CALL NO. 109

CONTRACT ID. 221063

HENRY COUNTY

FED/STATE PROJECT NUMBER FBP 5162(022)

DESCRIPTION KY-146

WORK TYPE GRADE, DRAIN & SURFACE WITH BRIDGE

PRIMARY COMPLETION DATE 9/30/2024

LETTING DATE: December 08,2022

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME December 08,2022. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 10%

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

TABLE OF CONTENTS

PART V BID ITEMS

PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 05

CONTRACT ID - 221063

FBP 5162(022)

COUNTY - HENRY

PCN - DE05201462263
FBP 5162(022)

KY-146 (MP 2.169) MAJOR RECONSTRUCTION OF KY-146 BETWEEN NEW CASTLE AT US-421 AND PENDLETON AT KY-153 (MP 5.333), A DISTANCE OF 03.16 MILES.GRADE, DRAIN & SURFACE WITH BRIDGE SYP NO. 05-80260.00.

GEOGRAPHIC COORDINATES LATITUDE 38:27:08.00 LONGITUDE 85:16:02.00

ADT

COMPLETION DATE(S):

COMPLETED BY 09/30/2024 APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

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

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

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

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

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

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

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

HARDWOOD REMOVAL RESTRICTIONS

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

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

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

ACCESS TO RECORDS

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

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

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

BUILD AMERICA, BUY AMERICA ACT (BABA)

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

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

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

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

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

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

FEDERAL CONTRACT NOTES

The Kentucky Department of Highways, in accordance with the Regulations of the United States Department of Transportation 23 CFR 635.112 (h), hereby notifies all bidders that failure by a bidder to comply with all applicable sections of the current Kentucky Standard Specifications, including, but not limited to the following, may result in a bid not being considered responsive and thus not eligible to be considered for award:

102.02 Current Rating
102.13 Irregular Bid Proposals
102.09 Proposal Guaranty
102.08 Preparation and Delivery of Proposals
102.14 Disqualification of Bidders

CIVIL RIGHTS ACT OF 1964

The Kentucky Transportation Cabinet, Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, disability, income- level, or Limited English Proficiency (LEP)in consideration for an award.

NOTICE TO ALL BIDDERS

To report bid rigging activities call: 1-800-424-9071.

The U.S. Department of Transportation (DOT) operates the above toll-free “hotline” Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of the DOT’s continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECOND TIER SUBCONTRACTS

Second tier subcontracts are acceptable per Section 108.01 of the Standard Specifications for Road and Bridge Construction. Sub-Contractors fulfilling a disadvantaged business enterprise goal on a project may enter into a 2nd tier subcontract with a Non-DBE Subcontractor. However, in this instance, none of the work subcontracted to the Non-DBE Contractor will count toward fulfilling the established Disadvantaged Goal for the project.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

It is the policy of the Kentucky Transportation Cabinet ("the Cabinet") that Disadvantaged Business Enterprises ("DBE") shall have the opportunity to participate in the performance of highway construction projects financed in whole or in part by Federal Funds in order to create a level playing field for all businesses who wish to contract with the Cabinet. To that end, the Cabinet will comply with the regulations found in 49 CFR Part 26, and the definitions and requirements contained therein shall be adopted as if set out verbatim herein.

The Cabinet, contractors, subcontractors, and sub-recipients shall not discriminate on the basis of race, color, national origin, or sex in the performance of work performed pursuant to Cabinet contracts. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted highway construction projects. The contractor will include this provision in all its subcontracts and supply agreements pertaining to contracts with the Cabinet.

Failure by the contractor to carry out these requirements is a material breach of its contract with the Cabinet, which may result in the termination of the contract or such other remedy as the Cabinet deems necessary.

DBE GOAL

The Disadvantaged Business Enterprise (DBE) goal established for this contract, as listed on the front page of the proposal, is the percentage of the total value of the contract.

The contractor shall exercise all necessary and reasonable steps to ensure that Disadvantaged Business Enterprises participate in a least the percent of the contract as set forth above as goals for this contract.

OBLIGATION OF CONTRACTORS

Each contractor prequalified to perform work on Cabinet projects shall designate and make known to the Cabinet a liaison officer who is assigned the responsibility of effectively administering and promoting an active program for utilization of DBEs.

If a formal goal has not been designated for the contract, all contractors are encouraged to consider DBEs for subcontract work as well as for the supply of material and services needed to perform this work.

Contractors are encouraged to use the services of banks owned and controlled by minorities and women.

CERTIFICATION OF CONTRACT GOAL

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE ACCEPTED. These bids will not be considered for award by the Cabinet and they will be returned to the bidder.

"The bidder certifies that it has secured participation by Disadvantaged Business Enterprises ("DBE") in the amount of_____percent of the total value of this contract and that the DBE participation is in compliance with the requirements of 49 CFR 26 and the policies of the Kentucky Transportation Cabinet pertaining to the DBE Program."

The certification statement is located in the electronic bid file. All contractors must certify their DBE participation on that page. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted.

DBE PARTICIPATION PLAN

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 14-35 DBE, within 5 days of the letting. This is necessary before the Awards Committee will review and make a recommendation. **The project will not be considered for award prior to submission and approval of the apparent low bidder's DBE Plan/Subcontractor Request.**

The DBE Participation Plan shall include the following:

1. Name and address of DBE Subcontractor(s) and/or supplier(s) intended to be used in the proposed project;
2. Description of the work each is to perform including the work item, unit, quantity, unit price and total amount of the work to be performed by the individual DBE. The Proposal Line Number, Category Number, and the Project Line Number can be found in the "material listing" on the Construction Procurement website under the specific letting;
3. The dollar value of each proposed DBE subcontract and the percentage of total project contract value this represents. DBE participation may be counted as follows;
   a. If DBE suppliers and manufactures assume actual and contractual responsibility, the dollar value of materials to be furnished will be counted toward the goal as follows:
      - The entire expenditure paid to a DBE manufacturer;
      - 60 percent of expenditures to DBE suppliers that are not manufacturers provided the supplier is a regular dealer in the product involved. A regular dealer must be engaged in, as its principal business and in its own name, the sale of products to the public, maintain an inventory and own and operate distribution equipment; and
      - The amount of fees or commissions charged by the DBE firms for a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.

b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;

4. Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

Contractors must submit the signed subcontract between the contractor and the DBE contractor, along with the DBE's certificate of insurance. If the DBE is a supplier of materials for the project, a signed purchase order must be submitted to the Division of Construction Procurement.

Changes to DBE Participation Plans must be approved by the Cabinet. The Cabinet may consider extenuating circumstances including, but not limited to, changes in the nature or scope of the project, the inability or unwillingness of a DBE to perform the work in accordance with the bid, and/or other circumstances beyond the control of the prime contractor.

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set (hard copy along with an electronic copy) of this information must be received in the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

Where the information submitted includes repetitious solicitation letters it will be acceptable to submit a sample representative letter along with a distribution list of the firms solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal as necessary to demonstrate compliance with the factors listed below which the Cabinet considers in judging good faith efforts. This documentation may include written subcontractors' quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

The Good Faith Effort Package shall include, but may not be limited to information showing evidence of the following:

1. Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2. Whether the bidder provided solicitations through all reasonable and available means;
3. Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4. Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainly whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the Disadvantaged Enterprise Business Liaison Officer (DEBLO) in the Office for Civil Rights and Small Business Development to give notification of the bidder's inability to get DBE quotes;
5. Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces;
6. Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract;
7. Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached;
8. Whether quotations were received from interested DBE firms but were rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firm's quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE goals;
9. Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
10. Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal; and
11. Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.

FAILURE TO MEET GOOD FAITH REQUIREMENT

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Good Faith Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. The bidder will be notified of the Committee's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of the Committee's decision. The reconsideration meeting will be held within two days of the receipt of a request by the bidder for reconsideration.

The request for reconsideration will be heard by the Office of the Secretary. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration explaining the basis for the finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so.

The result of the reconsideration process is not administratively appealable to the Cabinet or to the United States Department of Transportation.

The Cabinet reserves the right to award the contract to the next lowest responsive bidder or to rebid the contract in the event that the contract is not awarded to the low bidder as the result of a failure to meet the good faith requirement.

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

Failure by the prime contractor to fulfill the DBE requirements of a project under contract or to demonstrate good faith efforts to meet the goal constitutes a breach of contract. When this occurs, the Cabinet will hold the prime contractor accountable, as would be the case with all other contract provisions. Therefore, the contractor's failure to carry out the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- Suspension of Prequalification;
- Disallow credit toward the DBE goal;
- Withholding progress payments;
- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

PROMPT PAYMENT

The prime contractor will be required to pay the DBE and Non-DBE Subcontractors within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

CONTRACTOR REPORTING

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to complete and submit a ***signed and notarized*** Affidavit of Subcontractor Payment (TC 18-7) and copies of checks for any monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal. These documents must be completed and signed within 7 days of being paid by the Cabinet.

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers.

******* IMPORTANT *******

Please mail the original, signed and completed TC (18-7) Affidavit of Subcontractor Payment form and all copies of checks for payments listed above to the following address:

Office for Civil Rights and Small Business Development
6th Floor West 200 Mero Street
Frankfort, KY 40622

The prime contractor should notify the KYTC Office for Civil Rights and Small Business Development seven (7) days prior to DBE contractors commencing work on the project. The contact in this office is Mr. Melvin Bynes. Mr. Bynes' current contact information is email address – melvin.bynes2@ky.gov and the telephone number is (502) 564-3601.

DEFAULT OR DECERTIFICATION OF THE DBE

If the DBE subcontractor or supplier is decertified or defaults in the performance of its work, and the overall goal cannot be credited for the uncompleted work, the prime contractor may utilize a substitute DBE or elect to fulfill the DBE goal with another DBE on a different work item. If after exerting good faith effort in accordance with the Cabinet's Good Faith Effort policies and procedures, the prime contractor is unable to replace the DBE, then the unmet portion of the goal may be waived at the discretion of the Cabinet.

PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES

In accordance with the FY 2019 National Defense Authorization Act (NDAA), 2 CFR 200.216, and 2 CFR 200.471, Federal agencies are prohibited, after August 13, 2020, from obligating or expending financial assistance to obtain certain telecommunications and video surveillance services and equipment from specific producers. As a result of these regulations, contractors and subcontractors are prohibited, on projects with federal funding participation, from providing telecommunication or video surveillance equipment, services, or systems produced by:

- Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities)
- Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities)

LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC – CARGO PREFERENCE ACT (CPA).

(REV 12-17-15) (1-16)

SECTION 7 is expanded by the following new Article:

102.10 **Cargo Preference Act – Use of United States-flag vessels.**

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

ASPHALT MIXTURE

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

INCIDENTAL SURFACING

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

ASPHALT PAVEMENT RIDE QUALITY CATEGORY A

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

OPTION A

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

MATERIAL TRANSFER VEHICLE (MTV)

Provide and use a MTV in accordance with Sections 403.02.10 and 403.03.05.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

County: Henry Item No.: 5-80260.00

Federal Project No.: FBP 5162 (022)

Project Description:

Major Reconstruction of KY 146 between New Castle at US-421 and Pendleton at KY 153.
Segment 1A: Pendleton Road (KY 153 to 0.25 east of Broko Lane).
Mile Point 2.169 to Mile Point 5.400.

Roadway Classification: ☐ Urban ☒ Rural

☐ Local ☒ Collector ☐ Arterial ☐ Interstate

ADT (2010) 4200 AM Peak Current _____ PM Peak Current _____ % Trucks 11%

Project Designation: ☐ Significant ☒ Other: _____

Traffic Control Plan Design:

Taper and Diversion Design Speeds 45 MPH

Minimum Lane Width 10’ Minimum Shoulder Width 2’

Minimum Bridge Width 21.5’

Minimum Radius 570’ Maximum Grade 6.40%

Minimum Taper Length 450’ Minimum Intersection Level of Service N/A

Existing Traffic Queue Lengths N/A Projected Traffic Queue Lengths N/A

Comments:

The contractor shall maintain a two-lane traveled way with a minimum lane width of 10 feet. However, during working hours, one-way traffic may be allowed at the discretion of the Engineer, provided adequate signing and a flagperson are at the location except between the hours of 6:30 am to 8:30 am, and 3:00 pm to 6:00 pm.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-80260.00

Discussion:

1) Public Information Plan

a) Prepare with assistance from ☐ KYTC or ☒ GRW

b) Identify Trip Generators Referenced	f) Railroad Involvement Referenced
c) Identify Types of Road Users Referenced	g) Address Pedestrians, Bikes Mass Transit Referenced
d) Public Information Message Referenced	h) Address Timing, Frequency, Updates, Effectiveness of Plan Referenced
e) Public Information Strategies to be used Referenced	i) Police & Other Emergency Services Referenced

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-80260.00

2) Temporary Traffic Control Plan (For Each Phase of Construction)
Phase 1

Exposure Control Measures		**Positive Protection Measures**	
a) Is Road Closure Allowed Type:	Referenced	a) Address Drop Off Protection Criteria	Referenced
b) Detour Conditions	Referenced	b) Temporary Barrier Requirements	Referenced
c) Working Hour Restrictions	Referenced	c) Evaluation of Existing Guardrail Conditions	Referenced
d) Holiday or Special Event Work Restrictions	Referenced	d) Address Temporary Drainage	Referenced
e) Evaluation of Intersection LOS	Referenced	**Uniformed Law Enforcement Officers**	Referenced
f) Evaluation of Queue Lengths	Referenced	**Payment for Traffic Control***	
g) Evaluation of User Costs and Incentives/Disincentives	Referenced	a) Method of Project Bidding	Referenced
h) Address Pedestrians, Bikes, Mass Transit	Referenced	b) Special Notes	Referenced
Work Vehicles and Equipment	Referenced	*Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction	

Comments:

Reference KY 146 Reconstruction Phase 1 from plan set that illustrates the concepts discussed in the following notes.

Phase 1:

Phase 1 Traffic Control Notes:

- Traffic shall remain on existing KY 146 during this phase of construction.
- Contractor shall maintain access to all entrances at all times during construction.
- The contractor shall maintain a two-lane traveled way with a minimum lane width of 10 feet. However, during working hours, one-way traffic may be allowed at the discretion of the Engineer, provided adequate signing and a flagperson are at the location except between the hours of 6:30 am to 8:30 am, and 3:00 pm to 6:00 pm.

Construction Sequence:

- Construct temporary roadway from the following stations:
  - RT. Sta. 100+19.28 to Sta. 105+00.
  - LT. Sta. 129+27 to existing bridge.
  - RT. Sta. 130+00 to proposed bridge.
  - LT. existing bridge to Sta. 141+23.
  - RT. proposed bridge widening to Sta. 141+50.
  - RT. Sta. 148+50 to 151+50.
  - RT. Sta. 219+18 to Sta. 223+00.
  - RT. Sta. 246+20 to Sta. 267+09.73.
- Construct temporary access roads at the following locations:
  - Lt. Sta. 145+00.
  - Rt. Sta. 175+00.
- Construct right side of KY 146 Reconstruction from the following stations:
  - Sta. 105+00 to Sta. 115+00.
  - Sta. 128+00 to Sta. 130+00.
  - Sta. 223+00 to Sta. 251+00.
- Construct left side of KY 146 Reconstruction from the following stations:
  - Sta. 183+00 to Sta. 219+00.
- Construct full section of KY 146 Reconstruction from the following stations:
  - Sta. 115+00 to Sta. 128+00.
  - Sta. 143+64.27 to Sta. 148+50.
  - Sta. 151+00 to Sta. 177+00.
  - Sta. 178+00 to Sta. 183+00.
- Construct the left and right lanes and right shoulder of KY 146 Reconstruction from Sta. 141+50 to 143+64.27.
- Construct Connector No. 1 from the edge of existing KY 146 to KY 146 Reconstruction. Do not construct ditch right of Connector No. 1 during this phase of construction.
- Construct right side of Dawkins lane while maintaining traffic.
- Construct 350 ft. of temporary median barrier Type 9T and 2 Type VI Crash Cushions from Lt. Sta. 134+00 to Sta. 137+50.
- Construct 275 feet of temporary guardrail with 2 Type 4A end treatments from Rt. Sta. 183+00 to Sta. 186+50.
- Construct 150 ft. of temporary median barrier Type 9T and 2 Type VI Crash Cushions from Lt. Sta. 217+00 to Sta. 218+50.
- Widen the right side of the existing bridge over Little Kentucky River at Sta. 135+77.74.
- Construct the following drainage structures:
  - Crossdrain at Sta. 104+82, under traffic.
  - Crossdrain at Sta. 115+89.42.
  - Crossdrain at Connector No. 1.
  - Crossdrain at Sta. 124+21.61.
  - 60 linear feet of 18” temporary pipe under temporary access road at Lt. Sta. 145+00.
  - Crossdrain at Sta. 149+24. Bore and jack pipe under existing roadway.
  - Crossdrain at Sta. 160+20.76
  - Left portion of crossdrain at Sta. 167+55.40.

- Crossdrain at Sta. 176+59.46.
- Right portion of Dawkins Lane crossdrain.
- Left portion of crossdrain at Sta. 184+65.20.
- Crossdrain at Sta. 192+00. Bore and jack pipe under existing roadway.
- Left portion of crossdrain at Sta. 197+99.19.
- Left portion of crossdrain at Sta. 204+39.58.
- Left portion of crossdrain at Sta. 209+26.19.
- Left portion of crossdrain at Sta. 217+86.12.
- Crossdrain at Sta. 225+24.02 under traffic
- Crossdrain at Sta. 234+89.34 under traffic.
- Crossdrain at Sta. 239+60. Bore and jack pipe under existing roadway.
- Crossdrain at Sta. 245+55. Bore and jack pipe under existing roadway.
- Crossdrain at Sta. 252+10. Bore and jack pipe under existing roadway.
- Right portion of crossdrain at Sta. 258+28.69.
- Right portion of crossdrain at Sta. 263+38.82.

- Construct the following temporary drainage structures:
  - Temporary ditch Lt. Sta. 110+50 to Sta. 113+50 to existing 18” inlet.
  - Temporary ditch Lt. Sta. 113+88 to Sta. 115+00, 120 linear feet of temporary ditch drain from existing 18” outlet to proposed ditch.
  - Connector No. 1 Rt. Sta. 8+65, 75 linear feet of 24” temporary pipe, tie to existing 24” pipe, drain to proposed outlet ditch.
  - Temporary ditch Lt. Sta. 128+00 to existing 24” RCP at Lt. Sta. 129+12.
  - Temporary ditch Lt. Sta. 141+00 to Sta. 144+00, tying proposed roadside ditch to 18” temporary pipe.
  - Lt. Sta. 141+00 46 linear feet of 18” temporary pipe.
  - Temporary ditch Lt. Sta. 149+78.94 to Sta. 150+50, tying proposed ditch to existing 15” pipe.
  - Temporary ditch Rt. Sta. 167+43 at the temporary crossdrain outlet to Sta. 167+15 to the existing RCBC.
  - Approximately 160 linear feet of temporary ditches from the proposed crossdrain outlet Rt. Sta. 177+26 to the existing RCBC.
  - Approximately 60 linear feet of temporary ditch from Lt. Sta. 178+00 to drain to the new roadside ditch to the existing ditch left of Dawkins Lane.
  - Approximately 230 linear feet of temporary ditch to drain temporary crossdrain at Rt. Sta. 184+64.65 to existing RCBC.
  - Approximately 30 linear feet of temporary ditch to drain temporary crossdrain at Rt. Sta. 198+01 to existing 18” RCP.
  - Approximately 60 linear feet of temporary ditch to drain temporary crossdrain at Rt. Sta. 204+34 to existing RCBC.
  - Approximately 50 linear feet of temporary ditch to drain temporary crossdrain at Rt. Sta. 209+30 to existing RCBC.
  - Approximately 120 linear feet of temporary ditch to drain temporary crossdrain at Rt. Sta. 217+86 to existing RCBC.
  - Approximately 75 linear feet of temporary ditch to drain temporary crossdrain at Rt. Sta. 258+31.36 from existing RCBC.

- Approximately 110 linear feet of temporary ditch to drain temporary crossdrain at Rt. Sta. 263+37.27 from existing RCBC.

Traffic Destinations:

- Traffic shall remain on existing roads during this phase of construction.
- Contractor shall maintain access to all entrances at all times during construction.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-80260.00

2) Temporary Traffic Control Plan (For Each Phase of Construction) Phase 2

Exposure Control Measures		**Positive Protection Measures**	
a) Is Road Closure Allowed Type:	Referenced	a) Address Drop Off Protection Criteria	Referenced
b) Detour Conditions	Referenced	b) Temporary Barrier Requirements	Referenced
c) Working Hour Restrictions	Referenced	c) Evaluation of Existing Guardrail Conditions	Referenced
d) Holiday or Special Event Work Restrictions	Referenced	d) Address Temporary Drainage	Referenced
e) Evaluation of Intersection LOS	Referenced	**Uniformed Law Enforcement Officers**	Referenced
f) Evaluation of Queue Lengths	Referenced	**Payment for Traffic Control***	
g) Evaluation of User Costs and Incentives/Disincentives	Referenced	a) Method of Project Bidding	Referenced
h) Address Pedestrians, Bikes, Mass Transit	Referenced	b) Special Notes	Referenced
Work Vehicles and Equipment	Referenced	*Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction	

Comments:

Reference KY 146 Reconstruction Phase 2 from plan set that illustrates the concepts discussed in the
following notes.

Phase 2:

Phase 2 Traffic Control Notes:

- Shift traffic to temporary roadway and access roads, and to the constructed portions of KY 146 Reconstruction as shown on Phase 2 of Maintenance of Traffic plan set.
- Contractor shall maintain access to all entrances at all times during construction.
- The contractor shall maintain a two-lane traveled way with a minimum lane width of 10 feet. However, during working hours, one-way traffic may be allowed at the discretion of

the Engineer, provided adequate signing and a flagperson are at the location except between the hours of 6:30 am to 8:30 am, and 3:00 pm to 6:00 pm.

Construction Sequence:

- Construct left side of KY 146 Reconstruction from the following stations:
  - Sta. 100+01.34 to Sta. 115+00.
  - Sta. 128+00 to Sta. 141+50.
  - Sta. 148+50 to Sta. 151+00.
  - Sta. 219+00 to Sta. 265+50.
- Construct full section of KY 146 Reconstruction from the following stations:
  - Sta. 177+00 to Sta. 178+00.
- Construct left shoulder of KY 146 Reconstruction from Sta. 141+50 to Rosehill Lane
- Construct the remaining portion of Connector No. 1 while maintaining traffic.
- Construct the right side of Rosehill Lane while maintaining traffic.
- Construct the left side of Dawkins Lane while maintaining traffic.
- Construct Broko Lane connection while maintaining traffic.
- Relocate 350 ft. of temporary median barrier Type 9T and 2 Type VI Crash Cushion from Lt. Sta. 134+00 to Sta. 137+50.
- Widen the left side of the existing bridge over the Little Kentucky River at Sta. 135+77.74.
- Construct the following drainage structures:
  - Ditch right of Connector No. 1.
  - Rosehill crossdrain while maintaining traffic.
  - Remaining portion of the Dawkins Lane crossdrain.
  - Broko Lane crossdrain.
- Construct the following temporary drainage structures:
  - 18” temporary pipe under temporary access road at Lt. Sta. 145+00 still in use this phase.
  - Approximately 60 linear feet of temporary ditch from Lt. Sta. 144+00 to Rosehill crossdrain inlet.
  - Rt. Sta. 167+15 to Sta. 267+09.73 - temporary pipe and ditches right of KY 146 Reconstruction are still in use.

Traffic Destinations:

- Shift traffic to the right side of KY 146 Reconstruction from Sta. 100+19.28 to Sta. 115+00.
- Shift traffic to the full section of KY 146 Reconstruction from Sta. 115+00 to Sta. 128+00.
- Shift traffic to the right side of KY 146 Reconstruction from Sta. 128+00 to Sta. 131+50.
- Utilize temporary widening and the eastbound lane of existing KY 146 from Sta. 131+50 to Sta. 141+50.
- Shift traffic to the right side of KY 146 Reconstruction from Sta. 141+50 to Sta. 148+50.
- Utilize temporary widening from Sta. 148+50 to Sta. 151+91.23.
- Maintain traffic on existing KY 146 from Sta. 151+91.23 to 221+00. Dawkins Lane traffic shall use the temporary roadway constructed at Rt. 175+00.

- Shift traffic to previously constructed temporary widening from Sta. 221+00 to Sta. 225+00.
- Shift traffic to the right side of KY 146 reconstruction from Sta. 225+00 to Sta. 250+00.
- Shift traffic to Diversion No. 1 from Sta. 250+00 to Sta. 265+50.
- Shift Traffic to the temporary widening and eastbound lane of existing KY 146 from Sta. 265+50 to Sta. 267+09.73.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-80260.00

2) Temporary Traffic Control Plan (For Each Phase of Construction) Phase 3

Exposure Control Measures		**Positive Protection Measures**	
a) Is Road Closure Allowed Type:	Referenced	a) Address Drop Off Protection Criteria	Referenced
b) Detour Conditions	Referenced	b) Temporary Barrier Requirements	Referenced
c) Working Hour Restrictions	Referenced	c) Evaluation of Existing Guardrail Conditions	Referenced
d) Holiday or Special Event Work Restrictions	Referenced	d) Address Temporary Drainage	Referenced
e) Evaluation of Intersection LOS	Referenced	**Uniformed Law Enforcement Officers**	Referenced
f) Evaluation of Queue Lengths	Referenced	**Payment for Traffic Control***	
g) Evaluation of User Costs and Incentives/Disincentives	Referenced	a) Method of Project Bidding	Referenced
h) Address Pedestrians, Bikes, Mass Transit	Referenced	b) Special Notes	Referenced
Work Vehicles and Equipment	Referenced	*Payment for traffic control items shall be in accordance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction	

Comments:

Reference KY 146 Reconstruction Phase 3 from plan set that illustrates the concepts discussed in the
following notes.

Phase 3:

Phase 3 Traffic Control Notes:

- Continue to shift traffic to temporary roadway and access roads, and to the constructed portions of KY 146 Reconstruction as shown on Phase 3 of Maintenance of Traffic plan set.
- Contractor shall maintain access to all entrances at all times during construction.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

- The contractor shall maintain a two-lane traveled way with a minimum lane width of 10 feet. However, during working hours, one-way traffic may be allowed at the discretion of the Engineer, provided adequate signing and a flagperson are at the location except between the hours of 6:30 am to 8:30 am, and 3:00 pm to 6:00 pm.

Construction Sequence:

- Construct right side of KY 146 Reconstruction from the following stations:
  - Sta. 100+01.34 to Sta. 105+00.
  - Sta. 130+00 to Sta. 141+50.
  - Sta. 148+50 to Sta. 151+00.
  - Sta. 183+00 to Sta. 223+00.
  - Sta. 250+00 to Sta. 265+50.
- Construct the left side of Rosehill Lane while maintaining traffic.
- Remove 350 ft. of temporary median barrier Type 9T and 2 Type VI Crash Cushion from Lt. Sta. 134+00 to Sta. 137+50.
- Remove 275 feet of temporary guardrail with 2 Type 4A end treatments from Rt. Sta. 183+00 to Sta. 186+50.
- Remove 150 ft. of temporary median barrier Type 9T and 2 Type VI Crash Cushions from Lt. Sta. 217+00 to Sta. 218+50.
- Construct the following drainage structures:
  - Proposed ditch left of KY 146 Reconstruction from Sta. 144+00 back to Rosehill Lane crossdrain inlet.
  - Remaining portion of crossdrain at Sta. 184+65.20.
  - Remaining portion of crossdrain at Sta. 197+99.19.
  - Remaining portion of crossdrain at Sta. 204+39.58.
  - Remaining portion of crossdrain at Sta. 209+26.19.

Traffic Destinations:

- Shift traffic to the left side of KY 146 Reconstruction and then to the full section from Sta. 100+19.28 to Sta. 105+00.
- Shift traffic to the full section of KY 146 Reconstruction from Sta. 105+00 to Sta. 130+00.
- Shift traffic to the left side of KY 146 Reconstruction from Sta. 130+00 to Sta. 141+50.
- Shift traffic to the full section of KY 146 Reconstruction from Sta. 141+50 to Sta. 148+50.
- Shift traffic to the left side of KY 146 Reconstruction from Sta. 148+50 to Sta. 151+00.
- Shift traffic to the full section of KY 146 Reconstruction from Sta. 151+00 to Sta. 183+00.
- Shift traffic to the left side of KY 146 Reconstruction from Sta. 183+00 to Sta. 223+00.
- Shift traffic to the full section of KY 146 Reconstruction from Sta. 223+00 to Sta. 250+00.
- Shift traffic to the left side of KY 146 Reconstruction from Sta. 250+00 to Sta. 265+50.

Item No. 5-80260.00

APPROVAL:

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Keith Downs — 10/14/2022
Project Manager — Date

MSA TPA — 10/14/2022
Project Delivery and Preservation Manager — Date

10/14/22
Engineering Support Manager — Date

Not Required

FHWA Representative — Date

Revisions to the TMP require review/approval by the signatories.

ITEM #5-80260(5-8300)
HENRY COUNTY

Bridge repairs on five (5) KY 146 bridges between KY 153 (MP 2.169) and US 421 (MP 9.80) at New Castle, Kentucky." (Bridge Numbers: 052B00068N; 052B00030N; 052B00074N; 052B00065N; 052B00027N) (2022CCN)

Traffic Management Plan Overview

PROJECT GOALS AND OBJECTIVES

The project is located in western half of Henry County and involves reconstructing a portion of KY 146 from KY 153 in Pendleton eastward to where it terminates at the single span bridge over Bartlett Fork, approximately a quarter mile east of Broko Lane and approximately 1 mile west for Hieatt Lane.

*The current 2022 SYP would delay getting **5-8300 (KY 146, Segment 1)** to construction for at least another two years due to no construction funding being provided in the plan. However, the 2022 SYP does provide for construction funding for project **5-80260** to repair bridges on KY 146 within the project limits of 5-8300.*

*With this project, KYTC will advance the first two structures listed in the **5-80260** project description to construction with extended approach work. To accomplish this, the roadway designed under the 5-8300 design contract was modified to divide **Segment 1 of 5-8300** into two new segments to provide the extended approach work necessary for the two structures to be constructed with **5-80260.00**.*

*The two new segments are referenced as **Segment No. 1A** and Segment No. 1B. **Segment No. 1A is to be advanced at this time to rehabilitate the two structures and to provide the extended approach work under project 5-80260.00.** Segment No. 1B will be constructed later in the future.*

KY 146 RECONSTRUCTION – PRIORITY SEGMENT NO. 1A
HENRY COUNTY ITEM #5-80260.00
PUBLIC INFORMATION PLAN

The primary goal of the Public Information Plan (PIP) is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) which includes shoulder, lane and ramp closures. The KYTC District 5 Public Information Officer (PIO) will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans.

LOCAL STAKEHOLDERS

- Elected Officials
  - County Judge Executive John Logan Brent – (502)-845-5707; hcjudgeexec@hotmail.com
  - State Senator Adrienne Southworth - (502)-564-8100; Adrienne.Southworth@lrc.ky.gov
  - State Representative Felicia Rabourn - (502)-564-8100; Felicia.Rabourn@lrc.ky.gov
  - City of New Castle Mayor Tony Kurtz – (502)-845-5750; mayor@newcastleky.com

- Local Agencies
  - Henry County Public Schools Transportation Department Director of Transportation – Kevin Whitt – (502)-845-8624; Kevin.Whitt@henry.kyschools.us
  - Henry County Sheriff Keith Perry - (502)-845-2909

- Utility Companies
  - Local utility companies are kept apprised of this project at the monthly utility coordination meetings hosted by District 5

TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS

Information will be distributed electronically to trucking firms via Matthew Cole, Commissioner, Department of Vehicle Regulation (502-564-7000; matt.cole@ky.gov). Information will also be posted on the GoKY website (http://goky.ky.gov/)

PRESENTATIONS

A project description including anticipated schedule will be provided to the media, stakeholders and other emergency service agencies via e-mail prior to construction. Information will be provided to these groups via traffic advisories, press releases, the District 5 website and the weekly District 5 Road Show of Construction and Maintenance Activities.

MEDIA RELATIONS

The District Public Information Officer (PIO) will prepare an initial news release regarding the contract award for the project. The PIO will conduct interviews with the media throughout the project duration to keep the public informed of construction progress. Traffic advisories will be submitted to the media when a change in the MOT occurs. The contractor must provide to the PIO via the Resident Engineer notification of any change in the MOT at least five (5) days prior to the change.

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R036

GENERAL NOTES

TRAFFIC CONTROL

1. Traffic shall be maintained in accordance with the *Manual on Uniform Traffic Control Devices*, the *Standard Specifications for Road and Bridge Construction*, and the *Standard Drawings*, current editions.

2. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid for at the lump sum bid price to "Maintain and Control Traffic" as set forth in the current Standard *Specifications for Road and Bridge Construction* unless otherwise provided for in these notes. The lump sum bid to "Maintain and Control Traffic" shall also include, but is not limited to, the following items and operations:

   a. All grading and necessary drainage (unless a bid item for detour construction is included) for the temporary roadway and removal thereof, when it is no longer needed. If a bid item for detour construction is included grading and drainage will be paid for in the bid item "Detour Construction".

   b. All labor and materials necessary for construction and maintenance of traffic control devices and markings.

   c. All flagpersons and traffic control devices such as, but not limited to, flashers, signs, barricades and vertical panels, plastic drums (steel drums will not be permitted) and cones necessary for the control and protection of vehicular and pedestrian traffic as specified in these notes, the plans, the *Manual on Uniform Traffic Control Devices*, or the Engineer.

3. Any temporary traffic control items, devices, materials, and incidentals shall remain the property of the Contractor when no longer needed.

4. The contractor shall maintain a two-lane traveled way with a minimum lane width of 10 feet. However, during working hours, one-way traffic may be allowed at the discretion of the Engineer, provided adequate signing and a flagperson are at the location except between the hours of 6:30 am to 8:30 am, and 3:00 pm to 6:00 pm.

5. The Contractor shall completely cover any signs, either existing, permanent or temporary, which do not properly apply to the current traffic phasing, and shall maintain the covering until the signs are applicable or are removed.

6. In general, all traffic control devices shall be placed starting and proceeding in the direction of the flow of traffic and removed starting and proceeding in the direction opposite to the flow of traffic.

7. The Engineer and the Contractor, or their authorized representatives, shall review the signing before traffic is allowed to use any lane closures, crossovers or detours. All signing shall be approved by the Engineer before work can be started by the Contractor.

8. If the Contractor desires to deviate from the traffic control scheme outlined in these plans and this proposal, he shall prepare an alternate plan and present it in writing to the Engineer. This alternate plan can be used only after review and approval of the Divisions of Traffic, Design and Construction, and the Federal Highway Administration where applicable.

9. If traffic should be stopped due to construction operations and an emergency vehicle on an official emergency run arrives on the scene, the Contractor shall make provisions for the passage of that vehicle as quickly as possible.

10. Any roadways, except entrances, that are anticipated to be in use for a period of seven (7) consecutive days or more for the maintenance of traffic shall be paved with bituminous surfacing materials, as directed by the Engineer. Payment shall be in accordance with the appropriate bid items for the type of bituminous material selected. Removal of such for continuing grade and drain work or any other permanent work item that may be in conflict with the temporary bituminous surfacing shall be incidental.

11. All signs necessary for a marked detour will be provided by the Contractor as required by the *Standard Drawings* and the *Manual on Uniform Traffic Control Devices*. Signs outside the project limits shall be paid for by the square foot. This quantity shall include sign mounting hardware and posts.

13. Traffic destinations and construction phasing that do not change from one phase to the next are not shown for the unchanged phase.

14. Contractor shall maintain access to all affected properties at all times during construction.

15. Contractor shall complete the current phase of drainage structure construction under traffic within that construction phase of work before advancing to the next phase.

16. Construction phasing of cross drains and storm sewers is shown on pipe drainage sheets and storm sewer profiles as described in Construction Sequence notes.

SPECIAL NOTES

BLASTING OPERATIONS

During blasting operations, traffic may be halted a maximum of 20 minutes per hour to allow the execution of the "shot" and to allow for removal of rock fragments and debris. Blasting will not be permitted between the hours of 3:00 PM and 8:30 AM.

The Contractor shall be assessed damages in the amount of $250 for the first 15 minutes and then $500 for each 30 minutes after that if traffic is not restored within the 20 minutes stoppage allowed.

The Contractor, when using explosive charges of any kind for the purpose of excavating, removal, etc., on this project shall halt all traffic a safe distance on either side of the impending explosion.

The Contractor shall have suitable equipment at the site and in a running mode for the purpose of cleaning the existing pavements of all debris. After any blast, the Contractor shall immediately inspect the pavements for any debris that may be a hazard to traffic before allowing traffic to proceed on the affected section.

When blasting, the Contractor shall halt traffic, blast, clean the existing pavements and return traffic to normal operation in the least amount of time possible.

REMOVAL OF EXISTING PAVEMENT MARKINGS

Any conflicting existing pavement markers and markings shall be removed prior to implementing a new traffic marking scheme. No direct payment will be allowed for this removal operations and it will be considered incidental to the item "MAINTAIN and CONTROL TRAFFIC". Traffic shall not be shifted from one phase to another before appropriate temporary lane markings have been installed and approved by the Engineer.

SPEED LIMIT

The posted speed limit shall be reduced by 10 m.p.h. in the active construction zone. Cover or replace existing 55 mph signs with temporary, regulatory 45 mph signs. Post 35 mph advisory signs at each Diversion.

FINAL SURFACE

When the Sequence of Construction calls for partial width construction of pavement for a section of highway in a phase, the surface course shall not be placed until the full width of pavement including shoulders has been completed in a later phase.

CONTRACTOR'S VEHICLES

The Contractor's vehicles shall always move with and not against the flow the traffic. Vehicles shall enter and leave work areas in a manner which will not be hazardous to or interfere with normal traffic. Vehicles shall not park or stop except within work areas designated by the Engineer.

PAVEMENT EDGE DROP-OFFS

Difference in Elevation for Travel Lanes

Pavement edge that traffic is expected to cross in a lane change situation should not have an elevation differences greater than 1½ inches. This may be increased to 2 inches for low speed situations. Warning signs should be placed in advance and throughout the drop-off area.

Pavement Drop-Off

Pavement edges that traffic is not expected to cross, except accidentally, should be treated as follows:

Less Than 2 inches - No protection required. Warning signs should be placed in advance and throughout the drop-off area.

2 to 4 inches - Place plastic drums, vertical panels or barricades every 100 feet on tangent sections for speeds 50 miles per hour or greater. Cones may be used in place of plastic drums, panels and barricades during daylight hours. For tangent sections with speeds less than 50 miles per hour and for curves, devices should be placed every 50 feet. Spacing for tapers should be in accordance with the *Manual on Uniform Traffic Control Devices.*

Greater Than 4 inches - Positive separation or wedge with 3:1 or flatter slope needed. If there is 5 feet or more distance between the edge of pavement and drop-off, drums, panels or barricades may be used. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations.

PAVEMENT EDGE DROP OFFS (CONTINUED)

For temporary conditions, drop-offs greater than 4 inches may be protected with plastic drums, vertical panels or barricades for short distances during daylight hours while work is being done in the drop-off area.

Lesser treatments than those described above may be considered for low-volume local roads.

Payment will be allowed for the DGA material used for wedging.

Diversion Drainage

Unless specifically listed as a bid item and called out in the plans for payment, all temporary drainage work for diversions shall be incidental to the bid item for Diversions in accordance with 2012 Standard Specifications Section 112.04.18; all other temporary drainage work required to "ensure that the roadway is well-drained" shall be incidental to the appropriate items for roadway grading in accordance with 2012 Standard Specifications Sections 112 and 204.03.

Trenches

Unless specifically listed as a bid item and called out in the plans for payment, all temporary bracing, shoring or trench stabilization work for pipe and culvert installation shall be incidental to the work. Trenches shall not remain open during non-working hours. All trenches shall be backfilled immediately and kept safe for workers and the general public at all times.

Pavement Restoration

For the duration of the project, all trench and excavation for any pipe installation (utility, storm, culvert) that requires temporary and/or permanent disturbance of paved material, being entrances, mainline, approach roads, parking lots, etc. shall be paved in-kind with asphaltic or concrete material within 30 days of the pipe installation. A penalty of $500/ day will be assessed for each day past the 30 day limit. Maintenance of applied material shall also be required for the duration of the project.

MAINTENANCE OF TRAFFIC ESTIMATE OF QUANTITIES

	TOTAL	UNITS	CODE	DESCRIPTION
	3651	TON	3	CRUSHED STONE BASE
(1)	5000	TON	20	TRAFFIC BOUND BASE
	2058	TON	212	CL 2 ASPH BASE 1.00D PG64-22
	428	TON	301	CL 2 ASPH SURF 0.38D PG64-22
	6	EACH	2014	BARRICADE TYPE III
	3	EACH	2391	GUARDRAIL END TREATMENT TYPE 4A
	362.5	LIN FT	2397	TEMP GUARDRAIL
	600	SQ FT	2562	SIGNS (TEMPORARY)
	2	EACH	2671	PORTABLE CHANGEABLE MESSAGE SIGN
	6	EACH	20738NS112	TEMP CRASH CUSHION (TYPE VI CLASS BT TL2)
	650	LIN FT	23007EN	CONC. MEDIAN BARRIER TYPE 9T

NOTE: The quantities shown here are also included on the summary sheets.

(1) For use at Engineer's discretion for maintenance of traffic/entrances.

PHASE 4

Complete surface coarse and striping operations under traffic.

SCALE: 1"=NTS

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
MAINT. OF TRAFFIC NOTES

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R037

PHASE 1 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE STA. 104+82 CROSSDRAIN, UNDER TRAFFIC.

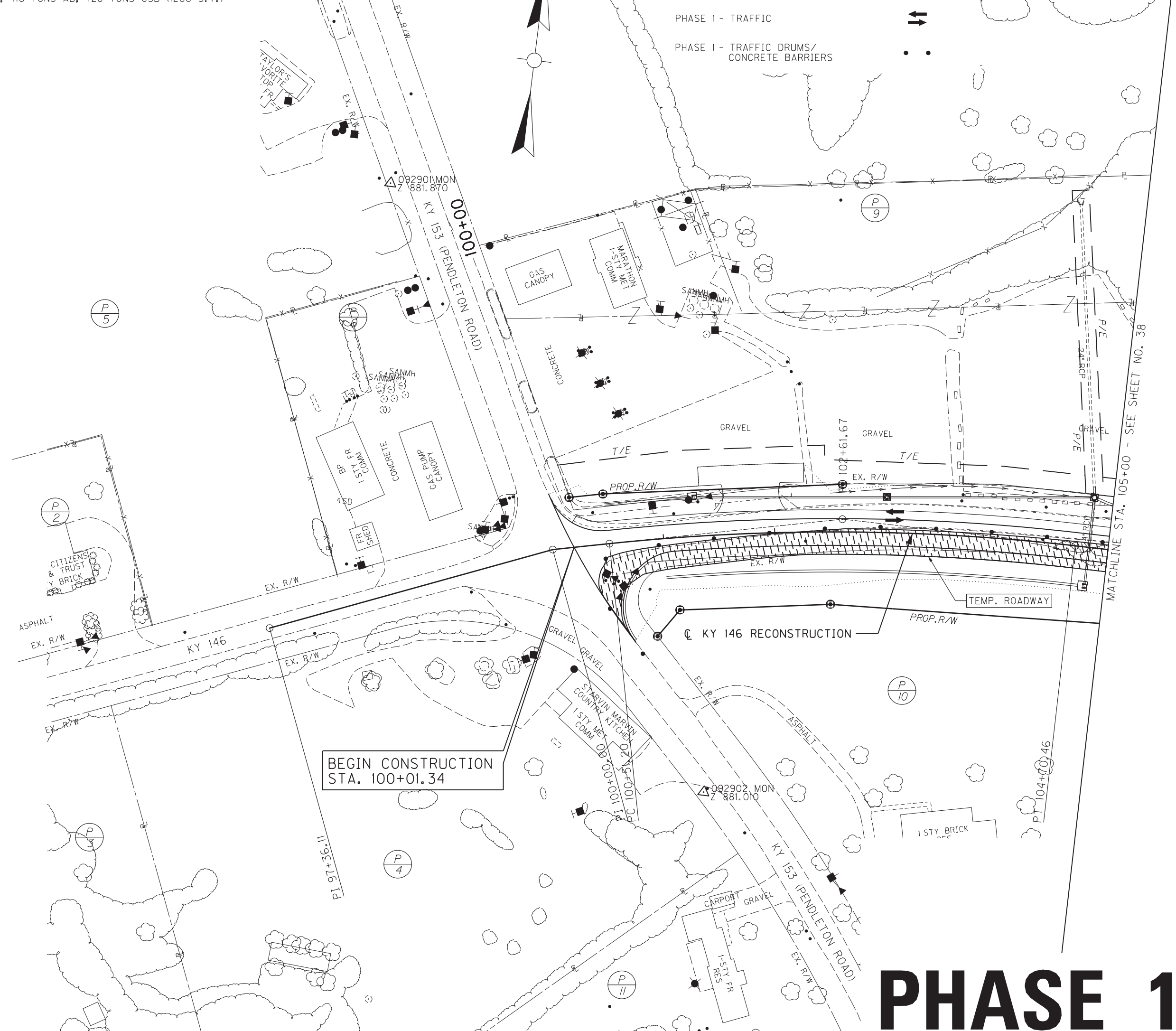
PHASE 1 - TRAFFIC DESTINATIONS

- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 1 - TEMPORARY ROADWAY

RT. STA. 100+19.28 TO RT. STA. 105+00 CONSTRUCT TEMP. ROADWAY W/ 88 TONS AS, 418 TONS AB, 728 TONS CSB (1266 S.Y.)

PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS

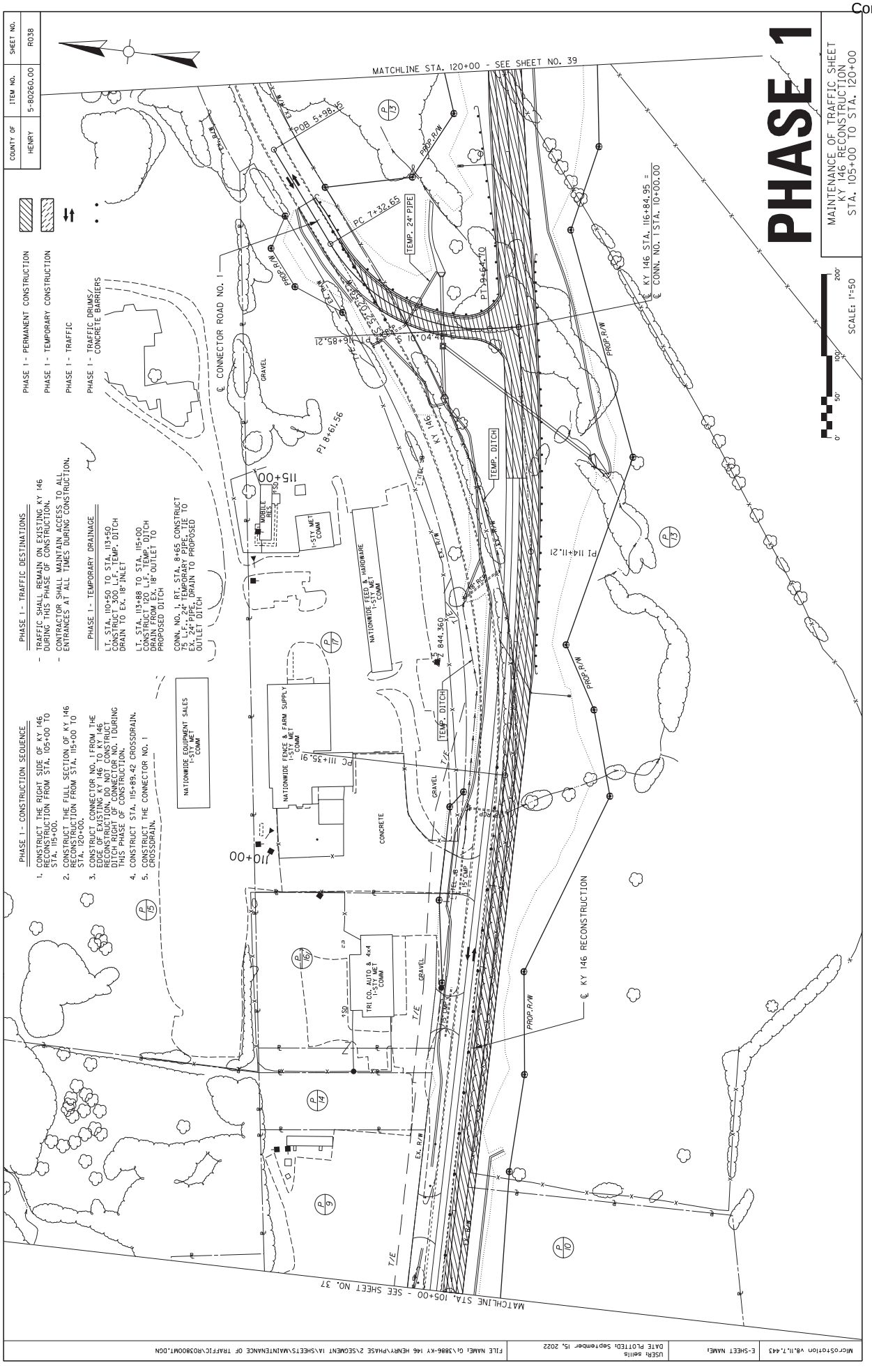


0' 50' 100' 200'
SCALE: 1"=50'

PHASE 1

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 100+01.34 TO STA. 105+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: jslugontz DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R037OOMT.DGN


PHASE 1
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 105+00 TO STA. 120+00
COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R038
PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 1 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 105+00 TO STA. 115+00.
2. CONSTRUCT THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 115+00 TO STA. 120+00.
3. CONSTRUCT CONNECTOR NO. 1 FROM THE EDGE OF EXISTING KY 146 RECONSTRUCTION TO CONSTRUCT DITCH RIGHT OF CONNECTOR NO. 1 DURING THIS PHASE OF CONSTRUCTION.
4. CONSTRUCT STA. 115+89.42 CROSSDRAIN.
5. CONSTRUCT THE CONNECTOR NO. 1 CROSSDRAIN.
PHASE 1 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 1 - TEMPORARY DRAINAGE
LT. STA. 110+50 TO STA. 113+50
CONSTRUCT 300 L.F. TEMP. DITCH
DRAIN TO EX. 18" INLET
LT. STA. 113+88 TO STA. 115+00
CONSTRUCT 120 L.F. TEMP. DITCH
DRAIN FROM EX. 18" OUTLET TO
PROPOSED DITCH
CONN. NO. 1, RT. STA. 8+65 CONSTRUCT
75 L.F. 24" TEMPORARY PIPE, TIE TO
EX. 24" PIPE, DRAIN TO PROPOSED
OUTLET DITCH
MATCHLINE STA. 120+00 - SEE SHEET NO. 39
MATCHLINE STA. 105+00 - SEE SHEET NO. 37
℄ CONNECTOR ROAD NO. 1
℄ KY 146 RECONSTRUCTION
℄ KY 146 STA. 116+84.95 = ℄ CONN. NO. 1 STA. 10+00.00
POB 5+98.15
PC 7+32.65
PT 9+64.70
PI 8+61.56
PI 11+85.21
PI 14+11.21
TEMP. 24" PIPE
TEMP. DITCH
PROP. R/W
EX. R/W
GRAVEL
CONCRETE
MOBILE RES.
1-STY MET COMM
NATIONWIDE FEED & HARDWARE 1-STY MET COMM
NATIONWIDE FENCE & FARM SUPPLY 1-STY MET COMM
NATIONWIDE EQUIPMENT SALES 1-STY MET COMM
TRI CO. AUTO & 4x4 1-STY MET COMM
SCALE: 1"=50
0' 50' 100' 200'

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R039

PHASE 1 - CONSTRUCTION SEQUENCE

1. CONSTRUCT 100 FT. OF TEMPORARY MEDIAN BARRIER TYPE 9T FROM RT. STA. 134+00 TO STA. 135+00 WITH 1 TYPE VI CRASH CUSHION.
2. CONSTRUCT THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 120+00 TO STA. 128+00.
3. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 128+00 TO STA. 130+00.
4. CONSTRUCT THE STA. 124+21.61 CROSSDRAIN.

PHASE 1 - TRAFFIC DESTINATIONS

- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 1 - TEMPORARY ROADWAY

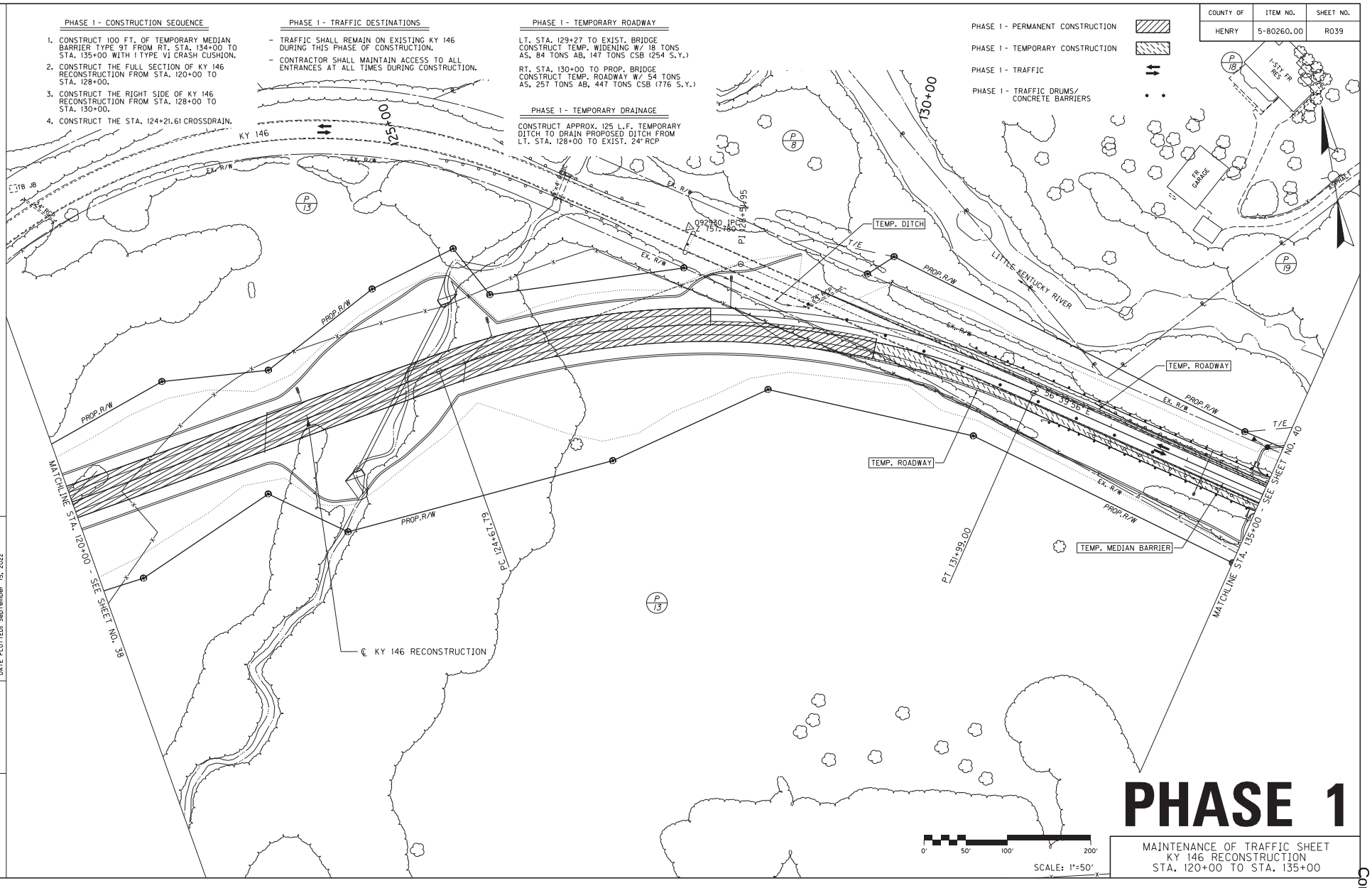
LT. STA. 129+27 TO EXIST. BRIDGE
CONSTRUCT TEMP. WIDENING W/ 18 TONS AS, 84 TONS AB, 147 TONS CSB (254 S.Y.)

RT. STA. 130+00 TO PROP. BRIDGE
CONSTRUCT TEMP. ROADWAY W/ 54 TONS AS, 257 TONS AB, 447 TONS CSB (776 S.Y.)

PHASE 1 - TEMPORARY DRAINAGE

CONSTRUCT APPROX. 125 L.F. TEMPORARY DITCH TO DRAIN PROPOSED DITCH FROM LT. STA. 128+00 TO EXIST. 24" RCP

PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 1

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 120+00 TO STA. 135+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R039OOMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R040

PHASE 1 - CONSTRUCTION SEQUENCE

1. CONSTRUCT 250 FT. OF TEMPORARY MEDIAN BARRIER TYPE 9T FROM RT. STA. 135+00 TO STA. 137+50 WITH 1 TYPE VI CRASH CUSHION.
2. CONSTRUCT THE LEFT & RIGHT LANES AND RIGHT SHOULDER OF KY 146 RECONSTRUCTION FROM STA. 141+50 TO STA. 143+64.27.
3. WIDEN THE RIGHT SIDE OF THE EXISTING BRIDGE OVER THE LITTLE KENTUCKY RIVER.
4. CONSTRUCT THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 143+64.27 TO STA. 148+50.
5. CONSTRUCT THE STA. 149+24 CROSSDRAIN. BORE AND JACK PIPE UNDER EXISTING ROADWAY.

PHASE 1 - TRAFFIC DESTINATIONS

- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 1 - TEMPORARY ROADWAY

LT. EXISTING BRIDGE TO LT. STA. 141+23
CONSTRUCT TEMP. PAVEMENT W/ 11 TONS AS, 53 TONS AB, 92 TONS CSB (159 S.Y.)

RT. PROPOSED BRIDGE TO STA. 141+50 CONSTRUCT TEMP. ACCESS ROAD W/ 65 TONS AS, 312 TONS AB, 543 TONS CSB (944 S.Y.)

RT. STA. 148+50 TO RT. STA. 150+00 CONSTRUCT TEMP. PAVEMENT W/ 36 TONS AS, 172 TONS AB, 299 TONS CSB (519 S.Y.)

LT. STA. 145+00 CONSTRUCT TEMP. ACCESS ROAD W/ 13 TONS AS, 59 TONS AB, 103 TONS CSB (178 S.Y.) W/ 60 L.F., 18" TEMPORARY PIPE

PHASE 1 - TEMPORARY DRAINAGE

LT. STA. 141+00 TO STA. 144+00
CONSTRUCT 300 L.F. TEMP. DITCH
TIE PROPOSED ROADSIDE DITCH TO 18" TEMPORARY PIPE

LT. STA. 141+00 CONSTRUCT APPROX. 46 L.F. 18" TEMPORARY PIPE

LT. STA. 145+00 CONSTRUCT APPROX. 58 L.F. 18" TEMPORARY PIPE

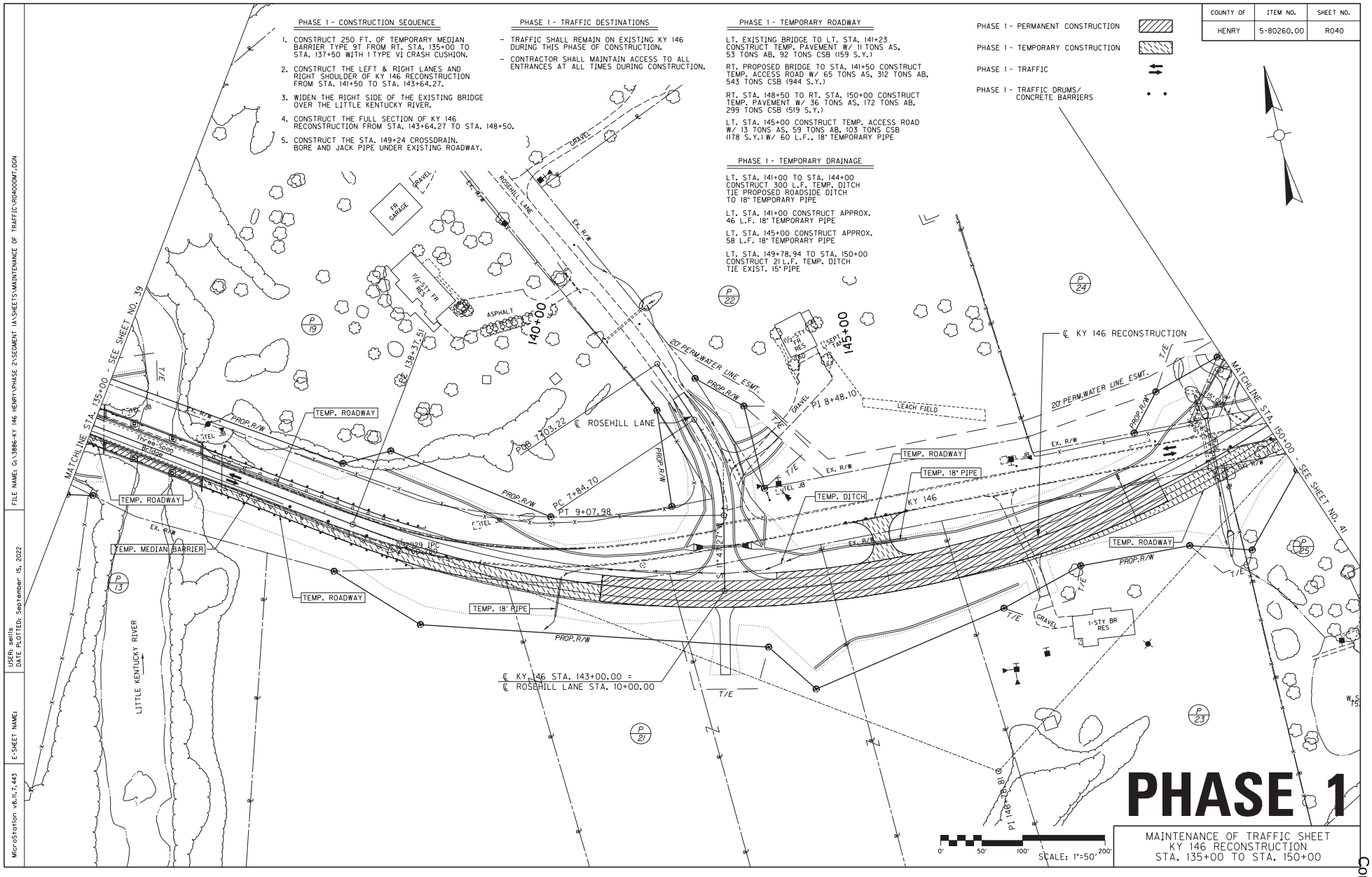
LT. STA. 149+78.94 TO STA. 150+00
CONSTRUCT 21 L.F. TEMP. DITCH
TIE EXIST. 15" PIPE

PHASE 1 - PERMANENT CONSTRUCTION

PHASE 1 - TEMPORARY CONSTRUCTION

PHASE 1 - TRAFFIC

PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 1

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 135+00 TO STA. 150+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R040OMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R041

PHASE 1 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 151+00 TO STA. 165+00.
2. CONSTRUCT THE STA. 160+20.76 CROSSDRAIN.

PHASE 1 - TRAFFIC DESTINATIONS

- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 1 - TEMPORARY ROADWAY

RT. STA. 150+00 TO RT. STA. 151+50 CONSTRUCT TEMP. PAVEMENT W/ 6 TONS AS, 27 TONS AB, 46 TONS CSB (80 S.Y.)

PHASE 1 - TEMPORARY DRAINAGE

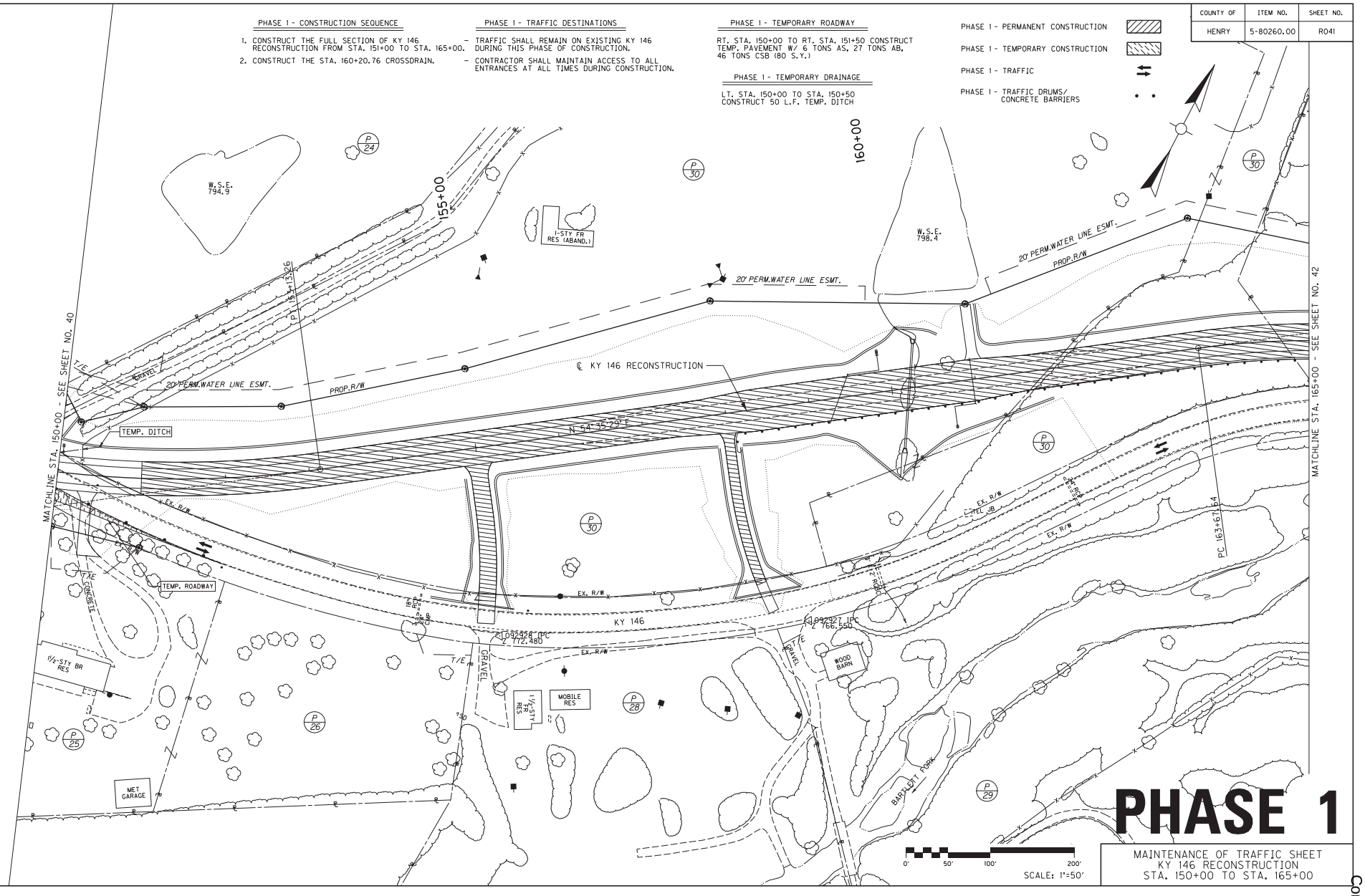
LT. STA. 150+00 TO STA. 150+50 CONSTRUCT 50 L.F. TEMP. DITCH

PHASE 1 - PERMANENT CONSTRUCTION

PHASE 1 - TEMPORARY CONSTRUCTION

PHASE 1 - TRAFFIC

PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 1

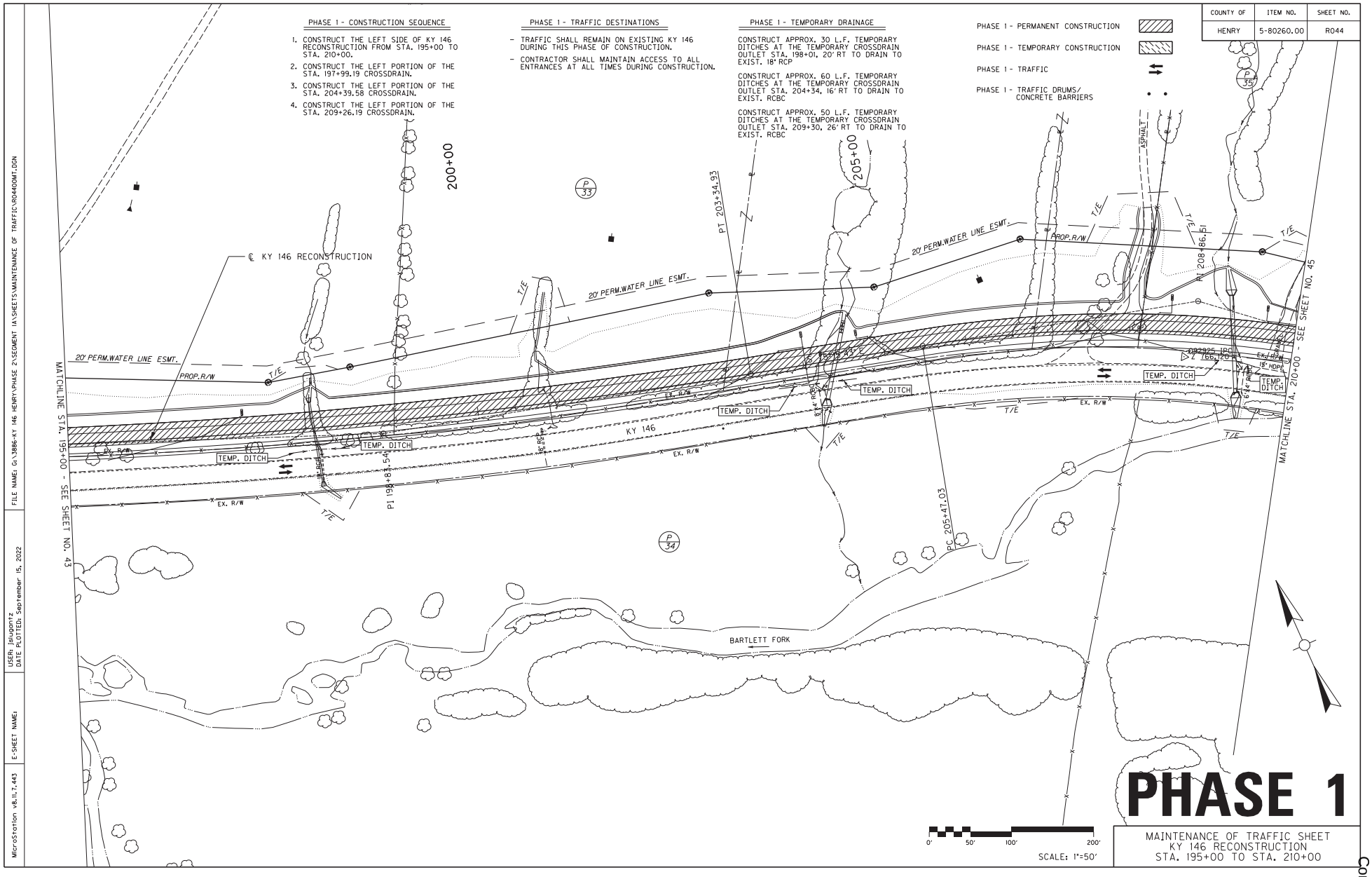
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 150+00 TO STA. 165+00

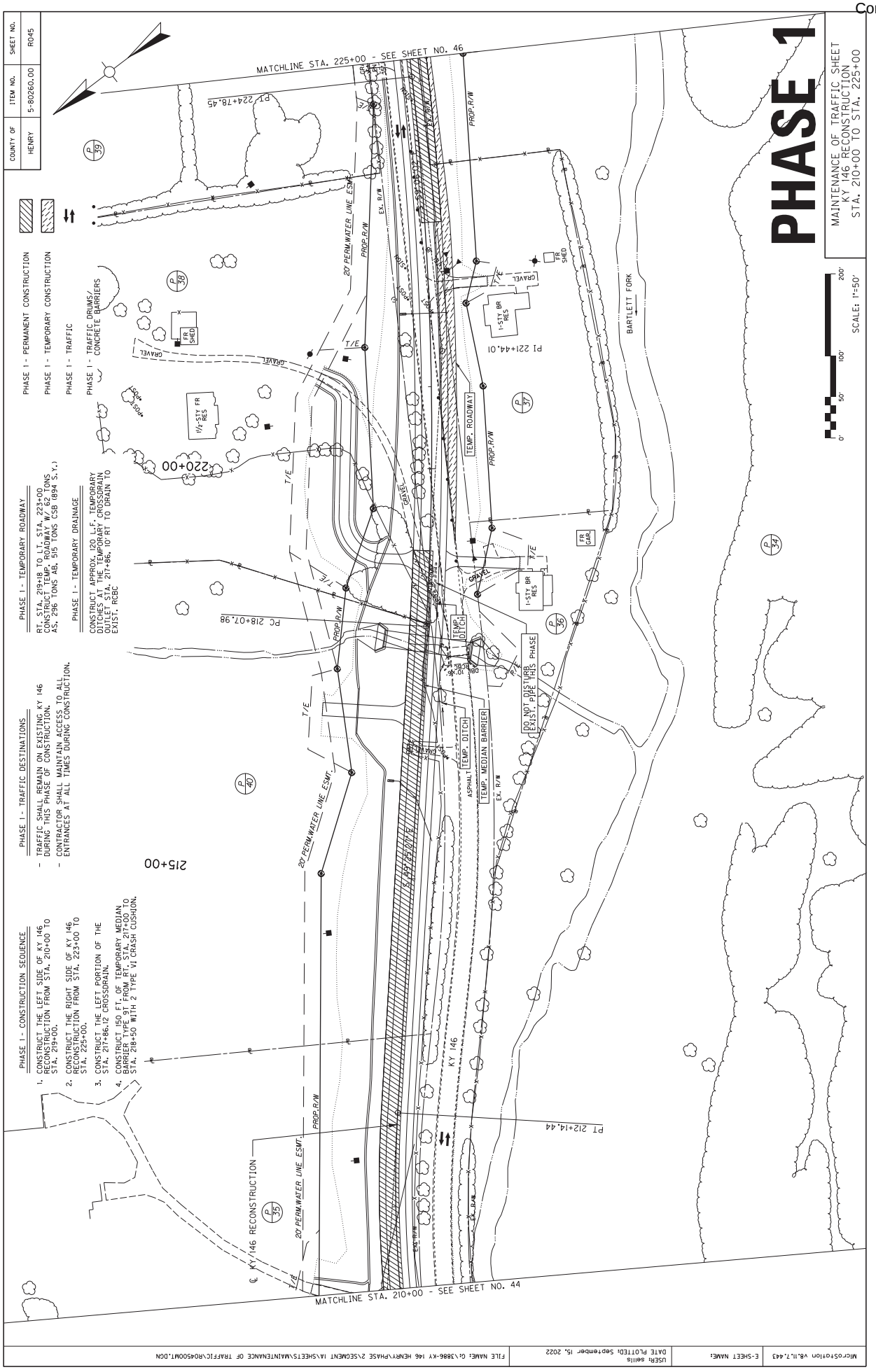
SCALE: 1"=50'

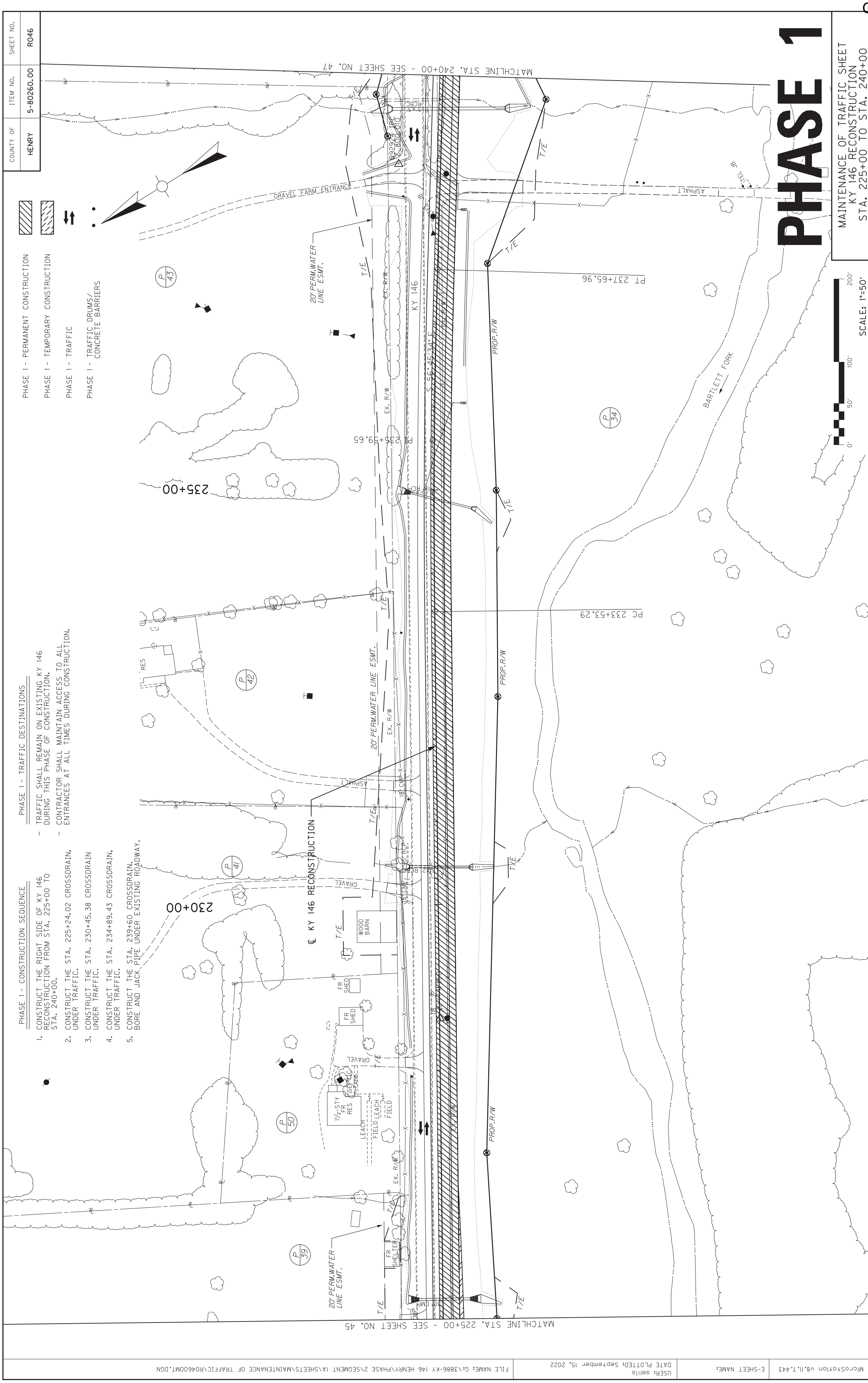
MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R040MT.DGN

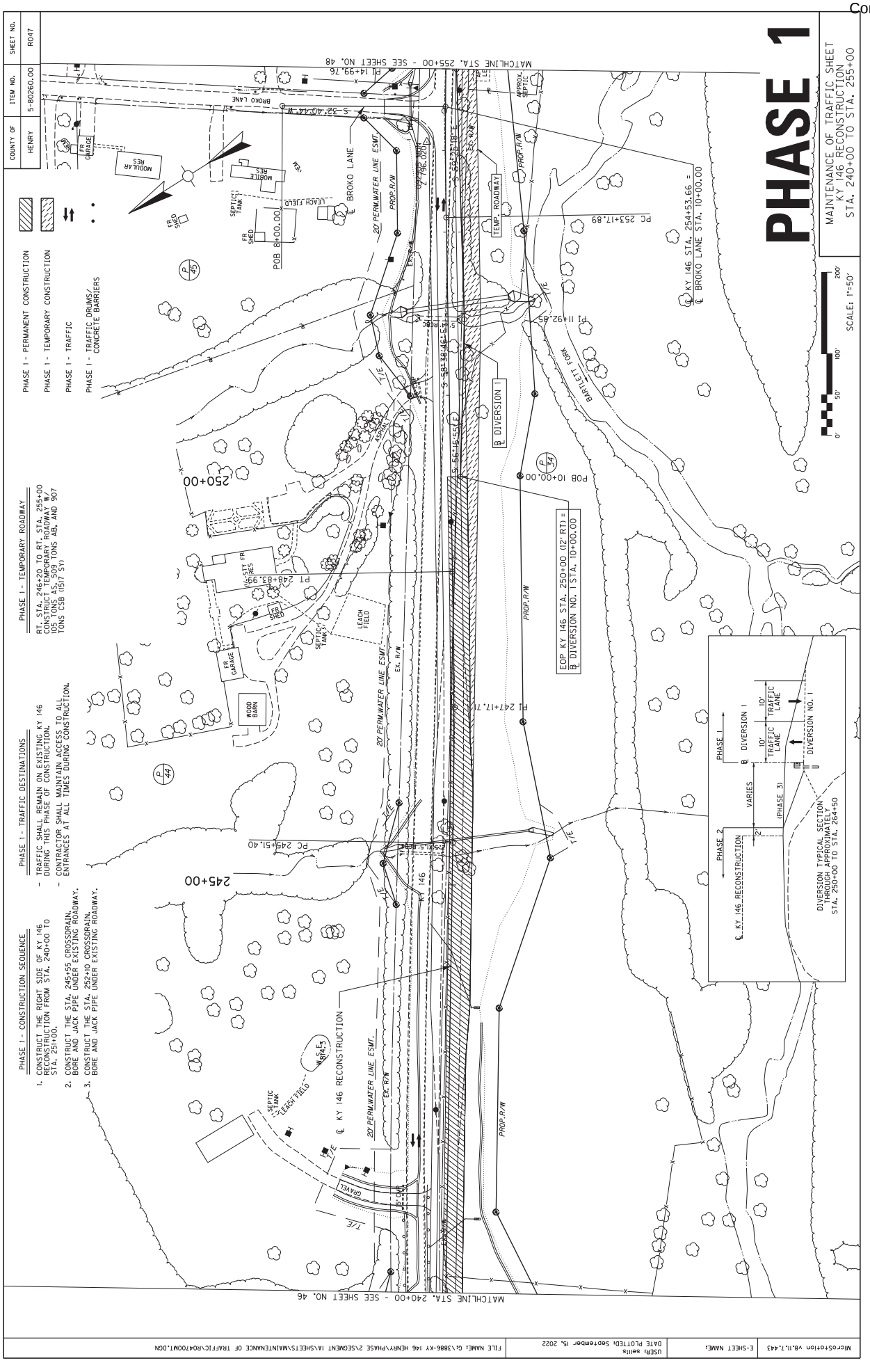
PHASE 1
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 165+00 TO STA. 180+00
COUNTY OF: HENRY
ITEM NO.: 5-80260.00
SHEET NO.: R042
PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 1 - TEMPORARY ROADWAY
RT. STA. 175+00 CONSTRUCT TEMP. ACCESS ROAD W/ 21 TONS AS, 98 TONS AB, 171 TONS CSB (296 S.Y.) W/ 60 L.F. 18" TEMP. PIPE
PHASE 1 - TEMPORARY DRAINAGE
CONSTRUCT APPROX. 40 L.F. TEMPORARY DITCH AT THE TEMPORARY CROSSDRAIN OUTLET STA. 167+43, 34' RT TO DRAIN TO EXIST. RCBC.
CONSTRUCT APPROX. 160 L.F. TEMPORARY DITCHES AT THE CROSSDRAIN OUTLET STA. 177+26, 60' LT TO DRAIN TO EXIST. 18" RCP AND TO EXIST RCBC.
CONSTRUCT APPROX. 60 L.F. TEMPORARY ROADSIDE DITCH AT THE OUTLET OF THE NEW ROADSIDE DITCH TO THE EXISTING DITCH LEFT OF DAWKINS LN.
PHASE 1 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 1 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 165+00 TO STA. 177+00 AND FROM STA. 178+00 TO STA. 180+00.
2. CONSTRUCT THE RIGHT SIDE OF DAWKINS LANE WHILE MAINTAINING TRAFFIC.
3. CONSTRUCT THE LEFT PORTION OF THE STA. 167+55.40 CROSSDRAIN.
4. CONSTRUCT THE STA. 176+99.46 CROSSDRAIN.
5. CONSTRUCT THE RIGHT PORTION OF THE DAWKINS LANE CROSSDRAIN.
℄ KY 146 RECONSTRUCTION
℄ DAWKINS LANE
℄ KY 146 STA. 177+00.00 = ℄ DAWKINS LANE STA. 9+99.97
MATCHLINE STA. 180+00 - SEE SHEET NO. 43
MATCHLINE STA. 165+00 - SEE SHEET NO. 41
BARTLETT FORK
DAWKINS LANE
EX. R/W
PROP R/W
20' PERMWATER LINE ESMT.
TEMP. DITCH
TEMP. ROADWAY
TEMP. 18" PIPE
POB 7+87.50
PC 8+61.89
PT 174+11.71
PI 8+98.59
PI 169+47.36
175+00
170+00
SCALE: 1"=50'
0' 50' 100' 200'
MicroStation V8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SECOMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R042OOMT.DGN

PHASE 1
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 180+00 TO STA. 195+00
COUNTY OF
HENRY
ITEM NO.
5-80260.00
SHEET NO.
R043
PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 1 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 180+00 TO STA. 183+00.
2. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 183+00 TO STA. 195+00.
3. CONSTRUCT THE LEFT PORTION OF THE STA. 184+65.20 CROSSDRAIN.
4. CONSTRUCT THE STA. 192+00 CROSSDRAIN, BORE AND JACK PIPE UNDER EXISTING ROADWAY.
5. CONSTRUCT 275 FT. OF TEMPORARY GUARDRAIL W/2 TYPE 4A END TREATMENTS FROM STA. 183+00 TO STA. 186+50.
PHASE 1 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 1 - TEMPORARY DRAINAGE
CONSTRUCT APPROX. 230 L.F. TEMPORARY DITCHES AT THE TEMPORARY CROSSDRAIN OUTLET STA. 184+64.65, 28' RT TO DRAIN TO EXIST. RCBC.
MATCHLINE STA. 195+00 - SEE SHEET NO. 44
MATCHLINE STA. 180+00 - SEE SHEET NO. 42
PC 194+30.95
PT 188+85.17
PC 184+13.90
PT 186+49.65
KY 146 RECONSTRUCTION
KY 146
20' PERM.WATER LINE ESMT.
PROP R/W
Ex. R/W
TEMP. GUARDRAIL
TEMP. DITCH
WOOD BARN
METAL SHED
GRAVEL
BARTLETT FORK
190+00
185+00
SCALE: 1"=50'
0'
50'
100'
200'
MicroStation V8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R043OOMT.DGN


PHASE 1 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 195+00 TO STA. 210+00.
2. CONSTRUCT THE LEFT PORTION OF THE STA. 197+99.19 CROSSDRAIN.
3. CONSTRUCT THE LEFT PORTION OF THE STA. 204+39.58 CROSSDRAIN.
4. CONSTRUCT THE LEFT PORTION OF THE STA. 209+26.19 CROSSDRAIN.
PHASE 1 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 1 - TEMPORARY DRAINAGE
CONSTRUCT APPROX. 30 L.F. TEMPORARY DITCHES AT THE TEMPORARY CROSSDRAIN OUTLET STA. 198+01, 20' RT TO DRAIN TO EXIST. 18" RCP
CONSTRUCT APPROX. 60 L.F. TEMPORARY DITCHES AT THE TEMPORARY CROSSDRAIN OUTLET STA. 204+34, 16' RT TO DRAIN TO EXIST. RCBC
CONSTRUCT APPROX. 50 L.F. TEMPORARY DITCHES AT THE TEMPORARY CROSSDRAIN OUTLET STA. 209+30, 26' RT TO DRAIN TO EXIST. RCBC
PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS
COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R044
℄ KY 146 RECONSTRUCTION
20' PERM.WATER LINE ESMT.
PROP.R/W
EX. R/W
T/E
TEMP. DITCH
KY 146
200+00
205+00
PT 203+34.93
PI 198+81.54
PC 205+47.03
PT 208+86.51
ASPHALT
18" RCP
8'x4' RCBC
18" HDPE
MATCHLINE STA. 195+00 - SEE SHEET NO. 43
MATCHLINE STA. 210+00 - SEE SHEET NO. 45
BARTLETT FORK
P 33
P 34
P 35
0' 50' 100' 200'
SCALE: 1"=50'
PHASE 1
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 195+00 TO STA. 210+00
MicroStation v8.11.7.443
E-SHEET NAME:
USER: jaugontz
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R0440OMT.DGN


PHASE 1
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 210+00 TO STA. 225+00
COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R045
PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 1 - TEMPORARY ROADWAY
RT. STA. 219+18. TO LT. STA. 223+00.
CONSTRUCT TEMP. ROADWAY W/ 6.2 TONS AS, 296 TONS A8, 515 TONS CSB (894 S.Y.)
PHASE 1 - TEMPORARY DRAINAGE
CONSTRUCT APPROX. 120 L.F. TEMPORARY DITCHES AT THE TEMPORARY CROSSDRAIN OUTLET STA. 217+86, 10 RT TO DRAIN TO EXIST. RCBC
PHASE 1 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 1 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 210+00 TO STA. 219+00.
2. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 223+00 TO STA. 225+00.
3. CONSTRUCT THE LEFT PORTION OF THE STA. 217+86.12 CROSSDRAIN.
4. CONSTRUCT 150 FT. OF TEMPORARY MEDIAN BARRIER TYPE 9T FROM RT. STA. 217+00 TO STA. 218+50 WITH 2 TYPE VI CRASH CUSHION.
MATCHLINE STA. 225+00 - SEE SHEET NO. 46
MATCHLINE STA. 210+00 - SEE SHEET NO. 44
℄ KY 146 RECONSTRUCTION
KY 146
BARTLETT FORK
PROP. R/W
EX. R/W
20' PERM. WATER LINE ESMT.
TEMP. ROADWAY
TEMP. DITCH
TEMP. MEDIAN BARRIER
DO NOT DISTURB EXIST. PIPE THIS PHASE
1-STY BR RES
½-STY FR RES
FR SHED
FR BARN
GRAVEL
ASPHALT
PI 224+78.45
PI 221+44.01
PC 218+07.98
PT 212+14.44
220+00
215+00
SCALE: 1"=50'
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SECOMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R045001MT.DGN
USER: sellis
DATE PLOTTED: September 15, 2022
E-SHEET NAME:
MicroStation V8.11.7.443


COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R046
PHASE 1
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 225+00 TO STA. 240+00
SCALE: 1"=50'
PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 1 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 225+00 TO STA. 240+00.
2. CONSTRUCT THE STA. 225+24.02 CROSSDRAIN, UNDER TRAFFIC.
3. CONSTRUCT THE STA. 230+45.38 CROSSDRAIN UNDER TRAFFIC.
4. CONSTRUCT THE STA. 234+89.43 CROSSDRAIN, UNDER TRAFFIC.
5. CONSTRUCT THE STA. 239+60 CROSSDRAIN. BORE AND JACK PIPE UNDER EXISTING ROADWAY.
PHASE 1 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
MATCHLINE STA. 240+00 - SEE SHEET NO. 47
MATCHLINE STA. 225+00 - SEE SHEET NO. 45
KY 146 RECONSTRUCTION
KY 146
S 56°45'34" E
PT 237+65.96
PT 235+59.65
PC 233+53.29
235+00
230+00
GRAVEL FARM ENTRANCE
20' PERM.WATER LINE ESMT.
PROP. R/W
EX. R/W
T/E
ASPHALT
GRAVEL
BARTLETT FORK
WOOD BARN
FR SHED
1½-STY FR RES
LEACH FIELD
FR SHELTER
RES
P 43
P 42
P 41
P 50
P 39
P 34
MicroStation v8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R04600MT.DGN


PHASE 1
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 240+00 TO STA. 255+00
COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. RO47
PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 1 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 240+00 TO STA. 251+00.
2. CONSTRUCT THE STA. 245+55 CROSSDRAIN, BORE AND JACK PIPE UNDER EXISTING ROADWAY.
3. CONSTRUCT THE STA. 252+10 CROSSDRAIN, BORE AND JACK PIPE UNDER EXISTING ROADWAY.
PHASE 1 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 1 - TEMPORARY ROADWAY
RT. STA. 246+20 TO RT. STA. 255+00
CONSTRUCT TEMPORARY ROADWAY W/
105 TONS AS, 509 TONS AB, AND 907
TONS CSB (1517 SY)
MATCHLINE STA. 240+00 - SEE SHEET NO. 46
MATCHLINE STA. 255+00 - SEE SHEET NO. 48
℄ KY 146 RECONSTRUCTION
℄ BROKO LANE
℄ DIVERSION 1
℄ KY 146 STA. 254+53.66 = ℄ BROKO LANE STA. 10+00.00
EOP KY 146 STA. 250+00 (12' RT) = ℄ DIVERSION NO. 1 STA. 10+00.00
POB 8+00.00
POB 10+00.00
PC 253+17.89
PI 11+92.85
PI 247+17.71
PC 245+51.40
PT 248+03.99
PI 14+99.76
20' PERM.WATER LINE ESMT.
EX. R/W
PROP. R/W
TEMP. ROADWAY
BARTLETT FORK
BROKO LANE
SEPTIC TANK
LEACH FIELD
FR. GARAGE
FR. SHED
WOOD BARN
MODULAR RES.
MOBILE RES.
GRAVEL
ASPHALT
DIVERSION TYPICAL SECTION THROUGH APPROXIMATE LIMITS STA. 250+00 TO STA. 264+50
PHASE 1
PHASE 2
PHASE 3
VARIES
10' TRAFFIC LANE
2'
SCALE: 1"=50'
0' 50' 100' 200'
MicroStation V8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\RO470OMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R048

PHASE 1 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE RIGHT PORTION OF THE STA. 258+28.69 CROSSDRAIN.
2. CONSTRUCT THE RIGHT PORTION OF THE STA. 263+38.82 CROSSDRAIN.

