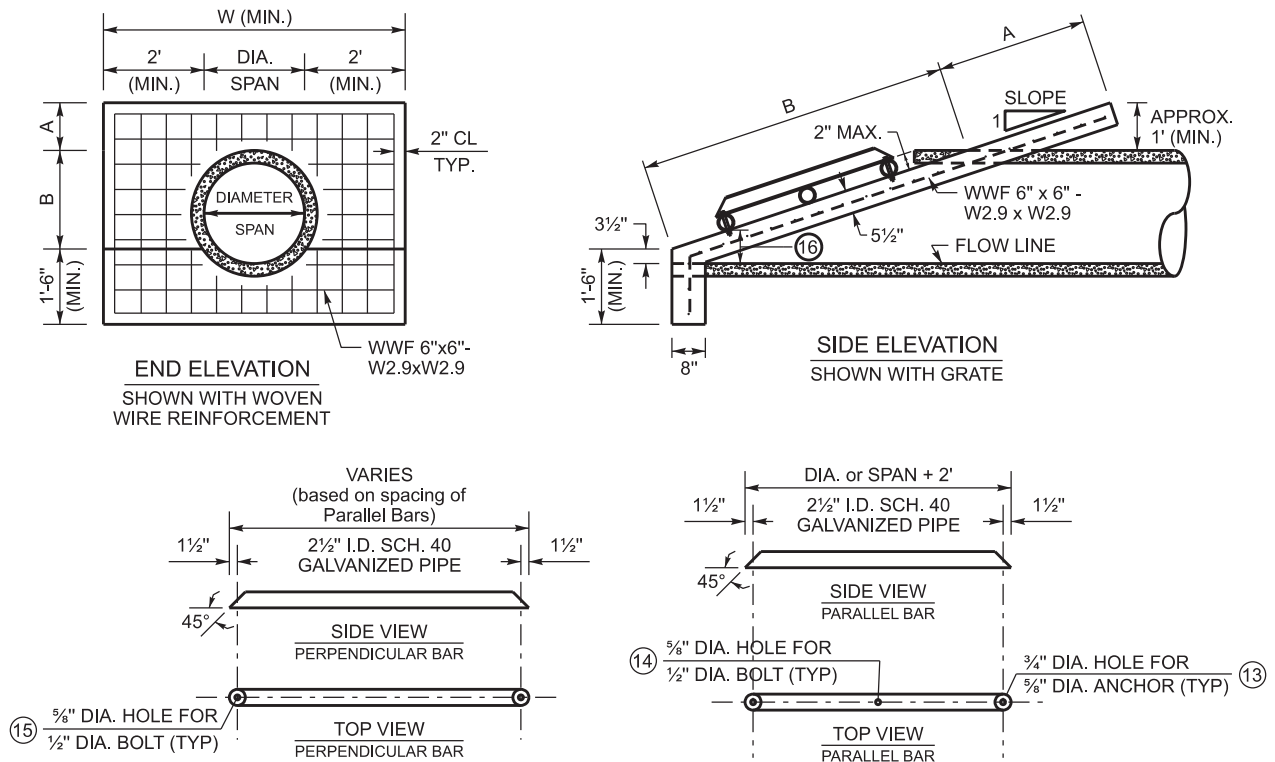
++ SEE SHEET 2 FOR DIMENSIONS OF HEADWALLS FOR PIPE OVER 30" DIAMETER ++

BID ITEM AND UNIT TO BID FOR PIPES BETWEEN 15 - 42 INCHES:
SLOPED & MITERED HEADWALL - _ IN EACH

BID ITEM AND UNIT TO BID FOR PIPES LARGER THAN 42 INCHES:
HEADWALL (SLOPED & MITERED FOR _ INCH PIPE) EACH

NOT TO SCALE

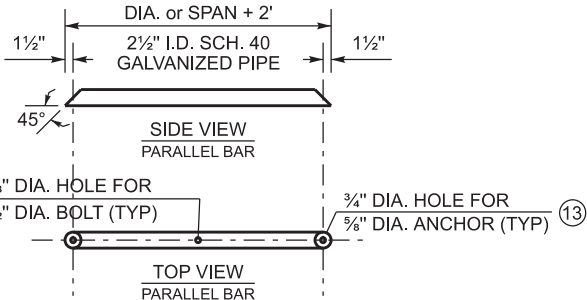
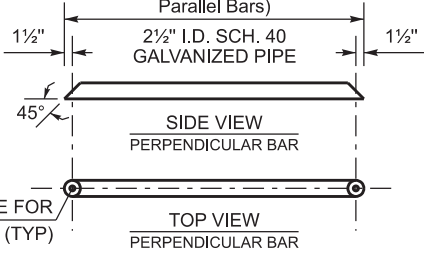
SLOPED & MITERED
CONCRETE HEADWALL
(SHEET 1 OF 2)



END ELEVATION
SHOWN WITH WOVEN
WIRE REINFORCEMENT

SIDE ELEVATION
SHOWN WITH GRATE

VARIES
(based on spacing of
Parallel Bars)



PIPE FOR GRATE DETAILS

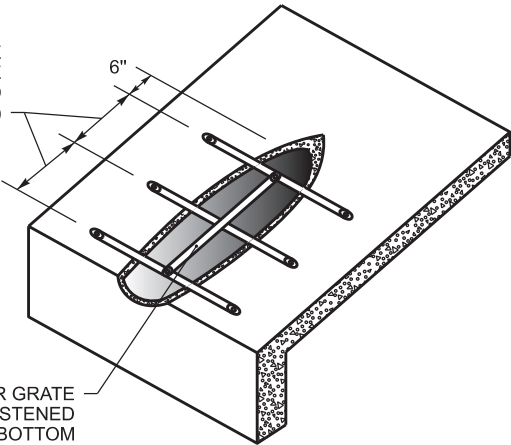
SEE NOTE 9 TO DETERMINE IF GRATE IS REQUIRED

~ NOTES ~

- SEE SHEET 1 FOR NOTES 1 THRU 8
9. THE FOLLOWING SITUATIONS REQUIRE A HEADWALL WITH GRATE:
-24" DIAMETER PIPE ON GREATER THAN 30° SKEW
-30" DIAMETER PIPE ON GREATER THAN 15° SKEW
-PIPE WITH GREATER THAN 30" DIAMETER.
-ELLIPTICAL PIPE GREATER THAN 24" EQUIVALENT DIAMETER
10. ALL BOLTS AND HARDWARE SHALL BE RUST RESISTANT:
ZINC PLATED, STAINLESS STEEL, OR STEEL THAT HAS BEEN GALVANIZED IN ACCORDANCE WITH AASHTO M 232.
11. THE PIPE USED TO CONSTRUCT THE GRATE SHALL BE STEEL, SCHEDULE 40, CONFORMING TO ASTM A53, AND GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION.
12. ANY RAW METAL EXPOSED BY FIELD CUTTING AND/OR DRILLING SHALL BE TREATED WITH A COLD GALVANIZING COMPOUND.
13. FASTEN PARALLEL BARS TO HEADWALL WITH 5/8" DIA. x 4 1/2" LENGTH STEEL WEDGE ANCHORS, MINIMUM EMBEDMENT = 2 3/4" HOLE SIZE AND DEPTH, TORQUE, & INSTALLATION PROCEDURES PER RECOMMENDATION OF ANCHOR MANUFACTURE.
14. CENTER BOLT HOLE SHALL ONLY BE DRILLED IN THE TOP AND BOTTOM PARALLEL BARS.
15. FASTEN THE PERPENDICULAR BAR TO THE TOP AND BOTTOM PARALLEL BARS WITH 1/2" DIA. x 4 1/2" LENGTH HEX HEAD BOLTS, HEX HEAD NUTS, & FLAT WASHERS.
16. THE BOTTOM PARALLEL BAR IS TO BE PLACED SO THAT IT IS APPROX. 6" ABOVE THE FLOWLINE OF THE PIPE.

PARALLEL GRATE
BARS TO BE
EVENLY SPACED
(24" MAX. SPACING)

PERPENDICULAR GRATE
BAR TO BE FASTENED
TO THE TOP AND BOTTOM
PARALLEL GRATE BARS
AT THE APPROX. CENTER
OF PIPE OPENING



ISOMETRIC VIEW
SHOWING HEADWALL
WITH GRATE

** DIMENSIONS AND CONCRETE QUANTITIES ARE APPROXIMATE AND ARE LISTED FOR INFORMATIONAL PURPOSES ONLY **

DIMENSIONS AND CONCRETE QUANTITIES (FOR PIPE WITH SKEW = 0°) ④													
PIPE SIZE	3:1 SLOPE				4:1 SLOPE				6:1 SLOPE				GRATE REQUIRED
	A	B	W	CU. YDS. CONCRETE	A	B	W	CU. YDS. CONCRETE	A	B	W	CU. YDS. CONCRETE	
36"	3'	9'-7½"	7'-0"	1.57	4'	12'-6½"	7'-0"	1.98	6'	18'-6"	7'-0"	2.80	YES
42"	3'	11'-4"	7'-6"	1.83	4'	14'-9¼"	7'-6"	2.31	6'	21'-9½"	7'-6"	3.27	YES
48"	3'	12'-11"	8'-0"	2.07	4'	16'-10"	8'-0"	2.40	6'	24'-10"	8'-0"	3.33	YES

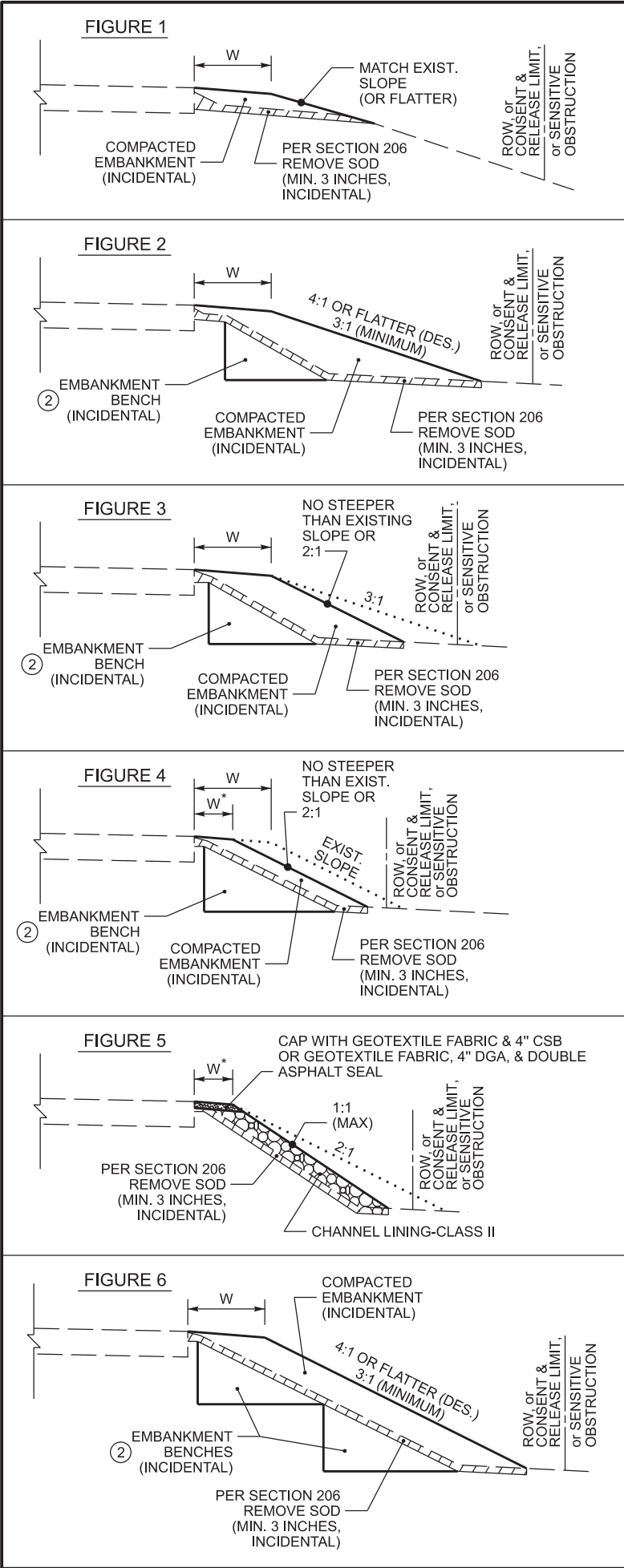
++ SEE SHEET 1 FOR DIMENSIONS OF HEADWALLS FOR PIPE 30" DIAMETER & LESS ++

BID ITEM AND UNIT TO BID FOR PIPES BETWEEN 15 - 42 INCHES:
SLOPED & MITERED HEADWALL - _ IN EACH

BID ITEM AND UNIT TO BID FOR PIPES LARGER THAN 42 INCHES:
HEADWALL (SLOPED & MITERED FOR _ INCH PIPE) EACH

NOT TO SCALE

SLOPED & MITERED
CONCRETE HEADWALL
(SHEET 2 OF 2)



- ~ 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

FIGURE 7

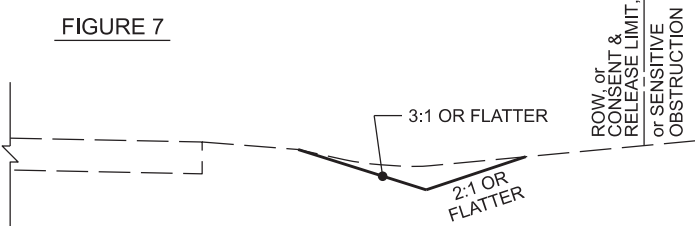


FIGURE 8

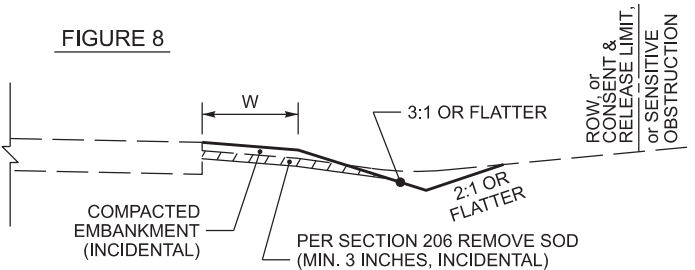


FIGURE 9

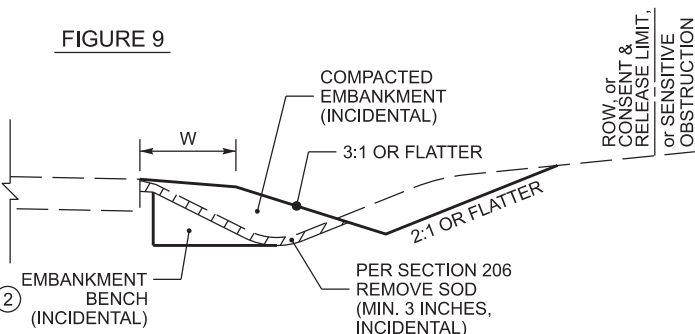


FIGURE 10

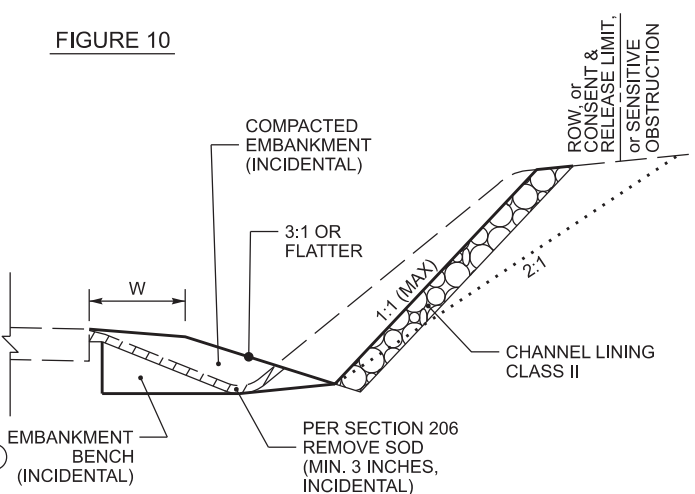
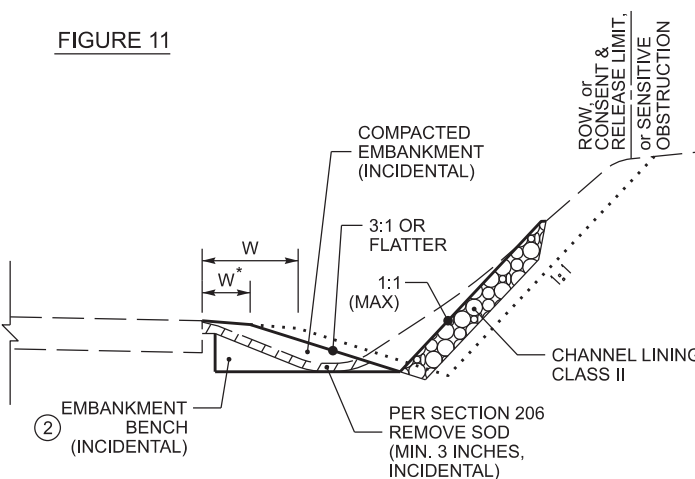


FIGURE 11



~ 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.