PHASE 1 - TRAFFIC DESTINATIONS

- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 1 - TEMPORARY ROADWAY

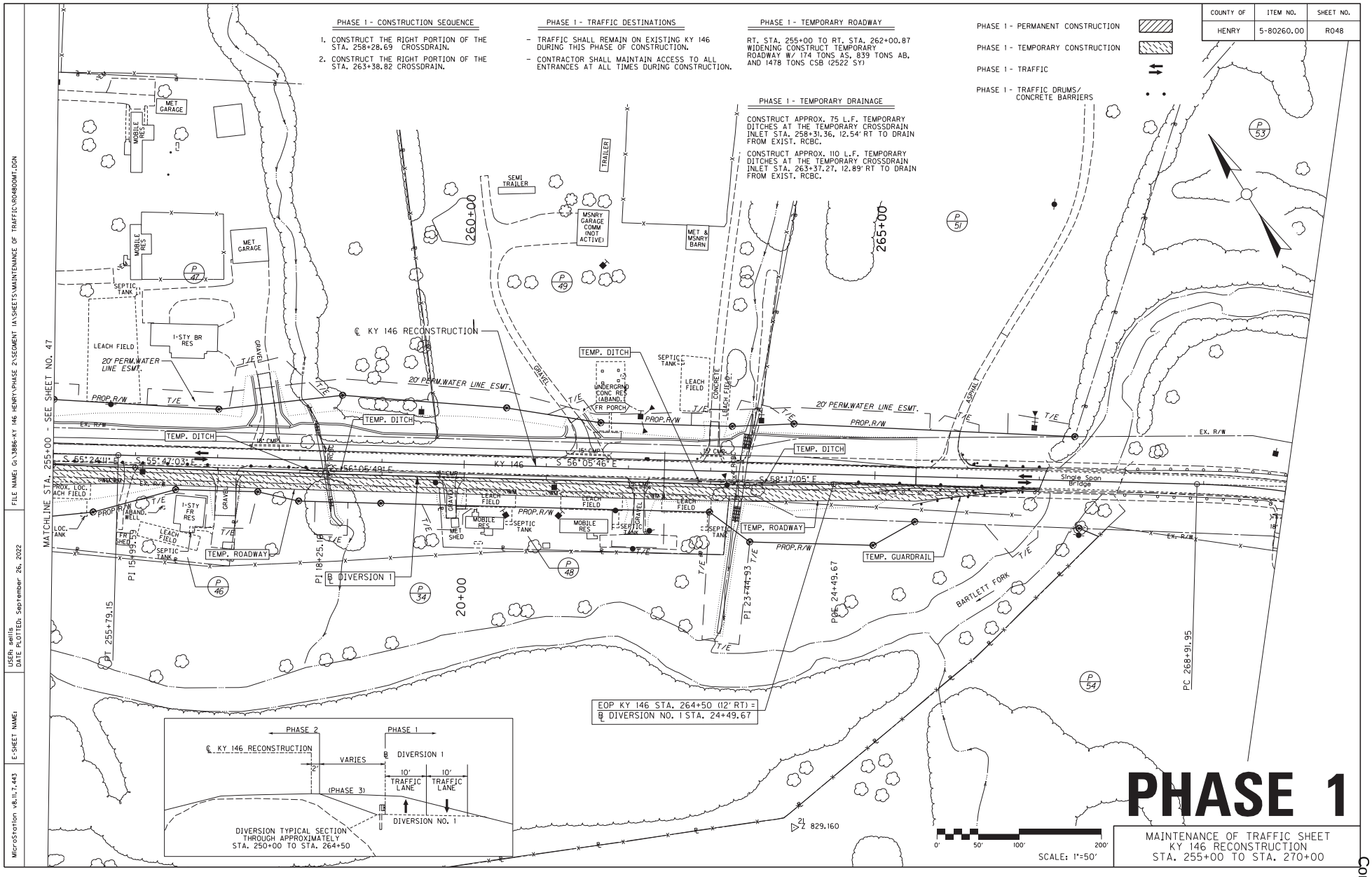
RT. STA. 255+00 TO RT. STA. 262+00.87
WIDENING CONSTRUCT TEMPORARY ROADWAY W/ 174 TONS AS, 839 TONS AB, AND 1478 TONS CSB (2522 SY)

PHASE 1 - TEMPORARY DRAINAGE

CONSTRUCT APPROX. 75 L.F. TEMPORARY DITCHES AT THE TEMPORARY CROSSDRAIN INLET STA. 258+31.36, 12.54' RT TO DRAIN FROM EXIST. RCBC.

CONSTRUCT APPROX. 110 L.F. TEMPORARY DITCHES AT THE TEMPORARY CROSSDRAIN INLET STA. 263+37.27, 12.89' RT TO DRAIN FROM EXIST. RCBC.

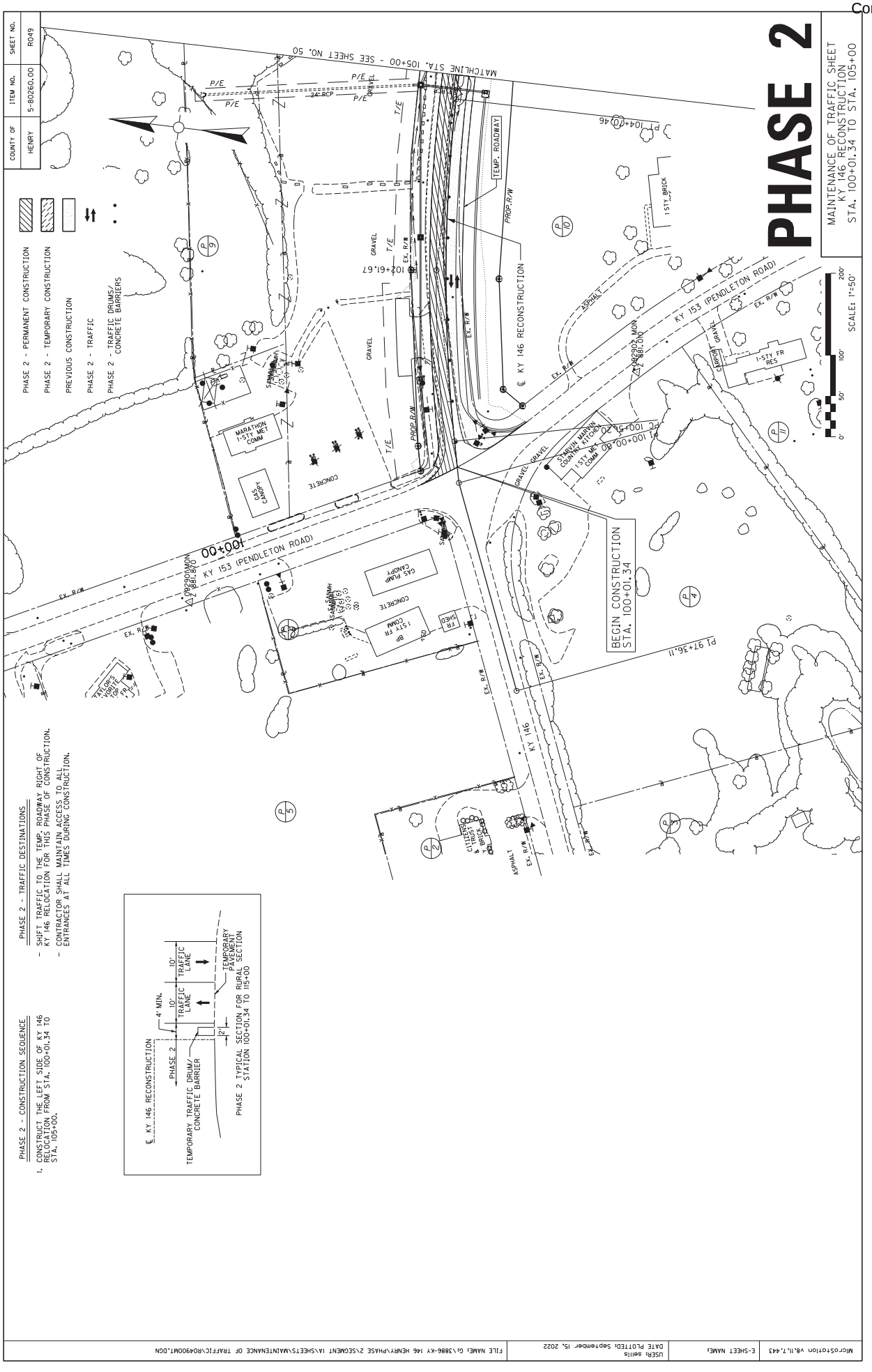
PHASE 1 - PERMANENT CONSTRUCTION
PHASE 1 - TEMPORARY CONSTRUCTION
PHASE 1 - TRAFFIC
PHASE 1 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 1

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 255+00 TO STA. 270+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 26, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R048OOMT.DGN


PHASE 2
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 100+01.34 TO STA. 105+00
COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R049
PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS
MATCHLINE STA. 105+00 - SEE SHEET NO. 50
KY 146 RECONSTRUCTION
KY 153 (PENDLETON ROAD)
BEGIN CONSTRUCTION STA. 100+01.34
PHASE 2 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE LEFT SIDE OF KY 146 RELOCATION FROM STA. 100+01.34 TO STA. 105+00.
PHASE 2 - TRAFFIC DESTINATIONS
- SHIFT TRAFFIC TO THE TEMP. ROADWAY RIGHT OF KY 146 RELOCATION FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
℄ KY 146 RECONSTRUCTION
4' MIN.
PHASE 2
10' TRAFFIC LANE
10' TRAFFIC LANE
2'
TEMPORARY TRAFFIC DRUM/ CONCRETE BARRIER
TEMPORARY PAVEMENT
PHASE 2 TYPICAL SECTION FOR RURAL SECTION STATION 100+01.34 TO 105+00
SCALE: 1"=50'
MicroStation V8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R049OMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R050

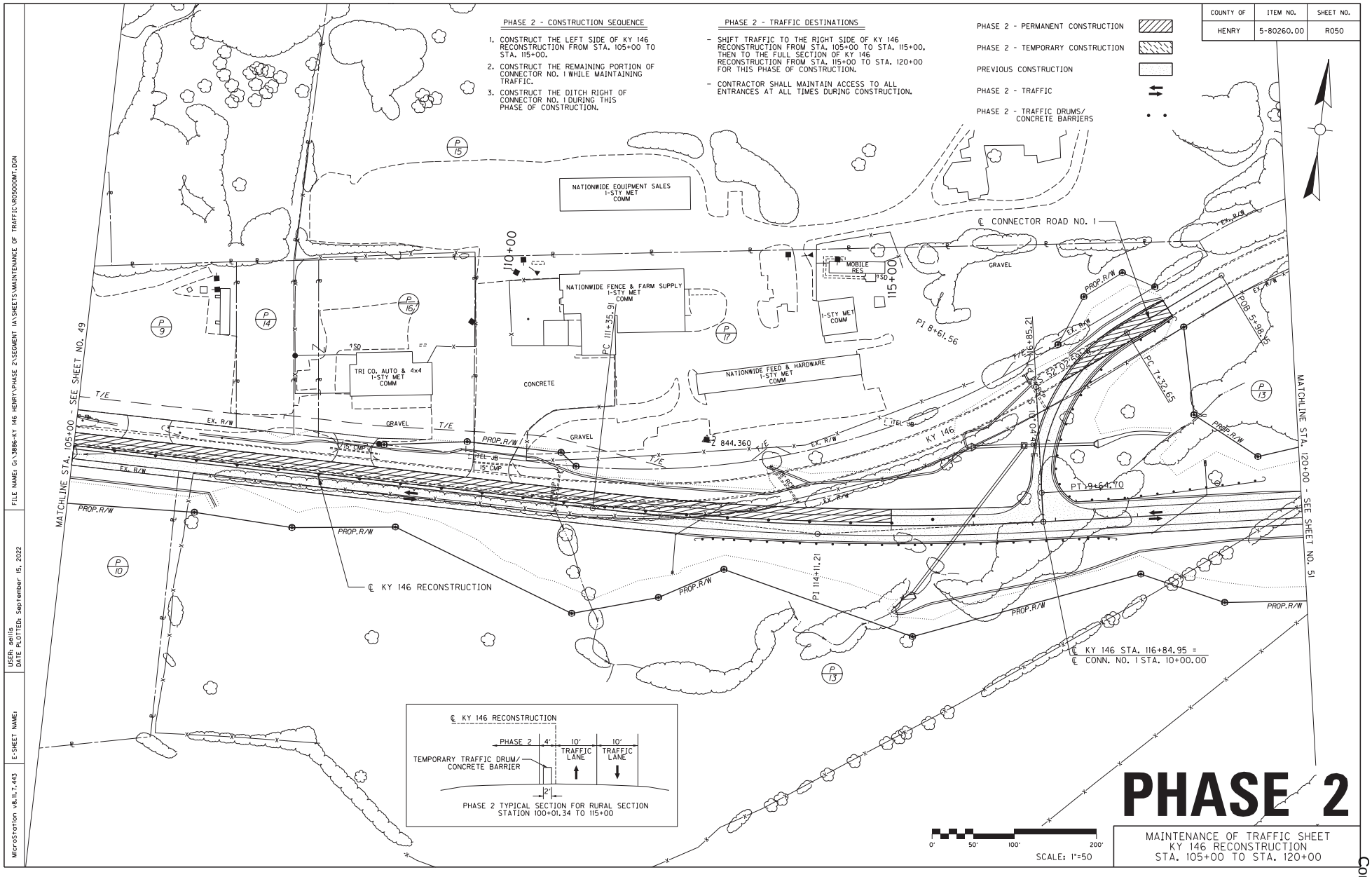
PHASE 2 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 105+00 TO STA. 115+00.
2. CONSTRUCT THE REMAINING PORTION OF CONNECTOR NO. 1 WHILE MAINTAINING TRAFFIC.
3. CONSTRUCT THE DITCH RIGHT OF CONNECTOR NO. 1 DURING THIS PHASE OF CONSTRUCTION.

PHASE 2 - TRAFFIC DESTINATIONS

- SHIFT TRAFFIC TO THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 105+00 TO STA. 115+00, THEN TO THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 115+00 TO STA. 120+00 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 2 TYPICAL SECTION FOR RURAL SECTION
STATION 100+01.34 TO 115+00

PHASE 2

0' 50' 100' 200'
SCALE: 1"=50

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 105+00 TO STA. 120+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R050OMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R051

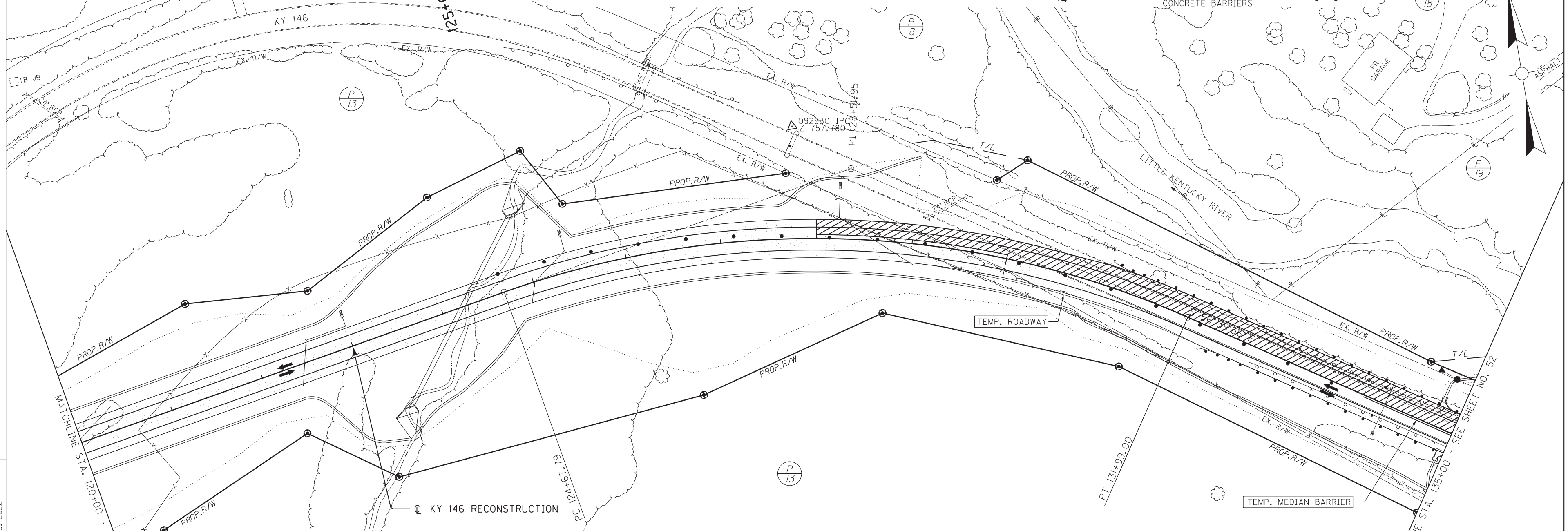
PHASE 2 - CONSTRUCTION SEQUENCE

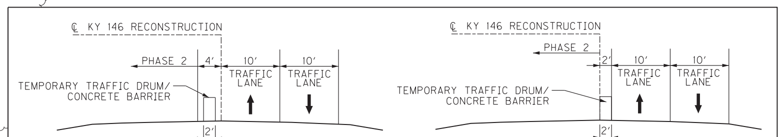
1. RELOCATE 100 FT. OF TEMPORARY MEDIAN BARRIER AND 1 TYPE VI CRASH CUSHION FROM LT. STA. 134+00 TO STA. 135+00.
2. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 128+00 TO STA. 135+00.

PHASE 2 - TRAFFIC DESTINATIONS

- SHIFT TRAFFIC TO THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 120+00 TO STA. 128+00, THEN TO THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 128+00 TO STA. 131+50, UTILIZING TEMP. WIDENING THEN TO THE TEMP. WIDENING AND THE EASTBOUND LANE OF EXISTING KY 146 FROM STA. 131+50 TO STA. 135+00 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS





PHASE 2 TYPICAL SECTION FOR RURAL SECTION STATION 128+00 TO 130+00

PHASE 2 TYPICAL SECTION FOR RURAL SECTION AT BRIDGE OVER LITTLE KENTUCKY RIVER STATION 130+00 TO 141+50

PHASE 2

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 120+00 TO STA. 135+00

0' 50' 100' 200'
SCALE: 1"=50'

FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R0510OMT.DGN
USER: sellis
DATE PLOTTED: September 15, 2022
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R052

PHASE 2

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 135+00 TO STA. 150+00

PHASE 2 - CONSTRUCTION SEQUENCE

1. RELOCATE 250 FT. OF TEMPORARY MEDIAN BARRIER AND 1 TYPE VI CRASH CUSHION FROM LT. STA. 135+00 TO STA. 137+50.
2. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 135+00 TO STA. 141+50 AND FROM STA. 148+50 TO STA. 150+00. CONSTRUCT THE LEFT SHOULDER PORTION FROM STA. 141+50 TO ROSEHILL LANE.
3. WIDEN THE LEFT SIDE OF THE EXISTING BRIDGE OVER THE LITTLE KENTUCKY RIVER.
4. CONSTRUCT ROSEHILL CROSSDRAIN WHILE MAINTAINING TRAFFIC.
5. CONSTRUCT THE RIGHT SIDE OF ROSEHILL LANE WHILE MAINTAINING TRAFFIC.

PHASE 2 - TRAFFIC DESTINATIONS

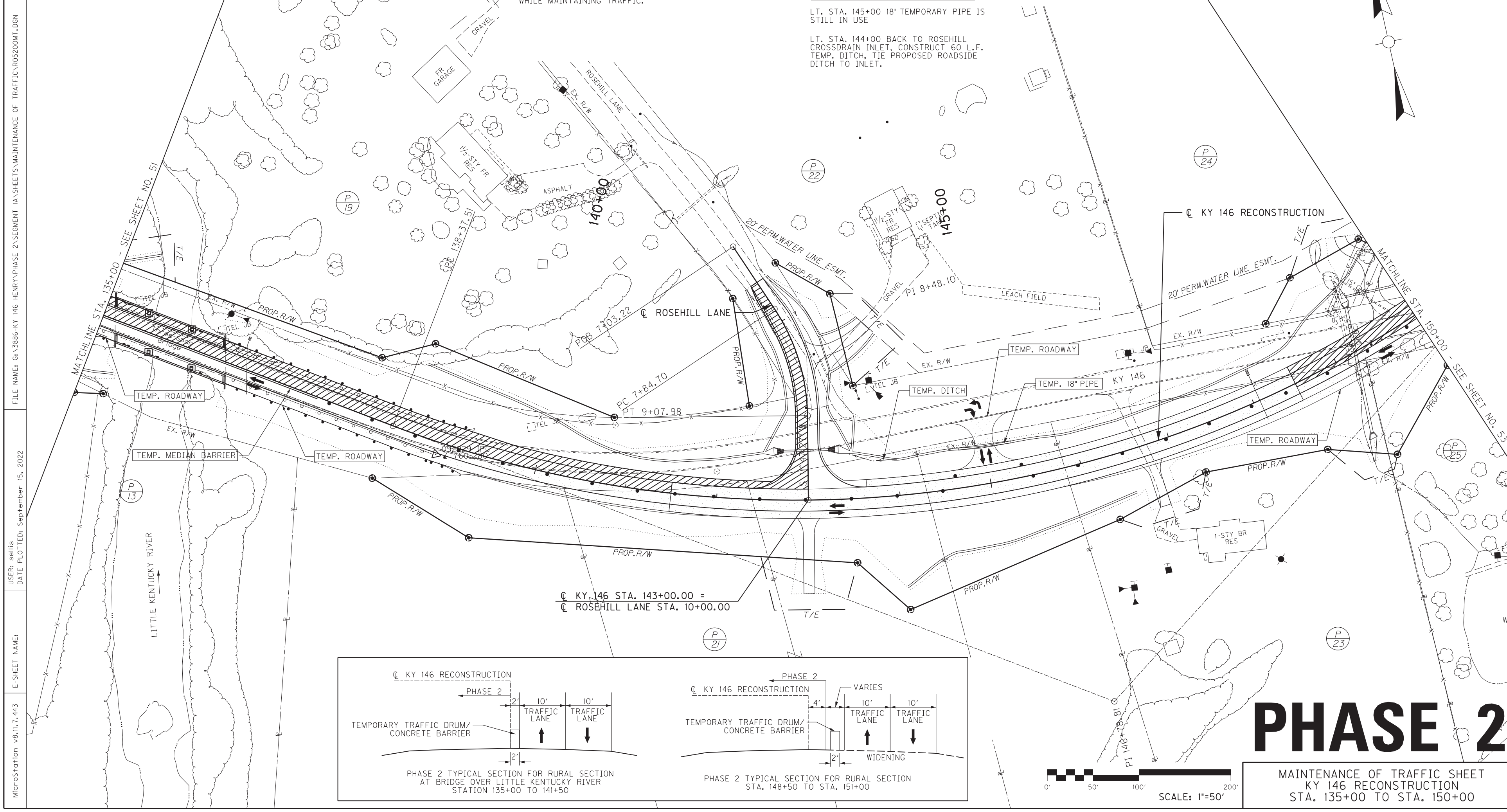
- SHIFT TRAFFIC TO THE TEMP. WIDENING AND THE EASTBOUND LANE OF EXISTING KY 146 FROM STA. 135+00 TO STA. 141+50, THEN TO RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 141+50 TO STA. 148+50, THEN TO THE TEMPORARY WIDENING FOR THIS PHASE OF CONSTRUCTION.
- ROSEHILL LANE TRAFFIC SHALL USE THE TEMPORARY ROADWAY CONSTRUCTED AT LT. STA. 145+00.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

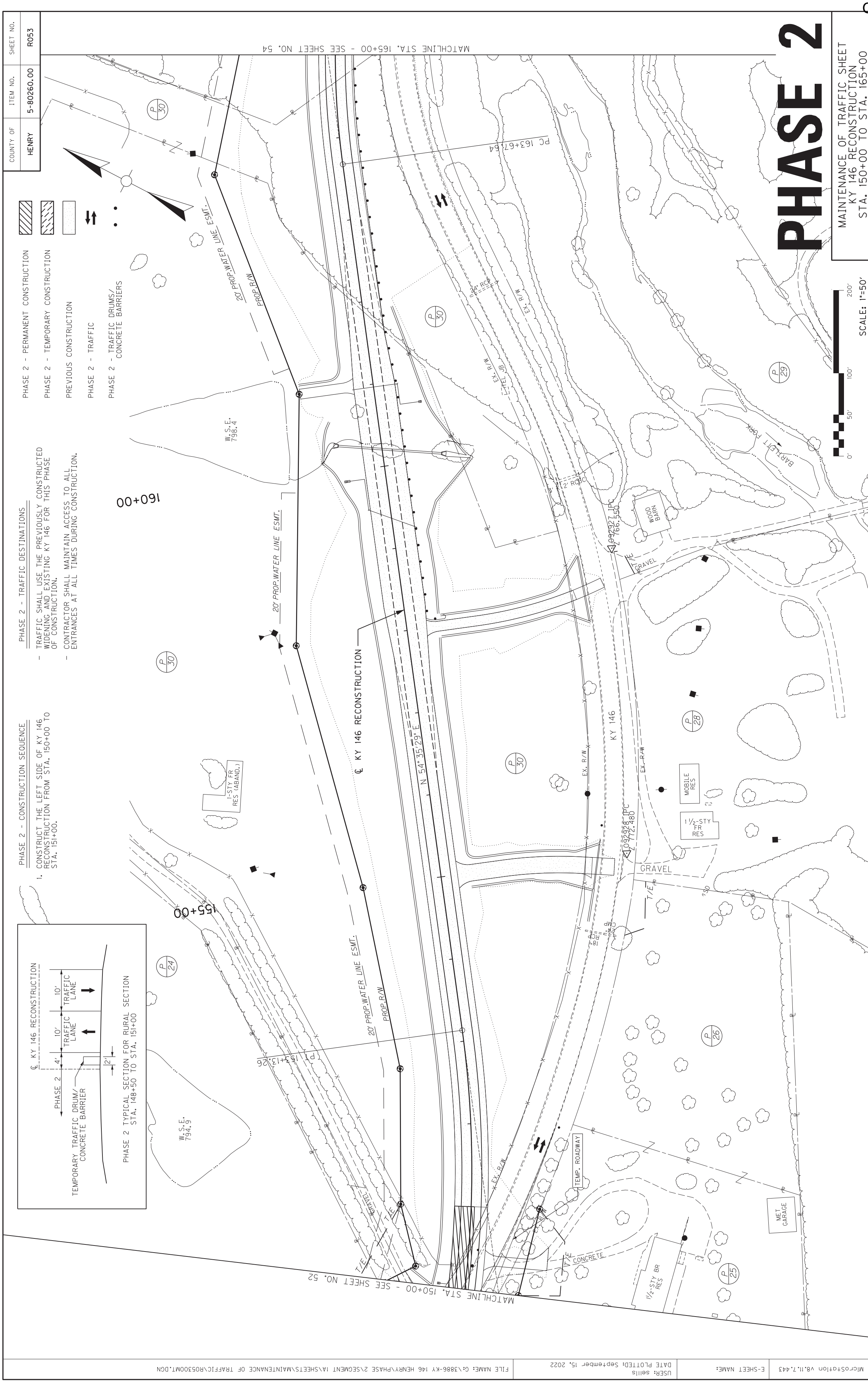
PHASE 2 - TEMPORARY DRAINAGE

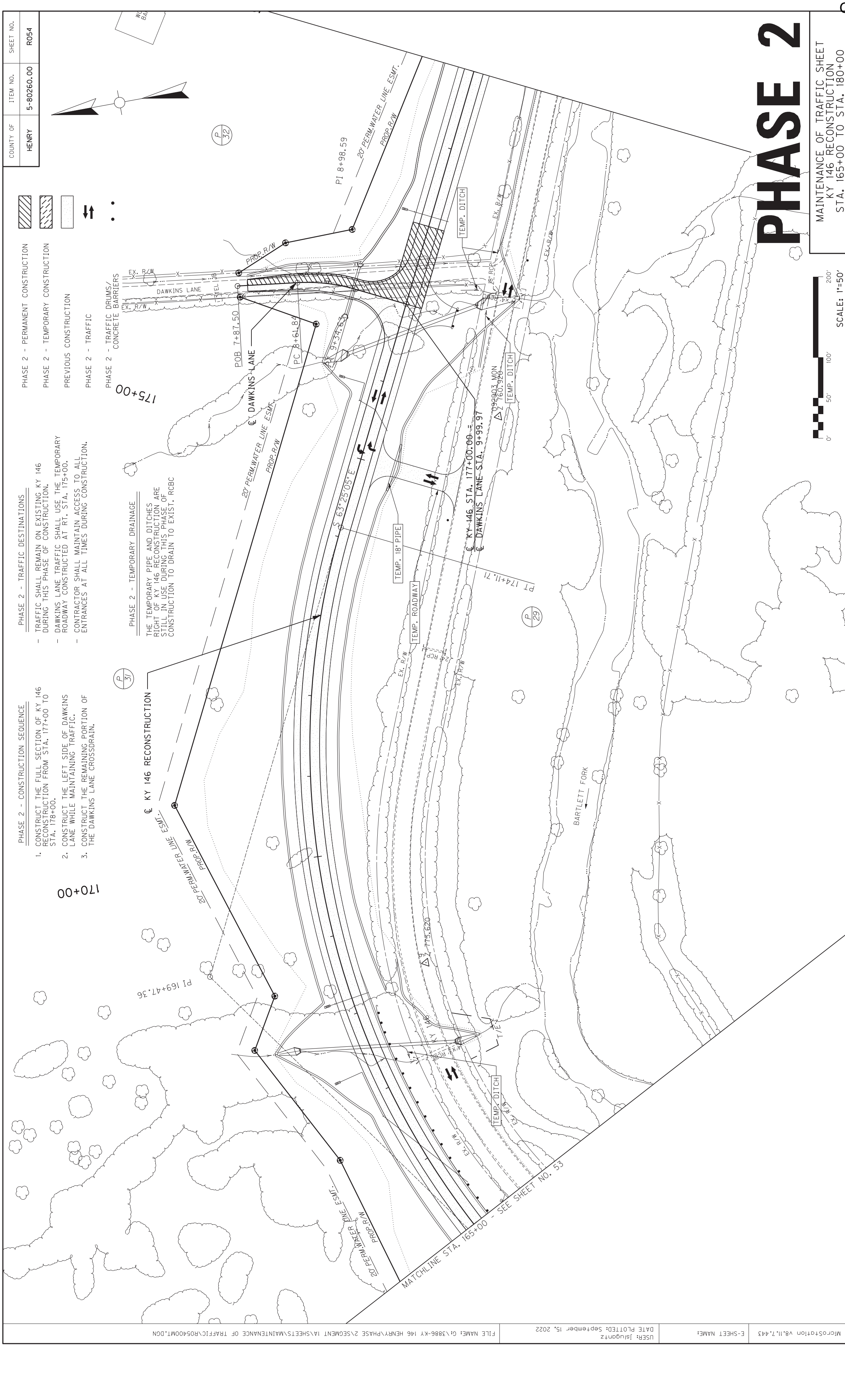
LT. STA. 145+00 18" TEMPORARY PIPE IS STILL IN USE

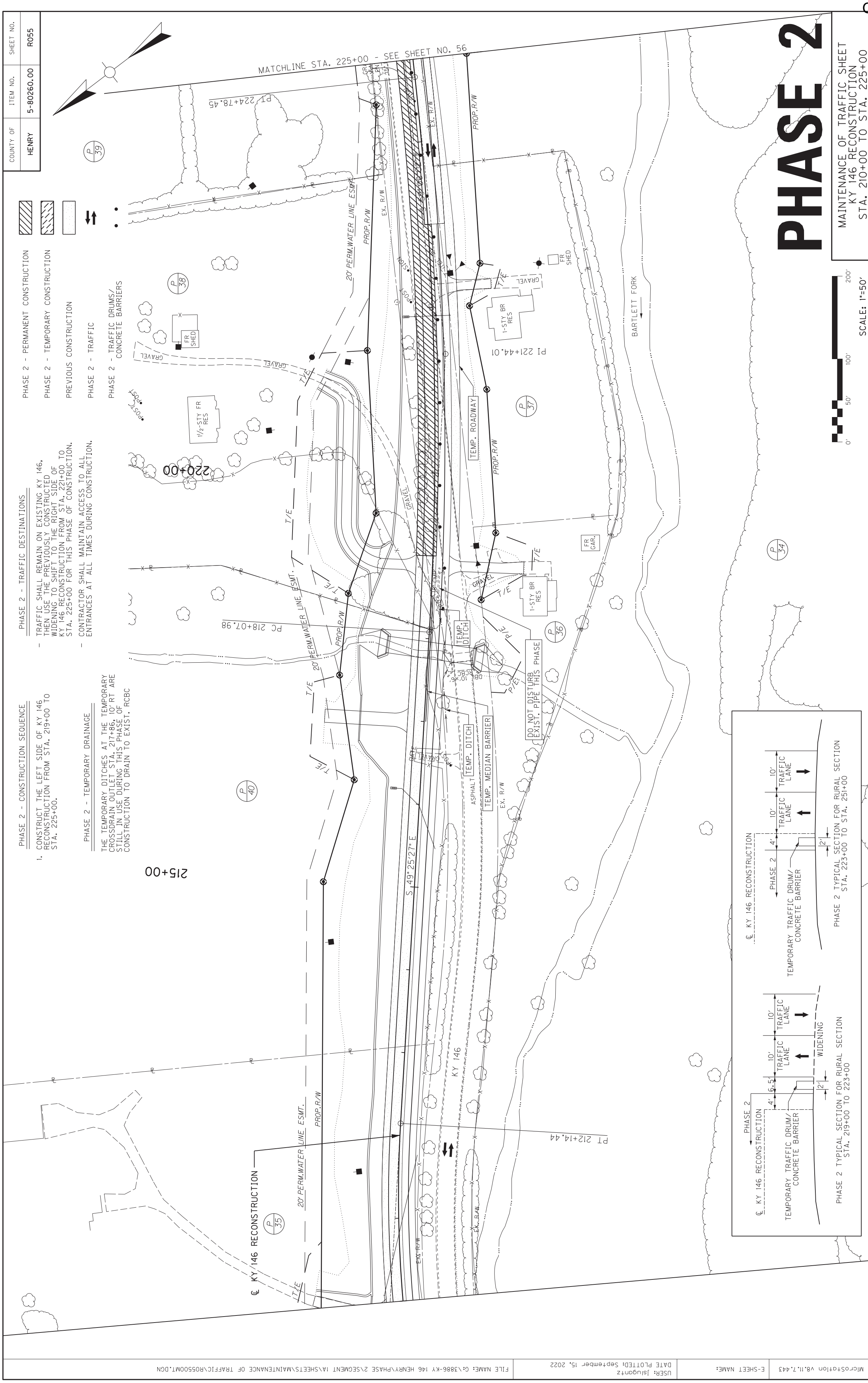
LT. STA. 144+00 BACK TO ROSEHILL CROSSDRAIN INLET. CONSTRUCT 60 L.F. TEMP. DITCH. TIE PROPOSED ROADSIDE DITCH TO INLET.

PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS




COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R053
PHASE 2
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 150+00 TO STA. 165+00
SCALE: 1"=50'
PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 2 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL USE THE PREVIOUSLY CONSTRUCTED WIDENING AND EXISTING KY 146 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 2 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 150+00 TO STA. 151+00.
PHASE 2 TYPICAL SECTION FOR RURAL SECTION STA. 148+50 TO STA. 151+00
℄ KY 146 RECONSTRUCTION
TRAFFIC LANE
TRAFFIC LANE
TEMPORARY TRAFFIC DRUM/ CONCRETE BARRIER
MATCHLINE STA. 165+00 - SEE SHEET NO. 54
MATCHLINE STA. 150+00 - SEE SHEET NO. 52
℄ KY 146 RECONSTRUCTION
N 54° 35' 29" E
KY 146
20' PROP. WATER LINE ESMT.
PROP. R/W
EX. R/W
160+00
155+00
PC 163+67.64
PI 153+13.26
W.S.E. 798.4
W.S.E. 794.9
1-STY FR RES (ABAND.)
MOBILE RES
1½-STY FR RES
1½-STY BR RES
MET GARAGE
WOOD BARN
BARTLETT FORK
GRAVEL
CONCRETE
TEMP. ROADWAY
MicroStation v8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022


COUNTY OF
HENRY
ITEM NO.
5-80260.00
SHEET NO.
R054
PHASE 2
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 165+00 TO STA. 180+00
SCALE: 1"=50'
PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 2 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146 DURING THIS PHASE OF CONSTRUCTION.
- DAWKINS LANE TRAFFIC SHALL USE THE TEMPORARY ROADWAY CONSTRUCTED AT RT. STA. 175+00.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 2 - TEMPORARY DRAINAGE
THE TEMPORARY PIPE AND DITCHES RIGHT OF KY 146 RECONSTRUCTION ARE STILL IN USE DURING THIS PHASE OF CONSTRUCTION TO DRAIN TO EXIST. RCBC
PHASE 2 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 177+00 TO STA. 178+00.
2. CONSTRUCT THE LEFT SIDE OF DAWKINS LANE WHILE MAINTAINING TRAFFIC.
3. CONSTRUCT THE REMAINING PORTION OF THE DAWKINS LANE CROSSDRAIN.
℄ KY 146 RECONSTRUCTION
℄ DAWKINS LANE
DAWKINS LANE
POB 7+87.50
PC 8+61.83
PI 8+98.59
PI 169+47.36
PT 174+11.71
S 63°25'05" E
℄ KY 146 STA. 177+00.00 =
℄ DAWKINS LANE STA. 9+99.97
TEMP. DITCH
TEMP. 18" PIPE
TEMP. ROADWAY
20' PERM. WATER LINE ESMT.
PROP. R/W
EX. R/W
175+00
170+00
BARTLETT FORK
MATCHLINE STA. 165+00 - SEE SHEET NO. 53
MicroStation v8.11.7.443
E-SHEET NAME:
USER: jslugontz
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R054OMT.DGN


COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R055
MATCHLINE STA. 225+00 - SEE SHEET NO. 56
PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 2 - TRAFFIC DESTINATIONS
- TRAFFIC SHALL REMAIN ON EXISTING KY 146, THEN USE THE PREVIOUSLY CONSTRUCTED WIDENING TO SHIFT TO THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 221+00 TO STA. 225+00 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 2 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 219+00 TO STA. 225+00.
PHASE 2 - TEMPORARY DRAINAGE
THE TEMPORARY DITCHES AT THE TEMPORARY CROSSDRAIN OUTLET STA. 217+86, 10' RT ARE STILL IN USE DURING THIS PHASE OF CONSTRUCTION TO DRAIN TO EXIST. RCBC
PHASE 2
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 210+00 TO STA. 225+00
SCALE: 1"=50'
PT 224+78.45
PI 221+44.01
PC 218+07.98
PT 212+14.44
220+00
215+00
S 49°25'27" E
KY 146
€ KY 146 RECONSTRUCTION
20' PERM. WATER LINE ESMT.
PROP. R/W
EX. R/W
TEMP. ROADWAY
TEMP. DITCH
TEMP. MEDIAN BARRIER
DO NOT DISTURB EXIST. PIPE THIS PHASE
BARTLETT FORK
1-STY BR RES
1 1/2-STY FR RES
FR SHED
FR GAR.
GRAVEL
ASPHALT
T/E
P/E
PHASE 2 TYPICAL SECTION FOR RURAL SECTION STA. 223+00 TO STA. 251+00
PHASE 2 TYPICAL SECTION FOR RURAL SECTION STA. 219+00 TO 223+00
TEMPORARY TRAFFIC DRUM/ CONCRETE BARRIER
TRAFFIC LANE
WIDENING
MicroStation v8.11.7.443
E-SHEET NAME:
USER: jslugontz
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R055OOMT.DGN

PHASE 2
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 225+00 TO STA. 240+00
COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R056
PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 2 - TRAFFIC DESTINATIONS
- SHIFT TRAFFIC TO THE RIGHT SIDE OF KY 146 RECONSTRUCTION FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 2 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 225+00 TO STA. 240+00.
MATCHLINE STA. 240+00 - SEE SHEET NO. 57
MATCHLINE STA. 225+00 - SEE SHEET NO. 55
℄ KY 146 RECONSTRUCTION
KY 146
PROP. R/W
EX. R/W
T/E
20' PERM. WATER LINE ESMT.
GRAVEL FARM ENTRANCE
ASPHALT
GRAVEL
WOOD BARN
FR SHED
1½ STY FR RES
LEACH FIELD
1-STY BRK RES
BARTLETT FORK
PT 237+65.96
PC 236+59.65
PC 233+53.29
230+00
235+00
SCALE: 1"=50'
0' 50' 100' 200'
℄ KY 146 RECONSTRUCTION
PHASE 2
TEMPORARY TRAFFIC DRUM/ CONCRETE BARRIER
10' TRAFFIC LANE
4'
2'
PHASE 2 TYPICAL SECTION FOR RURAL SECTION
STA. 223+00 TO STA. 251+00
MicroStation V8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SECOMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R056OOMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R057

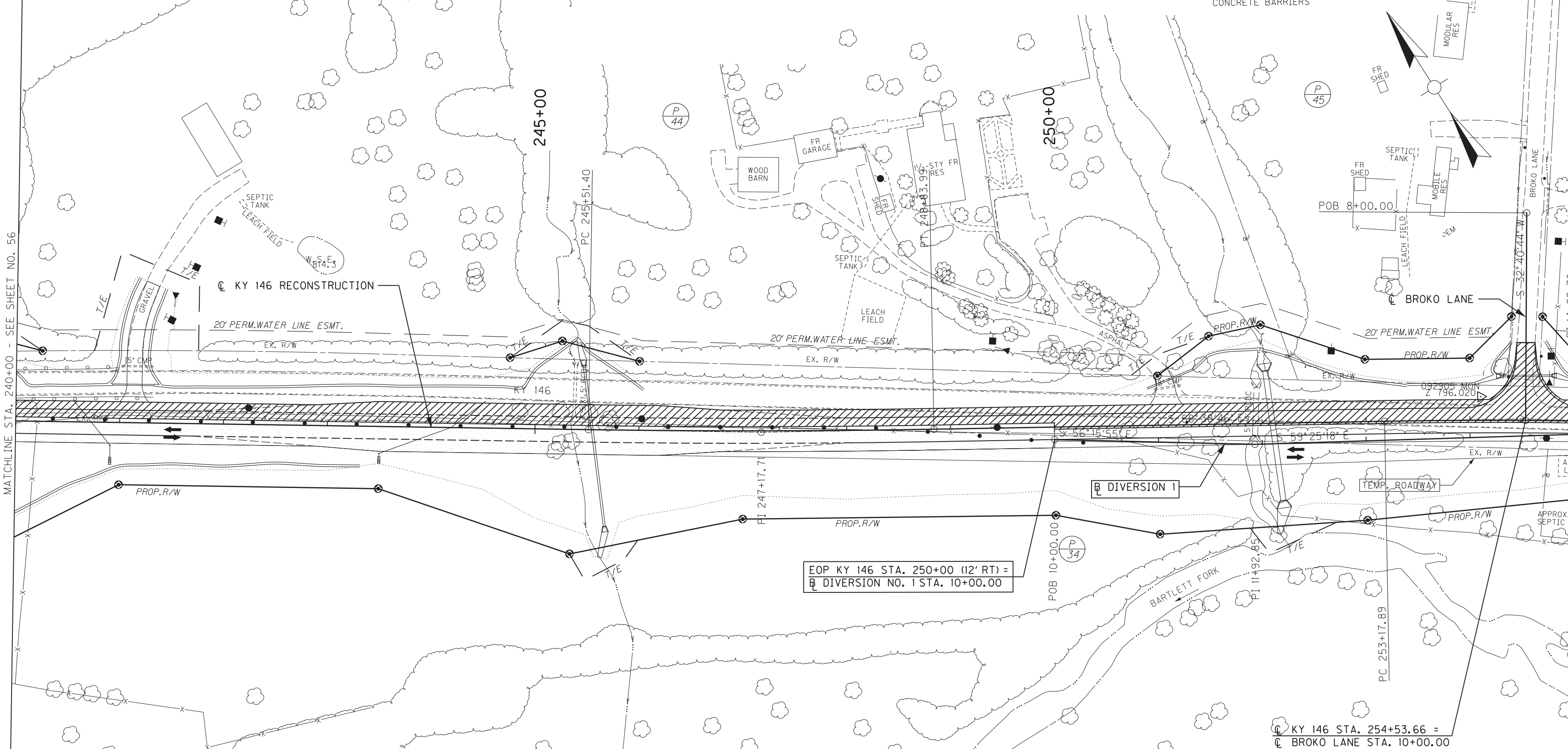
PHASE 2 - CONSTRUCTION SEQUENCE

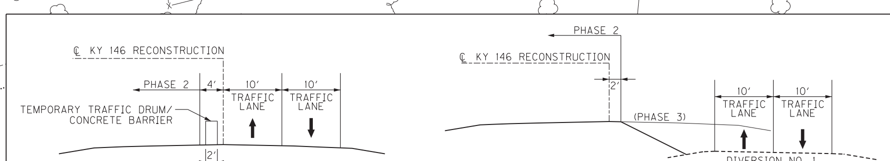
1. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 240+00 TO STA. 255+00.
2. CONSTRUCT THE BROKO LANE CONNECTION WHILE MAINTAINING TRAFFIC.
3. CONSTRUCT THE BROKO LANE CROSSDRAIN.

PHASE 2 - TRAFFIC DESTINATIONS

- SHIFT TRAFFIC TO THE RIGHT SIDE OF KY 146 RECONSTRUCTION THROUGH STA. 250+00 AND THEN TO DIVERSION NO. 1 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 2 - PERMANENT CONSTRUCTION
PHASE 2 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 2 - TRAFFIC
PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS





PHASE 2 TYPICAL SECTION FOR RURAL SECTION STA. 223+00 TO STA. 251+00

PHASE 2 TYPICAL SECTION THROUGH APPROXIMATELY STA. 251+00 TO STA. 263+00

PHASE 2

SCALE: 1"=50'

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 240+00 TO STA. 255+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: sellis DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R057OOMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R058

PHASE 2 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 255+00 TO STA. 265+50.