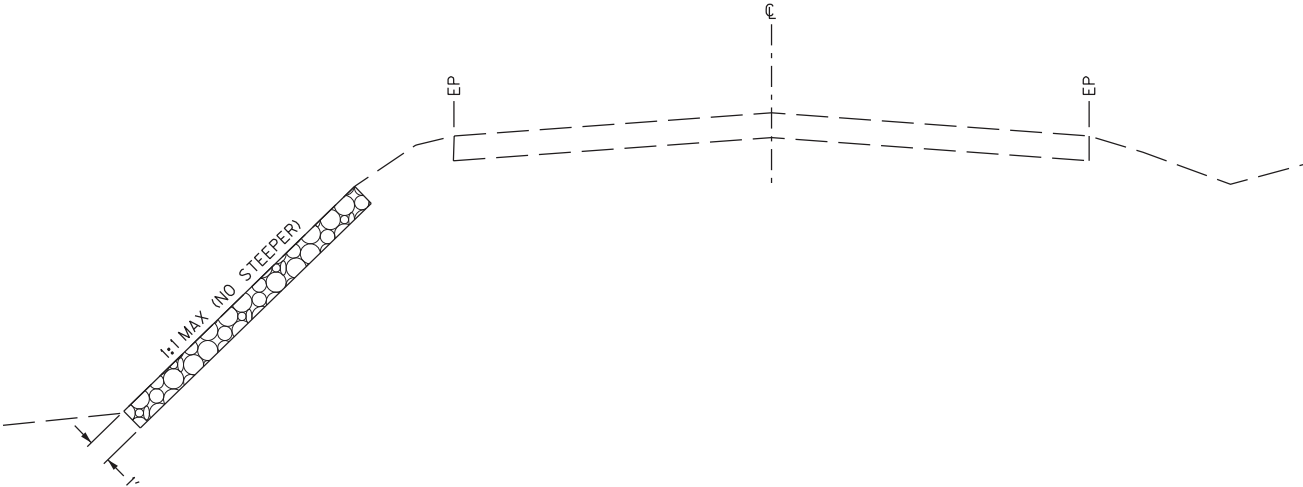
SEE SHEET 1 FOR NOTES 3. THRU 8.

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 DIMENSIONS. 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.

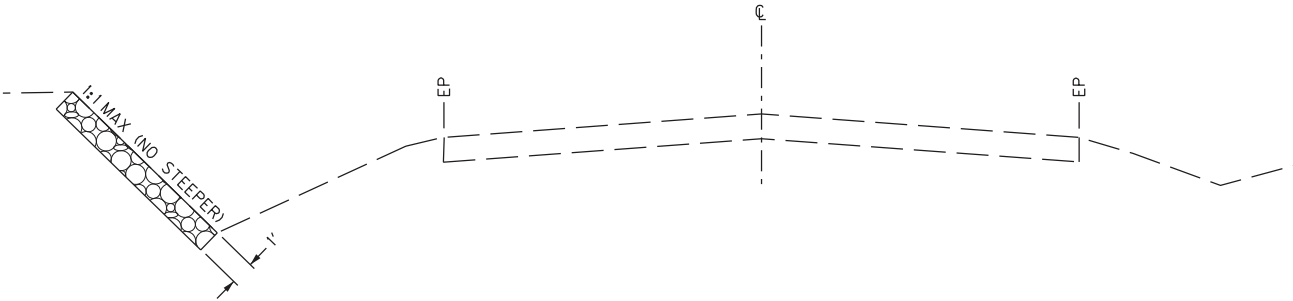
ROADSIDE REGRADING
AND EMBANKMENT
BENCHING DETAILS
(SHEET 2 OF 2)

NOT TO SCALE

COUNTY OF	ITEM NO.	SHEET NO.



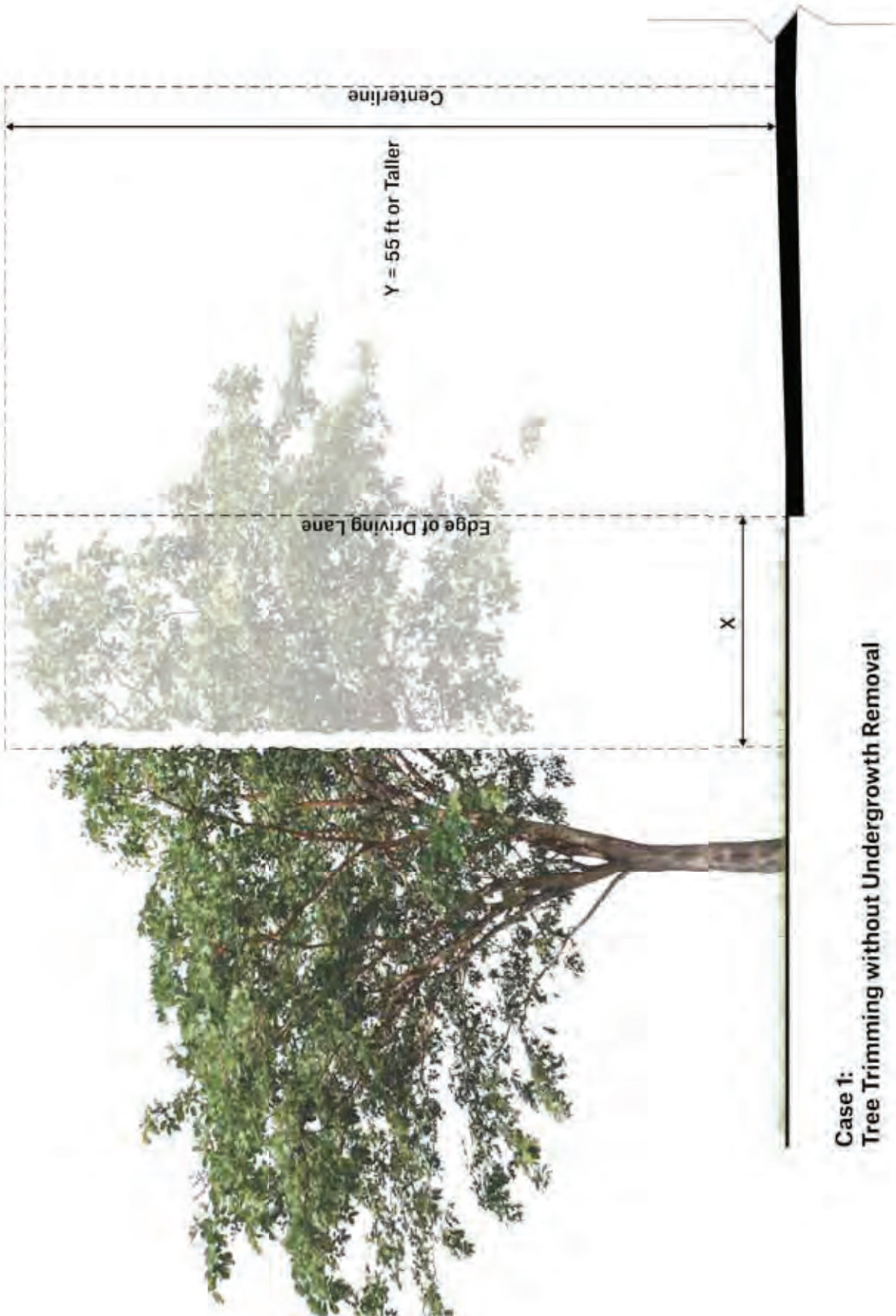
PROTECTION DETAIL FOR EMBANKMENT FILL SLOPE



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.

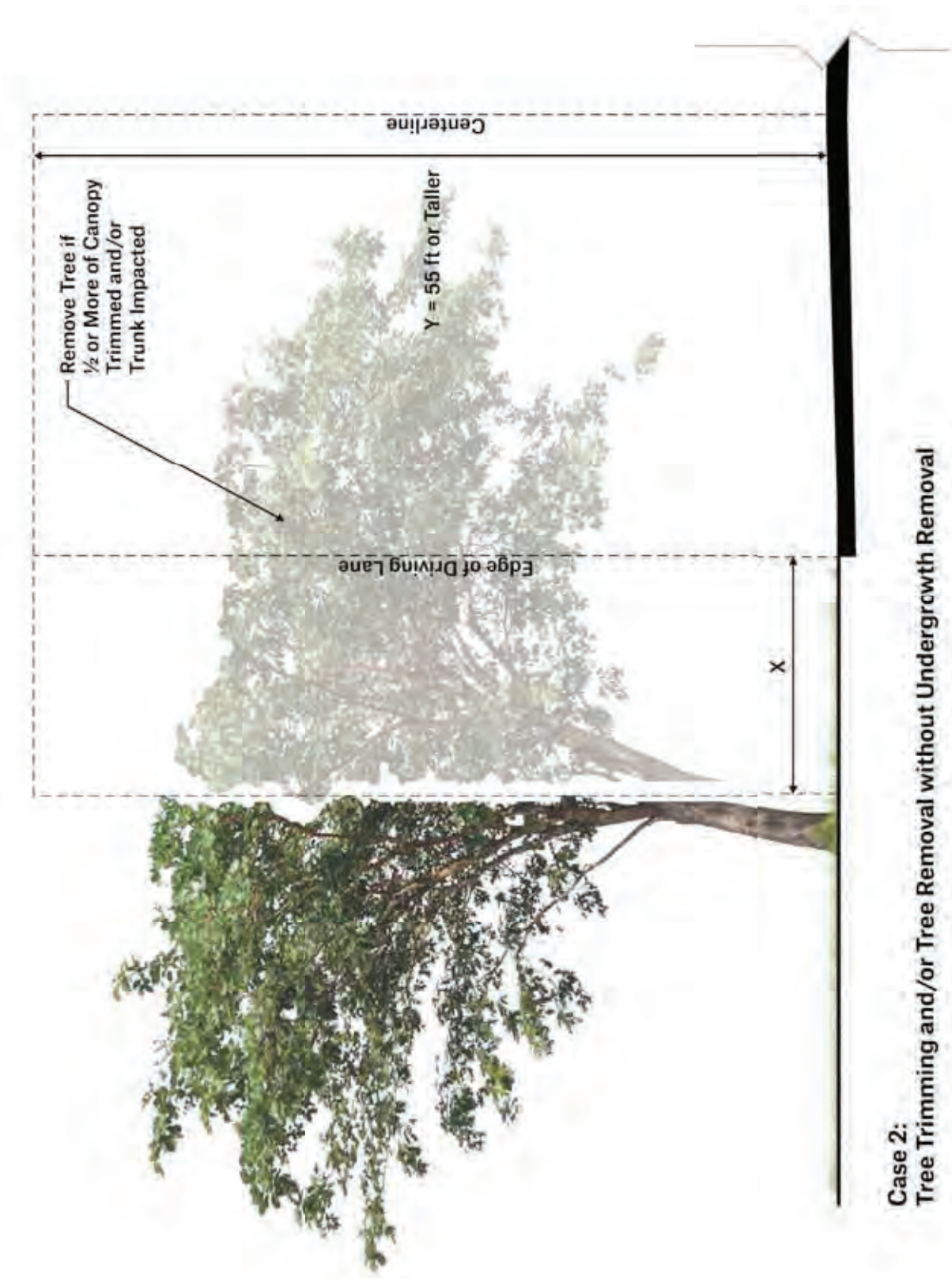


Case 1:
Tree Trimming without Undergrowth Removal



Remove Bushes, Shrubs,
and Undergrowth To R/W
Line Or As Directed By
The Engineer

Case 1B:
Tree Trimming with Undergrowth Removal



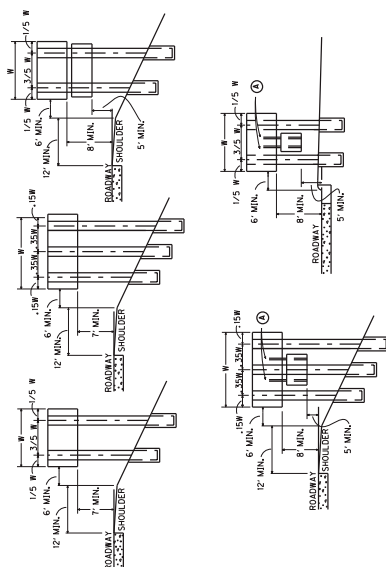
Case 2:
Tree Trimming and/or Tree Removal without Undergrowth Removal



Case 2B:
Tree Trimming and/or Tree Removal with Undergrowth Removal

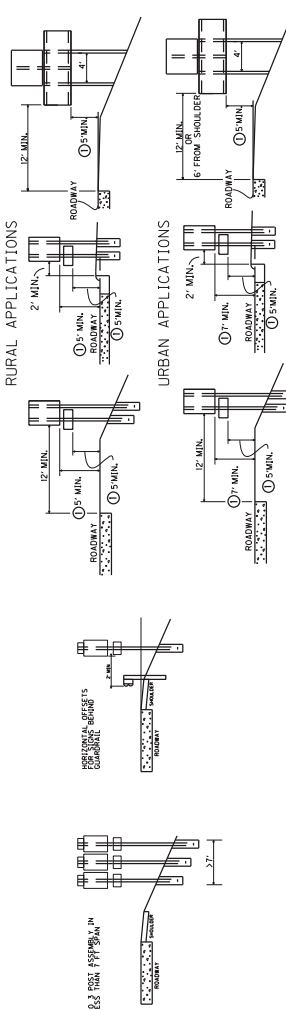


PANEL SIGNS



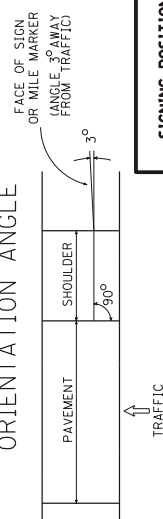
⑤ ATTACHMENT OF SECONDARY SIGN TO MAJOR SIGN IS TO BE MADE WITH TWO (2) 3" X 3" X $\frac{3}{4}$ " ANGLES OF SUFFICIENT LENGTH TO EXTEND FROM THE LOWER EDGE OF THE SECONDARY SIGN TO AT LEAST THREE FEET UP THE BACK OF THE MAJOR SIGN. A MINIMUM OF ONE POST CLIP PER FOOT SHALL BE USED IN ATTACHING EXTRUSIONS TO EACH ANGLE.

SHEETING SIGNS



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

ORIENTATION ANGLE



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

SIGNING POSITIONING DETAIL SHEET

COUNTY OF	ITEM NO.	SHEET NO.