PHASE 2 - TEMPORARY ROADWAY

LT. STA. 264+13.15 TO RT. STA. 267+00 WIDENING CONSTRUCT TEMPORARY ROADWAY W/ 11 TONS AS, 51 TONS AB, AND 96 TONS CSB (147 SY)

PHASE 2 - TRAFFIC DESTINATIONS

- SHIFT TRAFFIC TO DIVERSION NO. 1 THROUGH STA. 264+50 THEN TO THE TEMP. WIDENING AND THE EASTBOUND LANE OF EXISTING KY 146 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

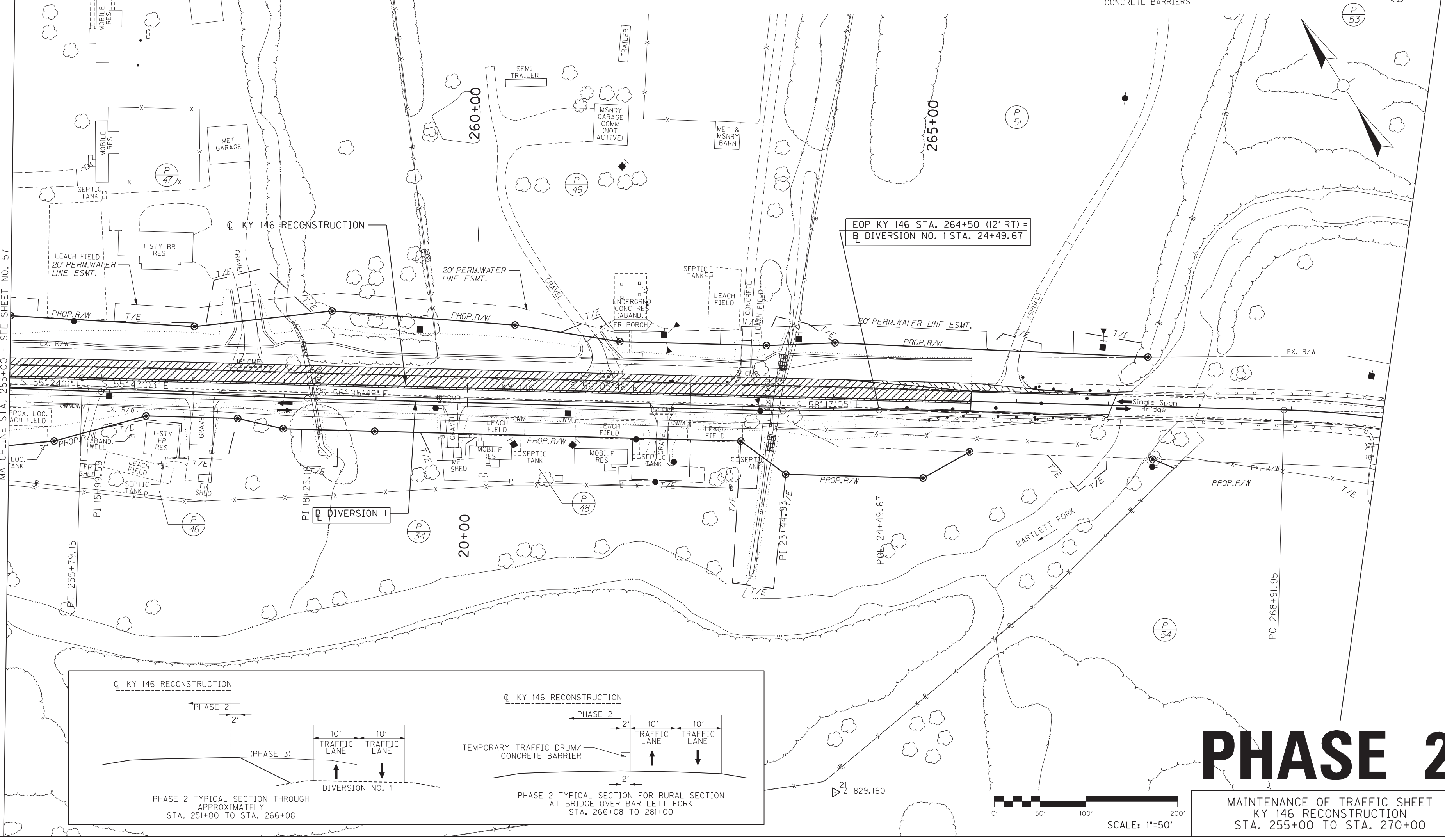
PHASE 2 - PERMANENT CONSTRUCTION

PHASE 2 - TEMPORARY CONSTRUCTION

PREVIOUS CONSTRUCTION

PHASE 2 - TRAFFIC

PHASE 2 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 2

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 255+00 TO STA. 270+00

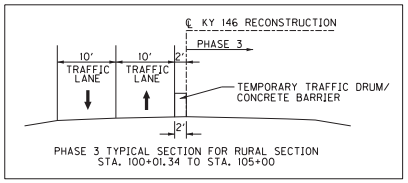
MicroStation v8.11.7.443 | E-SHEET NAME: | USER: sellis DATE PLOTTED: September 26, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R058OOMT.DGN

PHASE 3 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE RIGHT SIDE OF KY 146 RELOCATION FROM STA. 100+01.34 TO STA. 105+00.

PHASE 3 - TRAFFIC DESTINATIONS

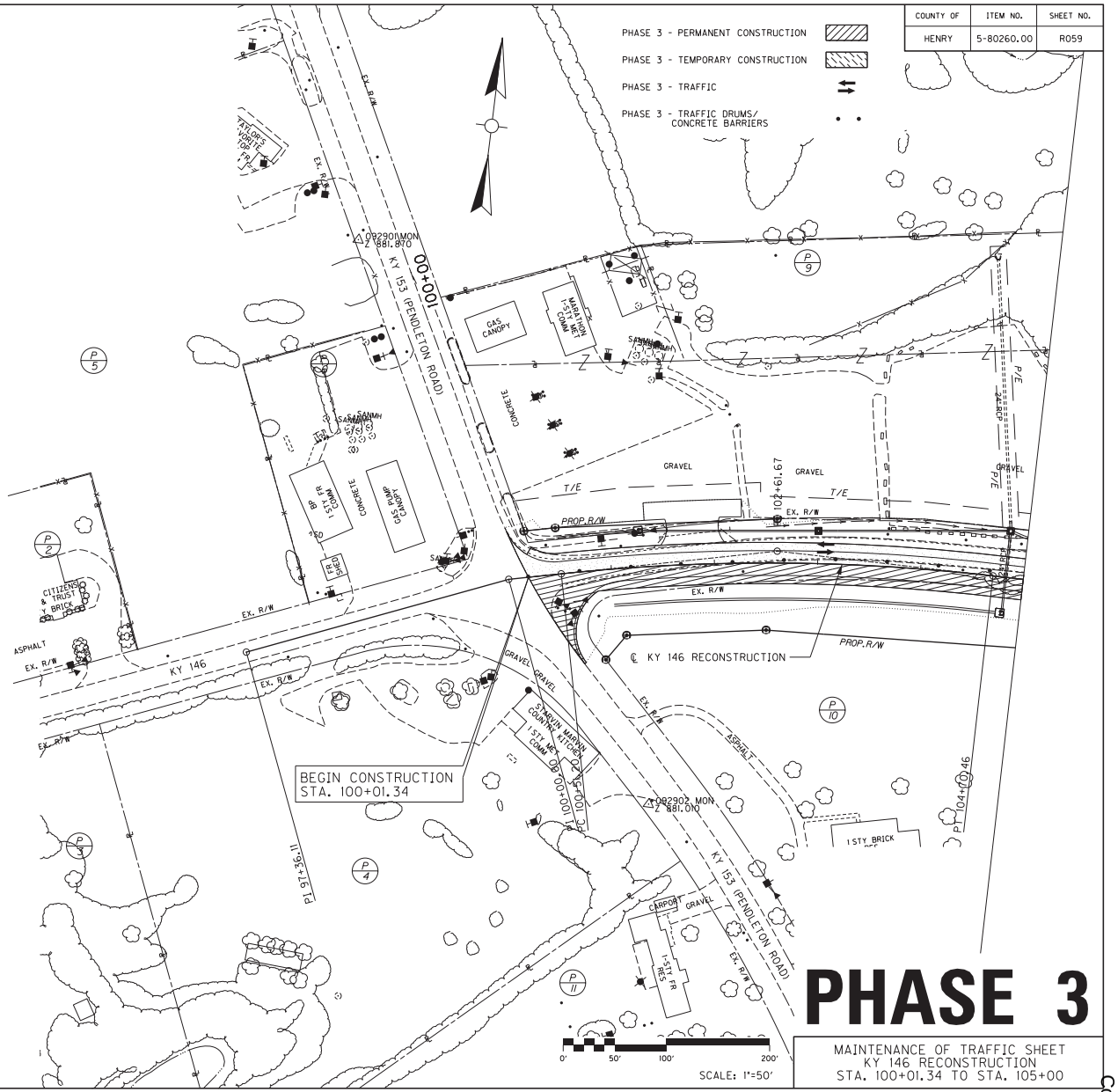
- SHIFT TRAFFIC TO THE LEFT SIDE OF KY 146 RECONSTRUCTION THROUGH STA. 105+00 AND THEN TO THE FULL SECTION DURING THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.



PHASE 3 TYPICAL SECTION FOR RURAL SECTION
STA. 100+01.34 TO STA. 105+00

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R059

PHASE 3 - PERMANENT CONSTRUCTION
PHASE 3 - TEMPORARY CONSTRUCTION
PHASE 3 - TRAFFIC
PHASE 3 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 3

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 100+01.34 TO STA. 105+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R059OMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R060

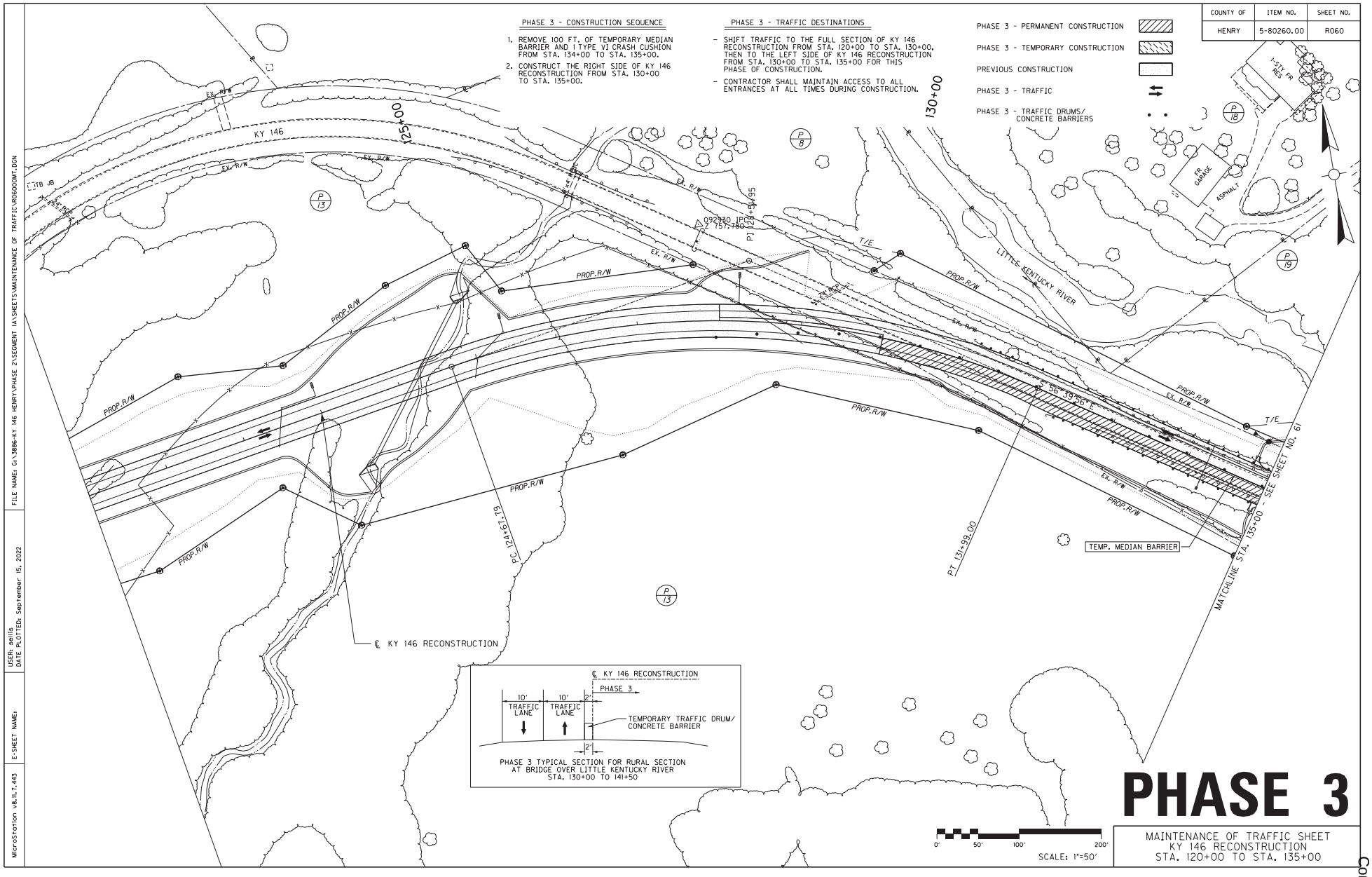
PHASE 3 - CONSTRUCTION SEQUENCE

1. REMOVE 100 FT. OF TEMPORARY MEDIAN BARRIER AND 1 TYPE VI CRASH CUSHION FROM STA. 134+00 TO STA. 135+00.
2. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 130+00 TO STA. 135+00.

PHASE 3 - TRAFFIC DESTINATIONS

- SHIFT TRAFFIC TO THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 120+00 TO STA. 130+00, THEN TO THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 130+00 TO STA. 135+00 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 3 - PERMANENT CONSTRUCTION
PHASE 3 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 3 - TRAFFIC
PHASE 3 - TRAFFIC DRUMS/ CONCRETE BARRIERS



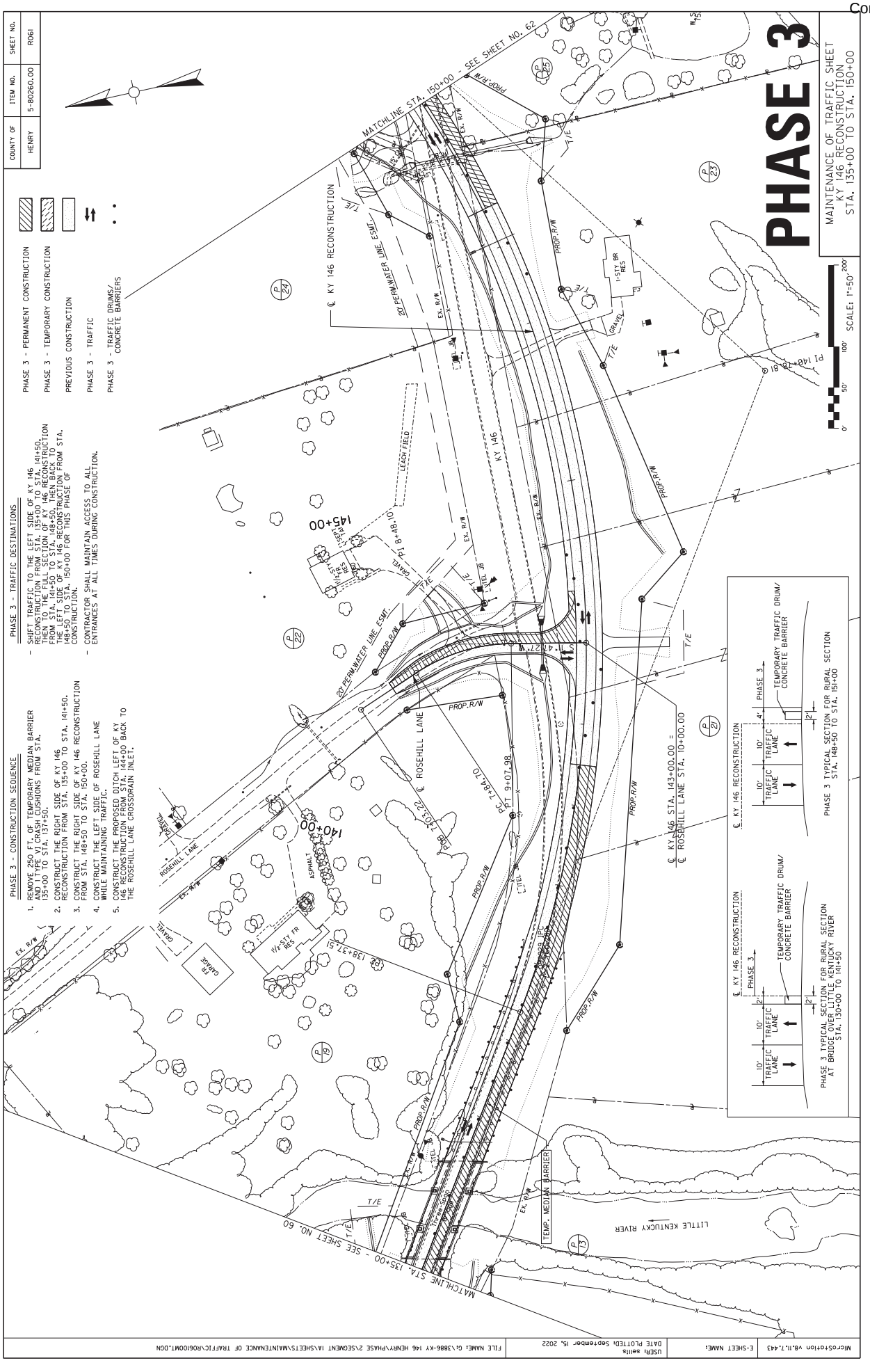
PHASE 3 TYPICAL SECTION FOR RURAL SECTION AT BRIDGE OVER LITTLE KENTUCKY RIVER STA. 130+00 TO 141+50

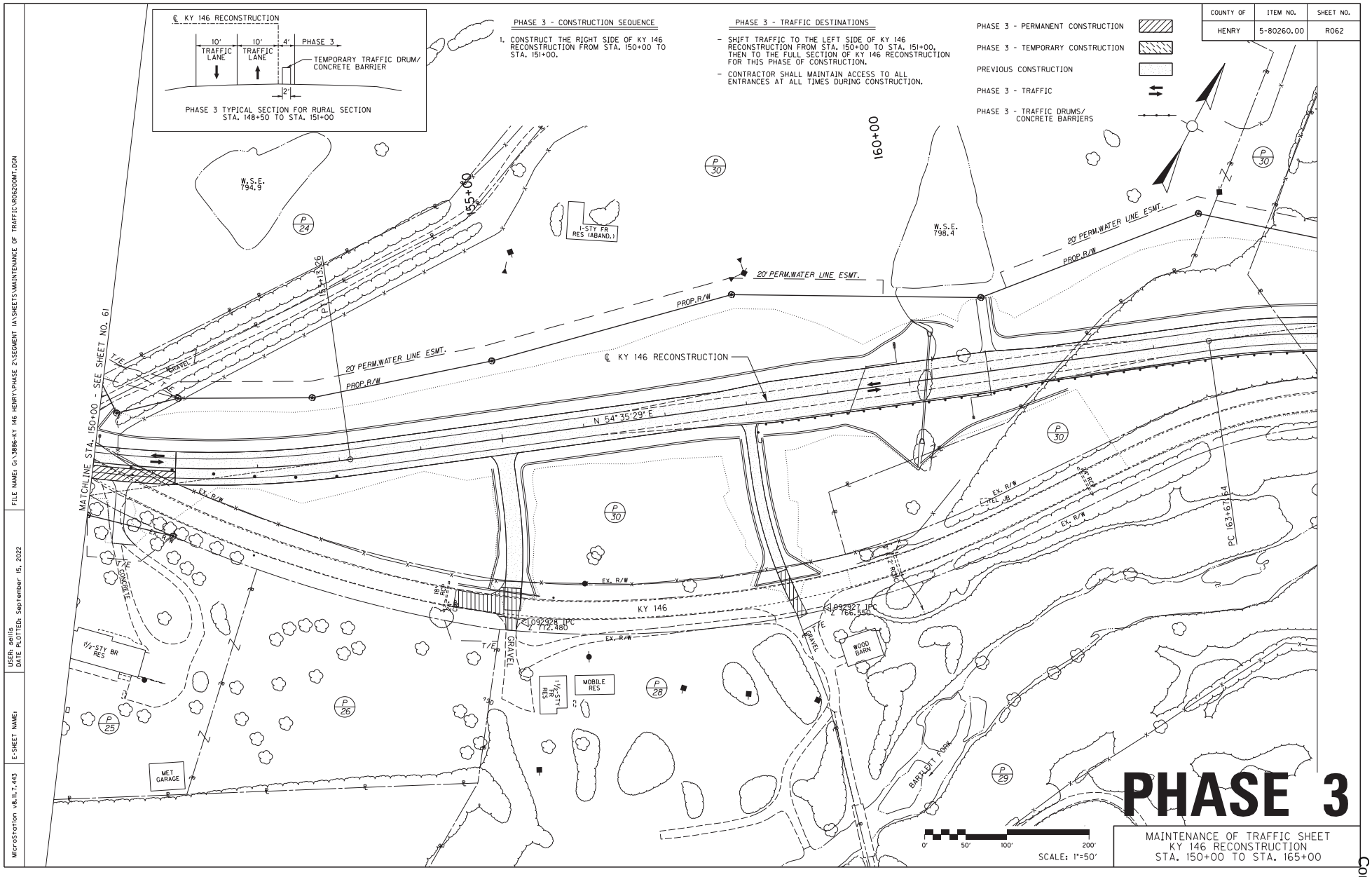
PHASE 3

0' 50' 100' 200'
SCALE: 1"=50'

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 120+00 TO STA. 135+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R060DOMT.DGN


PHASE 3
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 135+00 TO STA. 150+00
COUNTY OF
HENRY
ITEM NO.
5-80260.00
SHEET NO.
R061
PHASE 3 - CONSTRUCTION SEQUENCE
1. REMOVE 250 FT. OF TEMPORARY MEDIAN BARRIER AND (1) TYPE VI CRASH CUSHIONS FROM STA. 135+00 TO STA. 137+50.
2. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 135+00 TO STA. 141+50.
3. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 148+50 TO STA. 150+00.
4. CONSTRUCT THE LEFT SIDE OF ROSEHILL LANE WHILE MAINTAINING TRAFFIC.
5. CONSTRUCT THE PROPOSED DITCH LEFT OF KY 146 RECONSTRUCTION FROM STA. 144+00 BACK TO THE ROSEHILL LANE CROSSDRAIN INLET.
PHASE 3 - TRAFFIC DESTINATIONS
- SHIFT TRAFFIC TO THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 135+00 TO STA. 141+50, THEN TO THE FULL SECTION OF KY 146 RECONSTRUCTION FROM STA. 141+50 TO STA. 148+50, THEN BACK TO THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 148+50 TO STA. 150+00 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 3 - PERMANENT CONSTRUCTION
PHASE 3 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 3 - TRAFFIC
PHASE 3 - TRAFFIC DRUMS/ CONCRETE BARRIERS
MATCHLINE STA. 150+00 - SEE SHEET NO. 62
MATCHLINE STA. 135+00 - SEE SHEET NO. 60
℄ KY 146 RECONSTRUCTION
℄ ROSEHILL LANE
℄ KY 146 STA. 143+00.00 = ℄ ROSEHILL LANE STA. 10+00.00
PROP. R/W
EX. R/W
20' PERMANENT LINE ESMT.
T/E
LEACH FIELD
GRAVEL
ASPHALT
GARAGE
1½-STY FR RES
1-STY BR RES
TEMP. MEDIAN BARRIER
LITTLE KENTUCKY RIVER
PHASE 3 TYPICAL SECTION FOR RURAL SECTION STA. 148+50 TO STA. 151+00
PHASE 3 TYPICAL SECTION FOR RURAL SECTION AT BRIDGE OVER LITTLE KENTUCKY RIVER STA. 139+00 TO 141+50
TEMPORARY TRAFFIC DRUM/ CONCRETE BARRIER
TRAFFIC LANE
SCALE: 1"=50'
MicroStation V8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SECOMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R061OOMT.DGN

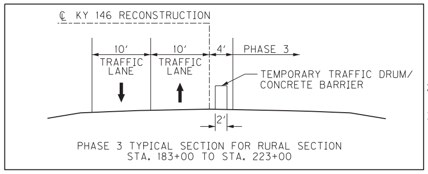


PHASE 3

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 150+00 TO STA. 165+00

MicroStation v8.11.7.443
E-SHEET NAME:
USER: aellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R062DOMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R063



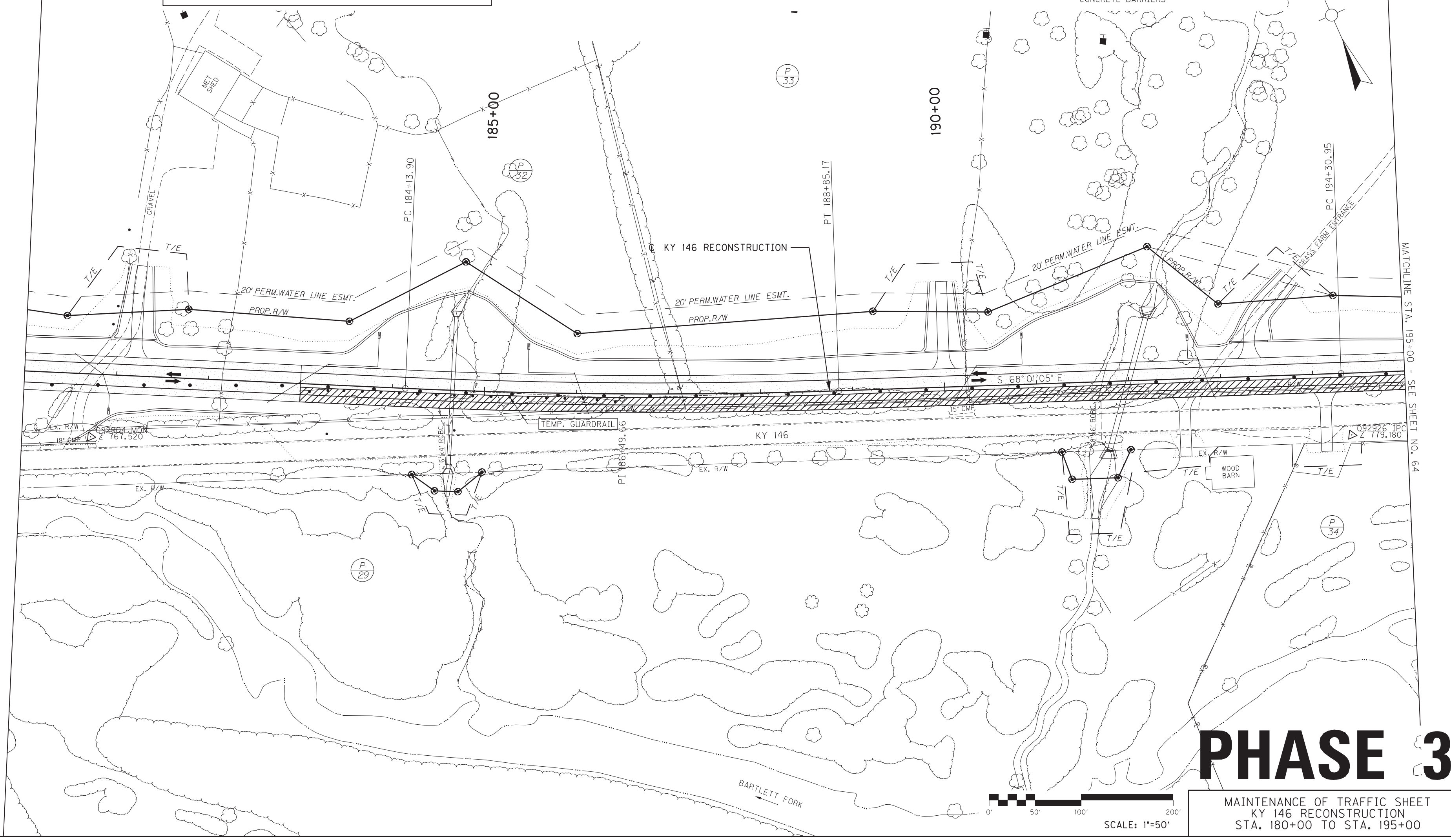
PHASE 3 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 183+00 TO STA. 195+00.
2. CONSTRUCT REMAINING PORTION OF THE STA. 184+65.20 CROSSDRAIN.
3. REMOVE 275 FT. OF TEMPORARY GUARDRAIL W/2 TYPE 4A END TREATMENTS FROM STA. 183+00 TO STA. 186+50.

PHASE 3 - TRAFFIC DESTINATIONS

- SHIFT TRAFFIC TO THE FULL SECTION OF KY 146 RECONSTRUCTION UP TO STA. 183+00, THEN TO THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 183+00 TO STA. 195+00 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 3 - PERMANENT CONSTRUCTION
PHASE 3 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 3 - TRAFFIC
PHASE 3 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 3

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 180+00 TO STA. 195+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: BBlumeler DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R06300MT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R064

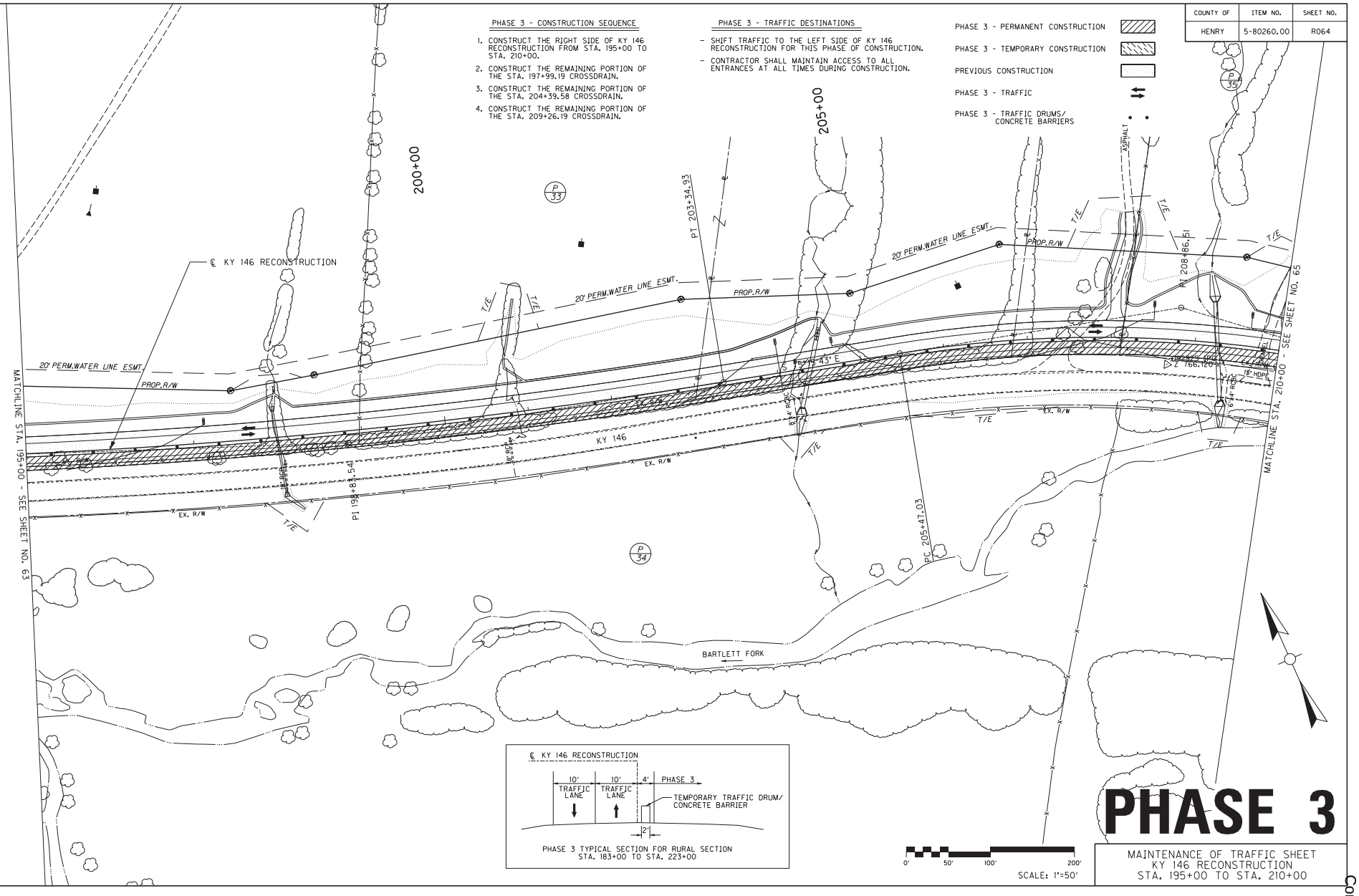
PHASE 3 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 195+00 TO STA. 210+00.
2. CONSTRUCT THE REMAINING PORTION OF THE STA. 197+99.19 CROSSDRAIN.
3. CONSTRUCT THE REMAINING PORTION OF THE STA. 204+39.58 CROSSDRAIN.
4. CONSTRUCT THE REMAINING PORTION OF THE STA. 209+26.19 CROSSDRAIN.

PHASE 3 - TRAFFIC DESTINATIONS

- SHIFT TRAFFIC TO THE LEFT SIDE OF KY 146 RECONSTRUCTION FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

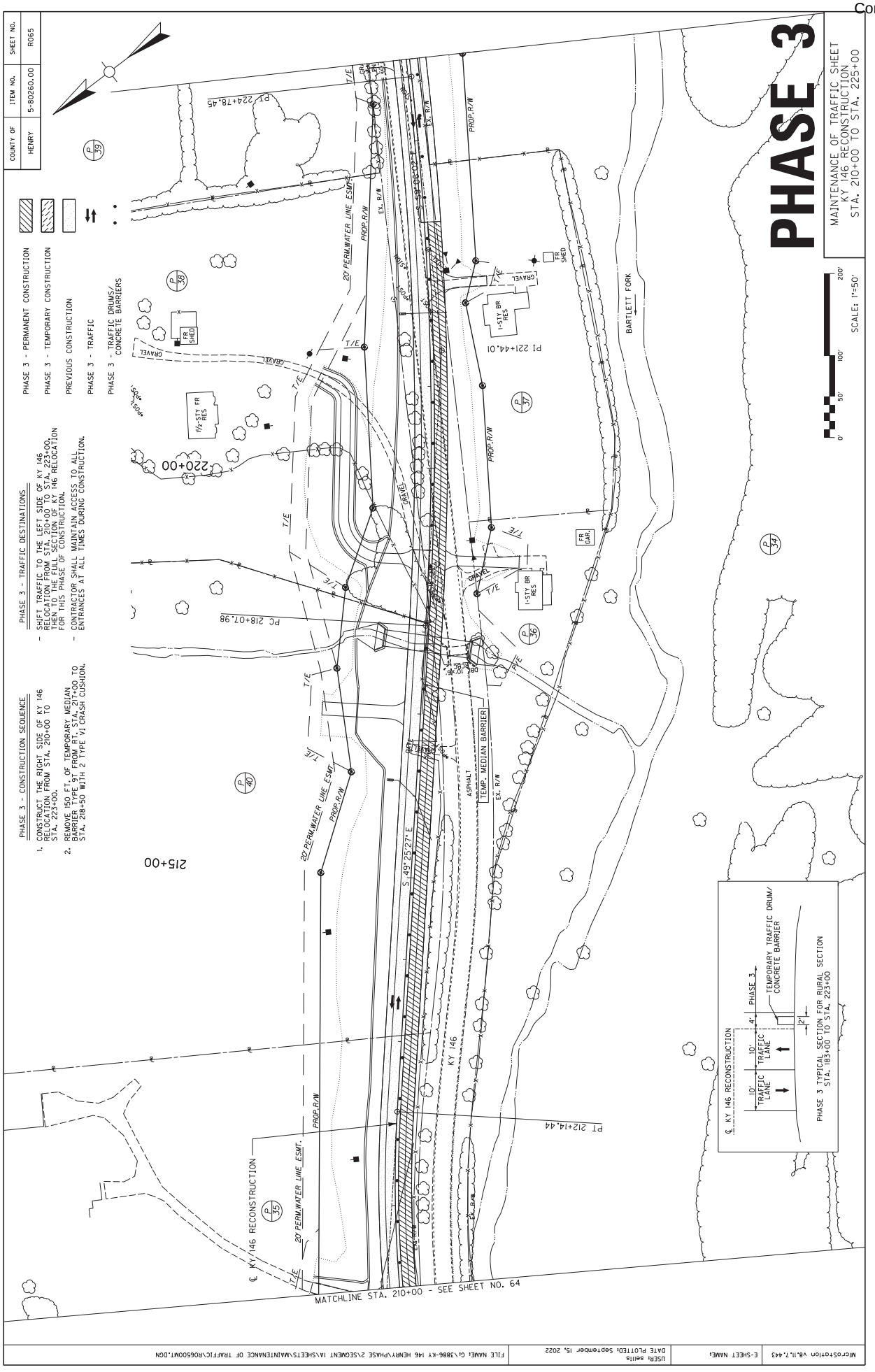
PHASE 3 - PERMANENT CONSTRUCTION
PHASE 3 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 3 - TRAFFIC
PHASE 3 - TRAFFIC DRUMS/ CONCRETE BARRIERS

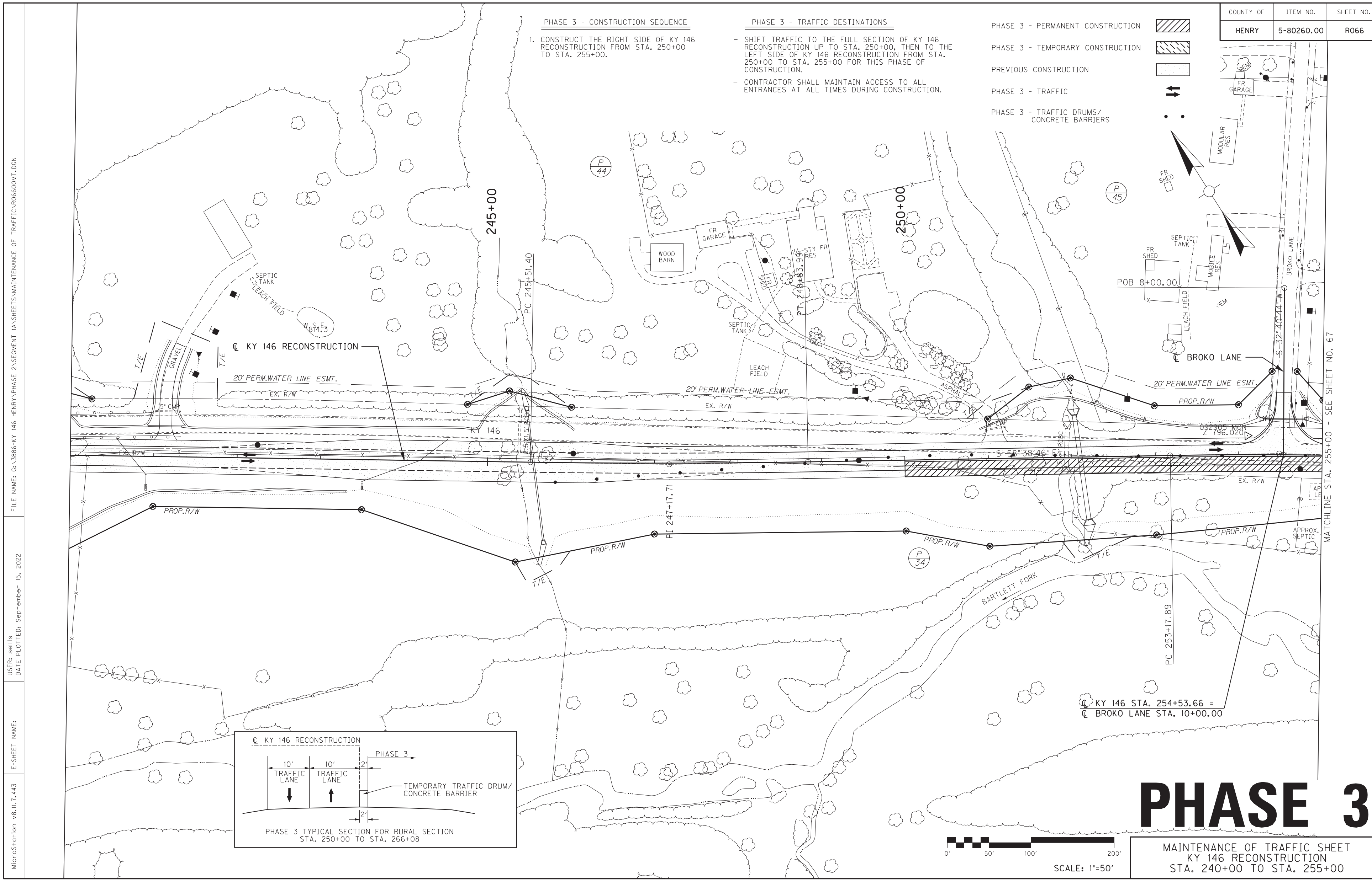


PHASE 3

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 195+00 TO STA. 210+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 15, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R064OMT.DGN


PHASE 3
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 210+00 TO STA. 225+00
COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R065
PHASE 3 - PERMANENT CONSTRUCTION
PHASE 3 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 3 - TRAFFIC
PHASE 3 - TRAFFIC DRUMS/ CONCRETE BARRIERS
PHASE 3 - TRAFFIC DESTINATIONS
- SHIFT TRAFFIC TO THE LEFT SIDE OF KY 146 RELOCATION FROM STA. 210+00 TO STA. 223+00, THEN TO THE FULL SECTION OF KY 146 RELOCATION FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 3 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE RIGHT SIDE OF KY 146 RELOCATION FROM STA. 210+00 TO STA. 223+00.
2. REMOVE 150 FT. OF TEMPORARY MEDIAN BARRIER TYPE 9T FROM RT. STA. 217+00 TO STA. 218+50 WITH 2 TYPE VI CRASH CUSHION.
SCALE: 1"=50'
0' 50' 100' 200'
℄ KY 146 RECONSTRUCTION
10' TRAFFIC LANE
10' TRAFFIC LANE
4'
2'
PHASE 3
TEMPORARY TRAFFIC DRUM/ CONCRETE BARRIER
PHASE 3 TYPICAL SECTION FOR RURAL SECTION
STA. 183+00 TO STA. 223+00
MATCHLINE STA. 210+00 - SEE SHEET NO. 64
℄ KY 146 RECONSTRUCTION
20' PERM.WATER LINE ESMT.
PROP.R/W
EX. R/W
KY 146
BARTLETT FORK
TEMP. MEDIAN BARRIER
ASPHALT
GRAVEL
1-STY BR RES
1½-STY FR RES
FR SHED
FR BARN
PI 224+78.45
PI 221+44.01
PC 218+07.98
PT 212+14.44
S 49°25'27" E
220+00
215+00
P 34
P 35
P 36
P 37
P 38
P 39
P 40
MICROSTATION V8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SECOMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R065OOM7.DGN


COUNTY OF HENRY
ITEM NO. 5-80260.00
SHEET NO. R066
PHASE 3 - CONSTRUCTION SEQUENCE
1. CONSTRUCT THE RIGHT SIDE OF KY 146 RECONSTRUCTION FROM STA. 250+00 TO STA. 255+00.
PHASE 3 - TRAFFIC DESTINATIONS
- SHIFT TRAFFIC TO THE FULL SECTION OF KY 146 RECONSTRUCTION UP TO STA. 250+00, THEN TO THE LEFT SIDE OF KY 146 RECONSTRUCTION FROM STA. 250+00 TO STA. 255+00 FOR THIS PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.
PHASE 3 - PERMANENT CONSTRUCTION
PHASE 3 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 3 - TRAFFIC
PHASE 3 - TRAFFIC DRUMS/ CONCRETE BARRIERS
245+00
250+00
PC 245+51.40
PI 247+17.71
PT 248+83.99
PC 253+17.89
POB 8+00.00
℄ KY 146 RECONSTRUCTION
℄ BROKO LANE
℄ KY 146 STA. 254+53.66 =
℄ BROKO LANE STA. 10+00.00
KY 146
BROKO LANE
BARTLETT FORK
20' PERM.WATER LINE ESMT.
EX. R/W
PROP.R/W
T/E
S 58°38'46" E
S 32°40'44" W
MATCHLINE STA. 255+00 - SEE SHEET NO. 67
WOOD BARN
FR GARAGE
FR SHED
1½ STY FR RES
SEPTIC TANK
LEACH FIELD
MOBILE RES
MODULAR RES
GRAVEL
ASPHALT
APPROX. SEPTIC
W.S.E. 814.3
P 44
P 45
P 34
℄ KY 146 RECONSTRUCTION
PHASE 3
10' TRAFFIC LANE
10' TRAFFIC LANE
2'
TEMPORARY TRAFFIC DRUM/ CONCRETE BARRIER
PHASE 3 TYPICAL SECTION FOR RURAL SECTION STA. 250+00 TO STA. 266+08
PHASE 3
SCALE: 1"=50'
MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 240+00 TO STA. 255+00
MicroStation v8.11.7.443
E-SHEET NAME:
USER: sellis
DATE PLOTTED: September 15, 2022
FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R066OMT.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HENRY	5-80260.00	R067

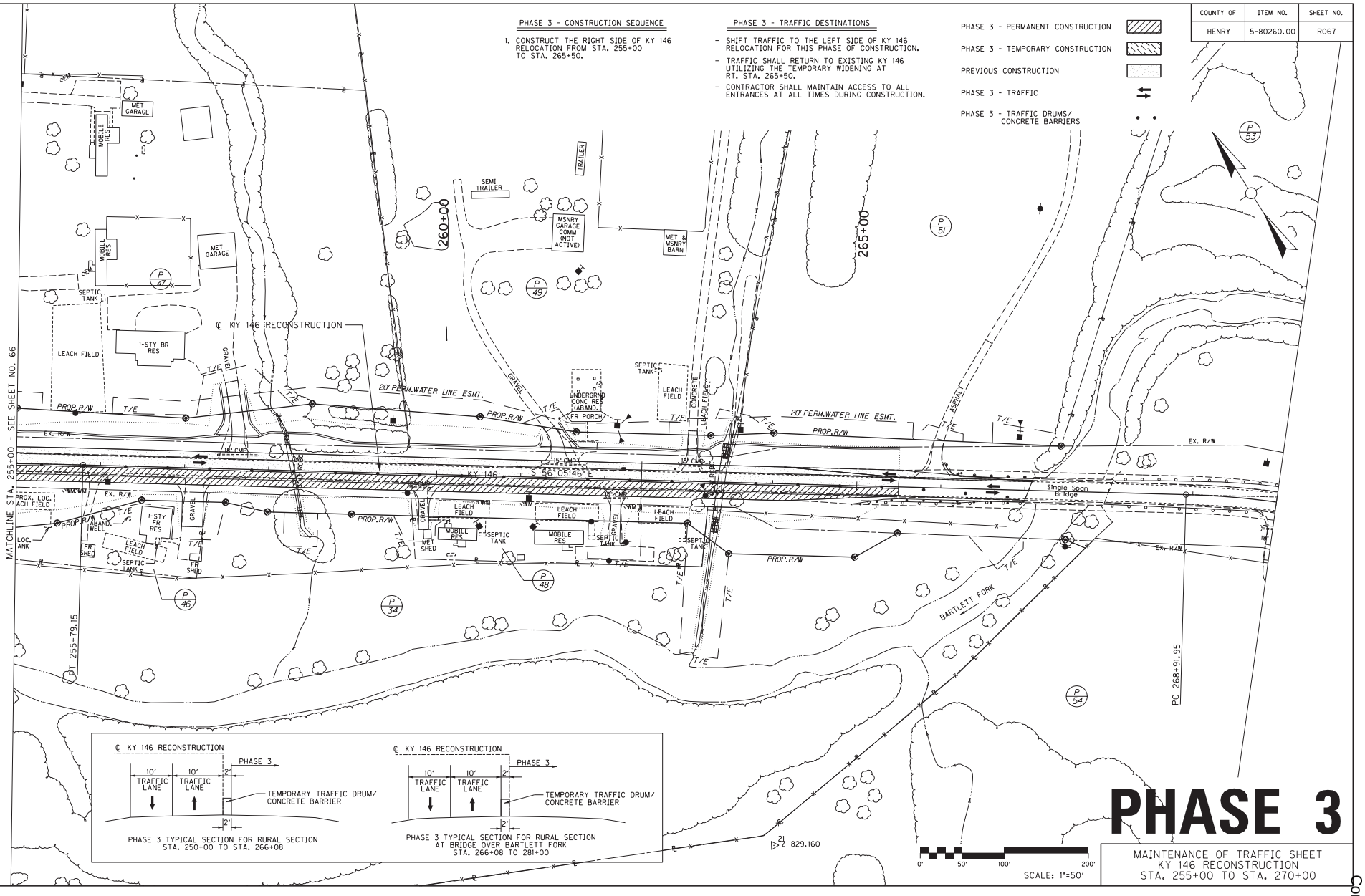
PHASE 3 - CONSTRUCTION SEQUENCE

1. CONSTRUCT THE RIGHT SIDE OF KY 146 RELOCATION FROM STA. 255+00 TO STA. 265+50.

PHASE 3 - TRAFFIC DESTINATIONS

- SHIFT TRAFFIC TO THE LEFT SIDE OF KY 146 RELOCATION FOR THIS PHASE OF CONSTRUCTION.
- TRAFFIC SHALL RETURN TO EXISTING KY 146 UTILIZING THE TEMPORARY WIDENING AT RT. STA. 265+50.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ENTRANCES AT ALL TIMES DURING CONSTRUCTION.

PHASE 3 - PERMANENT CONSTRUCTION
PHASE 3 - TEMPORARY CONSTRUCTION
PREVIOUS CONSTRUCTION
PHASE 3 - TRAFFIC
PHASE 3 - TRAFFIC DRUMS/ CONCRETE BARRIERS



PHASE 3

MAINTENANCE OF TRAFFIC SHEET
KY 146 RECONSTRUCTION
STA. 255+00 TO STA. 270+00

MicroStation v8.11.7.443 | E-SHEET NAME: | USER: aellis DATE PLOTTED: September 26, 2022 | FILE NAME: G:\3886-KY 146 HENRY\PHASE 2\SEGMENT 1A\SHEETS\MAINTENANCE OF TRAFFIC\R067TOOMT.DGN

KY 146 RECONSTRUCTION – PRIORITY SEGMENT NO. 1A
HENRY COUNTY ITEM #5-80260.00
PUBLIC INFORMATION PLAN

The primary goal of the Public Information Plan (PIP) is to inform the motoring public and area stakeholders of project information including Maintenance of Traffic (MOT) which includes shoulder, lane and ramp closures. The KYTC District 5 Public Information Officer (PIO) will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans.

LOCAL STAKEHOLDERS

- Elected Officials
  - County Judge Executive John Logan Brent – (502)-845-5707; hcjudgeexec@hotmail.com
  - State Senator Adrienne Southworth - (502)-564-8100; Adrienne.Southworth@lrc.ky.gov
  - State Representative Felicia Rabourn - (502)-564-8100; Felicia.Rabourn@lrc.ky.gov
  - City of New Castle Mayor Tony Kurtz – (502)-845-5750; mayor@newcastleky.com

- Local Agencies
  - Henry County Public Schools Transportation Department Director of Transportation – Kevin Whitt – (502)-845-8624; Kevin.Whitt@henry.kyschools.us
  - Henry County Sheriff Keith Perry - (502)-845-2909

- Utility Companies
  - Local utility companies are kept apprised of this project at the monthly utility coordination meetings hosted by District 5

TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS

Information will be distributed electronically to trucking firms via Matthew Cole, Commissioner, Department of Vehicle Regulation (502-564-7000; matt.cole@ky.gov). Information will also be posted on the GoKY website (http://goky.ky.gov/)

PRESENTATIONS

A project description including anticipated schedule will be provided to the media, stakeholders and other emergency service agencies via e-mail prior to construction. Information will be provided to these groups via traffic advisories, press releases, the District 5 website and the weekly District 5 Road Show of Construction and Maintenance Activities.

MEDIA RELATIONS

The District Public Information Officer (PIO) will prepare an initial news release regarding the contract award for the project. The PIO will conduct interviews with the media throughout the project duration to keep the public informed of construction progress. Traffic advisories will be submitted to the media when a change in the MOT occurs. The contractor must provide to the PIO via the Resident Engineer notification of any change in the MOT at least five (5) days prior to the change.

SPECIAL NOTE FOR BRIDGE RESTORATION AND WATERPROOFING WITH CONCRETE OVERLAYS

I. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2019 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the Plans. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing overlay or machine prep the existing slab; (3) Complete full-depth and partial depth repairs as directed by the Engineer; (4) Repair/replace damaged and corroded reinforcing bars; (5) Place new concrete overlay and epoxy-sand slurry in accordance with Section 606; (6) Maintain and control traffic; and (7) Any other work specified as part of this contract.

All construction will be in accordance with Section 606 unless otherwise specified.

II. MATERIALS.

A. Latex Concrete. See Section 606.03.17

B. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

C. Epoxy Sand Slurry. See Section 606.03.10.

III. CONSTRUCTION.

A. Machine prep of existing slab. For all bridges in this contract, remove concrete from existing slab to a depth of at least ¼" below the existing surface, and remove all patches completely, in accordance with the requirements of Section 606.030.03.

B. Partial Depth Slab Repair and Latex Overlay. Remove areas determined to be unsound by the Engineer via hydrodemolition or via hand held jackhammers weighing less than 45lbs in accordance with Section 606.02.10 D. Repair/Replace all damaged or severely corroded reinforcing bars prior to partial depth repair operation. The Department will not measure material removal and will consider this work incidental to the bid item "PARTIAL DEPTH PATCHING". Mix and place Latex Modified Concrete Overlay in accordance with Sections 606.03.08 and 606.03.17.

C. Surface Texturing. Texture the concrete surface of the overlay in accordance with Section 609.03.10.

IV. MEASUREMENT. See Section 606 and the following:

A. Latex Modified Concrete for Concrete Overlay. The Department will measure the quantity in cubic yards using the theoretical volume as follows for each bridge:

	Exist.		New	TOTAL
Drawing No. 27328:	12.2	+	7.7	= 19.9 C.Y.
Drawing No. 27330:	5.3	+	8.4	= 13.7 C.Y.
Drawing No. 27333:	8.9	+	11.6	= 20.5 C.Y.

B. Latex Modified Concrete for Partial Depth Patching and variable thickness of Overlay. The Department will measure the quantity in cubic yards by deducting the theoretical volume of bridge deck overlay (LMC) from the total volume (as indicated

by the batch quantity tickets) of Concrete required to obtain the finished grade shown on the Plans or established by the Engineer.

C. Machine Prep of Slab. The Department will measure the machine preparation of the existing bridge deck for all bridges in square yards, which shall include all labor, equipment, and material needed to complete this work.

D. Steel Reinforcement. The Department will measure any reinforcing steel necessary for the partial or full depth patch in pounds, which shall include all labor, equipment, and material needed to complete this work.

V. PAYMENT. See Section 606 and the following.

A. Latex Modified Concrete for Overlay. The Department will make payment for the Latex Modified Concrete under bid item #08534 "CONCRETE OVERLAY – LATEX" for the quantity in cubic yards complete in place.

B. Latex Modified Concrete for Partial Depth Patching and variable thickness of Overlay. The Department will make payment for the Partial Depth Patching under bid item #24094EC "PARTIAL DEPTH PATCHING". Payment will be for the quantity per cubic yard complete in place.

C. Machine Prep of Slab. The Department will make payment for the machine prep of existing slab for all bridges under bid item #08551 "MACHINE PREP OF SLAB". Payment will be for the square yard complete.

E. Steel Reinforcement. The Department will make payment for steel reinforcement, if necessary, under bid item #08150 "STEEL REINFORCEMENT". Payment will be at the unit price per pound.

SPECIAL NOTE FOR CONCRETE SEALING

These Notes or designated portions thereof, apply where so indicated on the plans, proposals or bidding instruction.

I. DESCRIPTION. Perform all work in accordance with the Department's 2019 Standard Specifications, and applicable Supplemental Specifications, the attached sketches, and these Notes. Section references are to the Standard Specifications.
This work consists of: (1) Furnish all labor, materials, tools, and equipment; (2) Clean the bridge deck; (3) Seal the bridge deck; (4) Maintain & control traffic; and, (5) Any other work specified as part of this contract.

II. MATERIALS.

A. Sealer. Use one of the following:

Product	Supplier
Protectosil BHN	Evonik Industries
Protectosil 300S	Evonik Industries
TK-590-40 Tri-Silane 40%	TK Products
SW-244-100	Chemical Products Industries, Inc.
TK-590-1 MS Tri-Silane	TK Products
MasterProtect H1000	BASF
Aquanil Plus 40	ChemMasters
SIL-ACT ATS-100	Advanced Chemical Technologies
Certivex Penseal BTS 100%	Vexcon
Pentreat 244-40	W.R. Meadows
Aquanil Plus 40A	ChemMasters

B. Coverage Rate: Follow all manufacturers recommendations for coverage rates except the application rate must not exceed the square footage coverage rate per gallon of sealer as given in the chart below. If the manufacturer recommends a coverage rate greater than given in the table below, apply sealer at the rate given in the table below for the chosen sealers silane percentage.

% Silane	Coverage rate (ft^2/gallon)
100	300
40	120
20	60

III. CONSTRUCTION.

A. Curing Compound. Contrary to Section 609.03.12 of the specifications, curing compound is not to be used on this deck due to potentially causing issues with the concrete sealer. During the deck pour, finishing, and tining operations the Class AA concrete shall be kept continuously moist with the use of a mister until burlap or curing blankets are applied to the surface. At no point should water be pooling or running off the surface or the surface of the concrete be allowed to become dry. After the burlap or curing blankets are installed, cure in accordance with the specifications. Include all costs in the unit price bid for Class AA concrete. Failure to properly cure the concrete in accordance with this note and the specifications may result in weakened or cracked concrete. If the concrete is weakened or cracked due to improper curing, the contractor will be responsible for providing alternates to fix the issues to the Engineer for review and the contractor will be solely responsible for all costs to do so, up to complete replacement. Do not begin any construction on fixing any issues without approval of the Engineer.

B. Cleaning the Deck. Dry clean the deck to remove all loose debris. Remove all visible hydrocarbons from the surface with detergent approved by the manufacturer of the deck sealant. Pressure wash all surfaces to be sealed at 2000 to 3000 psi. Install pressure gauges at each wand to verify pressure. Use 30° fan tip or as recommended by the manufacturer of the deck sealant. Hold pressure washing wand a minimum of 45° from the deck with a maximum stand-off distance of 12 inches.

C. Sealing the Deck. Allow new concrete to cure a minimum 28 days prior to application of sealer. Monitor weather conditions prior to sealer application. Refer to manufacturer's recommendations for proper ambient conditions. Do not apply sealer if precipitation is anticipated within the time stated by the manufacturer. Allow the deck to dry 24 hours (after washing or rain event) before sealer application. The deck can be reopened to traffic while drying. Sealer must be applied within 48 hours of washing or the deck must be rewashed. Divide the deck into predefined areas of specific square footage to aid in determining usage. Comply with manufacturer's usage recommendation. Using a low

pressure pump, apply sealer and spread evenly with broom or squeegee; do not allow pooling to remain. When each predefined area is complete, measure the amount of sealer used to verify proper usage. After sealing, follow manufacturer's recommended cure time before opening to traffic. On vertical surfaces, apply the sealer in a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern.

D. Inspection: Monitor all aspects of the project to assure compliance to this specification. Observe and document general conditions during the entirety of the project. Verify that each phase of work has been satisfactorily completed prior to beginning the next phase. Phases are described as follows:

1. Dry cleaning to remove loose debris, verify and document:
   a. All debris has been removed and disposed of properly.
2. Removal of hydrocarbons, verify and document:
   a. The manufacturer's recommended detergent is used for removal.
   b. Hydrocarbons have been satisfactorily removed.
3. Pressure washing, verify and document:
   a. Washing pressure at the wand.
   b. Tip size used.
   c. Wash angle and stand-off distance.
   d. The deck is satisfactorily cleaned.
4. Sealer application, verify and document:
   a. Proper cure time for new concrete.
   b. Deck surface is dry.
      1. Document time since washed.
      2. Was deck opened to traffic after washing?
   c. Ambient conditions.
      1. Document ambient temperature, surface temperature, relative humidity, and dew point.
   d. Application and distribution method.
   e. Coverage to be complete and even.
   f. Material is not allowed to remain pooled.
   g. Monitor material usage.
   h. No traffic until proper cure time is allowed.

IV. MEASUREMENT

A. Concrete Sealing. The Department will measure the quantity per square feet of each area sealed.

V. PAYMENT

A. **Concrete Sealing.** Payment at the contract unit price per square feet is full compensation for the following: (1) Furnish all labor, materials, tools, and equipment; (2) Clean the bridge deck; (3) Seal the bridge deck; (4) Maintain & control traffic; and, (5) Any other work specified as part of this contract.

SPECIAL NOTE FOR REPLACING EXPANSION DAMS AND/OR INSTALLING ARMORED EDGES FOR CONCRETE ON BRIDGES

I. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2019 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the Plans. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing concrete and expansion device(s) and/or bridge ends; (3) Install armored edges and new concrete as specified and in accordance with the Plans; (4) Install new joint seals (where required); (5) Maintain and control traffic; and (6) Any other work specified as part of this contract.

II. MATERIALS.

A. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

B. Structural Steel. Use new, commercial grade steel suitable for welding. The Engineer will base acceptance on visual inspection. To be approved, armored edge extrusions must be embedded.

C. Stud Anchors. The armored edge stud anchors are ¾" x 6" embedded stud shear connectors conforming to ASTM A108, Grade 1015 (Nelson Studs or equal).

D. Steel Reinforcement. Use Grade 60. See Section 602.

E. Epoxy Bond Coat. See Section 511.

III. EQUIPMENT.

A. Hammers. See Section 606.02.10 B.

B. Sawing Equipment. See Section 606.02.10 C.

C. Hydraulic Impact Equipment. See Section 606.02.10 D.

IV. CONSTRUCTION.

A. Remove Existing Materials. Remove existing Expansion Dam, Bridge End, Armored Edges and specified areas of concrete as shown on the Plans. Remove debris and/or expansion joint filler as directed by the Engineer. Clean and leave all existing steel reinforcement encountered in place. Damaged steel reinforcement will be repaired/replaced as directed by the Engineer at no additional cost to the Department. Dispose of all removed material entirely away from the job site. This work is incidental to the contract unit price for "Expansion Joint Replacement" or "Armored Edge for Concrete".

B. Place New Concrete and Armored Edges. After all specified existing materials have been removed; place new armored edges to match the grade of the proposed overlay or to match the original grade (See Plans). Place the new Class "M" concrete to the scarified grade and finish to receive the new overlay or place the new Class "M" concrete to the original grade and finish with broom strokes drawn transversely from curb to curb.

All new structural steel shall be cleaned and painted in accordance with requirements of Section 607.03.23, except that surfaces to come in contact with concrete are not to be painted.

Blast clean all areas of existing concrete and structural steel to come in contact with new concrete until free of all laitance and deleterious substances immediately prior to the placement of the Class "M" Concrete. The surface areas of existing concrete to come in contact with the new Class "M" Concrete are to be coated with an epoxy bond coat immediately prior to placing new concrete in accordance with Section 511. The interfaces of the new and old concrete shall be as nearly vertical and horizontal as possible.

C. Additional Steel Reinforcement. Furnish for replacement, as directed by the Engineer, 400 linear feet of #4 steel reinforcing bars in 20' lengths. Place these bars in areas deemed by the Engineer to require additional reinforcement. Field cutting and bending is permitted. Do not place any additional steel reinforcement above the height of the top row of Nelson Studs on the armored edges. Ensure that all exposed steel reinforcement is tied in accordance with Section 602.03.04 prior to pouring the new Class "M" concrete. Deliver unused bars to the Local County Maintenance Barn. Payment will be made in accordance with Section 602.

D. Stage Construction. Installation of concrete and armored edges in two (or more if specified) stages is necessary. Join the armored edges at or near the centerline of the roadway or lane line, field weld and grind smooth.

F. Shop Plans. Shop plans will <u>not</u> be required. The Contractor is responsible for obtaining field measurements and supplying properly sized materials to complete the work.

V. MEASUREMENT.

A. Expansion Joint Replacement – 1 ½", 2", 2 ½", 4". The Department will measure the quantity in linear feet from gutterline to gutterline along the centerline of the joint.

B. Armored Edge for Concrete. The Department will measure the quantity in linear feet from gutterline to gutterline along the face of the bridge end.

C. Steel Reinforcement. See Section 602.

VI. PAYMENT.

A. Expansion Joint Replacement – 1 ½, 2", 2 ½", 4". Payment at the contract unit price per linear foot is full compensation for removing specified existing materials, furnishing and installing the new armored edges, concrete, neoprene strip seal or pre-compressed horizontal expansion joint system, and all incidental items necessary to complete the work (except the overlay material) within the specified pay limits as specified by this note and as shown on the Plans.

B. Armored Edge for Concrete. Payment at the contract unit price per linear foot is full compensation for removing specified existing materials, furnishing and installing the new armored edges, concrete and all incidental items necessary to complete the work (except the overlay material) within the specified pay limits as specified by this note and as shown on the Plans.

C. Steel Reinforcement. See Section 602.

SPECIAL NOTE FOR TRAFFIC CONTROL ON BRIDGE REPAIR CONTRACTS

I. TRAFFIC CONTROL GENERAL

Except as provided herein, traffic shall be maintained in accordance with the 2019 Standard Specifications, Section 112. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

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

II. TRAFFIC COORDINATOR

Furnish a Traffic Coordinator as per Section 112. The Traffic Coordinator shall inspect the project maintenance of traffic, at least three times daily, or as directed by the Engineer, during the Contractor's operations and at any time a lane closure is in place. The personnel shall have access on the project to a radio or telephone to be used in case of emergencies or accidents.

The Traffic Coordinator shall report all incidents throughout the work zone to the Engineer on the project. The Contractor shall furnish the name and telephone number where the Traffic Coordinator can be contacted at all times.

III. SIGNS

Contrary to Section 112.04.02, only long term signs (sign intended to be continuously in place for more than 3 days) will be measured for payment; short term signs (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.

The contractor is to install warning signs for wide loads in advance of the bridge under the direction of the Engineer. The Department will not measure installation, maintenance, or removal for payment, and will consider these incidental to Maintain and Control Traffic.

IV. TEMPORARY PAVEMENT STRIPING

Skip lines and/or solid lines through the length of the tapers for lane closures and other striping as directed by the Engineer shall be temporarily covered with 6" black removable tape. Permanent removal of all other pavement striping for traffic control shall be considered incidental to Maintain and Control Traffic. Temporary pavement striping shall be paid only once per course in accordance with Section 112.04.07. The Contractor shall replace any temporary striping that becomes damaged or fails to adhere to the pavement before dark on the day of the notification. Liquidated damages shall be assessed to the Contractor at a rate of $500 per day for failing to replace temporary striping within this time limit.

V. PROJECT PHASING & CONSTRUCTION PROCEDURES

Maintain two lanes of traffic during construction in accordance with the plans. The minimum clear lane width required is as follows:

Drawing No. 27328:	23’-0”
Drawing No. 27330:	23’-0”
Drawing No. 27333:	22’-3¾”

LIQUIDATED DAMAGES and FIXED COMPLETION DATE

CONTRARY TO THE CURRENT EDITION OF THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, **SECTION 108.09**, IF THE CONTRACTOR FAILS TO COMPLETE THE ALL WORK BY THE FIXED COMPLETION DATE LISTED IN THE CONTRACT DOCUMENTS AND OPEN THE ROADWAY TO TRAFFIC,

LIQUIDATED DAMAGES WILL BE ASSESSED AT $5,000 PER DAY.

THIS PROJECT HAS A **FIXED COMPLETION DATE OF SEPTEMBER 30, 2024.**

SPECIAL NOTE

For Tree Removal

Henry County
MAJOR RECONSTRUCTION OF KY-146 BETWEEN NEW CASTLE AT US-421 AND PENDLETON AT KY-153. SEGMENT 1: PENDLETON ROAD (KY 153) TO LOST CREEK (1/2 MILE EAST OF SAFETY KLEEN ENTRANCE). MILE POINT 2.1 TO MILE POINT 6.8

Item No. 5-80260(5-8300)

NO CLEARING OF TREES 5 INCHES OR GREATER (DIAMETER BREAST HEIGHT) FROM **JUNE 1 THROUGH JULY 31.**

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

SPECIAL NOTE FOR CONCRETE SLURRY

If diamond grinding, grooving or any other process which produces slurry is required on roadways or bridges, the contractor shall ensure that all concrete slurry associated with these processes is collected, managed, and disposed of appropriately. The waste material shall be disposed of at a permitted disposal facility, in accordance with the Kentucky Standard Specifications for Road and Bridge Construction and the Environmental Performance Standards outlined in 401 KAR 47:030, or managed as a material for beneficial reuse. Any fines or remediation related to improper disposal shall be the sole responsibility of the contractor.

Disposal of concrete slurry will not be paid separately and shall be considered incidental to other bid items.

8/20/2019

SPECIAL NOTE FOR PIPELINE INSPECTION

1.0 DESCRIPTION. The Department will perform visual inspections on all pipe on the project. A video inspection will be required on projects having more than 250 linear feet of storm sewer and/or culvert pipe and on routes with an ADT of greater than 1,000 vehicles. Conduct video inspections on all pipe located under the roadway and 50 percent of the remaining pipe not under the roadway. Storm sewer runs and outfall pipes not under the roadway take precedence over rural entrance pipes. Contractors performing this item of work must be prequalified with the Department in the work type J51 (Video Pipe Inspection and Cleaning). Deflection testing shall be completed using a mandrel in accordance with the procedure outlined below or by physical measurement for pipes greater than 36inches in diameter. Mandrel testing for deflection must be completed prior to the video inspection testing. Unless otherwise noted, Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

2.0 VIDEO INSPECTION. Ensure pipe is clear of water, debris or obstructions. Complete the video inspection and any necessary measurement prior to placing the final surface over any pipe. When paving will not be delayed, take measurements 30 days or more after the completion of earthwork to within 1 foot of the finished subgrade. Notify the Engineer a minimum of 24 hours in advance of inspection and notify the Engineer immediately if distresses or locations of improper installation are logged.

2.1 INSPECTION FOR DEFECTS AND DISTRESSES

A) Begin at the outlet end and proceed through to the inlet at a speed less than or equal to 30 ft/minute. Remove blockages that will prohibit a continuous operation.

B) Document locations of all observed defects and distresses including but not limited to: cracking, spalling, slabbing, exposed reinforcing steel, sags, joint offsets, joint separations, deflections, improper joints/connections, blockages, leaks, rips, tears, buckling, deviation from line and grade, damaged coatings/paved inverts, and other anomalies not consistent with a properly installed pipe.

C) During the video inspection provide a continuous 360 degree pan of every pipe joint.

D) Identify and measure all cracks greater than 0.1" and joint separations greater than 0.5".

E) Video Inspections are conducted from junction to junction which defines a pipe run. A junction is defined as a headwall, drop box inlet, curb box inlet, manhole, buried junction, or other structure that disturbs the continuity of the pipe. Multiple pipe inspections may be conducted from a single set up location, but each pipe run must be on a separate video file and all locations are to be referenced from nearest junction relative to that pipe run.

F) Record and submit all data on the TC 64-765 and TC 64-766 forms.

3.0 MANDREL TESTING. Mandrel testing will be used for deflection testing. For use on Corrugated Metal Pipe, High Density Polyethylene Pipe, and Polyvinyl Chloride Pipe, use a mandrel device with an odd number of legs (9 minimum) having a length not less than the outside diameter of the mandrel. The diameter of the mandrel at any point shall not be less than the diameter specified in Section 3.6. Mandrels can be a fixed size or a variable size.

3.1 Use a proving ring or other method recommended by the mandrel manufacturer to verify mandrel diameter prior to inspection. Provide verification documentation for each size mandrel to the Engineer.

3.2 All deflection measurements are to be based off of the AASHTO Nominal Diameters. Refer to the chart in section 3.6.

3.3 Begin by using a mandrel set to the 5.0% deflection limit. Place the mandrel in the inlet end of the pipe and pull through to the outlet end. If resistance is met prior to completing the entire run, record the maximum distance achieved from the inlet side, then remove the mandrel and continue the inspection from the outlet end of the pipe toward the inlet end. Record the maximum distance achieved from the outlet side.

3.4 If no resistance is met at 5.0% then the inspection is complete. If resistance occurred at 5.0% then repeat 3.1 and 3.2 with the mandrel set to the 10.0% deflection limit. If the deflection of entire pipe run cannot be verified with the mandrel then immediately notify the Engineer.

3.5 Care must be taken when using a mandrel in all pipe material types and lining/coating scenarios. Pipe damaged during the mandrel inspection will be video inspected to determine the extent of the damage. If the damaged pipe was video inspected prior to mandrel inspection then a new video inspection is warranted and supersedes the first video inspection. Immediately notify the Engineer of any damages incurred during the mandrel inspection and submit a revised video inspection report.

3.6 AASHTO Nominal Diameters and Maximum Deflection Limits.

Base Pipe Diameter	AASHTO Nominal Diameter	Max. Deflection Limit	
		5.0%	10.0%
(inches)	(inches)	(inches)	
15	14.76	14.02	13.28
18	17.72	16.83	15.95
24	23.62	22.44	21.26
30	29.53	28.05	26.58
36	35.43	33.66	31.89
42	41.34	39.27	37.21
48	47.24	44.88	42.52
54	53.15	50.49	47.84
60	59.06	56.11	53.15

4.0 PHYSICAL MEASUREMENT OF PIPE DEFLECTION. Alternate method for deflection testing when there is available access or the pipe is greater than 36 inches in diameter, as per 4.1. Use a contact or non-contact distance instrument. A leveling device is recommended for establishing or verifying vertical and horizontal control.

4.1 Physical measurements may be taken after installation and compared to the AASHTO Nominal Diameter of the pipe as per Section 3.6. When this method is used, determine the smallest interior diameter of the pipe as measured through the center point of the pipe (D2). All measurements are to be taken from the inside crest of the corrugation. Take the D2 measurements at the most deflected portion of the pipe run in question and at intervals no greater than ten (10) feet through the run. Calculate the deflection as follows:

% Deflection = [(AASHTO Nominal Diameter - D2) / AASHTO Nominal Diameter] x 100%

Note: The Engineer may require that preset monitoring points be established in the culvert prior to backfilling. For these points the pre-installation measured diameter (D1) is measured and recorded. Deflection may then be calculated from the following formula:

$$\% \text{ Deflection} = [(D1 - D2) / D1] (100\%)$$

4.2 Record and submit all data.

5.0 DEDUCTION SCHEDULE. All pipe deductions shall be handled in accordance with the tables shown below.

FLEXIBLE PIPE DEFLECTION	
Amount of Deflection (%)	Payment
0.0 to 5.0	100% of the Unit Bid Price
5.1 to 9.9	50% of the Unit Bid Price [(1)]
10 or greater	Remove and Replace [(2)]

[(1)] Provide Structural Analysis for HDPE and metal pipe. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price. [(2)] The Department may allow the pipe to remain in place with no pay to the Contractor in instances where it is in the best interest to the public and where the structural analysis demonstrates that the pipe should function adequately.

RIGID PIPE REMEDIATION TABLE PIPE	
Crack Width (inches)	Payment
≤ 0.1	100% of the Unit Bid Price
Greater than 0.1	Remediate or Replace [(1)]

(1) Provide the Department in writing a method for repairing the observed cracking. Do not begin work until the method has been approved.

6.0 PAYMENT. The Department will measure the quantity in linear feet of pipe to inspect. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
24814EC	Pipeline Inspection	Linear Foot
10065NS	Pipe Deflection Deduction	Dollars

SPECIAL NOTE FOR NON-TRACKING TACK COAT

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

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

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

2.1.1 Provide a tack conforming to the following material requirements:

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

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

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

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

3. CONSTRUCTION.

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

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

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

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

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

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

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

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

Revised: May 23, 2022

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^{o} +/- 1.8^{o} 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 sublot 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 sublot, 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

Special Note for Bridge Demolition, Renovation and Asbestos Abatement

If the project includes any bridge demolition or renovation, the successful bidder is required to notify Kentucky Division for Air Quality (KDAQ) via filing of form (DEP 7036) a minimum of 10 working days prior to commencement of any bridge demolition or renovation work.

Any available information regarding possible asbestos containing materials (ACM) on or within bridges to be affected by the project has been included in the bid documents. These are to be included with the Contractor's notification filed with the KDAQ. If not included in the bid documents, the Department will provide that information to the successful bidder for inclusion in the KDAQ notice as soon as possible. If there are no documents stating otherwise, the bidders should assume there are no asbestos containing materials that will in any way affect the work.

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
transportation.ky.gov

Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

Asbestos Inspection Report

To: Donna Hardin

District: 05

Date: January 25, 2021

Conducted By: O'Dail Lawson

Report Prepared By: O'Dail Lawson

Project and Structure Identification

Project Number: Henry 05-8300

Structure ID: 052B00065N

Structure Location: KY 146 (Lagrange Road) over Bartlett Fork (mm #6)

Sample Description: Any suspect materials collected were negative for asbestos.

Inspection Date: January 19, 2021

Results and Recommendations

The results of the samples collected were negative for the presence of asbestos above 1%. No abatement is required at this time.

It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

MRS, INC. *MRS, Inc. Analytical Laboratory Division*
332 West Broadway / Suite # 902 (502) 495-1212
Louisville, Kentucky - 40202 - 2133 Fax: (502) 491-7111

BULK SAMPLE ASBESTOS ANALYSIS

Analysis N# # 3101235 Address: Henry 05-8300 052 B 00065 N
Client Name: K Y T C
Sampled By: O'Dail Lawson

				% FIBROUS ASBESTOS				% NON-ASBESTOS FIBERS			
Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.
# 65 - 1	Black	Yes	No				None				100%

Methodology : EPA Method 600/R-93-116
Date Analyzed : 23-Jan-21
Analyst : Winterford Mensah Reviewed By: Winterford Mensah Signature

AIHA # 102459 AJHA #1 02459

Chain of Custody Record

Kentucky Transportation Cabinet

200 Mero Street, 5th Floor West
Frankfort, Kentucky 40622
(502) 564-7250 fax (502) 564-5655

	O'Dail Lawson o'dail.lawson@ky.gov KYTC	**Client Information**	KY TRANSPORTATION CABINET
Address:	200 Mero Street Frankfort KY	Results Code:	
Phone:	502-782-5020 Fax: 502-564-5655	N/A = Not Applicable	
PO#:		Samplers (signature):	

Lagrange Road (KY-146) over Barker Fork mm 6

Project ID: Henry 05-8300 052B00065N

Sample ID	Sample Description	Collected Date	Collected Time	Analysis Requested	Matrix	Color	Cont. Type	Preservative
65-1	Joint Compound	1/19/21	9:40	Asbestos bulk	Rubber	Black		N/A

Relinquished By:	Date/Time:
Received By: Kristopher Maxwell	Date/Time: 1/19/21
Relinquished By:	Date/Time:
Received at Lab By:	Date/Time:

ENVIRONMENTAL TRAINING CONCEPTS, INC
P.O Box 99603 Louisville, KY 40269
(502)640-2951

Certification Number: ETC-AIR-031120-00387

O'Dail Lawson

has on 03-11-2020, attended and successfully completed the requirements and passed the examination with a score of 70% of better on the entitled course.

ASBESTOS INSPECTOR REFRESHER

Training was in accordance with 40 CFR Part 763 (AHERA) approved by the Commonwealth of Kentucky, the Indiana Department of Environmental Management, Tennessee Department of Environment & Conservation and The Arkansas Department of Environmental Quality. The above student received requisite training for Asbestos Accreditation under Title II of the Toxic Substance Act (TSCA).

Conducted at: 1520 Alliant Ave., Louisville, KY

Name – Training Manager

Expiration Date: 03-11-2021

Name - Instructor

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
transportation.ky.gov

Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

Asbestos Inspection Report

To: Donna Hardin

District: 05

Date: January 25, 2021

Conducted By: O'Dail Lawson

Report Prepared By: O'Dail Lawson

Project and Structure Identification

Project Number: Henry 05-8300

Structure ID: 052B00068N

Structure Location: KY 146 (Lagrange Road) over Little Kentucky River

Sample Description: There were no suspect materials present on this structure.

Inspection Date: January 19, 2021

Results and Recommendations

There were no suspect materials observed during this inspection; No samples collected.

*** It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036 Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

ENVIRONMENTAL TRAINING CONCEPTS, INC
P.O Box 99603 Louisville, KY 40269
(502)640-2951

Certification Number: ETC-AIR-031120-00387

O'Dail Lawson

has on 03-11-2020, attended and successfully completed the requirements and passed the examination with a score of 70% of better on the entitled course.

ASBESTOS INSPECTOR REFRESHER

Training was in accordance with 40 CFR Part 763 (AHERA) approved by the Commonwealth of Kentucky, the Indiana Department of Environmental Management, Tennessee Department of Environment & Conservation and The Arkansas Department of Environmental Quality. The above student received requisite training for Asbestos Accreditation under Title II of the Toxic Substance Act (TSCA).

Conducted at: 1520 Alliant Ave., Louisville, KY

Name – Training Manager

Expiration Date: 03-11-2021

Name - Instructor

COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET
transportation.ky.gov

Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

Asbestos Inspection Report

To: Donna Hardin

District: 05

Date: January 25, 2021

Conducted By: O'Dail Lawson

Report Prepared By: O'Dail Lawson

Project and Structure Identification

Project Number: Henry 05-8300

Structure ID: 052B00074N

Structure Location: KY 146 (Lagrange Road) over Bartlett Fork (mm #5)

Sample Description: Any suspect materials collected were negative for asbestos.

Inspection Date: January 19, 2021

Results and Recommendations

The results of the samples collected were negative for the presence of asbestos above 1%. No abatement is required at this time.

It is recommended that this report accompany the 10-Day Notice of Intent for Demolition (DEP7036Form) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

MRS, INC. *MRS, Inc. Analytical Laboratory Division*

332 West Broadway / Suite # 902 (502) 495-1212
Louisville, Kentucky - 40202 - 2133 Fax: (502) 491-7111

BULK SAMPLE ASBESTOS ANALYSIS

Analysis N # # 3101236 Address: Henry 05-8300 052 B 00074 N
Client Name: K Y T C
Sampled By: O'Dail Lawson

				% FIBROUS ASBESTOS				% NON-ASBESTOS FIBERS			
Sample ID	Color	Layered	Fibrous	Chrysotile	Amosite	crocidolite	Others	Cellulose	Fiberglass	Syn. Fiber	Other/Mat.
# 74 - 1	Black	Yes	No				None				100%

Methodology : EPA Method 600/R-93-116
Date Analyzed : 23-Jan-21
Analyst : Winterford Mensah Reviewed By: Winterford Mensah Signature

AIHA # 102459 AJHA #1 02459

Chain of Custody Record

Kentucky Transportation Cabinet

200 Mero Street, 5th Floor West
Frankfort, Kentucky 40622
(502) 564-7250 fax (502) 564-5655

O'Dail Lawson o'dail.lawson@ky.gov KYTC Address: 200 Mero Street Frankfort KY Phone: 502-782-5020 Fax: 502-564-5655 PO#:	**Client Information** KY TRANSPORTATION CABINET Results Code: N/A = Not Applicable Lagrange Road (Ky. 146) over Bartlett Fork. mm #5 Samplers (signature): [signature]
Project ID Henry 05-8300 052B00074N	

Sample ID	Sample Description	Collected Date	Collected Time	Analysis Requested	Matrix	Color	Cont. Type	Preservative
74-1	Joint Compound	1/19/21	9:48	Asbestos bulk	Rubber	black		N/A

Relinquished By:	Date/Time:
Received By: [signature]	Date/Time: 1/19/21
Relinquished By:	Date/Time:
Received at Lab By:	Date/Time:

ENVIRONMENTAL TRAINING CONCEPTS, INC
P.O Box 99603 Louisville, KY 40269
(502)640-2951

Certification Number: ETC-AIR-031120-00387

O'Dail Lawson

has on 03-11-2020, attended and successfully completed the requirements and passed the examination with a score of 70% of better on the entitled course.

ASBESTOS INSPECTOR REFRESHER

Training was in accordance with 40 CFR Part 763 (AHERA) approved by the Commonwealth of Kentucky, the Indiana Department of Environmental Management, Tennessee Department of Environment & Conservation and The Arkansas Department of Environmental Quality. The above student received requisite training for Asbestos Accreditation under Title II of the Toxic Substance Act (TSCA).

Conducted at: 1520 Alliant Ave., Louisville, KY

Name – Training Manager

Expiration Date: 03-11-2021

Name - Instructor

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

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

RIGHT OF WAY CERTIFICATION

☒ Original	☐ Re-Certification	RIGHT OF WAY CERTIFICATION	
ITEM #	**COUNTY**	**PROJECT # (STATE)**	**PROJECT # (FEDERAL)**
5-80260	Henry	FD52 052 0146 002-010	FBP 5162 (022)
PROJECT DESCRIPTION			

KY 146 Bridge repairs on five (5) KY 146 bridges between KY 153 (MP 2.169) and US 421 (MP 9.80) at New Castle, Kentucky

☒ **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		**EXCEPTION (S) Parcel #**	**ANTICIPATED DATE OF POSSESSION WITH EXPLANATION**
Number of Parcels That Have Been Acquired			
Signed Deed			
Condemnation			
Signed ROE			

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

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	
Signature		Signature	Tom Boykin Digitally signed by Tom Boykin Date: 2022.10.25 10:11:09 -04'00'
Date		Date	
Right of Way Director		**FHWA**	
Printed Name		Printed Name	
Signature	Kelly R. Divine Digitally signed by Kelly Divine Date: 2022.10.25 11:48:33 -05'00'	Signature	
Date		Date	

UTILITIES AND RAIL CERTIFICATION NOTE

Henry County
JL04 052 8304401U
Mile point: 2.169 TO 5.4100
MAJOR RECONSTRUCTION OF KY-146 (06CCN)(08CCR)(10CCR)(12CCR)(14CCR)(18CCR) (2
ITEM NUMBER: 05-8300.00

PROJECT NOTES ON UTILITIES

The contractor should be aware that there is UTILITY WORK INCLUDED IN THIS ROAD CONSTRUCTION CONTRACT. The Contractor shall review the GENERAL UTILITY NOTES AND INSTRUCTIONS which may include KYTC Utility Bid Item Descriptions, utility owner supplied specifications, plans, list of utility owner preapproved subcontractors, and other instructions. 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.

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.

Please 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 activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs. 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.

UTILITIES AND RAIL CERTIFICATION NOTE

Henry County
JL04 052 8304401U
Mile point: 2.169 TO 5.4100
MAJOR RECONSTRUCTION OF KY-146 (06CCN)(08CCR)(10CCR)(12CCR)(14CCR)(18CCR) (2
ITEM NUMBER: 05-8300.00

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.

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

Shelby Energy – Electric – The Company has an electric distribution pole route located right of centerline in the KYTC R/W from the beginning of the project to Rosehill Lane. The pole route thence crosses KY 146 and leaves the KYTC R/W and project limits from Rose Hill Lane to approximately STA. 202+00. The pole route thence follows the north side of the project limits from STA. 202+00 to the end of the project.

AT&T-KY - Communication – The Company has telecommunication lines on the Shelby Energy pole route described above.

Charter – Communication – The Company has existing communication lines located at the KY 146 and KY 153 intersection but does not continue along KY 146.

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

UTILITIES AND RAIL CERTIFICATION NOTE

Henry County
JL04 052 8304401U
Mile point: 2.169 TO 5.4100
MAJOR RECONSTRUCTION OF KY-146 (06CCN)(08CCR)(10CCR)(12CCR)(14CCR)(18CCR) (2
ITEM NUMBER: 05-8300.00

THE FOLLOWING FACILITY OWNERS ARE RELOCATING/ADJUSTING THEIR FACILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION

Shelby Energy – Electric - The Company has an electric distribution pole route located right of centerline in the KYTC R/W from the beginning of the project to Rosehill Lane. The pole route thence crosses KY 146 and leaves the KYTC R/W and project limits from Rose Hill Lane to approximately STA. 202+00. The pole route thence follows the north side of the project limits from STA. 202+00 to the end of the project.

THE FOLLOWING FACILITY OWNERS HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE OWNER OR THEIR SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

AT&T-KY - Communication - The Company has underground telecommunication lines on the north side of KY 146 from the beginning of the project to Dawkins Lane. The Company also has aerial communication lines south of KY 146 from Bartlett Lane to the end of the project. The Company has planned relocations on the Shelby Energy pole route described above. AT&T anticipates having these relocations complete by March 2023.

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

Henry County Water District – The company has a proposed 6” PVC W.M. which is to be placed in a 20’ easement located adjacent to the north KYTC R/W line from Rose Hill Lane to the end of the project. See provided relocation plans.

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

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

Form Revised 6/24/16

UTILITIES AND RAIL CERTIFICATION NOTE

Henry County
JL04 052 8304401U
Mile point: 2.169 TO 5.4100
MAJOR RECONSTRUCTION OF KY-146 (06CCN)(08CCR)(10CCR)(12CCR)(14CCR)(18CCR) (2
ITEM NUMBER: 05-8300.00

AREA FACILITY OWNER CONTACT LIST

1. Shelby Energy Cooperative
   PO Box 311
   620 Old Finchville Road
   Shelbyville, KY 40065

   Dylan Staples
   Manager of Engineering,
   Cell (502) 663-1395
   Dylan@shelbyenergy.com

2. AT&T KY
   1340 E. John Rowan Blvd
   Bardstown, KY 40004

   Scott Roche
   Office (502) 348-4528
   Cell (502) 827-4703
   SR8832@att.com

3. Charter Communications
   10168 Linn Station Road, Suite 120
   Louisville, KY 40223

   Kevin Merce
   Office (502) 357-4724
   Cell (502) 817-5055
   Kevin.Mercer@charter.com
   Michael York
   Cell (502) 548-1632
   Michael.York@charter.com

4. Henry County Water District #2
   PO Box 219
   8955 Main Street
   Campbellsburg, KY 40011

   Keith Morris
   502-532-6279
   502-532-6279
   KMorris@HCWD2.com

Form Revised 6/24/16

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:

Henry County Water District:

- *Cleary Construction*
- *Sedam Contracting*
- *Louisville Paving and Construction*

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. In such instances, the utility subcontractor is not required to be prequalified with the KYTC Division of Construction Procurement.

IF A UTILITY SUPPLIED CONTRACTOR LIST IS NOT PROVIDED

When the above list of approved subcontractors for the utility work is not provided, the utility work can be completed by the prime contractor, or a prime contractor-chosen subcontractor. In such instances, 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 shut downs 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 shut downs 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 ENCASEMENT 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 ENCASEMENT 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 compete 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 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 were 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 time 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 time 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 SLEVE 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.

WATERLINE CONSTRUCTION SPECIFICATIONS

Prepared by Tetra Tech, Inc.

For

Henry County Water District No. 2

SECTION 02110

SITE CLEARING

PART 1 - GENERAL

1.01 SUMMARY

A. Clear site within construction limits of plant life and grass.

B. Remove root system of trees and shrubs.

C. Remove surface debris.

D. Consult with KIPDA and U.S. Fish and Wildlife Service regarding tree removal and preservation of the endangered Indiana Bat.

1.02 REGULATORY COMPLIANCE

Conform to applicable local codes and ordinances for disposal of debris.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 REMOVAL OF EXISTING TREES AND OTHER VEGETATION

A. Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees that receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing. The Contractor shall not cut or injure any trees or other vegetation outside right-of-way or easement line and outside areas to be cleared, as indicated on the drawings, without written permission from the Cabinet and the Company jointly. The Contractor shall be responsible for all damages done outside these lines.

B. The Cabinet and the Company jointly shall designate which trees are to be removed within permanent and temporary easement lines or right-of-way lines.

3.02 CLEARING

A. From areas to be cleared, the Contractor shall cut or otherwise remove all trees, brush, and other vegetable matter such as snags, bark, and refuse. The ground shall be cleared to the width of the permanent easement or right-of-way unless otherwise directed by the Cabinet and the Company jointly.

B. Except where clearing is done by uprooting with machinery, trees, stumps, and stubs to be cleared shall be cut as close to the ground surface as practicable, but no more than six (6) inches above the ground surface for small trees and 12 inches for larger trees.

C. Elm bark shall be either buried at least one (1) foot deep or burned in suitable incinerators off site with satisfactory antipollution controls and fire prevention controls, to prevent the spread of Dutch Elm disease and as required by applicable laws.

3.03 GRUBBING

From areas to be grubbed, the Contractor shall remove completely all stumps, remove to a depth of 12 inches all roots larger than 3-inch diameter, and remove to a depth of six (6) inches all roots larger than 1/2-inch diameter. Such depths shall be measured from the existing ground surface or the proposed finished grade, whichever is lower.

3.04 STRIPPING OF TOPSOIL

Prior to starting general excavation, strip topsoil to a depth of six (6) inches or to depths required by the Cabinet and the Company jointly. Do not strip topsoil in a muddy condition and avoid mixture of subsoil. Stockpile the stripped topsoil within easement or right-of-way lines for use in finish grading and site restoration. Topsoil stockpiled shall be free from trash, brush, stones over two (2) inches in diameter and other extraneous material.