SQUARE TUBING POST
WITH TYPE "D" SUPPORT

TYPE I

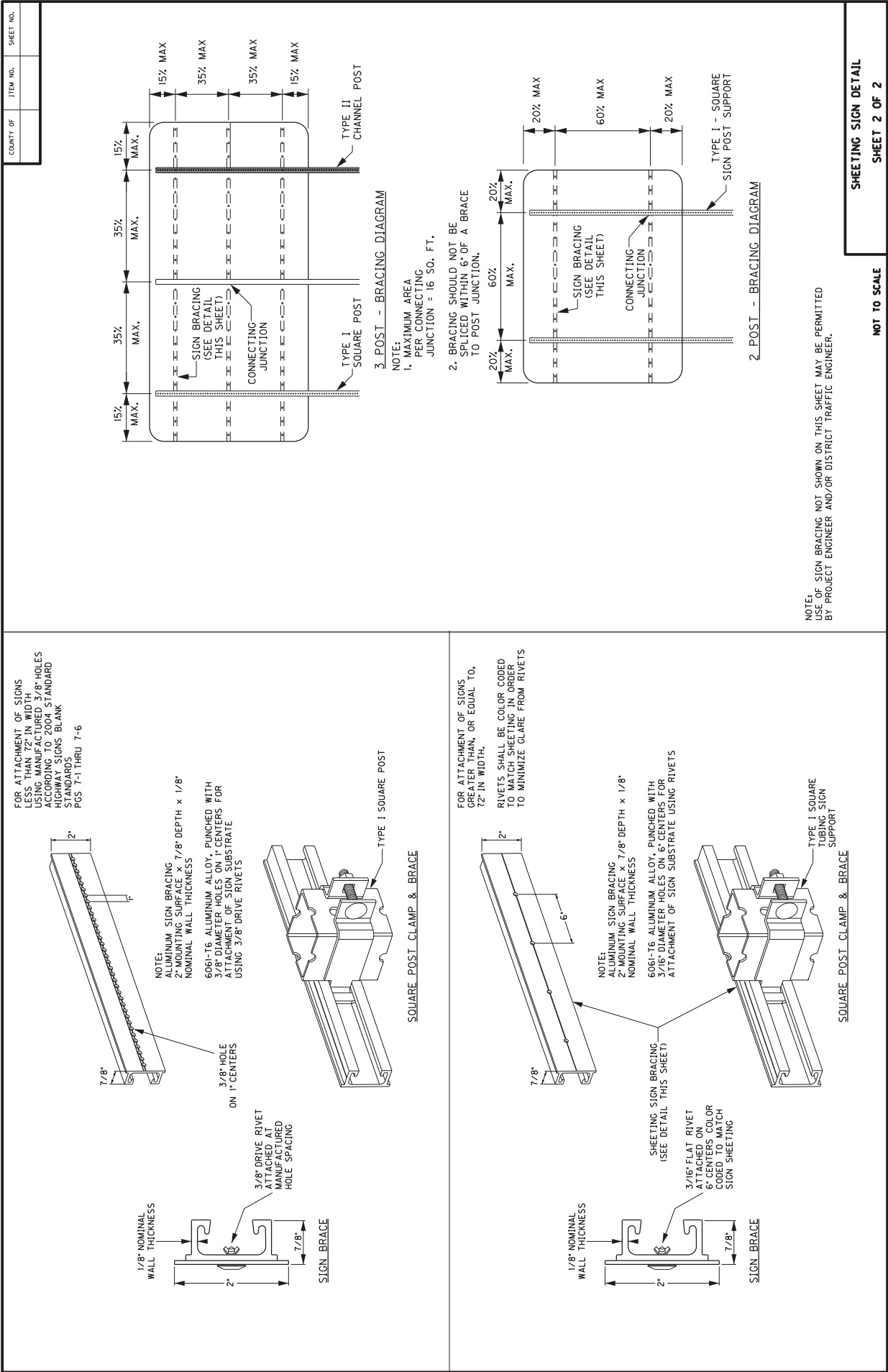
SQUARE TUBING POST
WITH SOIL STABILIZER

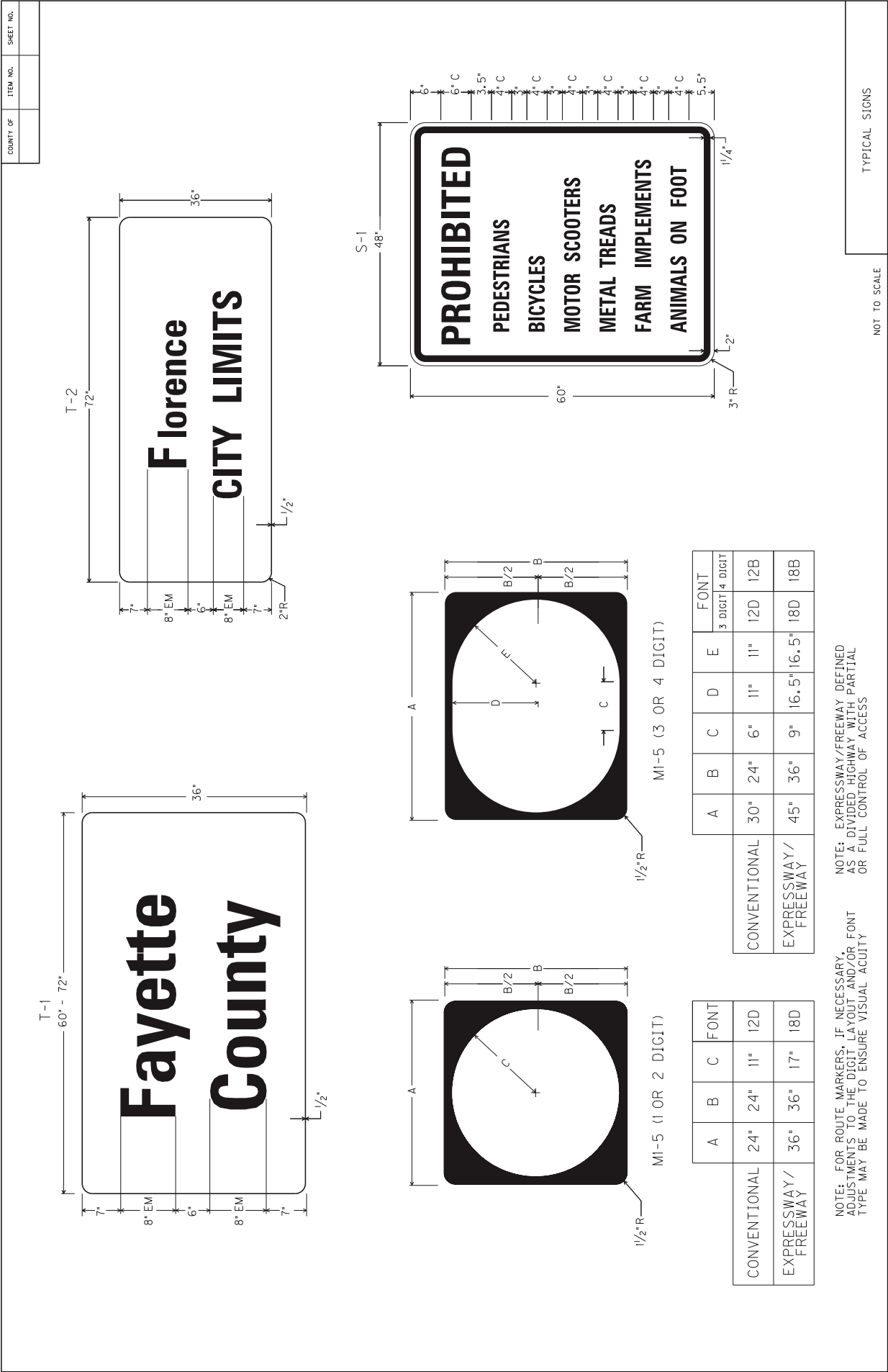
TYPE II

CHANNEL POST
WITH SOIL STABILIZER

SHEETING SIGN DETAIL
SHEET 1 OF 2

NOT TO SCALE





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_____

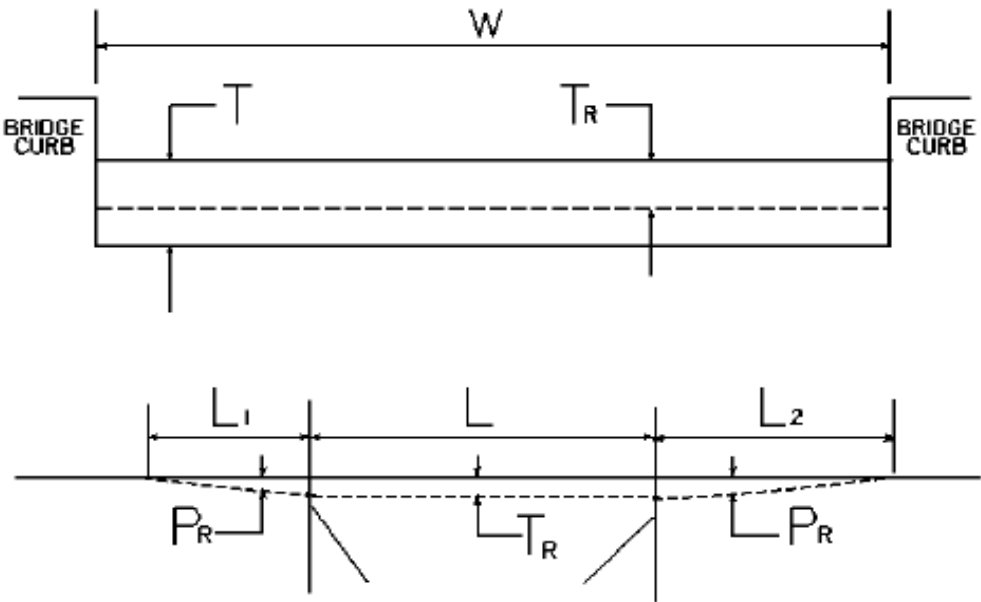
Signature Contractor’s Representative_____ & Date_____

****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: _____

BRIDGE DETAIL FOR PAVING PROJECT



W = bridge width curb to curb
T = thickness of existing asphalt overlay
L = length of bridge
L₁ & L₂ = length of approach pavement to be removed
T_R = thickness to be removed and replaced on bridge
P_R = thickness to be removed and replaced on pavement
Note: L₁ & L₂ lengths shall be determined by using a transition rate of 100 ft/in of thickness

Route	Bridge No.	MP	W (ft)	T (in)	L ₁ (ft)	L ₂ (ft)	T _R (in)	L (ft)	P _R (in)
KY 81	B00057N	2.495	28.00	3.00	100.00	100.00	1.00	24.00	1.00
KY 81	B00056N	5.263	28.00		100.00	0.00	0.00	198.10	1.00

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 PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

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

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

*Insert numerals as directed by the Engineer.

Add other messages during the project when required by the Engineer.

2.3 Power.

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

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

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

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

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

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

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

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

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

Effective June 15, 2012

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).

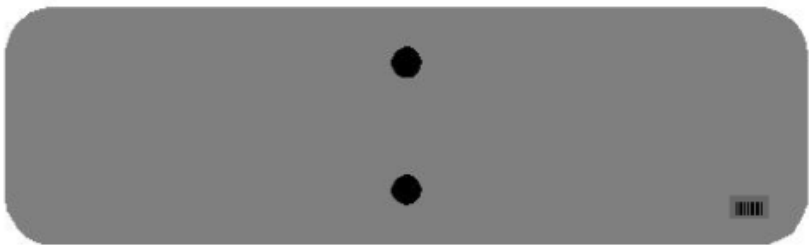
The installation of the permanent sign will be measured in accordance to Section 715.

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

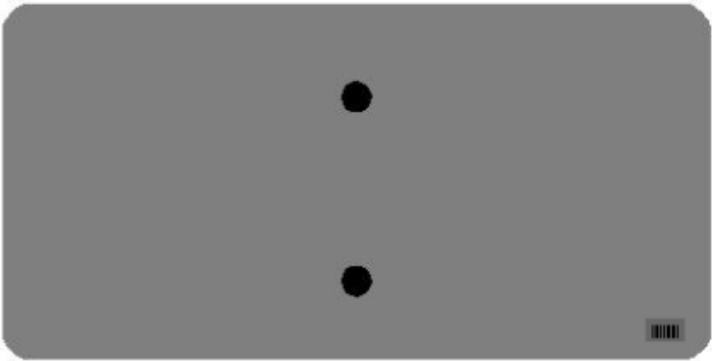
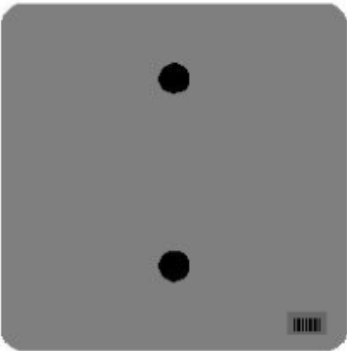
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

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.

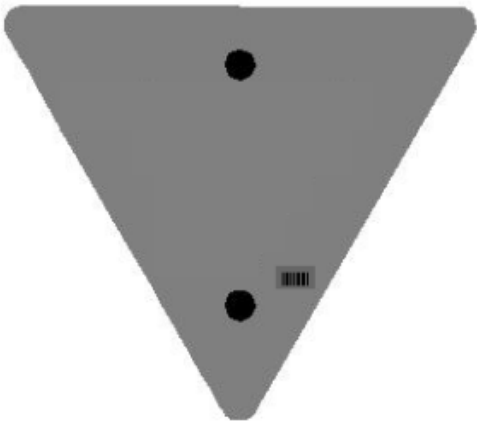
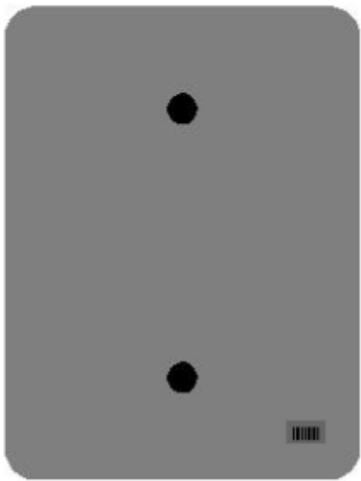
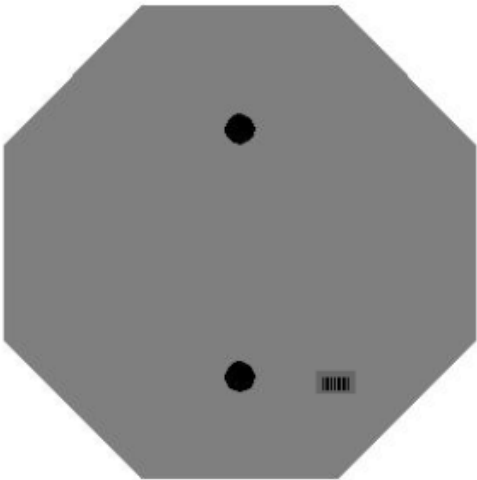
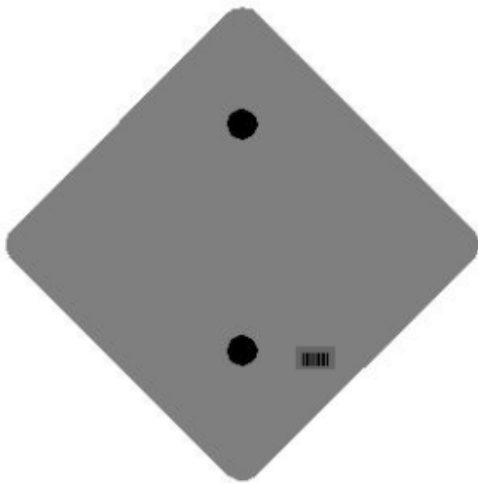
One Sign Post