3.05 PROTECTION

A. Protect plant growth and features remaining as final landscaping.

B. Protect bench marks and existing work from damage or displacement.

C. Maintain designated site access for vehicle and pedestrian traffic.

3.06 OPEN BURNING OR CLEARING DEBRIS

A. Natural growth from land clearing may be burned in accordance with the open burning regulations administered by the Kentucky Division for Air Quality and any local regulations. The Kentucky Division for Air Quality regulations may be found at 41 KAR 63:005 and stipulate that extraneous material, such as tires or heavy oil, which tends to produce dense smoke, may not be used to cause ignition or aid combustion. In addition, burning must be done on sunny days with mild winds. Finally, the Contractor must take all necessary precautions to ensure that surrounding areas or structures are not ignited and to follow all fire bulletins issued by the Kentucky Division of Forestry.

B. Burning clearing debris shall be conducted at locations agreed upon by the Cabinet and the Company jointly.

C. At a minimum all burning shall be a minimum of 100 feet from the remaining tree line or adjacent structures. The Contractor shall confirm the location for the burning with the Cabinet and the Company jointly prior to commencement of the activity.

D. No burning shall occur or will be allowed over the weekend periods.

E. The Contractor shall have personnel on-site continuously monitoring the burn area during burning activities. The Contractor shall have on-site and ready to use appropriate fire suppression equipment.

3.07 DISPOSAL

A. All materials resulting from clearing and grubbing and not scheduled for reuse shall become the property of the Contractor and shall be suitably disposed of off-site, unless otherwise directed by the Cabinet and the Company jointly, in accordance with all applicable laws, ordinances, rules, and regulations.

B. Such disposal shall be performed as soon as possible after removal of the material and shall not be left until the final period of cleaning up.

- END OF SECTION -

SECTION 02150

SHORING AND UNDERPINNING

PART 1 - GENERAL

1.01 SUMMARY

A. Shore and brace sidewalls in deep excavations with steel sheet, soldier piles or timber lagging as required to protect existing buildings, utilities, roadways, and improvements. Prevent cave-ins, loss of ground, or damage to people and property.

B. Maintain shoring and bracing during construction activities, and remove shoring and bracing if practical when construction and filling is complete.

C. The Contractor is solely responsible for any determination necessary for the proper sizing of shoring and bracing.

1.02 SAFETY

Comply with all federal, state, and local codes and regulations regarding safety. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Sheet Steel: Heavy-gauge steel sheet suitable for service.

B. Soldier Piles: Steel H-beams in serviceable condition.

C. Timber Lagging: Heavy timber pressure treated with wood preservative.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install in proper relation with adjacent construction. Coordinate with work of other sections.

B. Locate shoring and bracing to avoid permanent construction. Anchor and brace to prevent collapse.

- END OF SECTION -

SECTION 02211

ROUGH CLEANUP

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Rough (preliminary) Clean-up

On a daily basis, maintain the work area free from accumulations of waste, debris, excess rock and excavated material, downed trees and brush resulting from line installation operations. Repair fences directly following backfilling of trench. Generally restore contours as directed by Cabinet and the Company jointly.

B. Final Clean-up

Fully restore contours, seed or sod, fertilize, and straw mulch as directed by Cabinet and the Company jointly. Restore property to original condition. Refer to Section 01710.

1.02 RELATED SECTIONS

A. Section 02221 - Rock Removal

B. Section 02222 - Excavation

C. Section 02225 - Excavating, Backfilling, and Compacting for Utilities

1.03 PROTECTION

A. Protect trees and other features remaining as portion of final landscaping.

B. Protect bench marks, existing structures, fences, roads, sidewalks, and other features not designated for demolition.

C. Protect above or below grade utilities which are to remain.

D. Contractor shall be responsible for repairing any damage to those items not designated for demolition or removal in a manner satisfactory to the Cabinet and the Company jointly at no additional cost.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil

Topsoil shall be fertile, natural soil, typical of the locality, free from large stones, roots, sticks, peat, weeds, and sod, and obtained from naturally well-drained areas. It shall not be excessively acid or alkaline nor contain other toxic material harmful to plant growth. Topsoil stockpiled under other sections or divisions may be used, but the Contractor shall furnish additional topsoil at his own expense, if required.

B. Subsoil

Subsoil shall be excavated material, graded free of lumps larger than 12 inches, rocks larger than 12 inches, and debris.

PART 3 - EXECUTION

3.01 PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Identify known below grade utilities. Stake and flag locations.

C. Identify and flag above grade utilities.

D. Maintain and protect existing utilities remaining which pass through work area.

E. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify the Cabinet and the Company jointly.

3.02 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, and stockpile in area designated on site by the Cabinet and the Company jointly.

B. Do not excavate wet topsoil.

C. Stockpile topsoil to depth not exceeding eight (8) feet.

3.03 SUBSOIL EXCAVATION

A. Excavate subsoil from indicated areas and stockpile in area designated on site. Excess subsoil may be reused according to Section 02225, Excavating, Backfilling, and Compacting for Utilities.

B. Do not excavate wet topsoil.

C. Stockpile topsoil to depth not exceeding eight (8) feet.

D. When excavation through roots is necessary, perform work by hand and cut roots with a sharp axe.

- END OF SECTION -

SECTION 02221

ROCK REMOVAL

PART 1 - GENERAL

1.01 SUMMARY

A. The Contractor shall excavate rock, if encountered, as required to perform the required work, and shall dispose of the excavated material, and shall furnish acceptable material for backfill in place of the excavated rock.

B. In general, rock in pipe trenches shall be excavated so as to be not less than six (6) inches from the pipe after it has been laid.

C. Use of explosives for rock removal shall not be permitted. Rock shall be excavated by means of rock trencher, or by hoe ram in areas field-approved by the Cabinet and the Company jointly.

1.02 SAFETY

A. Conform to all federal, state, and local codes and regulations regarding safety.

1.03 RELATED SECTIONS

A. Section 02222 – Excavation

B. Section 02225 – Excavating, Backfilling, and Compacting for Utilities

PART 2 - PRODUCTS

2.01 MATERIALS

A. Rock Definition

Solid mineral material that cannot be removed with a power shovel.

PART 3 - EXECUTION

3.01 EXECUTION - RESERVED

- END OF SECTION -

SECTION 02222

EXCAVATION

PART 1 - GENERAL

1.01 SUMMARY

A. Structure Excavation

B. Shoring Excavation

C. Trench Excavation

D. Lagoon Excavation

E. Boring Pit and Receiving Pit Excavation

1.02 RELATED SECTIONS

A. Section 02221 - Rock Removal

B. Section 02225 - Excavating, Backfilling, and Compacting for Utilities

1.03 SAFETY

A. Conform to all federal, state, and local codes and regulations regarding safety.

B. Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods required to prevent cave-in or loose soil from falling into excavation.

C. Underpin adjacent structures which may be damaged by excavation work, including service utilities and pipe chases.

D. Notify the Cabinet and the Company jointly of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

E. Protect bottom of excavations and soil adjacent to and beneath foundations from frost.

F. Grade excavation top perimeter to prevent surface water run-off into excavation.

G. Contractor shall provide ample means and devices with which to intercept any water entering the excavation area.

1.04 ROCK EXCAVATION

Rock removal should be in accordance with Section 02221.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Subsoil

Excavated material, graded free of lumps larger than 12 inches, rocks larger than 12 inches, and debris.

B. Pea Gravel

Mineral aggregate graded 1/4 inch to 5/8 inch, free of soil, subsoil, clay, shale, or foreign matter.

PART 3 - EXECUTION

3.01 CLASSIFICATION

A. Without regard to the materials encountered, all trenching, roadway and drainage excavation is unclassified and the Cabinet and the Company jointly will consider it as such. Any reference to rock, earth, or any other material on the Drawings or cross sections, whether in numbers, words, letters, or lines, is solely for the information of the Cabinet and the Company jointly, and is not an indication of classified excavation or the quantity of either rock, earth, or any other material involved. The Bidder must draw his own conclusions as to the conditions to be encountered. The Cabinet and the Company jointly do not give any guarantee as to the accuracy of the data and will not consider any claim for additional compensation when the materials encountered are not in accordance with the classification shown.

3.02 PREPARATION

Identify required lines, levels, contours, and datum.

3.03 EXCAVATION

A. All unclassified excavation shall be done in accordance with Section 204 – Roadway and Drainage Excavation in the Kentucky Transportation Cabinet's *Standard Specifications for Road and Bridge Construction*, Latest Edition.

B. Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees that receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.

C. Before excavation and grading is commenced for buildings, structures, roads, parking areas, or other work described hereinafter or before material is removed from borrow pits, the topsoil shall be removed from the areas affected and stockpiled.

D. Excavate subsoil required for construction operations and other work.

E. Contractor is responsible to adequately brace open cuts and protect workmen and equipment from cave-in, in accordance with all federal, state, and local regulations.

F. Remove lumped subsoil, boulders, and rock up to 1/3 cu. yd., measured by volume.

G. Correct unauthorized excavation at no cost to the Cabinet and the Company jointly.

H. Fill over-excavated areas under structure bearing surfaces in accordance with Section 02225 – Excavating, Backfilling, and Compacting for Utilities or as directed by the Cabinet and the Company jointly.

I. Stockpile excavated material in area designated on site.

3.04 DEWATERING

A. The Contractor, at his own expense, shall provide adequate facilities for promptly and continuously removing water from all excavation. Additionally, no additional payment will be made for dewatering associated with leakage from any existing facilities during the construction.

B. To ensure proper conditions at all times during construction, the Contractor shall provide and maintain ample means and devices (including spare units kept ready for immediate use in case of breakdowns) with which to remove promptly and dispose properly of all water entering trenches and other excavations. Such excavation shall be kept dry until the structures, pipes, and appurtenances to be built therein have been completed to such extent that they will not be floated or otherwise damaged.

C. All water pumped or drained from the work shall be disposed of in a suitable manner without undue interference with other work, damage to pavements, other surfaces, or property. Suitable temporary pipes, flumes, or channels shall be provided for water that may flow along or across the site of the work.

D. If necessary, the Contractor shall dewater the excavations by means of an efficient drainage wellpoint system which will drain the soil and prevent saturated soil from flowing into the excavation. The wellpoints shall be designed especially for this type of service. The pumping unit shall be designed for use with the wellpoints, and shall be capable of maintaining a high vacuum and of handling large volumes of air and water at the same time.

E. The installation of the wellpoints and pump shall be done under the supervision of a competent representative of the manufacturer. The Contractor shall do all special

work such as surrounding the wellpoints with sand or gravel or other work which is necessary for the wellpoint system to operate for the successful dewatering of the excavation.

3.05 UNAUTHORIZED EXCAVATION

If the bottom of any excavation is taken out beyond the limits indicated or prescribed, the resulting void shall be backfilled at the Contractor's expense with thoroughly compacted crushed stone in accordance with Section 02225, or with 4000 psi concrete, if the excavation was for a structure.

3.06 EXCAVATION / DISPOSAL OF UNSUITABLE MATERIAL

A. If material unsuitable for foundation (in the opinion of the Cabinet and the Company jointly) is found at or below the grade to which excavation would normally be carried in accordance with the drawings and/or specifications, the Contractor shall remove such material to the required width and depth and replace it with thoroughly compacted, screened gravel, select bank-run gravel, fine aggregate, or concrete as directed.

B. No excavated materials shall be removed from the site of the work or disposed of by the Contractor except as directed or permitted.

C. Surplus excavated materials suitable for backfill shall be used to backfill normal excavations in rock or to replace other materials unacceptable for use as backfill; shall be neatly deposited and graded so as to make or widen fills, flatten side slopes, or fill depressions. All work shall be as directed or permitted and without additional compensation.

D. Surplus excavated materials not needed as specified above shall be hauled away and dumped by the Contractor, at his expense, at appropriate locations, and in accordance with arrangements made by him.

3.07 EXCESS MATERIAL

Disposal of excess material shall be the responsibility of the Contractor. The Contractor shall determine the best method and area for disposal and obtain all permits and required permission. Disposal on site will not be permitted unless specifically indicated on the Drawings.

3.08 EXISTING UTILITIES AND OTHER OBSTRUCTIONS

Prior to the commencement of construction on the project, the Contractor shall contact the Cabinet and the Company jointly and utility companies whose lines, above and below ground, may be affected during construction and verify the locations of the utilities as shown on the drawings. The Contractor shall ascertain from said parties if he will be allowed to displace or alter, by necessity, those lines encountered or replace those lines disturbed by accident during construction, or if the parties themselves are only permitted by policy to perform such work. If the Contractor is permitted to perform such work, he shall

leave the lines in as good condition as were originally encountered and complete the work as quickly as possible. All such lines or underground structures damaged or molested in the construction shall be replaced at the Contractor's expense, unless in the opinion of the Cabinet and the Company jointly, such damage was caused through no fault of the Contractor.

- END OF SECTION -

SECTION 02225

EXCAVATING, BACKFILLING, AND COMPACTING FOR UTILITIES

PART 1 - GENERAL

1.01 SUMMARY

A. Excavation of Trenches

B. Bedding of Pipe

C. Backfilling Trenches

D. Installing Identification Tape

1.02 RELATED SECTIONS

A. Section 02150 - Shoring and Underpinning

B. Section 02221 - Rock Removal

C. Section 02610 - Pipe and Fittings

PART 2 - PRODUCTS

2.01 BEDDING AND BACKFILLING STONE

A. Crushed Stone material shall conform to the Kentucky Bureau of Highways Standard Specifications.

B. Bedding Stone: No. 9 Crushed Stone.

C. Backfill Stone: No. 9 Crushed Stone.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

A. Trenching may be accomplished by means of a backhoe, trenching machine or by hand depending on the construction area. Blasting of rock for the trench will not be permitted. At the Contractor's option, trenching by a trenching machine or by backhoe is acceptable except as noted below:

1. Where the pipeline parallels a state highway and is being installed within the limits of the shoulder, a trenching machine must be used whenever practicable.

2. Where the pipeline is being constructed close to other utilities, structures, building, or large trees, and it is reasonable to anticipate possible damage from the use of a backhoe, then trenching shall be made by hand methods.

B. Clearing

All trees, stumps, bushes, shrubbery, and abandoned concrete or masonry structures within the limits of the trench shall be removed by the Contractor and disposed of in a manner satisfactory to the landowner and in accordance with federal, state, and local regulations.

C. Bracing and Sheeting

In areas of unstable soils, bracing and sheeting shall be provided to adequately protect the workers during pipeline installation.

1. All requirements of the Occupational Safety and Health Act (OSHA) shall be met during trenching and backfill operations.

2. When sheeting and bracing are required, the trench width shall not be less than specified herein. As backfill is placed, the sheeting shall be withdrawn in increments not exceeding one (1) foot and the void left by the withdrawn sheeting shall be filled and compacted.

3. The Cabinet and the Company jointly will not be responsible for determining requirements for bracing or sheeting.

D. Excavated materials shall be piled in a manner that will not endanger the Work and will avoid obstructing driveways and sidewalks. Gutters shall be kept clear or other satisfactory provisions made for street and roadway drainage.

E. The maximum amount of a continuous open/exposed trench that shall be allowed prior to installing the pipe and backfilling is 500 linear feet. No excavation shall remain open for more than four (4) calendar days.

3.02 TRENCHING

A. General

1. The Contractor shall perform all excavation of every description and of whatever substances encountered, including clearing over the pipeline route. All excavations for the pipeline shall be open-cut except at paved city and county roads, state and federal highways, and railroads which shall be bored unless otherwise approved by the Cabinet and the Company jointly. Banks of excavations shall be kept as nearly vertical as possible.

2. Trench widths at the top of the pipe shall not be less than or greater than that given in the following table:

ALLOWABLE TRENCH WIDTHS		
Pipe Diameter (inches)	**Minimum Width (inches)**	**Maximum Width (inches)**
4 & less	16	28
6	18	30
8	20	32
10	22	34
12	24	36
14	26	38
16	28	40
18	30	42
20	32	44

B. Trench Depth

1. The trench shall be excavated to a depth sufficient to provide 30 inches of cover over the pipe in non-traffic areas and 36 inches in traffic areas. In addition, excavation shall be carried to a minimum of six (6) inches below pipe grade in rock.

2. When it is necessary to install a pipeline below a roadway ditch, it shall be provided with 48 inches of cover unless otherwise approved by the Cabinet and the Company jointly.

C. All excavation will be classified as unclassified. Unclassified excavation shall include all material encountered during excavation of trench to proper depth and width. It includes the removal of all slate, hardpan, soil, pavements, loess and solid rock and any other material which may be encountered in the trench.

D. Blasting for excavation will not be permitted.

3.03 WATER PIPE BEDDING

A. The trench shall be excavated to a depth to allow a minimum of 30 inches cover over the top of the pipe.

B. Bedding material, in earth excavation areas, shall be soil free from rocks, debris, or other foreign material.

C. Bedding material, in rock excavation or vehicular traffic (including driveways) areas, shall be No. 9 Crushed Stone. The trench shall be over-excavated six (6) inches and filled with No. 9 Crushed Stone prior to laying pipe. In no case shall pipe be laid on solid or blasted rock.

D. Bedding material shall be placed from bottom of pipe in earth excavation, and from six (6) inches below bottom of pipe in rock excavation, to the centerline (springline) of the pipe. Bedding shall be compacted in layers not to exceed six (6) inches.

E. When the subgrade is found to be unstable or to include ashes, cinders, refuse, organic material, or other unsuitable material, such material shall be removed to the depth ordered by the Cabinet and the Company jointly and replaced under their directions with clean, stable backfill material. When the bottom of the trench or the subgrade is found to consist of material that is unstable to such a degree that, in the judgment of the Cabinet and the Company jointly it cannot be removed, a foundation for the pipe and/or appurtenance shall be constructed using piling, timber, concrete, or other materials at the direction of the Cabinet and the Company jointly.

3.04 WATER PIPE BACKFILLING

A. Initial Backfill

1. Initial backfill is defined as the material placed from the centerline (springline) of the pipe to 12 inches above the top of the pipe.

2. Initial backfill, in earth excavation areas, shall be soil material free from rocks, debris, or other foreign materials.

3. Initial backfill, in rock excavation or vehicular traffic (including driveways) areas shall be No. 9 Crushed Stone.

B. Final Backfill

1. Final backfill is defined as the material placed from a point 12 inches above the top of the pipe to the original surface.

2. Final backfill, in earth excavation areas, shall be soil material free from rocks, debris, or other foreign materials.

3. Final backfill, in rock excavation shall be No. 9 Crushed Stone. Top six (6) inches shall be topsoil or earth material suitable for revegetation.

4. Final backfill, in vehicular traffic (including driveways) areas shall be No. 9 Crushed Stone up to the subgrade of vehicular traffic surface courses. See Sections 02507, 02510, or 02520 for specifications of surface courses.

3.05 CHANNEL LINING, CLASS III

In areas indicated on plans Class III Channel Lining shall be used as a protective covering. This material and its method of installation shall comply with the Kentucky Department of Highways 2012 Standard Specifications, Section 703 and Section 805.

- END OF SECTION -

SECTION 02275

SEDIMENT CONTROL

PART 1 - GENERAL

1.01 SUMMARY

The Contractor shall furnish all labor, equipment, materials, and routine maintenance for the construction of temporary erosion and sediment control measures in accordance with the Drawings and Specifications, or as otherwise directed by the Cabinet and the Company jointly.

1.02 SUBMITTALS

There are no submittals required for this section.

PART 2 - PRODUCTS

2.01 SILT FENCE

A. Silt fences shall be installed as shown on the Drawings, or as directed by the Cabinet and the Company jointly.

B. Material: Silt Fence filter fabric shall be specifically recommended for this purpose by the manufacturer and shall meet or exceed the following criteria:

Property	Conformance	Specification
Bursting Strength	ASTM D 751	150 psi
Grab Strength	ASTM D 1682	100 psi
Permeability		0.02 - 0.03 cm/sec

C. The silt fence shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0°F to 120°F.

D. Posts for the silt fence shall be either 2-inch diameter wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. The posts shall be set to sufficient depth to provide a sound anchor for the filter fabric. Steel posts shall have projectiles for fastening the silt fence.

PART 3 - EXECUTION

3.01 GENERAL

A. All sediment and erosion control devices shall be installed prior to the initiation of site clearing and grubbing and/or excavation/construction to prevent sediment generated by the operation from escaping downstream of the work site.

B. The Contractor shall monitor and maintain all sediment and erosion control devices throughout the construction period.

3.02 SILT FENCE INSTALLATION

A. The silt fence posts shall be installed 6 to 10 feet apart on a slight angle toward the anticipated run-off source.

B. A trench 4 to 6 inches deep shall be dug along the uphill side of the fence line.

C. The silt fence shall then be attached to the posts with a maximum height of 3 feet.

D. The lower 4 to 6 inches of the silt fence shall be laid in the trench and curled toward the erosion source.

E. The trench shall then be backfilled with any available soil.

3.03 MAINTENANCE

All sediment and erosion control devices shall be maintained in a sound condition during the period of construction. Accumulations of silt, which may threaten their effectiveness, shall be removed. The sediment and erosion control devices shall be inspected after each storm event. Any required repairs shall be made promptly to ensure the devices continue to function properly.

- END OF SECTION -

SECTION 02507

CRUSHED STONE PAVING

PART 1 - GENERAL

1.01 SUMMARY

Crushed stone paving course, compacted.

1.02 REFERENCES

ASTM C33 - Aggregate for Concrete.

1.03 TESTS

Gradation of stone material will be performed in accordance with ASTM C33.

PART 2 - PRODUCTS

2.01 MATERIALS

Crushed stone shall conform to ASTM C33, Type Dense Grade Aggregate (DGA), Type No. 57, Type No.2, and No. 610.

PART 3 - EXECUTION

3.01 FIELD QUALITY CONTROL

A. Verify compacted subgrade.

B. Verify gradients and elevations of base are correct.

C. Beginning of installation means acceptance of existing conditions.

3.02 PLACING AND COMPACTING STONE PAVING

A. Spread stone material over prepared base to a total compacted thickness of 12 inches.

B. Stone shall be placed in four 3-inch layers. Each layer shall have three (3) inches of No. 2 stone placed and then DGA worked into the No. 2 stone. Each layer shall be compacted after placement.

C. Level surfaces to elevations and gradients indicated.

D. Add small quantities of sand to stone mix as appropriate to assist compaction.

E. Adequately compact placed stone materials.

F. Add water to assist compaction. With an excess water condition, rework topping and aerate to reduce moisture content.

- END OF SECTION -

SECTION 02510

ASPHALTIC CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

A. Provide asphalt concrete paving for following applications and prepared subbase and compacted base.

1. Roads
2. Parking Areas
3. Driveways
4. Walkways
5. Curbs

B. Provide striping for parking, roadway, and handicapped markings.

1.02 SUBMITTALS

Submit to the Cabinet and the Company jointly product data and test reports for approval in accordance with Section 01300.

1.03 QUALITY ASSURANCE

Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Prime coat: Cut-back asphalt.

B. Tack coat: Emulsified asphalt.

C. Asphalt cement: AASHTO M226 and as required by local authorities.

D. Aggregate: Crushed stone.

E. Traffic paint: Quick-drying chlorinated-rubber alkyd type, color as approved.

F. Wheelstops: Precast concrete of uniform color and texture with steel stakes.

PART 3 - EXECUTION

3.01 NEW PAVEMENT INSTALLATION

A. Asphalt/Aggregate Mixture

Comply with local DPW Standard Specifications for Highways and Bridges. Class as required by loading and use.

B. Remove loose material from compacted subbase. Proof roll and check for areas requiring additional compaction. Report unsatisfactory conditions in writing. Beginning of work means acceptance of subbase.

C. Apply prime coat to prepared subbase. Apply tack coat to previous laid work and adjacent in-place concrete surfaces.

D. Place asphalt concrete at minimum temperature of 225° F in strips not less than 10 feet wide overlapping previous strips. Complete entire base course before beginning surface course.

E. Construct curbs to dimensions indicated or if not indicated to standard shapes. Provide tack coat between curb and pavement.

F. Begin rolling when pavement can withstand weight of roller. Roll while still hot to obtain maximum density and to eliminate roller marks.

G. Provide 4-inch lane and striping paint in uniform, straight lines. Provide wheelstops where indicated and securely dowel into pavement. Protect work from traffic and damage.

H. Test in-place asphalt work for thickness and smoothness. Remove and replace defective work and patch to eliminate evidence of patching. Provide the following minimum thickness and smoothness unless otherwise greater thickness is required on the Drawings:

1. Subbase course: 5-inch No. 2 stone and 5-inch DGA.
2. Base course: 2½-inch.
3. Surface course: 1½-inch plus or minus 1/4-inch at drives and parking; 1-inch plus or minus 1/4-inch at walks.
4. Surface course smoothness: Plus or minus 1/8-inch in 10 feet. No ponding of water is acceptable.

3.02 REPLACEMENT PAVEMENT FOR UTILITIES

A. Sections of pavement shall be replaced as required to install the pipelines.

Disturbed pavement shall be constructed to original lines and grades with bituminous binder as detailed on the Drawings and in such manner as to leave all surfaces in fully as good or better condition than that which existed prior to these operations.

B. Prior to trenching, the pavement shall be scored or cut to straight edges along each side of the proposed trench to avoid unnecessary damage to the remainder of the paving. Edges of the existing pavement shall be recut and trimmed as necessary to square, straight edges after the pipe has been installed and prior to placement of the binder course or concrete.

C. Trenches shall be backfilled with No. 9 Crushed Stone up to the base course.

D. Asphalt surface course shall be one course construction in accordance with applicable provisions of the Kentucky Transportation Cabinet Standard Specifications, Section 402.

1. Placement and compaction of surface course shall be in accordance with Section 402 of the Kentucky Transportation Cabinet Standard Specifications. Minimum surface course thickness after compaction shall be two (2) inches with 10-inch DGA base for driveways and two (2) inches with 10-inch concrete slab base for roads.

- END OF SECTION -

SECTION 02512

WATER SERVICE CONNECTIONS

PART 1 – GENERAL

1.01 SUMMARY

A. Unless otherwise directed by the Cabinet and Company jointly, the Contractor shall reconnect all water service connections to the new water main. The Contractor shall furnish all labor, material, and equipment necessary to relocate and/or reconnect water service as shown and detailed on the drawings and specified herein.

B. Services shall include the service saddle, corporation stop, poly tubing, meter, meter setter, and meter pit.

1.02 RELATED SECTIONS

A. Section 02225 - Excavating, Backfilling, and Compacting for Utilities

B. Section 02610 - Pipe and Fittings

C. Section 02642 - Water Valves and Accessories

1.03 SUBMITTALS

A. Complete shop drawings of all materials shall be submitted to the Cabinet and the Company jointly in accordance with the requirements of Section 01300.

B. The manufacturer shall furnish the Cabinet and the Company jointly two (2) copies of an affidavit stating that all materials used in construction conform to the applicable requirements of the latest revision of the applicable AWWA Standard, and that all tests specified therein have been performed and that all test requirements have been met.

C. The Cabinet and the Company jointly shall be furnished with two (2) copies of an affidavit stating that valves are constructed with NSF 61 approved materials (drinking water service).

PART 2 - PRODUCTS

2.01 MATERIALS

A. All materials shall be of the size shown on the Drawings and, as far as possible, all equipment of the same type shall be from one manufacturer.

B. All valves and appurtenances shall have the name of the manufacturer, flow-directional arrows, and the design working pressure cast in raised letters on the body.

C. All buried valves shall open left (counter-clockwise). Insofar as possible, all valves shall open counter-clockwise.

D. All valves must be provided with suitable operating devices and adapted for operation in the position in which they are shown on the Drawings.

E. All bolts and nuts for valves shall be of stainless steel. They shall be of the size recommended for the pipe and fittings they are to be used on and shall be in the recommended quantity.

2.02 SERVICE SADDLES

A. Service saddles shall be brass, AWWA taper CC threads as manufactured by The Ford Meter Box Company, Inc., model number S70.

2.03 CORPORATION STOPS

A. Corporation stops shall be brass, AWWA taper CC thread inlet and pack joint outlet as manufactured by The Ford Meter Box Company, Inc., model number F1000-4-NL. Stainless steel inserts shall be used with the corporation stop; Ford model Insert-52.

2.04 SERVICE LINES

A. Service lines from the water main to the meter setter shall be 1-inch size copper tubing size (CTS) polyethylene tubing. Service lines from the meter setter to the customer's existing piping shall be 1-inch size schedule 40 PVC. Connections to corporation stops and meter setters shall be by compression/male adapter fittings.

2.05 METERS

A. Meters for one inch (1") services shall be AWWA 5/8" X 3/4" lead-free bronze alloy direct magnetic drive certified to NSF/ANSI Standards 61 and 372. Meters shall be equipped with High Resolution Encoders (HR-E) and Migratable Endpoint (ME) with Through-the-Lid Installation Kit.

B. All meters shall be as manufactured by Badger Meter, Inc., model number 25. HR-E and Orion ME with Through-the-Lid Installation Kit shall be as manufactured by Badger Meter, Inc.

C. Contractor shall coordinate procurement of all metering equipment with the Company to ensure compatibility with Company standards.

2.06 METER SETTERS

A. Meter setters for one inch (1”) services shall be AWWA 5/8" X 3/4" with brace eye, dual inlet key valve, outlet cascading dual check valve, inlet pack joint for CTS, and outlet pack joint for PVC pipe.

B. All meter setters shall be as manufactured by the Ford Meter Box Company, Inc., Wabash, Indiana, model number VHH-72-12W-47-44-NL.

C. Bracing pipe shall be PVC or galvanized steel. Bracing pipe shall terminate no less than two inches (2”) from each side of the meter box.

2.07 METER PITS

A. Meter pits shall be high density polyethylene with an inside diameter of 18 inches. Meter pits shall be white in color with a smooth interior and annular exterior corrugations. Meter pits shall be notched at 0 and 180 degrees at the base of the pit to accommodate inlet and outlet pipes. All meter pits shall be as manufactured by Hancor Inc., model number MP NL1 18 0001.

B. Meter pit lids shall be composite polymer with 3.13 inch x 0.40 inch counterbore. Meter pit lids shall be rated for 20,000 pounds and shall be as manufactured by Trumbull Manufacturing, Inc., model number 367-5762.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Water service connections shall be made in accordance with the details shown on the Drawings. The Contractor shall install a tap on the new main and service piping from the water main to the customer’s meter pit. Contractor shall relocate the customer’s meter pit, if required, to the location shown on the Drawings and reconnect piping to the meter setter. Contractor shall also perform reconnection work on the customer’s side of the meter to the existing piping, if required.

B. Meter reconnections shall be coordinated and scheduled such that water service shall not be disrupted for more than two (2) hours in a single twenty-four (24) hour period. Disrupted service periods shall be limited to mid-morning and mid-afternoon.

C. Notification of customers of disrupted service is the Contractor’s responsibility with coordination of the Cabinet and Company jointly. Customers affected by disruption of service shall be notified in person, or when in cases where the customer cannot be contacted, by a notification tag attached to the front door of their premises by the Contractor. Such notification shall be made twenty-four (24) hours prior to shut off. Notification tags are available from the Company.

D. Contractor shall perform reconnection work, if required, on the customer's side of the meter under the supervision of a licensed plumber. Compliance with all state and federal regulations, including obtaining required permits, shall be the responsibility of the Contractor. Said work shall be coordinated with the property owner on whose land the meter is located.

E. Excavation, backfilling, and restoring paved and unpaved surfaces shall be done in accordance with Sections 02225, 02507, 02510, and 02520.

F. For PVC pipe, water main taps shall be made with a tapping saddle. Tapping saddle bolts shall be tightened with a torque wrench according to the saddle manufacturers' torque recommendations. When tapping the PVC pipe under pressure, the pipe temperature shall be between 32° and 90° F.

G. Main taps shall be located a minimum of twenty-four inches (24") from the joint of the PVC pipe.

H. During installation of corporation stops, the corporation stop shall not be turned using a pipe wrench. The corporation stop must be turned using and smooth jaw, adjustable crescent type wrench or open end wrench. Special care shall be observed in handling the poly tubing so as not to kink, mash, or otherwise damage it. No such damaged tubing shall be installed. No bend shall be made in the tubing with a radius less than four inches (4"). Where under pavement, tubing shall be installed continuously and in one piece without intermediate joints or couplings except at the terminals and except where the continuous length to be installed exceeds one hundred feet (100').

I. The service line shall be flushed for two (2) minutes before connecting to the meter.

J. The service line shall be installed so as to have a minimum cover of 30 inches and shall be of the specified material from the distribution main to the meter pit. Service lines shall extend a minimum of 24 inches beyond the meter setter on the customers' side of the meter and shall be connected to the customer's existing line.

K. Joints, if required, will not be permitted at closer intervals than 10 feet. Joints shall not be located under roads. If a joint is required for a poly tube service line, it shall be made by using a flared brass coupling or a brass compression fitting.

L. Long side services are defined as services to meters on the opposite side of the road or highway of the water main to which it is connected and shall be directionally bored under pavements with a steel encasement. Short side services are defined as services to meters on the same side of the road or highway as the water main to which it is connected.

M. Water service lines and meter pits shall be installed at the approximate mid-point of each front property line at finish grade utilizing a single meter setting for single family dwellings. Meter pits shall be installed a minimum of 30 feet from the centerline of the roadway.

N. After the complete service has been installed and before any joints are covered, the corporation stop shall be opened, the entire length of the service filled with water, and each joint observed by the Contractor for leaks. Any leaks found shall be immediately repaired.

O. All material shall be carefully inspected for defects in workmanship and material, all debris and foreign material cleaned out of valve openings and seats, all operating mechanisms operated to check their proper functioning, and all nuts and bolts checked for tightness.

- END OF SECTION -

SECTION 02520

PORTLAND CEMENT CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

A. Provide Portland cement concrete paving at following locations and prepared subbase and compacted base.

1. Driveways and vehicular entrances.
2. Walkways.
3. Curbs.

1.02 SUBMITTALS

Submit to the Cabinet and the Company jointly product data, mix design, mock-ups, and test reports for approval in accordance with Section 01300.

1.03 QUALITY ASSURANCE

Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Concrete Mix Design

Conform to specific mixes in Section 03300 as required for sidewalks, curbs, and vehicular ways.

B. Exposed Aggregate Paving

1. Aggregate to match approved sample.
2. Retarder.

C. Reinforcing

6 x 6, 2.9 x 2.9 welded flat wire mesh and ASTM A36 deformed steel bars.

D. Joints

Preformed joint fillers/sealers.

E. Finish

1. Paving: Fine bristled stiff broom.
2. Exposed aggregate finish: Match approved sample.
3. Imprinting: Tools and hardeners by Bomanite Corp.
4. Curbs: Steel form finish.

F. Thickness

1. Driveways - 6 inches.
2. Vehicular entrances - 8 inches.
3. Roads - 12 inches.
4. Walkways - 4 inches.
5. Curbs - 6 inches.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Proof roll subbase and check for unstable areas. Report unsatisfactory conditions in writing. Beginning paving work means acceptance of subbase.

B. Comply with concrete section for concrete mix, testing, placement, joints, tolerances, curing, repairs, and protection.

- END OF SECTION -

SECTION 02610

PIPE AND FITTINGS

PART 1 - GENERAL

1.01 SUMMARY

A. The Contractor shall furnish all labor, material, and equipment necessary to install water piping and appurtenances as shown on the drawings and specified herein.

B. This section describes several types of pipe which may or may not apply to the current project. Selected pipe materials will be identified either on the drawings or the bid form.

1.02 RELATED SECTIONS

A. Section 02222 - Excavation

B. Section 02225 - Excavating, Backfilling, and Compacting for Utilities

C. Section 02642 - Water Valves and Accessories

D. Section 02630 - Casing Pipe

E. Section 02675 - Disinfection of Water Distribution Systems

1.03 DELIVERY, STORAGE, AND HANDLING

A. Pipe and accessories shall be unloaded at the point of delivery, hauled to, and distributed at the site of the project by Contractor in such a manner to avoid damage to the materials. Whether moved by hand, skidways, or hoists, materials shall not be dropped or bumped against pipe or accessories already on the ground or against any other object.

B. In distributing material at the construction site, each piece shall be unloaded as near the installation point as possible.

C. Pipe shall be handled in such a manner as to avoid damage to the ends. When such damaged pipe cannot be repaired to the satisfaction of the Cabinet and the Company jointly, it shall be replaced at the Contractor's expense. The interior of all pipe and accessories shall be kept free from dirt and foreign matter at all times. The interior of all pipe and accessories shall be checked for dirt and debris and, if necessary, thoroughly cleaned before use in the project.

PART 2 - PRODUCTS

2.01 DUCTILE IRON PIPE AND FITTINGS

A. Scope

This article covers the design and manufacture of ductile iron centrifugally cast in metal molds and ductile iron fittings.

B. Specific Requirements

Ductile iron pipe shall be furnished cement lined unless otherwise noted on the drawings or in other sections of these specifications. Ductile iron pipe shall be furnished with rubber gasket push-on joints except as may otherwise be noted on the drawings or in difficult working areas and approval of the Cabinet and the Company jointly.

1. Pressure class shall be 350 psi for pipe sizes 14 inches or smaller and pressure class 250 psi for pipe sizes larger than 14 inches for mechanical and push-on joint pipe.

2. Thickness design of ductile iron shall conform in all aspects to the requirements of ANSI/AWWA C150/A 21.50 latest revision.

3. Manufacture and testing of ductile iron pipe shall conform in all aspects to the requirements of ANSI/AWWA C151/A 21.51 latest revisions.

4. Cement mortar lining with bituminous seal coat shall conform to the requirements of ANSI/AWWA C104/A 21.4, latest revision for cement-mortar lining for ductile iron pipe, gray iron pipe, and fittings for water. Bituminous outside coating shall be in accordance with ANSI/AWWA C151/A 21.51 for pipe and ANSI/AWWA C110/A 21.10 for fittings.

5. Fittings and gaskets for mechanical and push-on joint ductile and cast iron pipe shall conform to the latest revisions of ANSI/AWWA C110/A 21.10 for mechanical and push-on joint fittings, ANSI/AWWA C111/A 21.11 for gaskets, and ANSI/AWWA C153/A 21.53 for mechanical and push-on joint compact fittings. Mechanical and push-on joint fittings shall have pressure class rating of 350 psi for sizes 14 inches and smaller and 250 psi for sizes larger than 14 inches.

6. All ductile and cast iron fittings shall be ductile iron grade 80-60-03 in accordance with ASTM A536.

7. Flanged ductile iron pipe shall conform to the latest revisions of ANSI/AWWA C115/A 21.15. Bolt pattern of flange shall be in accordance with ANSI/AWWA C115/A 21.15 (which is equivalent to ASME/ANSI B16.1, Class 125 flange bolt pattern). Pipe shall have pressure class 250 rating. Gaskets shall be synthetic rubber ring gaskets with a thickness of

1/8 inch. Nuts and bolts shall be in accordance with ASME/ANSI B18.2.1, ASME/ANSI B18.2.2, ASME/ANSI B1.1, and ASTM A307.

8. Flanged fittings shall conform to the latest revisions of ANSI/AWWA C110/A 21.10 or ANSI/AWWA C153/A 21.53 (compact fittings). Gaskets shall be in accordance with ANSI/AWWA C111/A 21.11. Fittings shall have pressure class rating of 250 psi. Bolt pattern of flange shall be in accordance with ANSI/AWWA C115/A 21.15 (which is equivalent to ASME/ANSI B16.1, class 125 flange bolt pattern).

9. Restrained joint pipe and fittings using restraining gaskets shall be a boltless system equal to "Field-Lok" restraining gaskets as manufactured by U.S. Pipe & Foundry Company or approved equal.

10. Restrained joint pipe and fittings using a locking ring system shall be American Flex-Ring, U.S. Pipe TRFLEX, or Clow Tyton/Fastite shop or field systems.

11. Restrained joint pipe and fittings using a grip ring system shall be equal to Romac Grip Rings or Mega Lugs.

12. Mechanical joint ductile iron anchor pipes shall be included as required. Anchor pipes shall be Clow Corporation F1211 mechanical joint, Tyler swivel by solid adapter 5-198 mechanical joint, or approved equal.

13. Ball and socket restrained joint pipe and fittings shall be a boltless system equal to USIFLEX manufactured by U.S. Pipe & Foundry Company or FLEX-LOK manufactured by American Pipe Company. Pipe shall have a working pressure rating of 250 psi and have a maximum joint deflection of 15°. Nominal laying lengths shall be in range of 18 feet 6 inches to 20 feet 6 inches.

14. Manufacturers: Pipe shall be as manufactured by U.S. Pipe & Foundry Company, Clow, American Cast Iron Pipe Company, or equal.

15. Marking: Pipe or fitting shall have the ANSI/AWWA standard, pressure (or thickness) class, diameter, DI or ductile noted, manufacturer, and country and year where cast on the outside of the body.

16. Restrained joints shall be used at all fittings, in all casing pipes, and under all driveways and roads.

17. Polyethylene tubing (Polywrap, or approved equal) when required, shall be eight (8) millimeters thick and comply with AWWA C105.

2.02 PVC (POLYVINYL CHLORIDE) PIPE

A. Scope

This article covers the design and manufacture of PVC 1120 manufactured of CLASS 12454-B or CLASS 12454-C (cell classification) resin material with a hydrostatic-design-basis (HDB) rating of 4,000 psi at 73.4º F (23º C).

B. Specific Requirements

PVC pressure pipe shall be furnished, constructed of materials and to the specifications of this section. The types of PVC pipe permitted for use on the project will be as noted on the drawings or bid form. The selected pipe will be designated either as PVC (ASTM) or PVC (AWWA) followed by an appropriate pressure rating or dimension ratio (DR or SDR).

1. PVC (ASTM) Pipe

   a. PVC (ASTM) pipe shall be designed, manufactured, and tested to conform with the latest revision of ASTM D-2241, ASTM D-1784, and ASTM D-2672.

   b. Rubber gasketed joints shall conform to ASTM D-3139. The gaskets for the PVC pipe joint shall conform to ASTM F-477 and D-1869. Gaskets shall be twin gasket joints or integral bell joints with rubber O-ring seals.

   c. PVC (ASTM) pipe shall be furnished as SDR 17 for Class 250 psi.

2. PVC (AWWA) Pipe

   a. PVC (AWWA) pipe shall be designed, manufactured, and tested to conform with the latest revision of AWWA C900 for pipes sizes 12 inches and smaller and AWWA C905 for pipes sizes 14 inches and larger.

   b. Pipe shall have cast iron pipe equivalent ODs.

   c. Rubber gasketed joints shall conform to ASTM D-3139. The gaskets for the PVC pipe joint shall conform to ASTM F-477 and D-1869.

   d. PVC (AWWA) pipe shall be furnished as DR 14 for Class 200 psi,

C. Rubber gasket joints shall provide adequate expansion to allow for a 50° change in temperature on one length of pipe. Lubrication for rubber connected couplings shall be water soluble, non-toxic, be non-objectionable in taste and odor and have no deteriorating affect on the PVC or rubber gaskets and shall be as supplied by the pipe manufacturer.

D. Standard laying lengths shall be 20 feet ± for all sizes. At least 85 percent of the total footage of pipe of any class and size shall be furnished in standard lengths, the remaining 15 percent in random lengths. Random lengths shall not be less than 10 feet long. Each standard and random length of pipe shall be tested to four times the class pressure of the pipe for a minimum of five (5) seconds. The integral bell shall be tested with the pipe.

E. PVC Pipe shall be NSF approved for potable water service.

F. All pipe and couplings shall bear identification markings that will remain legible during normal handling, storage, and installation, which have been applied in a manner what will not reduce the strength of the pipe or the coupling or otherwise damage them. Pipe and coupling markings shall include the nominal size and OD base, material code designation, dimension ratio number, ASTM or AWWA Pressure Class, ASTM or AWWA designation number for this standard, manufacturer's name or trademark seal (mark) of the testing agency that verified the suitability of the pipe material for potable-water service. Each marking shall be applied at intervals of not more than five (5) feet for the pipe and shall be marked on each coupling.

G. Fittings shall be ductile iron in accordance with Article 2.01 of this section.

H. #12 copper wire shall be installed in the trench, with wire segments joined by brass split-bolt connectors. Wire shall be securely attached to gate valves to allow electromagnetic location of lines. Additionally, above-ground line markers as shown in standard details shall be installed at major bends to indicate line location.

2.03 COUPLINGS AND ADAPTERS

A. Flexible couplings shall be of the sleeve type with a middle ring, two round-wedge shaped rubber gaskets at each end, two following rings together, and compress the gasket against the pipe. Flexible couplings shall be steel with minimum wall thickness of the middle ring or sleeve installed on pipe being 5/16-inch for pipe smaller than 10 inches, 3/8-inch pipe for 10 inches or larger. The minimum length of the middle ring shall be 5 inches for pipe sizes up to 10 inches and 7 inches for pipe 10 inches to 30 inches. The pipe stop shall be removed. Gaskets shall be suitable for 250 psi pressure rating or at rated working pressure of the connecting pipe. Couplings shall be harnessed and be designed for 250 psi.

B. Flanged adapters shall have one end suitable for bolting to a pipe flange and the other end of flexible coupling similar to that described hereinbefore. The adapters shall be furnished with bolts of an approved corrosion resistant steel alloy, extending to the adjacent pipe flanges. Flanges on flanged adapter (unless otherwise indicated or required) shall be faced and drilled ANSI B16.1 Class 125. Locking pins shall be provided.

C. Flexible couplings and flanged adapters shall be as manufactured by Dresser, Rockwell, or equal, per the following, unless otherwise specified and/or noted on the Drawings.

1. Steel couplings for joining same size, plain-end, steel, cast iron, and PVC plastic pipe shall be Dresser style 38, Rockwell 411, or equal.

2. Transition couplings for joining pipe of different outside diameters:

Dresser	Rockwell
Style 162 (4" – 12")	413 steel (2" – 24")
Style 62 (2" – 24")	415 steel (6" – 48")
	433 cast (2" – 16")
	435 cast (2" – 12")

3. Flanged adapters for joining plain-end pipe to flanged pipe, fittings, valves, and equipment:

Style 127 cast (3" – 12")	912 cast (3" – 12")
Style 128 steel (3" – 48" C.I. pipe)	913 steel (3" and larger)
Style 128 steel (2" – 96" steel pipe)	

2.04 WALL PIPE AND SLEEVES

A. All wall pipe shall be furnished with cast or welded collar water stops in the positions shown on the Drawings. Welding of water stop collars on pipe shall be accomplished by the wall pipe manufacturer in their shop. All centrifugally cast wall pipe shall be ductile iron meeting the requirements of AWWA C151 for the pipe barrel, conforming to the pressure rating of the pipeline in which installed, and in no case be lighter than Class 53. All statically cast wall pipe shall be ductile iron meeting the requirements of AWWA C110 for fittings. Mechanical joint end and cast-on flange end wall pipe shall conform to AWWA C110, and threaded flange wall pipe shall conform to AWWA C115. Where flanged or mechanical joint bell ends are flush with the wall, they shall be drilled and tapped for stud bolts which are to be of 300 Series stainless steel. The length of all wall pipe shall be not less than the thickness of the wall in which installed. Wall pipe shall have the same pressure rating as connecting pipe. All wall pipe shall be cement-mortar lined per AWWA C104. The outside of wall pipes shall be left uncoated and shall be field primed for painting on the portion exposed, uncoated where embedded, and field coated with standard bituminous coated where buried.