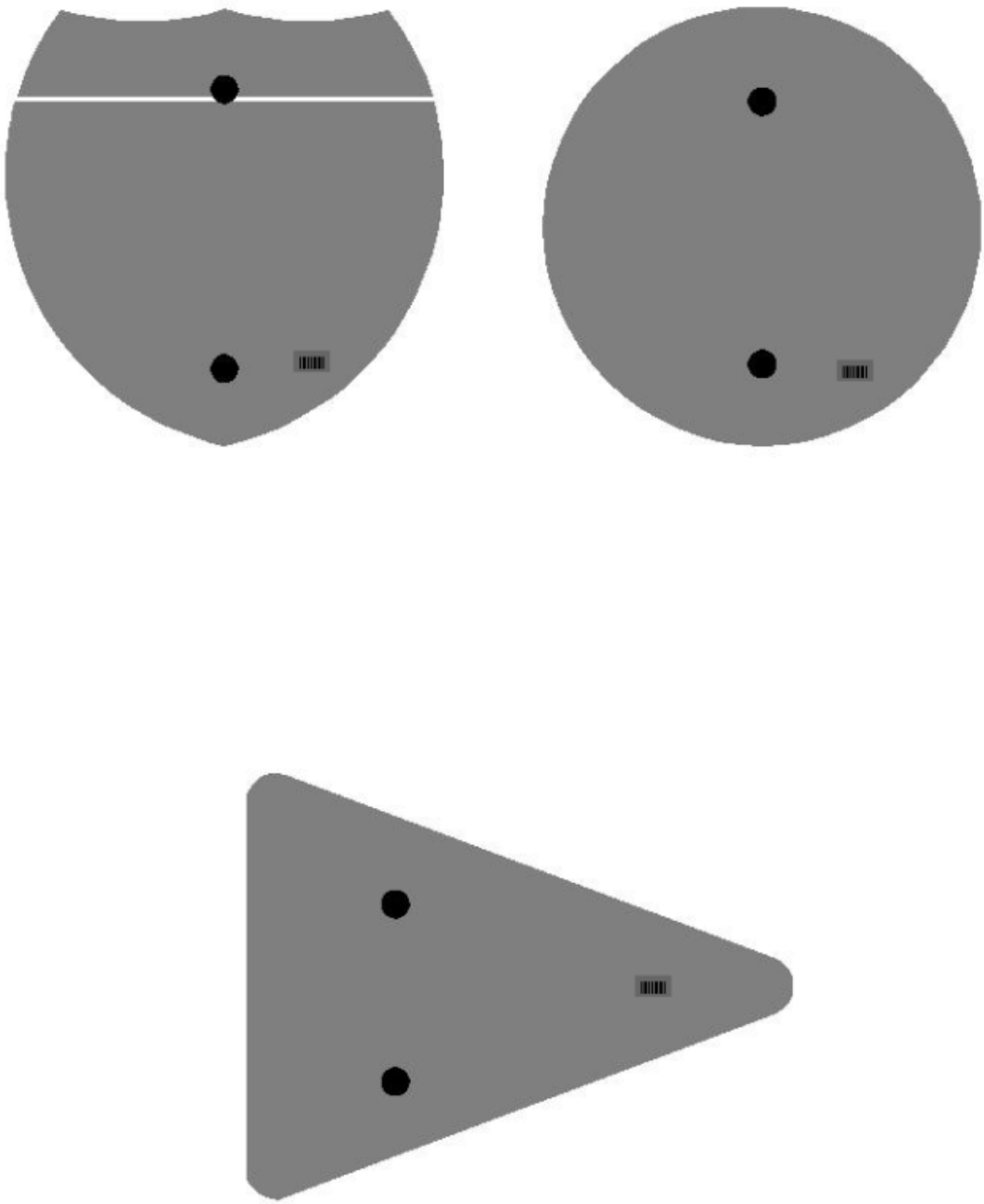
↑
2" Wide Post



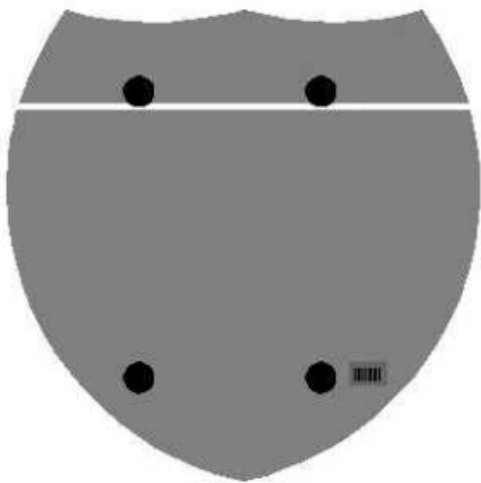
One Sign Post



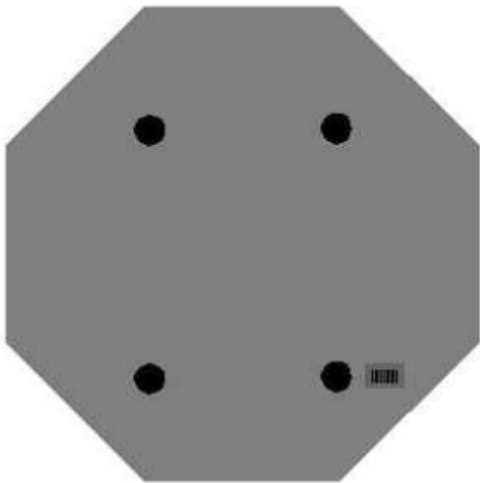
One Sign Post



Double Sign Post

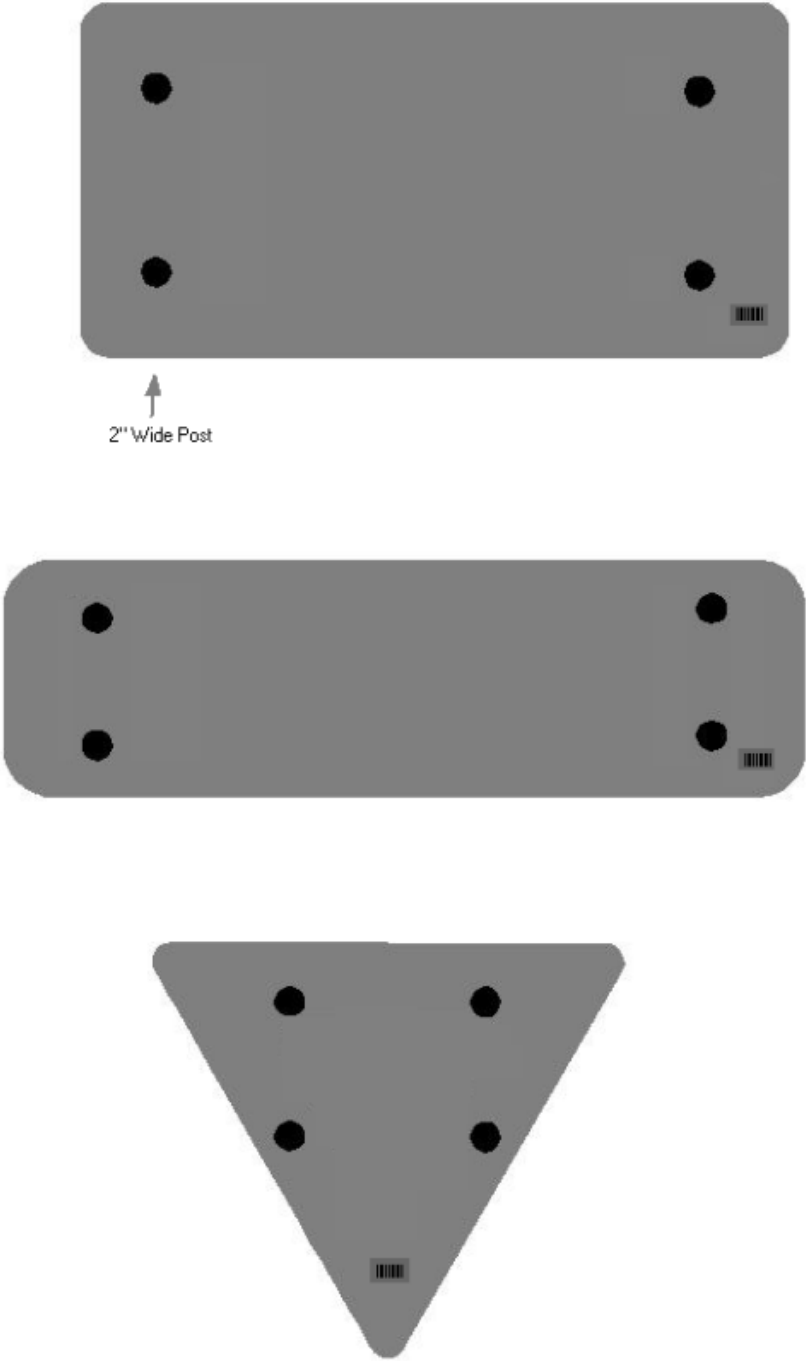


Interstate
Shield



48" Stop

2 Post Signs



2020 STANDARD DRAWINGS THAT APPLY

ROADWAY	
~ <i>BARRIERS</i> ~	
<u>GUARDRAIL CONNECTORS TO BRIDGE ENDS</u>	
GUARDRAIL CONNECTOR TO BRIDGE END TYPE D.....	RBC-004-08
GUARDRAIL CONNECTOR TO BRIDGE END TYPE D NOTES.....	RBC-004N
<u>TYPICAL BARRIER INSTALLATIONS</u>	
TYPICAL GUARDRAIL INSTALLATIONS.....	RBI-001-12
TYPICAL GUARDRAIL INSTALLATIONS.....	RBI-002-07
INSTALLATION OF GUARDRAIL END TREATMENT TYPE 1	RBI-004-06
<u>GUARDRAIL HARDWARE</u>	
STEEL BEAM GUARDRAIL (W-BEAM)	RBR-001-13
GUARDRAIL COMPONENTS	RBR-005-11
GUARDRAIL TERMINAL SECTIONS	RBR-010-06
STEEL GUARDRAIL POSTS	RBR-015-06
GUARDRAIL SYSTEM TRANSITION	RBR-018
GUARDRAIL END TREATMENT TYPE 1	RBR-020-07
GUARDRAIL END TREATMENT TYPE 4A.....	RBR-035-12
DELINEATORS FOR GUARDRAIL.....	RBR-005-01
~ <i>DRAINAGE</i> ~	
<u>BOX INLETS AND OUTLETS</u>	
<u>DROP BOXES</u>	
DROP BOX INLET TYPE 11	RDB-011-08
<u>SLOPED BOXES</u>	
SLOPED BOX OUTLET TYPE 1	RDB-100-05
GRATES FOR SLOPED BOX OUTLET TYPE 1	RDB-101-05
<u>PAVED DITCHES, FLUME INLETS AND CHANNEL LININGS</u>	
CHANNEL LINING CLASS II AND III	RDD-040-05
<u>TYPICAL DRAINAGE INSTALLATIONS</u>	
CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS (12" – 24" PIPE)	RDI-001-10
CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS (27" – 42" PIPE)	RDI-002-05
CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS (NON-CIRULAR, 15" – 60" PIPE).....	RDI-011-03
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
COATINGS, LININGS AND PAVINGS FOR NON-STRUCTURAL PLATE PIPE.....	RDI-035-02
EROSION CONTROL BLANKET CHANNEL INSTALLATION	RDI-041-01

Standard Drawings That Apply
Page 2 of 3

MISCELLANEOUS DRAINAGE

JUNCTION BOX TYPE B.....	RDY-005-03
INTERMEDIATE AND END ANCHORS FOR CIRCULAR PIPE.....	RDY-060-04
TEMPORARY SILT FENCE.....	RDY-210-03
SILT TRAP - TYPE A.....	RDY-220-05
SILT TRAP - TYPE B.....	RDY-225-01
SILT TRAP - TYPE C.....	RDY-230-01

~ GENERAL ~

CURVE WIDENING AND SUPERELEVATION

CURVE WIDENING AND SUPERELEVATION TRANSITIONS.....	RGS-001-07
SUPERELEVATION FOR MULTILANE PAVEMENTS	RGS-002-06

MISCELLANEOUS STANDARDS

MISCELLANEOUS STANDARDS.....	RGX-001-06
TYPICAL EMBANKMENT FOUNDATION BENCHES	RGX-010-04
ONE POINT PROCTER FAMILY OF CURVES.....	RGX-200-01

~ PAVEMENT ~

MEDIANS, CURBS, APPROACHES, ENTRANCES, ETC.

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

TRAFFIC

~ PERMANENT ~

RUMBLE STRIPS

CENTERLINE RUMBLE STRIPS.....	TPR-100
CENTERLINE RUMBLE STRIPS 6 INCH STRIPING	TPR-110
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
MOBILE OPERATION FOR DURABLE STRIPING CASE IV	TTS-135-02

Standard Drawings That Apply
Page 3 of 3

BRIDGES
~ *GENERAL* ~

MISCELLANEOUS STANDARDS

STENCILS FOR STRUCTURES..... BGX-006-10

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

**TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS**

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

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

I. APPLICATION

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

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

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

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

II. NONDISCRIMINATION OF EMPLOYEES

**AN ACT OF THE KENTUCKY
GENERAL ASSEMBLY TO PREVENT
DISCRIMINATION IN EMPLOYMENT
KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

EXECUTIVE BRANCH CODE OF ETHICS

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

KRS 11A.040 (7) provides:

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

KRS 11A.040 (9) states:

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

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

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

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

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

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 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