B. Contractor may have the option to install wall pipe flush face-face of wall, in lieu of the dimensioned length wall pipe shown on the Drawings, in order to eliminate form penetrations. This option will be subject to the review of the Cabinet and the Company jointly at each wall pipe location and covers both flanged and mechanical-joint bell-end wall pipe. Embedded flanged and M.J. bell-end bolt holes shall be tapped for stud bolts; tapped bolt holes in embedded flanges shall be plugged for protection during concrete pouring.

C. All pipe wall sleeves shall be plain end galvanized steel pipe of diameter noted on Drawings and length to fit flush face-to-face of wall.

PART 3 - EXECUTION

3.01 LAYING DEPTHS

Water pipe shall be laid with a minimum cover of 30 inches unless otherwise noted on Drawings.

3.02 THRUST BLOCKING

A. Concrete

Concrete thrust blocking (3500 psi) shall be installed as shown on drawings.

B. Hydrants

The bowl of each hydrant shall be well braced against a sufficient area of unexcavated earth at the end of the trench with stone slabs, concrete blocking, or it shall be tied to the pipe as shown on drawings.

1. Tie rods, clamps, or other components of dissimilar metal shall be protected against corrosion by hand application of a bituminous coating or by encasement of the entire assembly with eight (8) millimeter thick, loose polyethylene film in accordance with AWWA C105.

2. Thrust restraint design pressure shall be equal to the test pressure.

C. Fittings

All plugs, caps, tees, and bends, unless otherwise specified, shall be provided with thrust blocking. Substituting other restraint materials such as metal rods, clamps, or restrained joints must be specifically authorized by the Cabinet and the Company jointly in writing.

D. Restraint Materials

1. Thrust Blocking

Vertical and horizontal thrust blocking shall be made of concrete having a compressive strength of not less than 3,500 psi after 28 days. Blocking shall be placed between solid ground and the fitting to be anchored; the area of bearing on the pipe and on the ground in each instance shall be that shown or directed by the Cabinet and the Company jointly. The blocking shall, unless otherwise shown or directed, be so located as to contain the resultant thrust force and so that the pipe and fitting joints will be accessible for repair.

2. Restrained Joints

Restrained push-on joints, mechanical joints utilizing set-screw retainer glands or metal harness of tie-rods, or clamps may only be used instead of concrete blocking if specifically authorized by the Cabinet and the Company jointly. Tie rods, clamps, or other components of dissimilar metal shall be protected against corrosion by hand application of a bituminous coating or by encasement of the entire assembly with eight (8) millimeter thick, loose polyethylene film in accordance with AWWA C105.

3.03 PIPE INSTALLATION

A. Proper implements, tools, and facilities shall be provided and used for the safe and convenient performance of the work. All pipe, fittings, valves, and hydrants shall be lowered carefully into the trench by means of a derrick, ropes, or other suitable tools or equipment, in such a manner as to prevent damage to water line materials and protective coatings and linings. Under no circumstances shall water line materials be dropped or dumped into the trench. The trench should be dewatered prior to installation of the pipe.

B. The Contractor shall secure from the manufacturer an installation guide for the pipe being used. The Contractor shall in all cases adhere to the recommended installation procedures of the manufacturer except where those given herein are more stringent. The more stringent requirements shall be met.

1. Examination of Material

   All pipe fittings, valves, hydrants, and other appurtenances shall be examined carefully for damage and other defects immediately before installation. Defective materials shall be marked and held for inspection by the Cabinet and the Company jointly, who may prescribe corrective repairs or reject the materials.

2. Pipe Ends

   All lumps, blisters, and excess coating shall be removed from the socket and plain ends of each pipe, and the outside of the plain end and the inside of the bell shall be wiped clean and dry and be free from dirt, sand, grit, or any foreign material before the pipe is laid.

3. Pipe Cleanliness

   Foreign material shall be prevented from entering the pipe while it is being placed in the trench. During laying operations, no debris, tools, clothing, or other materials shall be placed in the pipe.

4. Pipe Placement

As each length of pipe is placed in the trench, the joint shall be assembled and the pipe brought to correct line and grade. The pipe shall be secured in place with approved backfill material.

5. Pipe Plugs

At times when pipe laying is not in progress, the open ends of pipe shall be closed by a water tight plug or other means approved by the Cabinet and the Company jointly. The plug shall remain in place until the trench is pumped completely dry. Care must be taken to prevent pipe floatation should the trench fill with water.

3.04 JOINT ASSEMBLY

A. Push-On Joints

Push-on joints are to be assembled as follows:

1. Thoroughly clean the groove and bell socket and insert the gasket, making sure that it faces the proper direction and that it is correctly seated.

2. After cleaning dirt or foreign material from the plain end, apply lubricant in accordance with the pipe manufacturer's recommendations. The lubricant is supplied in sterile cans and every effort should be made to keep it sterile.

3. Be sure that the plain end is beveled; square or sharp edges may damage or dislodge the gasket and cause a leak. When pipe is cut in the field, bevel the plain end with a heavy file or grinder to remove all sharp edges. Push the plain end into the bell of the pipe. Keep the joint straight while pushing. Make deflection after the joint is assembled.

4. Small pipe can be pushed into the bell socket with a long bar. Large pipe requires additional power, such as a jack, lever puller, or backhoe. The supplier may provide a jack or lever pullers on a rental basis. A timber header should be used between the pipe and jack or backhoe bucket to avoid damage to the pipe.

B. Mechanical Joints

Mechanical joints are to be assembled as follows:

1. Wipe clean the socket and plain end. The plain end, socket, and gasket should be washed with a soap solution to improve gasket seating.

2. Place the gland on the plain end with the lip extension toward the plain end, followed by the gasket with the narrow edge of the gasket toward the plain end of the pipe.

3. Insert the pipe into the socket and press the gasket firmly and evenly into the gasket recess. Keep the joint straight during assembly.

4. Push the gland toward the bell and center it around the pipe with the gland lip against the gasket.

5. Align bolt holes and insert bolts with bolt heads behind the bell flange, and tighten opposite nuts to keep the gland square with the socket. Make deflection after joint assembly but before tightening the bolts.

6. Tighten the nuts in accordance with the following table:

MECHANICAL JOINTS - BOLT TORQUES	
Bolt Diameter (inches)	**Torque (feet - pound)**
5/8	45 - 60
3/4	75 - 90
1	86 - 100
1¼	105 - 120

3.05 PIPE CUTTING

Cutting of pipe for the insertion of valves, fittings or closure pieces shall be done in a neat workmanlike manner without creating damage to the pipe, linings, or coatings and in strict accordance to manufacturer's recommendation.

3.06 TESTING

A. After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure test of at least 1.5 times the working pressure of the pipe at the point of testing, but in no case less than that required by other sections herein. In addition, a leakage test shall be conducted concurrently with the pressure test.

B. Pressure Test

1. Test Pressure Shall:

a. Not be less than 1.25 times the working pressure at the highest point along the test section.

b. Not to exceed pipe or thrust restraint design pressures at the lowest point along the test section.

c. Be of at least two (2) hour duration.

d. Not vary by more than plus or minus 5 psi.

e. Not exceed twice the rated pressure of the valves or hydrants when the pressure of the test section includes closed gate valves or hydrants.

f. Not to exceed the rated pressure of resilient seat butterfly valves when used.

2 Each valved section of pipe shall be filled with water slowly and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Cabinet and the Company jointly.

3. Before applying the specified test pressure, air shall be expelled completely from the pipe, valves, and hydrants. If permanent air vents are not located at all high points, the Contractor shall install corporation cocks at such points so that the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and plugged, or left in place at the discretion of the Cabinet and the Company jointly.

4. All exposed pipe, fittings, valves, hydrants, and joints shall be examined carefully during the test. Any damage or defective pipe, fittings, valves, or hydrants that are discovered following the pressure test shall be repaired or replaced with sound material and the test shall be repeated until it is satisfactory to the Cabinet and the Company jointly.

C. Leakage Test

1. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.

2. The pipe shall be tested in accordance with AWWA C600 concurrently with the pressure test. No pipe installation will be accepted if the leakage is greater than that allowed in the following formula:

$$L = (S \times D \times (P)^{½}) \div 133{,}200$$

Where:

L = the allowable leakage (gallons per hour)
S = length of pipe tested, in feet
D = nominal diameter of the pipe (inches)
P = test pressure (psig)

a. When hydrants are in the test section, the test shall be made against the closed hydrant.

3. Acceptance shall be determined on the basis of allowable leakage. If any pipe has leakage greater than allowed, the Contractor shall, at his own expense, locate and repair the defective material until the leakage is within the specified allowance.

   a. All visible leaks are to be repaired regardless of the amount of leakage.

- END OF SECTION -

SECTION 02630

CASING PIPE

PART 1 - GENERAL

1.01 GENERAL

Contractor shall provide all labor, materials, and equipment to construct, complete and in place, the casing pipe at the locations shown on the drawings.

1.02 RELATED SECTIONS

A. Section 02222 - Excavation

B. Section 02225 - Excavating, Backfilling, and Compacting for Utilities

C. Section 02610 - Pipe and Fittings

PART 2 - PRODUCTS

2.01 STEEL CASING PIPE

A. Casing pipe shall be steel (unless otherwise shown on the drawings), plain end, conforming to AWWA Specification C-200, latest revision. Steel for casing pipe shall have a minimum yield strength of 35,000 psi. Casing pipe shall neither be coated or wrapped. The inside diameter of the casing pipe shall be a minimum of four (4) inches greater than the outside diameter of the carrier pipe joint or coupling.

B. The minimum wall thickness shall be 0.250 inches, or as shown on Drawings.

2.02 PIPELINE SPACERS

A. Pipeline spacers and accessories such as nuts and bolts shall be constructed of polyethylene and/or stainless steel. Other materials will not be accepted.

B. Carrier pipes installed inside casing pipes shall be centered throughout the length of casing pipe. Centering shall be accomplished by the installation of polyethylene pipeline spacers attached to the carrier pipe in such a manner as to prevent the dislodgement of the spacers as the carrier pipe is pulled or pushed through the casing pipe. Spacers shall be of such dimensions to provide: full supportive load capacity of the pipe and contents; of such thickness to allow installation and/or removal of the pipe; and to allow no greater than 1/2 inch movement of the carrier pipe within the cover pipe after carrier pipe is installed.

C. Spacers shall be located immediately behind each bell and at a maximum spacing distance as follows:

Carrier Pipe Diameter (inches)	Maximum Spacing (feet)
2 – 2½ 3 – 8	4 7

D. The materials and spacing to be used shall be accepted by the Cabinet and the Company jointly prior to installation. The polyethylene pipeline spacers shall be manufactured by Pipeline Seal and Insulator, Inc. (PSI), Raci Spacers, Inc., Advanced Products & Systems, Inc., or approved equal. Installation shall be in accordance with manufacturer's recommendations.

2.03 SEALING

After installation of the carrier pipe within the casing pipe, the ends of the casing shall be sealed using a 1/8" thick 60 durometer synthetic neoprene rubber, end seal, seamless, with vulcanized edges. The seal shall be securely bound to the casing and the carrier pipe barrel with ½" wide stainless steel bandings with nonmagnetic worm gear mechanisms. The seal shall be APS Advance Standard Model AC Pull-On casing end seals, or an approved equal.

PART 3 - EXECUTION

3.01 BORE AND JACK

A. Where designated on the drawings, crossings beneath state maintained roads, railroads, or other surfaces shall not be disturbed and are to be installed by boring and jacking of steel casing pipe followed by installation of the carrier pipe within the casing pipe. The Contractor shall provide a jacking pit, bore through the earth, and/or rock, jack the casing pipe into proper line and grade and then install the carrier pipe within the casing pipe.

B. The approach trench shall be large enough to accommodate one section of casing pipe, the jacks and blocking. The Contractor shall furnish and use adequate equipment to maintain the line and grade.

3.02 OPEN CUT

Where designated on drawings, the Contractor shall open the trench under the direction of the Cabinet and the Company jointly and install the casing pipe and complete the bedding, backfilling, and paved surface restoration as specified elsewhere herein.

3.03 DAMAGE

The cost of repairing damage which is caused by boring or open cutting the trench under a highway or railroad shall be borne by the Contractor.

- END OF SECTION -

SECTION 02642

WATER VALVES AND ACCESSORIES

PART 1 – GENERAL

1.01 SUMMARY

The Contractor shall furnish all labor, material, and equipment necessary to install valves together with all appurtenances as shown and detailed on the drawings and specified herein.

1.02 RELATED SECTIONS

A. Section 02225 - Excavating, Backfilling, and Compacting for Utilities

B. Section 02610 - Pipe and Fittings

1.03 SUBMITTALS

A. Complete shop drawings of all valves and appurtenances shall be submitted to the Cabinet and the Company jointly in accordance with the requirements of Section 01300.

B. The manufacturer shall furnish the Cabinet and the Company jointly two (2) copies of an affidavit stating that the valve and all materials used in its construction conform to the applicable requirements of the latest revision of the applicable AWWA Standard, and that all tests specified therein have been performed and that all test requirements have been met.

C. The Cabinet and the Company jointly shall be furnished two (2) copies of affidavit that the “Valve Protection Testing" has been done and that all test requirements have been met.

D. The Cabinet and the Company jointly shall be furnished with two (2) copies of affidavit that inspection, testing, and rejection are in accordance with the latest revision of the applicable AWWA Standard.

E. The Cabinet and the Company jointly shall be furnished with two (2) copies of an affidavit stating that valves are constructed with NSF 61 approved materials (drinking water service).

1.04 VALVE COATINGS

See paragraph 3.02 in this Section.

PART 2 - PRODUCTS

2.01 MATERIALS

A. All valves and appurtenances shall be of the size shown on the Drawings and, as far as possible, all equipment of the same type shall be from one manufacturer.

B. All valves and appurtenances shall have the name of the maker, flow-directional arrows, and the design working pressure cast in raised letters on some appropriate part of the body.

C. Except as otherwise shown on the Drawings or specified herein, all valves with operators located seven (7) feet or more above the operating floor shall be provided with chain wheel operators complete with chain guides and galvanized steel chain.

D. All buried valves shall open left (counter-clockwise). Insofar as possible, all valves shall open counter-clockwise.

E. All valves must be provided with suitable operating devices and adapted for operation in the position in which they are shown on the Drawings.

F. All bolts and nuts for valves that are under water or in unheated vaults shall be of stainless steel. They shall be of the size recommended for the pipe and fittings they are to be used on and shall be in the recommended quantity.

G. Buried valve operators shall be lubricated for the life of the valve and suitable for operation submerged in groundwater.

2.02 GATE VALVES

A. All gate valves shall be of the resilient seat type in accordance with the latest revision of AWWA C509 Standard. The valve body, bonnet, and gate castings shall be ductile iron or cast iron. The valve shall have a non-rising stem (NRS), fully bronze or stainless steel mounted with o-ring seals. Valve body and bonnet, inside and out, shall be fully coated with fusion bonded epoxy coating in accordance with AWWA C550 Standard. Valves shall have a rated working pressure of 200 psi. Valves 14 inches and larger shall be provided with gearing.

B. Gate valves for buried service shall be furnished with mechanical joint end connections unless otherwise shown on the drawings or specified herein. The end connection shall be suitable to receive ductile iron or PVC pipe.

C. All gate valves shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working pressure cast on the body of the valve.

D. Buried service gate valves shall be provided with a 2-inch square operating nut and shall be opened by turning to the left (counterclockwise)

E. Buried service gate valves shall be installed in a vertical position with valve box as detailed on the drawings. They shall be set vertically and properly adjusted so that the cover will be in the same plane as the finished surface of the ground or street.

F. Valves shall be those manufactured by Mueller, M & H Valve Company, American, American AVK, or approved equal.

2.03 BUTTERFLY VALVES (Buried)

A. Valves 14-inch through 24-inch

The butterfly valve shall be DeZurik or M&H Valve Company AWWA C504 series (or approvable equal), mechanical joint, resilient seat, cast iron body and disk, stainless steel shaft and seating edge (ring), neoprene seat, Class 150B or Class 250B as noted on Drawings, cast iron housing with 2-inch operator nut in vertical position for use with a valve box. The valve shall be fully coated, inside and out, with fusion bonded epoxy in accordance with the latest revision of AWWA C550 Standard. Valves shall be rated for 150 psi or 250 psi working pressure as noted on Drawings and/or Bid Schedule.

2.04 VALVE BOXES

A. Each buried stop and valve shall be provided with a suitable valve box top. Tops shall be aluminum “tophat” type as manufactured by Castings, Inc. or approved equal.

B. The valve box top shall be adjusted to proper ground height by installing an appropriate length of 6-inch SDR 17 PVC from the valve to the box top.

C. Covers for valves shall be close fitting and substantially dirt-tight and marked "WATER."

D. The top of the cover shall be flush with the top of the box rim. An arrow and the word OPEN to indicate the direction of turning to open the valve shall be cast in the top of the valve covers.

2.05 COMBINATION AIR RELEASE AND AIR/VACUUM VALVES

A. The combination air/vacuum valves shall be the size noted on the Drawings and equal to A.R.I., D-052, Val-Matic 202c.2, or the Cabinet and the Company jointly approved equal.

B. The valves shall be in accordance with ANSI/AWWA C512.

C. The valves shall be of the type that automatically exhausts large quantities of air during the filling of a system and allows air to re-enter during draining or when a vacuum occurs. The overall height, less backwash accessories, shall not exceed 18 inches. Valves shall be constructed of standard cast iron body with a baked

polyester coating and all operating parts shall be made of specially selected corrosion-resistant materials.

D. The valve shall have a rolling seal mechanism that limits the possibility of obstruction by debris, discharges high air flow rates up to 200 yd^3/hr, have a self-cleaning mechanism, and a one size orifice with a wide pressure range.

E. The valve shall be non-slamming with a working pressure range of 0.3 to 230 psi.

F. The discharge orifice shall be fitted with a double-acting throttle device to regulate and restrict air venting.

G. All parts of the valves and the operating mechanisms shall be made of non-corrodible materials.

2.06 TAPPING SLEEVES

A. Tapping sleeves shall be cast iron and capable of containing pressure within the full volume of the sleeve. Sleeve shall be mechanical joint suitable for use with ductile iron or PVC pipe.

B. Sleeve shall be rated at 200 psi working pressure except at wellfield, where sleeve shall be rated for 250 psi working pressure.

C. Flanged throat section of mechanical joint sleeves through 12-inch size shall conform to MSS SP60 Standard. For throat sections larger than 12 inches, flanged section shall mate valves of same manufacture as sleeves.

D. All cast iron shall conform to ASTM A-126, Class B. Castings shall be cleaned and sound without defects that will impair their service. No plugging or welding of such defects will be allowed. Bolts, nuts, and gaskets shall be in accordance with mechanical joint requirements of AWWA C111.

E. Tapping sleeves shall be capable of withstanding their rated pressure without leakage past the side gaskets and end gaskets of the sleeve. Sleeves shall be supplied with split end gaskets and two-piece glands. Side flange rubber gaskets shall butt against the rubber end gaskets to make a watertight seal. Side and end bolts shall be of a T-head design. The throat flange shall be designed to center the tapping valve to the sleeve. Tapping sleeve shall be equipped with a test plug.

F. Tapping sleeves shall be fully coated with fusion bonded epoxy coating in accordance with AWWA C550 Standard.

G. Sleeves shall be marked with the name of the manufacturer and size (run x branch).

H. Tapping sleeve shall be manufactured by Mueller, M & H Valve Company, or approved equal.

2.07 TAPPING VALVES

A. All tapping valves shall be of the resilient seat, gate valve type in accordance with the latest revision of AWWA C509 Standard. The valve body, bonnet, and gate castings shall be cast iron. The valve shall have a non-rising stem (NRS), fully bronze mounted with o-ring seals. Valve body and bonnet, inside and out, shall be fully coated with fusion bonded epoxy coating in accordance with AWWA C550 Standard. Valves shall have a rated working pressure of 200 psi.

B. Valve shall be furnished with ANSI B16.1 flanged end with centering ring on tapping side. Outlet side shall be mechanical joint. All valves through 12 inches shall mate all sleeves through 12-inch outlet regardless of manufacturer.

C. All cast iron shall conform to ASTM A-126, Class B. Castings shall be clean and sound without defects that will impair their service. No plugging or welding of such defects will be allowed. Bolts shall be electric-zinc plated steel with hex heads and hex nuts in accordance with ASTM A-307 and A-563.

D. Stems shall be manganese bronze having a minimum tensile strength of 60,000 psi, a minimum yield of 20,000 psi. NRS stem collars shall be cast integral with them and machined to size. The housing for the valve stem collar shall be machined. All thrust bearing shall be incorporated, as required, to optimize operating torques. NRS valves shall be furnished with two (2) o-ring stem seals located above the thrust collar and one (1) below. O-rings shall be set in grooves in the stem. The o-ring grooves shall not be less than the root diameter of the stem threads.

Gates for valve shall be totally encapsulated in rubber, be field replaceable, and provide a dual seal on the mating body seat. Valve shall be capable of installation in any position with rated sealing in both directions. Rubber sets of specially compounded SBR materials shall be utilized and be capable of sealing even under conditions of normal wear. The valve body shall have integral guide engaging lugs in the gate in a tongue-and-groove manner, supporting the gate throughout the entire open/close travel.

E. Tapping valves shall be capable of making taps by using any cutter not less than 1/4 inch smaller than nominal pipe size.

F. All tapping valves shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working pressure cast on the body of the valve.

G. Tapping valves shall be provided with a 2-inch square operating nut and shall be opened by turning to the left counterclockwise.

H. Tapping valves shall be installed in a vertical position with valve box as detailed on the drawings. They shall be set vertically and properly adjusted so that the cover will be in the same plane as the finished surface of the ground or street.

I. Valves shall be those manufactured by Mueller, M & H Valve Company, American, or approved equal.

2.08 COUPLING ADAPTER

A. The pipe couplings shall be of a gasketed, sleeve-type with diameter to properly fit the pipe. Each coupling shall consist of one (1) steel middle ring of thickness and length specified, two (2) steel followers, two (2) rubber-compounded wedge section gaskets and sufficient track-head steel bolts to properly compress the gaskets. Field joints shall be made with this type of coupling. The middle ring and followers of the coupling shall be true circular sections free from irregularities, flat spots, or surface defects. They shall be formed from mill sections with the follower-ring section of such design as to provide confinement of the gasket. After welding, they shall be tested by cold expanding a minimum of one (1) percent beyond the yield point. The coupling bolts shall be of the elliptic-neck, track-head design with rolled threads. The manufacturer shall supply information as to the recommended torque to which the bolts shall be tightened. All bolt holes in the followers shall be oval for greater strength. The coupling shall have longitudinal restraint accomplished by locking pins. The gaskets of the coupling shall be composed of a crude or synthetic rubber base compounded with other products to produce a material which will not deteriorate from age, from heat, or exposure to air under normal storage conditions. It shall also possess the quality of resilience and ability to resist cold flow of the material so that the joint will remain sealed and tight indefinitely when subjected to shock, vibration, pulsation, and temperature or other adjustments of the pipeline. The couplings shall be assembled on the job in a manner to ensure permanently tight joints under all reasonable conditions of expansion, contraction, shifting and settlement, unavoidable variations in trench gradient, etc.

B. Nuts and bolts shall be in accordance with AWWA C111.

C. Couplings shall be shop primed and field painted in accordance with Division 9 (or one coat of coal tar epoxy if not specified in Division 9).

D. Compression couplings shall be equal to Style 38 manufactured by Dresser. Flanged couplings shall have flanges in accordance with AWWA C207 and be equal to Style 127 manufactured by Dresser.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Valves shall be installed as nearly as possible in the positions indicated on the drawings consistent with conveniences of operating the handwheel or wrench. All valves shall be carefully erected and supported in their respective positions free from all distortion and strain on appurtenances during handling and installation.

B. All material shall be carefully inspected for defects in workmanship and material, all debris and foreign material cleaned out of valve openings and seats, all operating mechanisms operated to check their proper functioning, and all nuts and bolts checked for tightness.

C. Valves and other equipment which do not operate easily or are otherwise defective shall be repaired or replaced at the Contractor's expense.

D. Valves shall be provided with extension stems where required for convenience of operation. Extension stems shall be provided for valves installed underground and elsewhere so that the operating wrench does not exceed six (6) feet in length.

3.02 PAINTING

A. Valves shall be factory primed and fully coated, inside and out, with fusion bonded epoxy in accordance with the latest revision of AWWA C550 Standard, if valve is available in this coating.

- END OF SECTION -

SECTION 02675

DISINFECTION OF WATER SYSTEMS

PART 1 - GENERAL

1.01 STERILIZATION

A. General

It is the intent of this section to present essential procedures for disinfecting new and repaired water mains. The section is patterned after AWWA C651. The basic procedure comprises:

1. Preventing contaminating materials from entering the water mains during construction or repair and removing by flushing materials that may have entered the water main.

2. Disinfecting any residual contamination that may remain.

3. Determining the bacteriologic quality by laboratory test after disinfection.

B. Preventive Measures During Construction

1. Precautions shall be taken to protect pipe interiors, fittings, and valves against contamination. Pipe delivered for construction shall be strung so as to minimize entrance of foreign material. When pipe laying is not in progress, as for example, at the close of the day's work, all openings in the pipeline shall be closed by watertight plugs. Joints of all pipe in the trench shall be completed before work is stopped. If water accumulates in the trench, the plugs shall remain in place until the trench is dry.

   If dirt, that, in the opinion of the Cabinet and the Company jointly, will not be removed by the flushing operation (Article 1.01-C.) enters the pipe, the interior of the pipe shall be cleaned and swabbed as necessary, with a five percent (5%) hypochlorite disinfecting solution.

2. Packing Materials and Joints

   No contaminated material or any material capable of supporting prolific growth of micro-organisms shall be used for sealing joints. Packing material shall be handled in such a manner as to avoid contamination. Where applicable, packing materials must conform to AWWA standards. Packing material for cast iron pipe must conform to AWWA C600. Yarning or packing material shall consist of molded or tubular rubber rings, or treated paper. Materials such as jute or hemp shall not be used. The lubricant used in the installation of sealing gaskets shall be suitable for use in potable water. It shall be delivered to the job in enclosed containers and shall be kept clean.

C. Preliminary Flushing

No site for flushing should be chosen unless it has been determined that drainage is adequate at the site. The main shall be flushed prior to disinfection, except when the tablet or granular methods are used (Articles 1.01-E.3. and 1.01-E.4.). It is recommended that the flushing velocity be not less than 2.5 ft/sec. The rate of flow required to produce this velocity in various diameters is shown in the following table:

REQUIRED OPENINGS TO FLUSH PIPELINES (40-psi Residual Pressure)

Flow Required to Produce 2.5 ft./sec.		Minimum Outlet Size		
		Flushing Pipe Size (in)	Hydrant Nozzle	
Pipe Size (in)	Flow Rate (gpm)		Number	Size (in)
4	100	1	1	2½
6	220	1½	1	2½
8	390	2	1	2½
10	610	3	1	2½
12	880	3	2	2 ½
14	1,200	4	2	2½
16	1,565	4	2	2½
18	1,980	6	2	2½

D. Form of Chlorine for Disinfection

The most common forms of chlorine used in the disinfecting solutions are liquid chlorine (gas at atmospheric pressure), calcium hypochlorite tablets, calcium hypochlorite granules, and sodium hypochlorite solutions.

1. Liquid Chlorine Use

Liquid chlorine shall be used only when suitable equipment is available and only under the direct supervision of a person familiar with the physiological, chemical, and physical properties of this element and who is properly trained and equipped to handle any emergency that may arise. Introduction of chlorine gas directly from the supply cylinder is unsafe and shall not be permitted.

Note: The preferred equipment consists of a solution fed chlorinator in combination with a booster pump for injecting the chlorine gas water mixture into the main to be disinfected. Direct feed chlorinators are not recommended because their use is limited to situations where the water pressure is lower than the chlorine cylinder pressure.

2. Hypochlorites

a. Calcium Hypochlorite - Calcium hypochlorite contains sixty-five percent (65%) available chlorine by weight. It is either tabular or granular in form. The tablets, 6-8 to the ounce, are designed to dissolve slowly in water. Calcium hypochlorite is packaged in containers of various types and sizes ranging from small plastic bottles to 100-pound drums.

A chlorine-water solution is prepared by dissolving the granules in water in the proportion requisite for the desired concentration.

b. Sodium Hypochlorite - Sodium hypochlorite is supplied in strengths from five and one-quarter percent (5.25%) to sixteen percent (16%) available chlorine. It is packaged in liquid form in glass, rubber, or plastic containers ranging in size from one (1) quart bottles to five (5) gallon carboys. It may also be purchased in bulk for delivery by tank truck.

The chlorine water solution is prepared by adding hypochlorite to water. Product deterioration must be reckoned with in computing the quantity of sodium hypochlorite required for the desired concentration.

E. Methods of Chlorine Application

1. Continuous Feed Method - This method is suitable for general application.

a. Water from the existing distribution system or other approved sources of supply shall be made to flow at a constant, measured rate into the newly laid pipeline. The water shall receive a dose of chlorine, also fed at a constant, measured rate. The two rates shall be proportioned so that the chorine concentration in the water in the pipe is maintained at a minimum of 50 mg/L available chlorine. To assure that this concentration is maintained, the chlorine residual should be measured at regular intervals in accordance with the procedures described in the current edition of Standard Methods and AWWA M12--Simplified Procedures for Water Examination.

Note: In the absence of a meter, the rate may be determined either by placing a pitot gauge at the discharge or by measuring the time to fill a container of known volume.

Solutions of one percent (1%) chlorine may be prepared with sodium hypochlorite or calcium hypochlorite. The latter solution requires approximately one (1) pound of calcium hypochlorite in eight and five-tenths (8.5) gallons of water. The following table

gives the amount of chlorine residual required for each 100 feet of pipe of various diameters:

CHLORINE REQUIRED TO PRODUCE 50 mg/L CONCENTRATION IN 100 FT. OF PIPE (By Diameter)		
Pipe Size (in)	**100 Percent Chlorine (lb)**	**1 Percent Chlorine Solutions (gal)**
4	0.027	0.33
6	0.061	0.73
8	0.108	1.3
10	0.170	2.04
12	0.240	2.88

b. During the application of the chlorine, valves shall be manipulated to prevent the treatment dosage from flowing back into the line supplying the water. Chlorine application shall not cease until the entire main is filled with the chlorine solution. The chlorinated water shall be retained in the main for at least twenty-four (24) hours during which time all valves and hydrants in the section treated shall be operated in order to disinfect the appurtenances. At the end of this 24-hour period, the treated water shall contain no less than 25 mg/L chlorine throughout the length of the main.

2. Slug Method

This method is suitable for use with mains of large diameter for which, because of the volumes of water involved, the continuous feed method is not practical.

a. Water from the existing distribution system or other approved source of supply shall be made to flow at a constant, measured rate (see Article 1.01-E.1.a.) into the newly laid pipeline. The water shall receive a dose of chlorine also fed at a constant, measured rate. The two rates shall be proportioned so that the concentration in the water entering the pipeline is maintained at no less than 300 mg/L. The chlorine shall be applied continuously and for a sufficient period to develop a solid column or "slug" of chlorinated water that will, as it passes along the line, expose all interior surfaces to a concentration of at least 300 mg/L for at least three (3) hours. The application shall be checked at a tap near the upstream end of the line by chlorine residual measurements.

b. As the chlorinated water flows past tees and crosses, related valves and hydrants shall be operated as to disinfect appurtenances.

3. Tablet Method

Tablet disinfection is best suited to short extension (up to 2,500 feet) and smaller diameter mains (up to 12 inches). Because the preliminary flushing step must be eliminated, this method shall be used only when scrupulous cleanliness has been exercised. It shall not be used if trench water or foreign material has entered the main or if the water is below 5 degrees C (41 degrees Fahrenheit).

a. Placement of Tablets - Tablets are placed in each section of pipe and also in hydrants, hydrant branches, and other appurtenances. They shall be attached by an adhesive, except for the tablets placed in hydrants and in the joints between the pipe sections. All the tablets within the main must be at the top of the main. If the tablets are fastened before the pipe section is placed in the trench, their position should be marked on the section to assure that there will be no rotation. When placing tables in joints, they are either crushed and placed on the inside annular space, or, if the type of assembly does not permit, they are rubbed like chalk on the butt ends of the sections to coat them with calcium hypochlorite.

The adhesive may be Permatex No. 1 or any alternative approved by the Cabinet and the Company jointly. There shall be no adhesive on the tablet except on the broad side next to the surface to which the tablet is attached. The following table gives the number of hypochlorite tablets required for various pipe diameters and lengths:

NUMBER OF 5G HYPOCHLORITE TABLES REQUIRED FOR DOSE OF 50 mg/L

Length of Pipe (ft)	Pipe Diameter					
	2	4	6	8	10	12
13 or less	1	1	2	2	3	5
18	1	1	2	3	5	6
20	1	1	2	3	5	7
30	1	2	3	5	7	10
40	1	2	4	6	9	14

b. Filling and Contact - When installation has been completed, the main shall be filled with water at a velocity of less than one (1) foot per second. This water shall remain in the pipe for at least twenty-four (24) hours.

Valves shall be manipulated so that the strong chlorine solution in the line being treated will not flow back into the line supplying the water.

4. Granule Method

Granular disinfection should only be used in the same instances when tabular disinfection can be used; that is, it may be used if the pipes and appurtenances are kept clean and dry during construction.

a. Placement of Granules - Granules of calcium hypochlorite shall be placed during construction at the upstream end of the first section of pipe, at the upstream end of each branch main, and at 500-ft intervals.

Note: These granules cannot be used on solvent-welded plastic or on screwed-joint pipe because of the danger of fire or explosion from the reaction of the joint compounds with the calcium hypochlorite.

The following table gives the ounces of hypochlorite granules required for various pipe diameters:

OUNCES OF CALCIUM HYPOCHLORITE GRANULES TO BE PLACED AT BEGINNINGS OF MAIN AND AT 500-ft INTERVALS	
Pipe Diameter (in.)	**Calcium Hypochlorite Granules (oz.)**
4	0.5
6	1.0
8	2.0
12	4.0
16 and larger	8.0

b. Filling and Contact - When installation has been completed, the main shall be filled with water at a velocity of less than one (1) foot per second. This water shall remain in the pipe for at least twenty-four (24) hours. If the water temperature is less than 41^{o}F (5 ^{o}C), the water shall remain in the pipe for at least forty-eight (48) hours.

Valves shall be manipulated so that the strong chlorine solution in the line being treated will not flow back into the line supplying the water.

F. Final Flushing

After the applicable retention period, the heavily chlorinated water shall be flushed from the main until the chlorine concentration in the water leaving the main is no higher than that generally prevailing in the system, or less than 1 mg/L. Chlorine residual determination shall be made to ascertain that the heavily chlorinated water has been removed from the pipeline.

G. Bacteriologic Tests

1. After final flushing, and before the water main is placed in service, a sample or samples shall be collected from the end of the line and tested for bacteriologic quality and shall show the absence of coliform organisms. If the number and frequency of samples is not prescribed by the public health authority having jurisdiction, at least one sample shall be collected from chlorinated supplies where a chlorine residual is maintained throughout the new main. From unchlorinated supplies at least two samples shall be collected at least twenty-four (24) hours apart.

2. Samples for bacteriologic analysis shall be collected in sterile bottles treated with sodium thiosulphate. No hose or fire hydrant shall be used in collection of samples. A suggested sampling tap consists of a standard corporation cock installed in the main with a copper tube gooseneck assembly. After samples have been collected, the gooseneck assembly may be removed, and retained for future use.

H. Repetition of Procedure

If the initial disinfection fails to produce satisfactory samples, disinfection shall be repeated until satisfactory samples have been obtained. The tablet method cannot be used in these subsequent disinfections. When the sample tests indicate that disinfection has been effective, the main may be placed in service.

I. Procedure After Cutting Into or Repairing Existing Mains

The procedures outlined in the Article apply primarily when mains are wholly or partially dewatered. Leaks or breaks that are repaired with clamping devices while the mains remain full of water under pressure present little danger of contamination and require no disinfection.

1. Trench "Treatment"

When an old line is opened, either by accident or by design, the excavation will likely be wet and may be badly contaminated from nearby sewers. Liberal quantities of hypochlorite applied to open trench areas will lessen the danger from such pollution. Tablets have the advantage in such a situation because they dissolve slowly and continue to release hypochlorite as water is pumped from the excavation.

2. Main Disinfection

The following procedure is considered as a minimum that may be used.

a. Swabbing with Hypochlorite Solution - The interior of all pipe and fittings used in making the repair (particularly couplings and tapping sleeves) shall be swabbed with five percent (5%) hypochlorite solution before they are installed.

b. Flushing - Thorough flushing is the most practical means of removing contamination introduced during repairs. If valving and hydrant locations permit, flushing from both directions is recommended. Flushing shall be started as soon as the repairs are completed and continued until discolored water is eliminated.

c. Slug Method - Where practicable, in addition to the above procedures, a section main in which the break is located shall be isolated, all service connections shut off, and the section flushed and chlorinated as described in Article 2.5.2, except that the dose may be increased to as much as 500 mg/L, and the contact time reduced to as little as one-half (1/2) hour. After chlorination, flushing shall be resumed and continued until discolored water is eliminated.

3. Sampling

Bacteriologic samples shall be taken after repairs to provide a record by which the effectiveness of the procedures used can be determined. If the direction of flow is unknown, samples shall be taken on each side of the main break.

1.02 DISINFECTION OF WATER PLANT PROCESS BASINS AND CONNECTING PIPING

All water treatment plant basins and connecting piping downstream of the filter influent shall be disinfected to the same specification as given for the disinfection and bacteriological testing of mains. The Contractor shall take all necessary precautions to assure that there is no damage due to chlorine fumes during or after the disinfection process.

1.03 ALTERNATIVE METHOD FOR DISINFECTION OF LARGE TANKS

Fill tank with enough water (containing a free chlorine concentration of at least 250 mg/L) to spray all inside tank surfaces with the chlorinated water. Repeat the spraying again at no less than 60 minutes from the end of the first spraying. Drain the tank at no less than 30 minutes from the end of the second spraying before filling for use.

1.04 DECHLORINATION

All water discharged to the environment that could reach streams or ponds shall be properly dechlorinated prior to discharge.

- END OF SECTION -

SECTION 02935

SEEDING AND SODDING

PART 1 - GENERAL

1.01 GENERAL

The Contractor shall furnish all labor, materials, and equipment to regrade construction areas to original contours or regrade contours shown on drawings, fertilize and lime, seed or sod, and return all disturbed areas to their original or regrade contour and condition.

PART 2 - PRODUCTS

2.01 LIME AND FERTILIZER

Four (4) tons of agricultural limestone per acre and 1,000 pounds per acre of fertilizer with a 10-10-10 analysis shall be uniformly applied.

2.02 SEED

A mixture of fifty percent (50%) Falcon Fescue, twenty-five percent (25%) Creeping Red Fescue (Festuca rubra), ten percent (10%) Redtop (Agrostis alba), five percent (5%) White Dutch Clover (Trifolium repens), and ten percent (10%) Ryegrass, perennial (Colium perenne) shall be sowed at the rate of 100 pounds per acre (2.3 pounds per 1000 square feet). The seed shall have a minimum of eighty percent (80%) germination and a maximum of one percent (1%) weeds.

2.03 SOD

Sod shall be thirty percent (30%) to fifty percent (50%) bluegrass and fifty percent (50%) to seventy percent (70%) Falcon Fescue.

2.04 TOPSOIL

Topsoil shall be fertile, natural soil, typical of the locality, free from large stones, roots, sticks, peat, weeds, and sod, and obtained from naturally well-drained areas. It shall not be excessively acid or alkaline nor contain other toxic material harmful to plant growth. Topsoil stockpiled under other Sections or Divisions may be used, but the Contractor shall furnish additional topsoil at his own expense, if required.

2.05 MULCH

Mulch shall be clean small-grain straw.

PART 3 - EXECUTION

3.01 GRADING

A. Upon completion of backfill, the construction area shall be regraded roughly to original or regrade contours. The top four (4) inches of the regrade must be free from rocks and other deleterious material. All rock shall be picked up and disposed of at a designated place approved by the Cabinet and the Company jointly.

B. Any and all settled areas must be brought to grade and restored to as near original conditions as possible prior to final acceptance of the project by the Cabinet and the Company jointly.

3.02 TOPSOIL APPLICATION

Topsoil shall be spread and lightly compacted to finished grade. Compacted topsoil shall not be less than the depth specified. No topsoil shall be spread in water or while frozen or muddy.

3.03 SEEDING AND SODDING

A. Preparation of Seed Bed

Where the area to be seeded is not sufficiently pulverized to provide a good seedbed, the seedbed will be prepared by pulverizing the soil to a depth of four (4) inches with a disk harrow, drag harrow, spike toothed harrow or similar tool immediately prior to seeding. Lime and fertilizer shall be applied prior to preparing seedbed.

B. Seeding

The seed shall be raked into the ground to a depth of approximately ¼ inch.

C. Mulching

All seeded areas shall be mulched with clean small-grain straw at a rate of 1½ to 2 tons per acre. Asphalt emulsion shall be applied uniformly at a rate of 300 gallons per acre to tack the mulch, unless otherwise shown on the Drawings. Mechanical tacking will be considered on a case-by-case basis as approved by the Cabinet and the Company jointly.

D. Sodding

The sod bed shall be prepared, fertilized and limed similar to those areas to be seeded. Then the sod shall be placed in accordance with Section 528.3.4 of the Standard Specifications for Road and Bridge Construction of the Kentucky Department of Transportation.

E. Watering

The Contractor shall keep all seeded and sodded areas watered and in good condition, reseeding if, and when, necessary, until a good, healthy, uniform growth is established over the entire area seeded, and shall maintain these areas in good condition until final acceptance of the Contract.

F. Washouts

On slopes, the Contractor shall provide against washouts by an approved method. Any washout which occurs shall be regraded and reseeded at the Contractor's expense until good sod is established.

G. Maintenance

The Contractor shall maintain the areas in grass in a neat manner by watering, mowing, and raking clippings and leaves until the project is completed.

- END OF SECTION -

SPECIAL NOTE

Pending U.S. Army Corps of Engineers 404 Permit

KYTC Item #: 5-80260 (5-8300)

The contractor should be aware that for this project a Clean Water Act 404 permit has been submitted to the U.S. Army Corps of Engineers (USACE), for renewal, and approval is currently pending. No work shall occur in a Water of the United States (stream or wetland) until the USACE 404 permit has been approved and secured. It is anticipated the permit will be secured within 60 days of award.

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

July 11, 2022

Danny Peake
Kentucky Transportation Cabinet (KYTC)
200 Mero St
Frankfort, KY 40622

Re: §401 Water Quality Certification
KY 146 - Henry Co
Reconstruction of KY 146
WQC No: 2022-069-1
AI No.: 81756; Activity ID: APE20220001
KYTC Item No.: 5-8300
USACE ID No.: LRL-2016-00612-ncc
The Little Kentucky River, UTs to the Little Kentucky River, Bartlet Fork, and UTs to Bartlet Fork
Henry County, Kentucky

Dear Mr. Peake:

Pursuant to Section 401 of the Clean Water Act (CWA) and 40 CFR 121.7(c), the Commonwealth of Kentucky certifies it has 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 by the above referenced project provided that the U.S. Army Corps of Engineers authorizes the activity under a federal license or permit, and the attached conditions are met.

Other permits from the Division of Water may be required for this activity. Projects that disturb one acre or more of land or is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land require a Kentucky Pollution Discharge Elimination System (KPDES) Stormwater Permit; contact the Surface Water Permits Branch (502-564-3410 or SWPBSupport@ky.gov). A Groundwater Protection Plan is required if activities listed in Section 2(2) of 401 KAR 5:037 are conducted. A Water Withdrawal Application is required for activities proposing raw water withdrawals of 10,000 gallons per day or more; contact the Watershed Management Branch (502-564-3410).

All future correspondence on this project must reference AI No. **81756**. **The attached document is your official Water Quality Certification; please read it carefully**. Please contact Wesley Harrod by phone at 502-782-6589 or email at Wesley.Harrod@ky.gov if you have any questions.