WWW.WAGEHOUR.DOL.GOV

PART IV

INSURANCE

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

PART V

BID ITEMS

Report Date 12/22/22

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	2,191.00	TON		\$	
0020	00020		TRAFFIC BOUND BASE	27.00	TON		\$	
0030	00078		CRUSHED AGGREGATE SIZE NO 2	181.00	TON		\$	
0040	00100		ASPHALT SEAL AGGREGATE	48.20	TON		\$	
0050	00103		ASPHALT SEAL COAT	6.40	TON		\$	
0060	00190		LEVELING & WEDGING PG64-22	1,359.00	TON		\$	
0070	00212		CL2 ASPH BASE 1.00D PG64-22	137.00	TON		\$	
0080	00301		CL2 ASPH SURF 0.38D PG64-22	5,944.00	TON		\$	
0090	00307		CL2 ASPH SURF 0.38B PG64-22	19.00	TON		\$	
0100	02091		REMOVE PAVEMENT	570.00	SQYD		\$	
0110	02562		TEMPORARY SIGNS	450.00	SQFT		\$	
0120	02585		EDGE KEY	92.00	LF		\$	
0130	02650		MAINTAIN & CONTROL TRAFFIC (DAVIESS KY 81 FD05)	1.00	LS		\$	
0140	02676		MOBILIZATION FOR MILL & TEXT (DAVIESS KY 81 FD04)	1.00	LS		\$	
0150	02676		MOBILIZATION FOR MILL & TEXT (DAVIESS KY 81 FD05)	1.00	LS		\$	
0160	02677		ASPHALT PAVE MILLING & TEXTURING	468.70	TON		\$	
0170	02697		EDGE LINE RUMBLE STRIPS	49,220.00	LF		\$	
0180	06510		PAVE STRIPING-TEMP PAINT-4 IN	50,000.00	LF		\$	
0190	10020NS		FUEL ADJUSTMENT	8,944.00	DOLL	\$1.00	\$	\$8,944.00
0200	10030NS		ASPHALT ADJUSTMENT	22,465.00	DOLL	\$1.00	\$	\$22,465.00
0210	20458ES403		CENTERLINE RUMBLE STRIPS	24,610.00	LF		\$	
0220	20550ND		SAWCUT PAVEMENT	336.00	LF		\$	
0230	24189ER		DURABLE WATERBORNE MARKING-6 IN W	46,880.00	LF		\$	
0240	24190ER		DURABLE WATERBORNE MARKING-6 IN Y	46,880.00	LF		\$	
0250	24970EC		ASPHALT MATERIAL FOR TACK NON- TRACKING	39.00	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0260	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	37.00	EACH		\$	
0270	02200		ROADWAY EXCAVATION	449.00	CUYD		\$	
0280	02351		GUARDRAIL-STEEL W BEAM-S FACE	1,550.00	LF		\$	
0290	02360		GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH		\$	
0300	02367		GUARDRAIL END TREATMENT TYPE 1	6.00	EACH		\$	
0310	02378		GUARDRAIL CONNECTOR TO BRIDGE END TY D	8.00	EACH		\$	
0320	02381		REMOVE GUARDRAIL	1,994.00	LF		\$	
0330	02391		GUARDRAIL END TREATMENT TYPE 4A	4.00	EACH		\$	
0340	02483		CHANNEL LINING CLASS II	298.00	TON		\$	
0350	02562		TEMPORARY SIGNS	25.00	SQFT		\$	
0360	02602		FABRIC-GEOTEXTILE CLASS 1	448.00	SQYD		\$	
0370	02650		MAINTAIN & CONTROL TRAFFIC (DAVIESS KY 81 FD04)	1.00	LS		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0380	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		\$	
0390	02701		TEMP SILT FENCE	2,609.00	LF		\$	
0400	02704		SILT TRAP TYPE B	38.00	EACH		\$	
0410	02705		SILT TRAP TYPE C	26.00	EACH		\$	
0420	02707		CLEAN SILT TRAP TYPE B	38.00	EACH		\$	
0430	02708		CLEAN SILT TRAP TYPE C	26.00	EACH		\$	
0440	02726		STAKING (DAVIESS KY 81 FD04)	1.00	LS		\$	
0450	03269		TRIM & REMOVE TREES & BRUSH	1,345.00	LF		\$	
0460	05950		EROSION CONTROL BLANKET	125.00	SQYD		\$	
0470	05953		TEMP SEEDING AND PROTECTION	770.00	SQYD		\$	
0480	05963		INITIAL FERTILIZER	.90	TON		\$	
0490	05964		MAINTENANCE FERTILIZER	1.10	TON		\$	
0500	05985		SEEDING AND PROTECTION	14,890.00	SQYD		\$	
0510	05992		AGRICULTURAL LIMESTONE	9.70	TON		\$	
0520	06510		PAVE STRIPING-TEMP PAINT-4 IN	3,358.00	LF		\$	
0530	06514		PAVE STRIPING-PERM PAINT-4 IN	260.00	LF		\$	
0540	06530		PAVE STRIPING REMOVAL-4 IN	72,516.00	LF		\$	
0550	06568		PAVE MARKING-THERMO STOP BAR-24IN	216.00	LF		\$	
0560	24189ER		DURABLE WATERBORNE MARKING-6 IN W	36,258.00	LF		\$	
0570	24190ER		DURABLE WATERBORNE MARKING-6 IN Y	36,258.00	LF		\$	
0580	26175EC		ROADSIDE REGRADING	5,992.00	LF		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0590	00461		CULVERT PIPE-15 IN	6.00	LF		\$	
0600	00462		CULVERT PIPE-18 IN	91.00	LF		\$	
0610	00464		CULVERT PIPE-24 IN	93.00	LF		\$	
0620	00498		CULVERT PIPE-42 IN EQUIV	75.00	LF		\$	
0630	01310		REMOVE PIPE	55.00	LF		\$	
0640	01433		SLOPED BOX OUTLET TYPE 1-18 IN	1.00	EACH		\$	
0650	01544		DROP BOX INLET TYPE 11	3.00	EACH		\$	
0660	02625		REMOVE HEADWALL	15.00	EACH		\$	
0670	02625		REMOVE HEADWALL (10'X5' BOX CULVERT, STA 160+10)	2.00	EACH		\$	
0680	02625		REMOVE HEADWALL (2.5'X2.5' BOX CULVERT, STA 18+99)	1.00	EACH		\$	
0690	02625		REMOVE HEADWALL (3'X2' BOX CULVERT, STA 111+43)	3.00	EACH		\$	
0700	02625		REMOVE HEADWALL (3'X2' BOX CULVERT, STA 227+41)	2.00	EACH		\$	
0710	02625		REMOVE HEADWALL (3'X3' BOX CULVERT, STA 323+99)	2.00	EACH		\$	
0720	02625		REMOVE HEADWALL (4.6'X2' BOX CULVERT, STA 205+15)	2.00	EACH		\$	
0730	02625		REMOVE HEADWALL (4'X4' BOX CULVERT, STA 356+81)	2.00	EACH		\$	
0740	02625		REMOVE HEADWALL (5'X3' BOX CULVERT, STA 378+72)	2.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0750	02625		REMOVE HEADWALL (5'X4' BOX CULVERT, STA 247+91)	2.00	EACH		\$	
0760	02625		REMOVE HEADWALL (6'X4' BOX CULVERT, STA 950+05)	2.00	EACH		\$	
0770	02625		REMOVE HEADWALL (6'X5' BOX CULVERT, STA 369+01)	2.00	EACH		\$	
0780	02625		REMOVE HEADWALL (8'X5' BOX CULVERT, STA 177+65)	2.00	EACH		\$	
0790	08003		FOUNDATION PREPARATION (10'X5' BOX CULVERT, STA 132+82)	1.00	LS		\$	
0800	08003		FOUNDATION PREPARATION (8'X6' BOX CULVERT, STA 445+39)	1.00	LS		\$	
0810	08100		CONCRETE-CLASS A	58.00	CUYD		\$	
0820	08150		STEEL REINFORCEMENT	7,350.00	LB		\$	
0830	23484EC		PIPE LINER ACCEPTANCE TESTING (DAVIESS KY 81 FD04)	1.00	LS		\$	
0840	23952EC		DRAINAGE JUNCTION BOX TY B	1.00	EACH		\$	
0850	23956EC		PIPE REPAIR	8.00	EACH		\$	
0860	24543EC		CLEAN PIPE	968.00	LF		\$	
0870	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE FOR 42 IN EQUIV. PIPE)	2.00	EACH		\$	
0880	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE FOR 48 IN PIPE)	2.00	EACH		\$	
0890	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE FOR DOUBLE 18 IN PIPES)	2.00	EACH		\$	
0900	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE FOR DOUBLE 24 IN PIPES)	2.00	EACH		\$	
0910	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE FOR DOUBLE 30 IN PIPES)	2.00	EACH		\$	
0920	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE FOR DOUBLE 36 IN PIPES)	2.00	EACH		\$	
0930	24583EC		HDPE PIPE LINER (18 IN)	236.00	LF		\$	
0940	24583EC		HDPE PIPE LINER (24 IN)	183.00	LF		\$	
0950	24583EC		HDPE PIPE LINER (30 IN)	172.00	LF		\$	
0960	24583EC		HDPE PIPE LINER (36 IN)	199.00	LF		\$	
0970	24583EC		HDPE PIPE LINER (42 IN)	82.00	LF		\$	
0980	24583EC		HDPE PIPE LINER (48 IN)	77.00	LF		\$	
0990	24862EC		PVC FOLD AND FORM PIPE LINER-18 IN	161.00	LF		\$	
1000	24863EC		PVC FOLD AND FORM PIPE LINER-24 IN	209.00	LF		\$	
1010	26131ED		SLOPED AND MITERED HEADWALL-18 IN	8.00	EACH		\$	
1020	26132ED		SLOPED AND MITERED HEADWALL-24 IN	9.00	EACH		\$	
1030	26133ED		SLOPED AND MITERED HEADWALL-30 IN	2.00	EACH		\$	
1040	26134ED		SLOPED AND MITERED HEADWALL-36 IN	2.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1050	26135ED		SLOPED AND MITERED HEADWALL-42 IN	2.00	EACH		\$	

Section: 0004 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1060	02562		TEMPORARY SIGNS	225.00	SQFT		\$	
1070	06406		SBM ALUM SHEET SIGNS .080 IN	789.25	SQFT		\$	
1080	06407		SBM ALUM SHEET SIGNS .125 IN	257.80	SQFT		\$	
1090	06410		STEEL POST TYPE 1	1,793.00	LF		\$	
1100	21373ND		REMOVE SIGN	125.00	EACH		\$	
1110	24631EC		BARCODE SIGN INVENTORY	214.00	EACH		\$	

Section: 0005 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1120	14006		W ENCASEMENT STEEL BORED RANGE 1	45.00	LF		\$	
1130	14030		W METER RELOCATE	1.00	EACH		\$	
1140	14059		W PIPE PVC 06 INCH	160.00	LF		\$	
1150	14060		W PIPE PVC 08 INCH	760.00	LF		\$	
1160	14074		W PLUG EXISTING MAIN (8")	1.00	EACH		\$	
1170	14089		W TAPPING SLEEVE AND VALVE SIZE 1 (6"x6"x3")	1.00	EACH		\$	
1180	14089		W TAPPING SLEEVE AND VALVE SIZE 1 (8"x8"x2")	1.00	EACH		\$	
1190	14089		W TAPPING SLEEVE AND VALVE SIZE 1 (8"x8"x8")	2.00	EACH		\$	
1200	14092		W TIE-IN 03 INCH	2.00	EACH		\$	
1210	14094		W TIE-IN 06 INCH	2.00	EACH		\$	
1220	14095		W TIE-IN 08 INCH	2.00	EACH		\$	
1230	14105		W VALVE 06 INCH	1.00	EACH		\$	
1240	14149		W SERV COPPER SHORT SIDE 1 IN	100.00	EACH		\$	
1250	14152		W SERV COPPER SHORT SIDE 3/4 IN	101.00	EACH		\$	

Section: 0006 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1260	02569		DEMOBILIZATION	1.00	LS		\$	