Sincerely,

Samantha Vogeler

Samantha Vogeler, Supervisor
Water Quality Certification Section
Kentucky Division of Water

SV:WH
Attachment

cc: Adam Michels, KYTC: Frankfort (via email: adam.michels@ky.gov)
Andrew Logsdon, KYTC: Frankfort (via email: Andrew.Logsdon@ky.gov)
Dave Harmon, KYTC: Frankfort (via email: Dave.Harmon@ky.gov)
Norma Condra, USACE: Louisville District (via email: Norma.C.Condra@usace.army.mil)
Lee Andrews, USFWS: Frankfort (via email: kentuckyes@fws.gov)
Perry Thomas, Salt River Basin Coordinator (via email: perryt@ky.gov
Matt Gross, Florence Regional Office (via email: matthew.gross@ky.gov)

KTC Water Quality Certification

KY 146 - Henry Co

Facility Requirements

Permit Number: 2022-069-1

Activity ID No.:APE20220001

ACTV0000000001 (Transportation Project - KYTC Item No.: 5-8300) (AI: 81756) Road Reconstruction:

Submittal/Action Requirements:

Condition No.	Condition
S-1	Prior to any construction activity, Kentucky Transportation Cabinet (KYTC) shall submit to the Water Quality Section Project Manager a copy of the receipt of purchase of 1,225 stream Adjusted Mitigation Units (AMUs) from an approved mitigation bank OR purchase of 1,470 stream Adjusted Mitigation Units (AMUs) from an approved Kentucky in-lieu fee (ILF) program fund. Credits must be purchased prior to impacts. Mitigation banks and ILF programs are considered approved as defined in the April 10, 2008 Final Rule, 40 CFR Part 230: Compensatory Mitigation for Losses of Aquatic Resources. This condition is necessary to allow impacts to occur. Compensatory mitigation is the method to approve impacts and entire losses of a water resource. The Division can approve impacts and loss based on the confidence that the resource will be replaced and not result in a net loss of aquatic resources. Compensatory mitigation is the method of compliance for the Commonwealth's water quality standards. [33 CFR 332, 40 CFR 230, 401 KAR 10:031 Section 2(1)(a)]
S-2	KYTC shall notify the Water Quality Certification Project Manager or Supervisor of the scheduled start of construction activities at least two weeks before the start of construction. This condition is necessary for the Division of Water to be informed of the ongoing activity for the purposes of site visits to ensure implementation of Kentucky Regulatory Statutes and Administrative Regulations; the Division will monitor the environment, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
S-3	KYTC shall notify the Water Quality Certification Project Manager or Supervisor of substantial completion of construction no later than two weeks post-construction. This condition is necessary for the Division of Water to be informed of the ongoing activity for the purposes of site visits to ensure implementation of Kentucky Regulatory Statutes and Administrative Regulations; the Division will monitor the environment, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
S-4	KYTC shall submit as-built drawings within 90 days after substantial completion of construction to the Water Quality Certification Section Project Manager or Supervisor. This condition is necessary to monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]

KTC Water Quality Certification

KY 146 - Henry Co

Facility Requirements

Permit Number: 2022-069-1

Activity ID No.:APE20220001

ACTV0000000001 (Transportation Project - KYTC Item No.: 5-8300) (AI: 81756) Road Reconstruction:

Narrative Requirements:

Condition No.	Condition
T-1	The work approved by this certification shall be limited to 38.450116, -85.260524: -Reconstruction of approximately 7 miles of KY 146 -Impacts of 2,788 linear feet to ephemeral streams -Impacts of 1,894 linear feet to intermittent streams -Impacts of 97 linear feet to perennial streams This condition is necessary to confirm activities approved by this certification. [401 KAR 10:030 Section 1, 401 KAR 9:010 Section 1(a)(2), KRS 224.10-100, KRS 224.70-110]
T-2	All work performed under this certification shall adhere to the design and specifications set forth in the following document(s): -Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification received on 04/20/2022. -Pre-file Meeting Request received on 04/20/2022. -Certification Request received on 06/01/2022. -5-8300 WQC renewal 3-18-22.pdf -5-8300 wqc application.docx -5-8300 impact summary sheet.xlsx This condition is necessary to confirm activities approved by this certification. [401 KAR 10:030 Section 1, 401 KAR 9:010 Section 1(a)(2), KRS 224.10-100, KRS 224.70-110]
T-3	KYTC is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sediment control plan must be designed, implemented, and maintained in effective operating condition at all times during construction. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-4	No in-stream operations or activities shall be conducted during fish spawning season (April 1 through June 30), due to the potential impacts of increased sediment load and associated water quality and designated aquatic habitat impacts. This condition is necessary to monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 4(1)(c,h), KRS 224.10-100, KRS 224.70-110]

KTC Water Quality Certification
KY 146 - Henry Co
Facility Requirements
Permit Number: 2022-069-1
Activity ID No.:APE20220001

ACTV0000000001 (Transportation Project - KYTC Item No.: 5-8300) (AI: 81756) Road Reconstruction:

Narrative Requirements:

Condition No.	Condition
T-5	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 instream 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. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-6	Erosion and sediment 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. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-7	Remove all sediment and erosion control measures after re-vegetation has become well-established. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-8	Any fill or riprap shall be of a composition that shall not cause violations of water quality standards by adversely affecting the biological, chemical, or physical properties of waters of the Commonwealth. If riprap is used, it shall be of a weight and size that bank stress or slump conditions shall not occur. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-9	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. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-10	Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse. This condition is necessary to prevent water pollution as prohibited by statute. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-11	To the maximum extent practicable, all in-stream work under this certification shall be performed during low flow. This condition is necessary to prevent and minimize objectionable deposits and pollution and protect the use of the stream. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]

KTC Water Quality Certification
KY 146 - Henry Co
Facility Requirements
Permit Number: 2022-069-1
Activity ID No.:APE20220001

ACTV0000000001 (Transportation Project - KYTC Item No.: 5-8300) (AI: 81756) Road Reconstruction:

Narrative Requirements:

Condition No.	Condition
T-12	Removal of existing riparian vegetation shall be restricted to the minimum necessary for project construction. This condition is necessary to minimize negative effects to the environment, protect the use of the stream, and protect aquatic resources. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-13	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. This condition is necessary to monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 10:031 Section 2(1)(a), KRS 224.10-100, KRS 224.70-110]
T-14	This Water Quality Certification expires on July 11, 2027. This condition is necessary for the issuance of the certification. [KRS 224.10-100, KRS 224.16 -050(2), KRS 224.70-110]
T-15	Other permits from the Division of Water may be required for this activity. If this activity occurs within a floodplain, a Permit to Construct Across or Along a Stream may be required. Please contact the Floodplain Management Section Supervisor (502-564-3410) for more information prior to construction. If the project will disturb one acre or more of land, or is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land, a Kentucky Pollution Discharge Elimination System (KPDES) Stormwater Permit shall be required. Please contact the Surface Water Permits Branch (502-564-3410 or SWPBSupport@ky.gov) for more information. A Groundwater Protection Plan is required if any of the activities listed in Section 2(2) of 401 KAR 5:037 are conducted. A Water Withdrawal Application is required for any activities proposing raw water withdrawals of 10,000 gallons per day or more. For technical assistance contact the Watershed Management Branch at 502-564-3410 or visit eec.ky.gov. This condition is necessary for confirm authorized impacts, the appropriate responsible party, monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [KRS 224.10-100, KRS 224.16-.050(2), KRS 224.70-110]

KTC Water Quality Certification

KY 146 - Henry Co

Facility Requirements

Permit Number: 2022-069-1

Activity ID No.:APE20220001

ACTV0000000001 (Transportation Project - KYTC Item No.: 5-8300) (AI: 81756) Road Reconstruction:

Narrative Requirements:

Condition No.	Condition
T-16	If there is a transfer or conveyance of the project site during the issued WQC term for the approved activity, the KYTC shall submit written notice to the Water Quality Certification Section Project Manager or Supervisor of the transfer or conveyance of the project site or any part of the project site at least 60 days prior to the transfer or conveyance of the project site. The notification shall include the WQC number; the Agency Interest (AI) No.; the name, mailing address, email address, and telephone number of the current owner; the name, mailing address, email address, and telephone number of the prospective transferee; the proposed effective date of transfer/conveyance; and a copy of the documentation evidencing the transfer/conveyance. Failure to comply with this condition does not negate the validity or enforceability of this certification. This condition is necessary for confirm authorized impacts, the appropriate responsible party, monitor the aquatic resources, minimize impact to aquatic resources, protect the use and designation of resources, allow more effective and efficient control practices, identify changes and conditions in ecological systems as a result of activities, and to warn of emergency conditions. [401 KAR 10:030 Section 1, 401 KAR 9:010 Section 1(a)(2), KRS 224.10-100, KRS 224.70-110]

Kentucky Transportation Cabinet

Highway District 5 (1)

And

_____(2), Construction

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

Groundwater protection plan

For Highway Construction Activities

For

KY 146 – Priority Segment - Bridge Repairs No. 1A (1)

Project: PCN 5 – 5-80260

KyTC BMP Plan for Project PCN 5-80260

Project information

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

1. Owner – Kentucky Transportation Cabinet, District _5_ (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) (1) – **HENRY COUNTY KY 146**

6. Latitude/Longitude (project mid-point) dd/mm/ss, dd/mm/ss (1) - **38/27/08, 85/16/03**

7. County (Address) (1) – **HENRY**

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) (1) – **Bridge repairs on five (5) KY 146 bridges between KY 153 (MP 2.169) and US 421 (MP 9.80) at New Castle, Kentucky." (Bridge Numbers: 052B00068N; 052B00030N; 052B00074N; 052B00065N; 052B00027N) (2022CCN)**

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

3. Projected volume of material to be moved (1) – **267,576 CU YD**

4. Estimate of total project area (acres) (1) – **59.96**

5. Estimate of area to be disturbed (acres) (1) – **59.96**

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. (1)

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

Per the KY 146 – Henry County – Final Geotechnical Report: The proposed roadway alignment is located within the Smithfield Quadrangle (GQ-1371) and New Castle Quadrangle (GQ-1431). Published geologic mapping indicates that the proposed alignment is underlain by Ordovician limestones and shales of the Saluda Dolomite Member, Bardstown Member, Rowland Member (all composing Drakes Formation) and Bull Fork Formation in descending order. Additionally, alluvium (Quaternary to Recent) has accumulated within Little Kentucky River and Bartlett Fork floodplains. Published geologic mapping indicates the Saluda to be very fine to fine grain, calcareous, thinly bedded to laminated with shale partings, containing medium grain, rippled beds grading downward into dolomitic mudstone and shale with fine to coarse grain and fossiliferous beds. The Bardstown is reportedly composed of interbedded fine to coarse grain limestone with sparry cement and calcareous shale with lenticular to irregular bedding. Published mapping suggests the Rowland is composed of interbedded argillaceous, slightly dolomitic limestone and silty, calcareous shale. Published descriptions of the Bull Fork indicate interbedded limestone and shale with limestone being medium to coarse grain, sparite/argillaceous cemented fossil fragments or argillaceous and fine grain beds. Shale within the Bull Fork is described as silty, calcareous and containing few fossils. Published mapping estimates member and formation thickness of 45 feet to 70 feet for the Saluda Dolomite; 16 feet to 37 feet for the Bardstown Member; 30 feet to 55 feet for the Rowland Member and 50 feet to 90 feet for the Bull Fork Formation. Alluvium within Little Kentucky River, lower reaches of Bartlett Fork and lower reaches of

some smaller drainage courses is reportedly composed of clayey and sandy silt containing lenses and thin stringers of gravel with reported overall thickness of 0 feet to 15 feet. No faulting is indicated or inferred on published mapping. The proposed alignment does pass thru small areas suggestive of waste material placed, reshaped and graded between Station 290+00 to Station 320+00. Regional structural attitude within the project area exhibits a gentle dip of 18 feet to 40 feet per mile toward the northwest. Much of the proposed alignment roughly follows this regional trend. Apparent dips exposed during construction excavation will be less than the calculated true dip. For the purposes of cut stability the rock strata are generally flat lying. Saturated and soft conditions may be encountered near the beginning of the project where the proposed alignment crosses Little Kentucky River and lies adjacent to or crosses Bartlett Fork.

Soil samples recovered from advanced borings indicate three (3) predominate groupings: medium plasticity silty clay and clayey silt with trace to significant fractions of sand to gravel size rock fragments, equal to sub equal clay and silt fractions exhibiting medium to high plasticity with primarily trace fractions of sand and gravel size rock fragments and low plasticity clayey silt with sand and gravel size rock fragments. An isolated occurrence of primarily sand and gravel rock fragments with silt/clay matrix was also recorded.

8. Data describing existing discharge water quality (if any) (1) & (2) Per the Ecological Assessment dated August 17, 2012: Water quality samples were collected from the six aquatic assessment sampling points within the project corridor (Exhibit 6). Table 4 presents both analytical laboratory and *in-situ* water quality data for the project. The complete analytical water quality Certificates of Analysis from Microbac Laboratories, Inc., are included in Appendix D.

   The results of the analytical water quality testing indicate that the samples met the water quality standards for chloride and alkalinity per the warm water aquatic habitat standard. The water samples also met the water quality standards for sulfate, per the secondary standards for cold water aquatic habitat.

   In-situ water quality data indicated that water temperature, dissolved oxygen concentration, pH, and turbidity readings were within expected seasonal ranges for all of the stations during the assessment per the warm water aquatic habitat standard. The little Kentucky River exhibited dissolved oxygen concentrations of 3.70 milligrams per liter ($^{mg}/_{L}$), which is less than the warm water standard (> 4.0 $^{mg}/_{L}$).

9. Receiving water name (1) **Little Kentucky River/Bartlett Fork**

10. TMDLs and Pollutants of Concern in Receiving Waters: (1 DEA) **NO TMDLs for listed stream**

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

12. Potential sources of pollutants:

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

B. Sediment and Erosion Control Measures:

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

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

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs

are to be designated as “Do Not Disturb” until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP’s shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. 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 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 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 after they are placed
     - Channel Lining
     - Erosion Control Blanket

- Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
- Non-standard or innovative methods

➢ Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:

- Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
- Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
- Additional Channel Lining and/or Erosion Control Blanket.
- Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
- Special BMP's such as Karst Policy

➢ Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably 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) – **None specified in plan set**.

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 Resident Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

4. Spill Prevention

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

- **Good Housekeeping:**

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

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

- **Hazardous Products:**

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

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

The following product-specific practices will be followed onsite:

- **Petroleum Products:**

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

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

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

- **Fertilizers:**

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

- **Paints:**

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

- **Concrete Truck Washout:**

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole.

Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a shallow earthen wash basin will be excavated away from ditches to receive the wash water

- **Spill Control Practices**

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

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contract with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill 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) – **None specified in plan set**.

E. Maintenance

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

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

- Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. (1)

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 received KyTC Grade Level II training or other qualification as prescribed by the cabinet that includes instruction concerning sediment and erosion control.
- 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 70 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

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

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

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

KyTC BMP Plan for Project PCN 5-80260

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

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

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

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

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

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

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

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

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

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

(a) General information about this project is covered in the Project information;
(b) Activities that require a groundwater protection plan have been identified above;
(c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
(d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
(e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job function(s). Training will be accomplished within one week of

employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.

(f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections

(g) Certification (see signature page.)

KyTC BMP Plan for Project PCN 5-80260

Contractor and Resident Engineer Plan certification

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

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

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

Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

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

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

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

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

Sub-Contractor Certification

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

Subcontractor

Name:
Address:
Address:

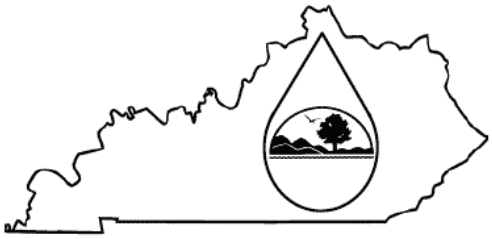
Phone:

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

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

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

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



KENTUCKY POLLUTION DISCHARGE ELIMINATION SYSTEM (KPDES)

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

Click here for Instructions (Controls/KPDES_FormKYR10_Instructions.htm)

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

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

Reason for Submittal:(*)	Agency Interest ID:	Permit Number:(✓)
Response to Notice of Deficiency	165770	KR10

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

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

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

SECTION I -- FACILITY OPERATOR INFORMATION (PERMITTEE)

Company Name:(✓)	First Name:(✓)	M.I.:	Last Name:(✓)
KYTC District 5	Matt	A	Bullock

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

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

SECTION II -- GENERAL SITE LOCATION INFORMATION

Project Name:(*)	Status of Owner/Operator(*)	SIC Code(*)
KYTC 5-80260 (5-8300) KY 146 RECONSTRUCTION - PRIORITY SEG. NO. 1A	State Government	1611 Highway and Street Consti

Company Name:(✓)	First Name:(✓)	M.I.:	Last Name:(✓)
KYTC District 5	First Name	MI	Last Name

Site Physical Address:(*)
Henry County - KY 146

City:(*)	State:(*)	Zip:(*)
Pendleton	Kentucky	40055

County:(*)	Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal)	Longitude(decimal degrees)(*)
Henry	38.452222	-85.294444

SECTION III -- SPECIFIC SITE ACTIVITY INFORMATION

Project Description:(*)
Bridge repairs on five (5) KY 146 bridges between KY 153 (MP 2.169) and US 421 (MP 9.80) at New Castle - PRIORITY SEG. NO. 1A . For explanation see Supplemental I

a. For single projects provide the following information

Total Number of Acres in Project:(✓)	Total Number of Acres Disturbed:(✓)

59.96	59.96
Anticipated Start Date:(✓)	Anticipated Completion Date:(✓)
2/1/2023	12/31/2024

b. For common plans of development provide the following information

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

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

	Company Name	
1		Delete
+		

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

Discharge Point(s):

	Unnamed Tributary?	Latitude	Longitude	Receiving Water Name	
1	Yes	38.440883	-85.243866	Bartlett Fork	Delete
2	Yes	38.441866	-85.244909	Bartlett Fork	Delete
3	Yes	38.442731	-85.246827	Bartlett Fork	Delete
4	Yes	38.443650	-85.248799	Bartlett Fork	Delete
5	Yes	38.444603	-85.250561	Bartlett Fork	Delete
6	Yes	38.445228	-85.251425	Bartlett Fork	Delete
7	Yes	38.445452	-85.251979	Bartlett Fork	Delete
8	Yes	38.446021	-85.253171	Bartlett Fork	Delete
9	Yes	38.446774	-85.254768	Bartlett Fork	Delete
10	Yes	38.447970	-85.256962	Bartlett Fork	Delete

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

Name of MS4:

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

	Latitude	Longitude	
+			

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

Will the project require construction activities in a water body or the riparian zone?:(*)	Yes
If Yes, describe scope of activity: (✓)	Construction of Piers and Abutments for Structure Widening over Little Kentucky F
Is a Clean Water Act 404 permit required?:(*)	Yes
Is a Clean Water Act 401 Water Quality Certification required?:(*)	Yes

SECTION VII -- NOI PREPARER INFORMATION

First Name:(*)	M.I.:	Last Name:(*)	Company Name:(*)
Anthony	K	Downs	KYTC DISTRICT 5

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

eMail Address:(*)	Business Phone:(*)	Alternate Phone:
keith.downs@ky.gov	5027640515	Phone

SECTION VIII -- ATTACHMENTS

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

SECTION IX -- CERTIFICATION

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

Signature:(*)	Title:(*)
Matt A Bullock	Chief District Engineer - Department of Highways District 5

First Name:(*)	M.I.:	Last Name:(*)
Matt	A	Bullock

eMail Address:(*)	Business Phone:(*)	Alternate Phone:	Signature Date:(*)
Matt.Bullock@ky.gov	5022105400	Phone	10/14/2022

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

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
TELEPHONE: 502-564-2150
TELEFAX: 502-564-4245

October 14, 2022

Matthew Bullock
KYTC District 5
8310 Westport Rd
Louisville, KY 40242-3042

Re: KYR10 Coverage Acknowledgment
KPDES No.: KYR10Q831
KYTC 5-80260 (5-8300) KY 146 RECONSTRUCTION - PRI
Permit Type: Construction Stormwater
AI ID: 165770
Henry County, Kentucky

Dear Matthew Bullock :

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

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

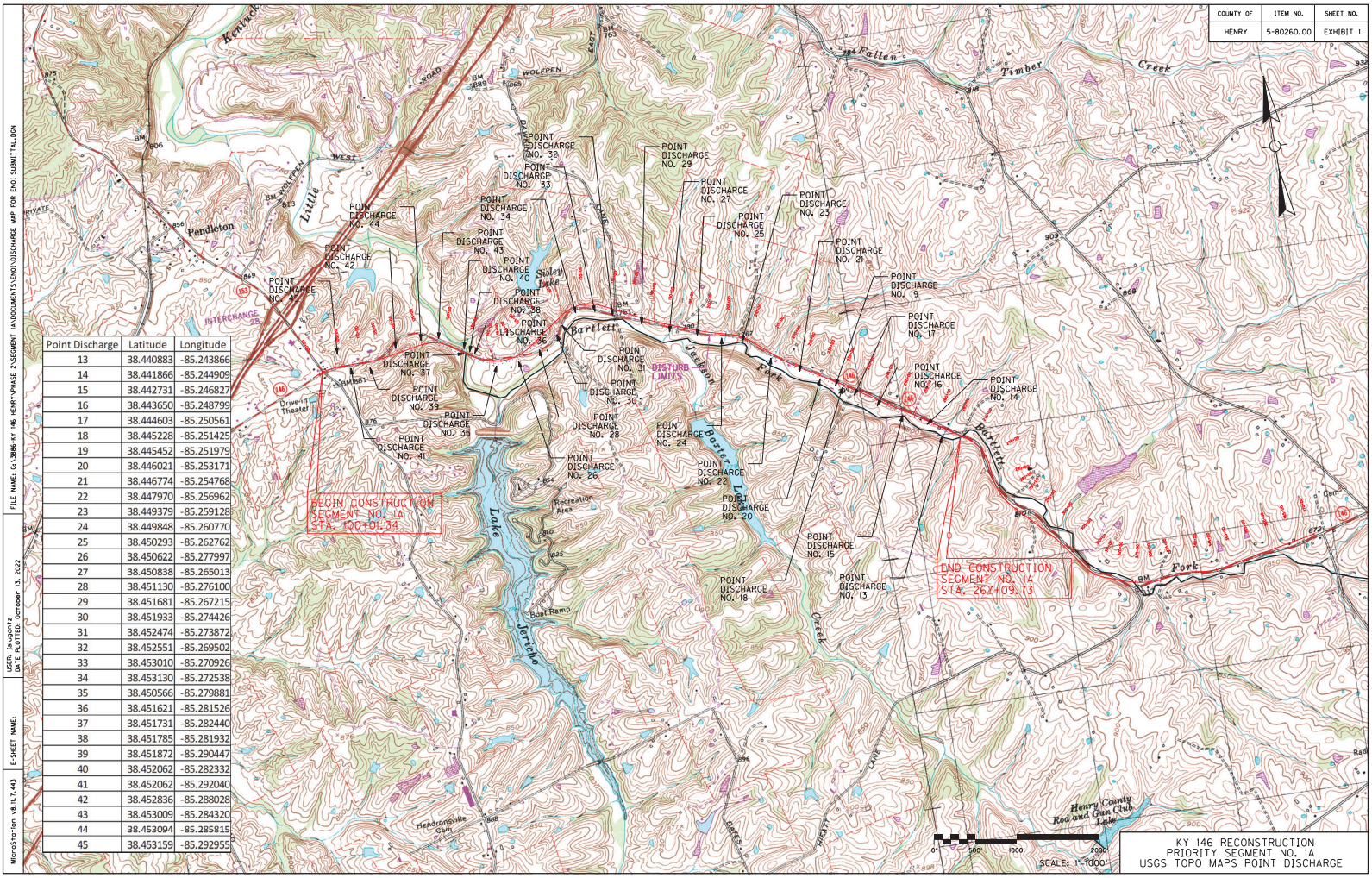
Any questions concerning the general permit and its requirements should be directed to me at 502-782-7123 or email me at Karina.Villanueva@ky.gov

Construction Site GPS Coordinates: 38.452222, -85.294444
Receiving Water: Bartlett Fork, Little Kentucky River

Sincerely,

Karina Villanueva
Surface Water Permits Branch
Division of Water
Signed by: Karina Villanueva

cc: Anthony Downs, eNOI Preparer
Matt Gross, Florence Regional Office



Point Discharge	Latitude	Longitude
13	38.440883	-85.243866
14	38.441866	-85.244909
15	38.442731	-85.246827
16	38.443650	-85.248799
17	38.444603	-85.250561
18	38.445228	-85.251425
19	38.445452	-85.251979
20	38.446021	-85.253171
21	38.446774	-85.254768
22	38.447970	-85.256962
23	38.449379	-85.259128
24	38.449848	-85.260770
25	38.450293	-85.262762
26	38.450622	-85.277997
27	38.450838	-85.265013
28	38.451130	-85.276100
29	38.451681	-85.267215
30	38.451933	-85.274426
31	38.452474	-85.273872
32	38.452551	-85.269502
33	38.453010	-85.270926
34	38.453130	-85.272538
35	38.450566	-85.279881
36	38.451621	-85.281526
37	38.451731	-85.282440
38	38.451785	-85.281932
39	38.451872	-85.290447
40	38.452062	-85.282332
41	38.452062	-85.292040
42	38.452836	-85.288028
43	38.453009	-85.284320
44	38.453094	-85.285815
45	38.453159	-85.292955

KENTUCKY TRANSPORTATION CABINET
COMMUNICATING ALL PROMISES (CAP)

Item No. 5 - 8300 **County:** Henry **Route:** 146 **Project Manager:** KEITH DOWNS

2/24/22

CAP #	Date of Promise	Promise made to:	Location of Promise:	CAP Description
1	8/21/19	John A. Clark	P 16	The driveway entrance will be replaced in-kind (concrete) per the plans.
2	8/21/19	Telia & Darrell Hayden	P 36	The drawings will be revised to show Parcel 36 receiving a gravel driveway, in lieu of the asphalt driveway shown on the current plans. The owner intends to construct a concrete driveway atop the gravel, at their own expense, in the future.
3	8/21/19	Mark & Susan Pittenger	P 40	• Property owner is permitted to salvage the impacted wood plank fence prior to the beginning of construction. Any fencing material remaining at time of construction will be cleared by project contractor. • The blacktop driveway will be paved at the expense of the KYTC and measuring 16 feet wide a length of 100 ft. as shown on the KYTC plans to accommodate commercial agricultural machinery to move freely in and out. • KYTC will give the owner a 30-day notice prior to construction beginning on subject property.
4	8/21/19	Morgan Bitel	P 42	Temporary fence for horses is needed if plank fence is disturbed.
5	8/21/19	Nancy & Michael Laney	P 44	It is understood that the trees adjacent to the existing R/W between stations 245+00 and 250+00 will not be disturbed, except within the const. easements.
6	8/21/19	Brian & Dawn Engle	P 62	• The Contractor shall give the Property Owner a two week notice prior to entering the property. • The driveway profile will be altered to create a low spot away from the garage that will be graded towards KY 146. • The existing graveled driveway, including the full width of the garage and turn around area, will be asphalted.
7	10/2/19	Oldham Farms Development, LLC	P 29	• Since the control of access on this project shall be by permit, the property owner shall submit an encroachment permit in accordance with KYTC requirements before extending the entrance stub at Sta. 177+00 RT onto their property.
8	10/2/19	Thomas Thompson	P 30	• A 12-foot wide farm entrance will be constructed at Sta 161+00 from the proposed roadway to the right-of-way as part of the Highway 146 Project.
9	10/2/19	Mark & Susan Pittenger	P 40	CAP #3 above is now superseded by the following: • Property owner is permitted to salvage the impacted wood plank fence prior to the beginning of construction. Any fencing material remaining at time of construction will be cleared by project contractor. • The blacktop driveway will be paved at the expense of the KYTC and measuring 16 feet wide a length of 100 ft. as shown on the KYTC plans to accommodate commercial agricultural machinery to move freely in and out. • KYTC will give the owner a 30-day notice prior to construction beginning on subject property. • The agreements contained in this MOU and the deeds of conveyance are enforceable to both parties listed below, and/or any successors, and assigns.
10	10/2/19	Ronald & Carol Pait	P 41	• The barn will be removed in its entirety and graded to match the surrounding area. All disturbed areas will receive seeding and protection.

GUARDRAIL DELIVERY VERIFICATION SHEET

Contract Id: _____ **Contractor: _____**

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

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

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

Printed Section Engineer's Representative_____ & Date_____

Signature Section Engineer's Representative_____& Date_____

Printed Contractor's Representative_____& Date_____

Signature Contractor's Representative_____& Date_____

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

Printed Bailey Bridge Yard Representative_____ & Date_____

Signature Bailey Bridge Yard Representative_____& Date_____

Printed Contractor's Representative_____& Date_____

Signature Contractor's Representative_____& Date_____

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

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

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

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

SUPPLEMENTAL SPECIFICATIONS

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

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

1I

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

1I

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

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

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

2.3 Power.

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

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

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

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

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

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

1I

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

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

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

11D

SPECIAL NOTE FOR ROCK BLASTING

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

1.0 DESCRIPTION. This work consists of fracturing rock and constructing stable final rock cut faces using presplit blasting and production blasting techniques.

2.0 MATERIALS. Deliver, store, and use explosives according to the manufacturer's recommendations and applicable laws. Do not use explosives outside their recommended use date. Verify date of manufacture and provide copies of the technical data sheets (TDS) and material safety data sheets (MSDS) to the Engineer. Explosives and initiating devices include, but are not necessarily limited to, dynamite and other high explosives, slurries, water gels, emulsions, blasting agents, initiating explosives, detonators, blasting caps, and detonating cord.

3.0 CONSTRUCTION. Furnish copies or other proof of all-applicable permits and licenses. Comply with Federal, State, and local regulations on the purchase, transportation, storage, and use of explosive material. Regulations include but are not limited to the following:

1) KRS 351.310 through 351.9901.
2) 805 KAR 4:005 through 4:165
3) Applicable rules and regulations issued by the Office of Mine Safety and Licensing.
4) Safety and health. OSHA, 29 CFR Part 1926, Subpart U.
5) Storage, security, and accountability. Bureau of Alcohol, Tobacco, and Firearms (BATF), 27 CFR Part 181.
6) Shipment. DOT, 49 CFR Parts 171-179, 390-397.

3.1 Blaster-in-Charge. Designate in writing a blaster-in-charge and any proposed alternates for the position. Submit documentation showing the blaster-in-charge, and alternates, have a valid Kentucky blaster's license. Ensure the blaster-in-charge or approved alternate is present at all times during blasting operations.

3.2 **Blasting Plans.** Blasting plans and reports are for quality control and record keeping purposes. Blasting reports are to be signed by the blaster-in-charge or the alternate blaster-in-charge. The general review and acceptance of blasting plans does not relieve the Contractor of the responsibility whatsoever for conformance to regulations or for obtaining the required results. All blasting plans shall be submitted to the Engineer. The Engineer will be responsible for submitting the plan to the Central Office Division of Construction and the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at the following address: 2 Hudson Hollow, Frankfort, Kentucky, 40601.

A) General Blasting Plan. Submit a general blasting plan for acceptance at least 15 working days before drilling operations begin. Include, as a minimum, the following safety and procedural details:

1) Working procedures and safety precautions for storing, transporting, handling, detonating explosives. Include direction on pre and post blast audible procedures, methods of addressing misfires, and methods of addressing inclement weather, including lightning.
2) Proposed product selection for both dry and wet holes. Furnish Manufacturer's TDS and MSDS for all explosives, primers, initiators, and other blasting devices.
3) Proposed initiation and delay methods.
4) Proposed format for providing all the required information for the site specific blasting shot reports.

B) Preblast Meeting. Prior to drilling operations, conduct a preblast meeting to discuss safety and traffic control issues and any site specific conditions that will need to be addressed. Ensure, at a minimum, that the Engineer or lead inspector, Superintendent, blaster-in-charge, and all personnel involved in the blasting operation are present. Site specific conditions include blast techniques; communication procedures; contingency plans and equipment for dealing with errant blast material. The conditions of the General Blasting plan will be discussed at this meeting. Record all revisions and additions made to the blasting plan and obtain written concurrence by the blaster-in-charge. Provide a copy of the signed blast plan to the Engineer along with the sign in sheet from the preblast meeting.

3.3 Preblast Condition Survey and Vibration Monitoring and Control. Before blasting, arrange for a preblast condition survey of nearby buildings, structures, or utilities, within 500 feet of the blast or that could be at risk from blasting damage. Provide the Engineer a listing of all properties surveyed and any owners denying entry or failing to respond. Notify the Engineer and occupants of buildings at risk at least 24 hours before blasting.

Limit ground vibrations and airblast to levels that will not exceed limits of 805 KAR 4:005 through 4:165. More restrictive levels may be specified in the Contract.

Size all blast designs based on vibration, distance to nearest building or utility, blast site geometry, atmospheric conditions and other factors. Ground vibrations are to be controlled according to the blasting standards and scaled distance formulas in 805 KAR 4:020 or by the use of seismographs as allowed in 805 KAR 4:030. The Department will require seismographs at the nearest allowable location to the protected site when blasting occurs within 500 feet of buildings, structures, or utilities.

3.4 Blasting. Drill and blast at the designated slope lines according to the blasting plan. Perform presplitting to obtain smooth faces in the rock and shale formations. Perform the presplitting before blasting and excavating the interior portion of the specified cross section at any location. The Department may allow blasting for fall benches and haul roads prior to presplitting when blasting is a sufficient distance from the final slope and results are satisfactory to the Engineer. Use the types of explosives and blasting accessories necessary to obtain the required results.

Free blast holes of obstructions for their entire depth. Place charges without caving the blast hole walls. Stem the upper portion of all blast holes with dry sand or other granular material passing the 3/8-inch sieve. Dry drill cuttings are acceptable for stemming when blasts are more than 800 feet from the nearest dwelling.

Stop traffic during blasting operations when blasting near any road and ensure traffic does not pass through the Danger Zone. The blaster-in-charge will define the Danger Zone prior to each blast. Ensure traffic is stopped outside the Danger Zone, and in no case within 800 feet of the blast location.

Following a blast, stop work in the entire blast area, and check for misfires before allowing worker to return to excavate the rock.

Remove or stabilize all cut face rock that is loose, hanging, or potentially dangerous. Leave minor irregularities or surface variations in place if they do not create a hazard. Drill the next lift only after the cleanup work and stabilization work is complete.

When blasting operations cause fracturing of the final rock face, repair or stabilize it in an approved manner at no cost to the Department.

Halt blasting operations in areas where any of the following occur:

1) Slopes are unstable;
2) Slopes exceed tolerances or overhangs are created;
3) Backslope damage occurs;
4) Safety of the public is jeopardized;
5) Property or natural features are endangered;
6) Fly rock is generated; or
7) Excessive ground or airblast vibrations occur in an area where damage to buildings, structures, or utilities is possible.
8) The Engineer determines that materials have become unsuitable for blasting

Blasting operations may continue at a reasonable distance from the problem area or in areas where the problems do not exist. Make the necessary modifications to the blasting operations and perform a test blast to demonstrate resolution of the problem.

A) Drill Logs. Maintain a layout drawing designating hole numbers with corresponding drill logs and provide a copy of this information to the blaster prior to loading the hole. Ensure the individual hole logs completed by the driller(s) show their name; date drilled; total depth drilled; and depths and descriptions of significant conditions encountered during drilling that may affect loading such as water, voids, changes in rock type.

B) Presplitting. Conduct presplitting operations in conformance with Subsection 204.03.04 of the Standard Specifications for Road and Bridge Construction.

3.5 Shot Report. Maintain all shot reports on site for review by the Department. Within one day after a blast, complete a shot report according to the record keeping requirements of 805 KAR 4:050. Include all results from airblast and seismograph monitoring.

3.6 Unacceptable Blasting. When unacceptable blasting occurs, the Department will halt all blasting operations. Blasting will not resume until the Department completes its investigation and all concerns are addressed. A blast is unacceptable when it results in fragmentation beyond the final rock face, fly rock, excessive vibration or airblast, overbreak, damage to the final rock face or overhang. Assume the cost for all resulting damages to private and public property and hold the Department harmless.

11D

When an errant blast or fly rock causes damage to or blocks a road or conveyance adjacent to the roadway, remove all debris from the roadway as quickly as practicable and perform any necessary repairs. Additionally, when specified in the Contract, the Department will apply a penalty.

Report all blasting accidents to the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at 502-564-2340.

4.0 MEASUREMENT AND PAYMENT. The Department will not measure this work for payment and will consider all items contained in this note to be incidental to either Roadway Excavation or Embankment-in-Place, as applicable. However, if the Engineer directs in writing slope changes, then the Department will pay for the second presplitting operation as Extra Work.

The Department will measure for payment material lying outside the typical section due to seams, broken formations, or earth pockets, including any earth overburden removed with this material, only when the work is performed under authorized adjustments.

The Department will not measure for payment any extra material excavated because of the drill holes being offset outside the designated slope lines.

The Department will not measure for payment any material necessary to be removed due to the inefficient or faulty blasting practices.

July 1, 2022

11E

SPECIAL NOTE FOR BORING AND JACKING STEEL PIPE WITHOUT CARRIER PIPE

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

1.0 DESCRIPTION. Bore and jack steel pipe. Use this note when no carrier pipe will be encased.

2.0 MATERIALS.

2.1 Pipe. Provide plain end steel pipe with a specific minimum yield strength, SMYS, of at least 35,000 psi and tensile strength of 60,000 psi per API-5L grade B material. The steel pipe supplied shall be manufactured by the seamless, electric-weld, submerged-arc weld or gas metal-arc well process as specified in API –5L. Certification of 35,000 psi SMYS shall be furnished by the supplier through the Contractor to the Engineer to retain 3 copies.

MINIMUM WALL THICKNESS FOR STEEL PIPE	
Nominal Diameter (Inches)	Wall Thickness (Inches)
18 or less	0.375
24	0.500
30	0.500
36	0.532
42	0.625

2.2 Grout. Conform to Subsection 601.03.03.

2.3 High Grade Bentonite. Conform to the following:

API 13A Section 4		
Requirement	Specification	Result
Viscometer Dial Reading at 600 rpm	30, minimum	40
Yield Point/Plastic Viscosity Ratio	3, maximum	3.00 maximum
Filtrate Volume	15 cm3, maximum	14.50 maximum
Residue greater than 75 micrometers	4.0 wt percent maximum	1.0-1.5 %
Moisture	10.0 wt percent maximum	9.0-9.5%

3.0 CONSTRUCTION. Perform the following:

1. Locate a suitable pit and obtain the Engineer's approval.
2. Excavate the pit or trenches for the BORE AND JACK operation and for placing the end joints of pipe, when required. Securely sheet and brace the pits or trenches to prevent caving, where necessary.

3. When installing pipe under railroads, highways, streets, or other facilities by Bore and Jack, perform construction without interfering with the facility operation or weakening the roadbed or structure.
4. Place excavated material near the top of the working pit and dispose of it as required. Use water or other fluids with the boring operation to lubricate the cuttings. Do not perform jetting.
5. In unconsolidated soil formations, use a gel-forming collodial drilling fluid with at least 10 percent of high grade bentonite to consolidate excavated material, seal the walls of the hole, and lubricate subsequent removal of material and immediate pipe installation.
6. Ensure that the diameter of the excavation conforms to the outside diameter of the pipe as closely as possible.
7. Pressure grout voids that develop during the installation operation and that the Engineer determines are detrimental to the Work.
8. To force the pipe through the roadbed into the bored space, use a jack with a head constructed to apply uniform pressure around the ring of the pipe, which shall be square cut.
9. Set the pipe to be jacked on guides, braced together to properly support the pipe section and to direct it to the proper line and grade.
10. When the installation is made by concurrent boring and jacking, solidly weld all joints. Ensure the weld is strong enough to withstand the forces exerted from the boring and jacking operations as well as the vertical loading imposed on the pipe after installation and that it provides a smooth, non-obstructing joint in the interior of the pipe.
11. When the pipe is installed in open trench, bed and backfill according to Section 701.
12. The line and grade from the pipe's final position, as shown on plans, may vary no more than 2 percent in lateral alignment and one percent in vertical grade. Ensure that the final grade of the flow line is in the direction indicated on the Plans.
13. Use a cutting edge around the head end. Extend it a short distance beyond the pipe end with inside angles or lugs to keep the cutting edge from slipping back into the pipe.
14. Once the pipe installation begins, proceed with the operation without interruption to prevent the pipe from becoming firmly set in the embankment.
15. Remove and replace pipe damaged in jacking operations.
16. After completing the installation, backfill the excavated pits and trenches with flowable fill according to Section 601.03.03 B) 5 a) if the pit is in median area where it will have pavement over it.

4.0 MEASUREMENT. The Department will measure the completed length of Bore and Jacked pipe through the flowline from end to end in linear feet. The Department will not measure pressure grouting voids or removal and replacement of pipe damaged in jacking operations for payment and will consider it incidental to Bore and Jack. When abandoning a bore hole due to mechanical malfunction, improper alignment, or other problems due to construction operations, the Department will not measure the backfill and relocation for payment and will consider it incidental to this item of work. When abandoning a bore hole due to an unforeseen physical obstruction or situation, the Department will measure the work according to a negotiated supplemental agreement.

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

11E

Code	Pay Item	Pay Unit
----	Bore and Jack, Size Pipe	Linear Foot

The Department will consider payment as full compensation for all materials, earthwork, shoring, pipe and work required under this section.

June 15, 2012

11F

SPECIAL NOTE FOR TURF REINFORCING MAT

1.0 DESCRIPTION. Install turf reinforcement mat at locations specified in the Contract or as the Engineer directs. Section references herein are to the Department's current Standard Specifications for Road and Bridge Construction.

2.0 MATERIALS.

2.1 Turf Reinforcement Mat (TRM). Use a Turf Reinforcement Mat defined as permanent rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a three-dimensional matrix of sufficient thickness and from the Department's List of Approved Materials. Mats must be 100% UV stabilized materials. For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting exclusively. Ensure product labels clearly show the manufacturer or supplier name, style name, and roll number. Ensure labeling, shipment and storage follows ASTM D-4873. The Department will require manufacturer to provide TRMs that are machine constructed web of mechanically or melt bonded nondegradable fibers entangled to form a three dimensional matrix. The Department will require all long term performance property values in table below to be based on non degradable portion of the matting alone. Approved methods include polymer welding, thermal or polymer fusion, or placement of fibers between two high strength biaxially oriented nets mechanically bound by parallel stitching with polyolefin thread. Ensure that mats designated in the plans as Type 4 mats, are not to be manufactured from discontinuous or loosely held together by stitching or glued netting or composites. Type 4 mats shall be composed of geosynthetic matrix that exhibits a very high interlock and reinforcement capacities with both soil and root systems and with high tensile modulus. The Department will require manufacturer to use materials chemically and biologically inert to the natural soil environments conditions. Ensure the blanket is smolder resistant without the use of chemical additives. When stored, maintain the protective wrapping and elevate the mats off the ground to protect them from damage. The Department will not specify these materials for use in heavily acidic coal seam areas or other areas with soil problems that would severally limit vegetation growth.

A) Dimensions. Ensure TRMs are furnished in strips with a minimum width of 4 feet and length of 50 feet.
B) Weight. Ensure that all mat types have a minimum mass per unit area of 7 ounces per square yard according to ASTM D 6566.
C) Performance Testing: The Department will require AASHTO's NTPEP index testing. The Department will also require the manufacturer to perform internal MARV testing at a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory for tensile strength, tensile elongation, mass per unit area, and thickness once every 24,000 yds of production or whatever rate is required to ensure 97.7% confidence under ASTM D4439& 4354. The Department will require Full scale testing for slope and channel applications shear stress shall be done under ASTM D 6459, ASTM D 6460-07 procedures.

2.2 Classifications

The basis for selection of the type of mat required will be based on the long term shear stress level of the mat of the channel in question or the degree of slope to protect and will be designated in the contract. The Type 4 mats are to be used at structural backfills protecting critical

structures, utility cuts, areas where vehicles may be expected to traverse the mat, channels with large heavy drift, and where higher factors of safety, very steep slopes and/or durability concerns are needed as determined by project team and designer and will be specified in the plans by designer.

Turf Reinforcement Matting					
Properties[1]	Type 1	Type 2	Type 3	Type 4	Test Method
Minimum tensile Strength lbs/ft	125	150	175	3000 by 1500	ASTM D6818[2]
UV stability (minimum % tensile retention)	80	80	80	90	ASTM D4355[3] (1000-hr exposure)
Minimum thickness (inches)	0.25	0.25	0.25	0.40	ASTM D6525
Slopes applications	2H:1V or flatter	1.5H:1V or flatter	1H:1V or flatter	1 H: 1V or greater	
Shear stress lbs/ft^2 Channel applications	6.0[4]	8.0[4]	10.0[4]	12.0[4]	ASTM D6459 ASTM D6460-07

[1] For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting alone.
[2]Minimum Average Roll Values for tensile strength of sample material machine direction.
[3]Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.
[4]Maximum permissible shear design values based on short-term (0.5 hr) vegetated data obtained by full scale flume testing ASTM D6459, D6460-07. Based on nondegradable components exclusively. Testing will be done at Independent Hydraulics Facility such as Colorado State University hydraulics laboratory, Utah State University hydraulics laboratory, Texas Transportation Institute (TTI) hydraulics and erosion control laboratory.

2.3 Quality Assurance Sampling, Testing, and Acceptance

A) Provide TRM listed on the Department's List of Approved Materials. Prior to inclusion on the LAM, the manufacturer of TRM must meet the physical and performance criteria as outlined in the specification and submit a Letter Certifying compliance of the product under the above ASTM testing procedures and including a copy of report from Full Scale Independent Hydraulics Facility that Fully Vegetated Shear Stress meets shear stress requirements tested under D6459 and D6460-07.

B) Contractors will provide a Letter of Certification from Manufacturer stating the product name, manufacturer, and that the product MARV product unit testing results meets Department criteria. Provide Letters once per project and for each product.

C) Acceptance shall be in accordance with ASTM D-4759 based on testing performed by a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory using Procedure A of ASTM D-4354.

Current mats meeting the above criteria are shown on the Department's List of Approved Materials.

2.4 Fasteners. When the mat manufacturer does not specify a specific fastener, use steel wire U-shaped staples with a minimum diameter of 0.09 inches (11 gauge), a minimum width of one inch and a minimum length of 12 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils as directed by Engineer or Manufacturer's Representative. Provide staples with colored tops when requested by the Engineer.

3.0 CONSTRUCTION. When requested by the Engineer, provide a Manufacturer's Representative on-site to oversee and approve the initial installation of the mat. When requested by the Engineer, provide a letter from the Manufacturer approving the installation. When there is a conflict between the Department's criteria and the Manufacturer's criteria, construct using the more restrictive. The Engineer and Manufacturer's Representative must approve all alternate installation methods prior to execution. Construct according to the Manufacturer's recommendations and the following as minimum installation technique:

3.1 Site Preparation. Grade areas to be treated with matting and compact. Remove large rocks, soil clods, vegetation, roots, and other sharp objects that could keep the mat from intimate contact with subgrade. Prepare seedbed by loosening the top 2 to 3 inch of soil.

3.2 Installation. Install mats according to Standard Drawing Sepias "Turf Mat Channel Installation" and "Turf Mat Slope Installation." Install mats at the specified elevation and alignment. Anchor the mats with staples with a minimum length of 12 inches. Use longer anchors for installations in sandy, loose, or wet soils as directed by the Engineer or Manufacturer's Representative. The mat should be in direct contact with the soil surface.

4.0 MEASUREMENT. The Department will measure the quantity of Turf Reinforcement Mat by the square yard of surface covered. The Department will not measure preparation of the bed, providing a Manufacturer's Representative, topsoil, or seeding for payment and will consider them incidental to the Turf Reinforcement Mat. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Turf Reinforcement Mat. Seeding and protection will be an incidental item.

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

Code	Pay Item	Pay Unit
23274EN11F	Turf Reinforcement Mat 1	Square Yard
23275EN11F	Turf Reinforcement Mat 2	Square Yard
23276EN11F	Turf Reinforcement Mat 3	Square Yard
23277EN11F	Turf Reinforcement Mat 4	Square Yard

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

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

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

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

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

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

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

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

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

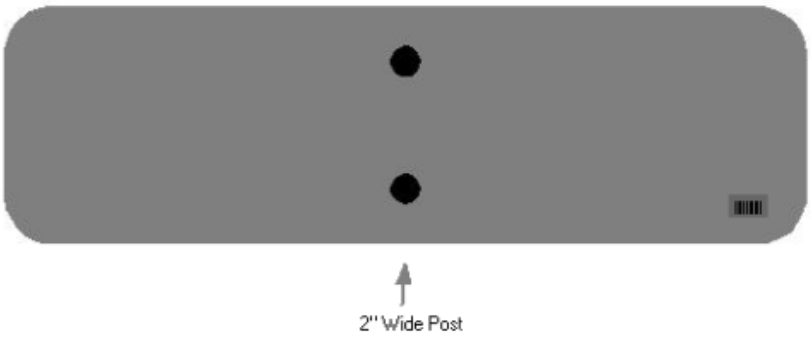
The installation of the permanent sign will be measured in accordance to Section 715.

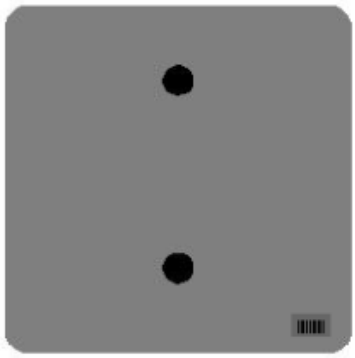
5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
24631EC	Barcode Sign Inventory	Each

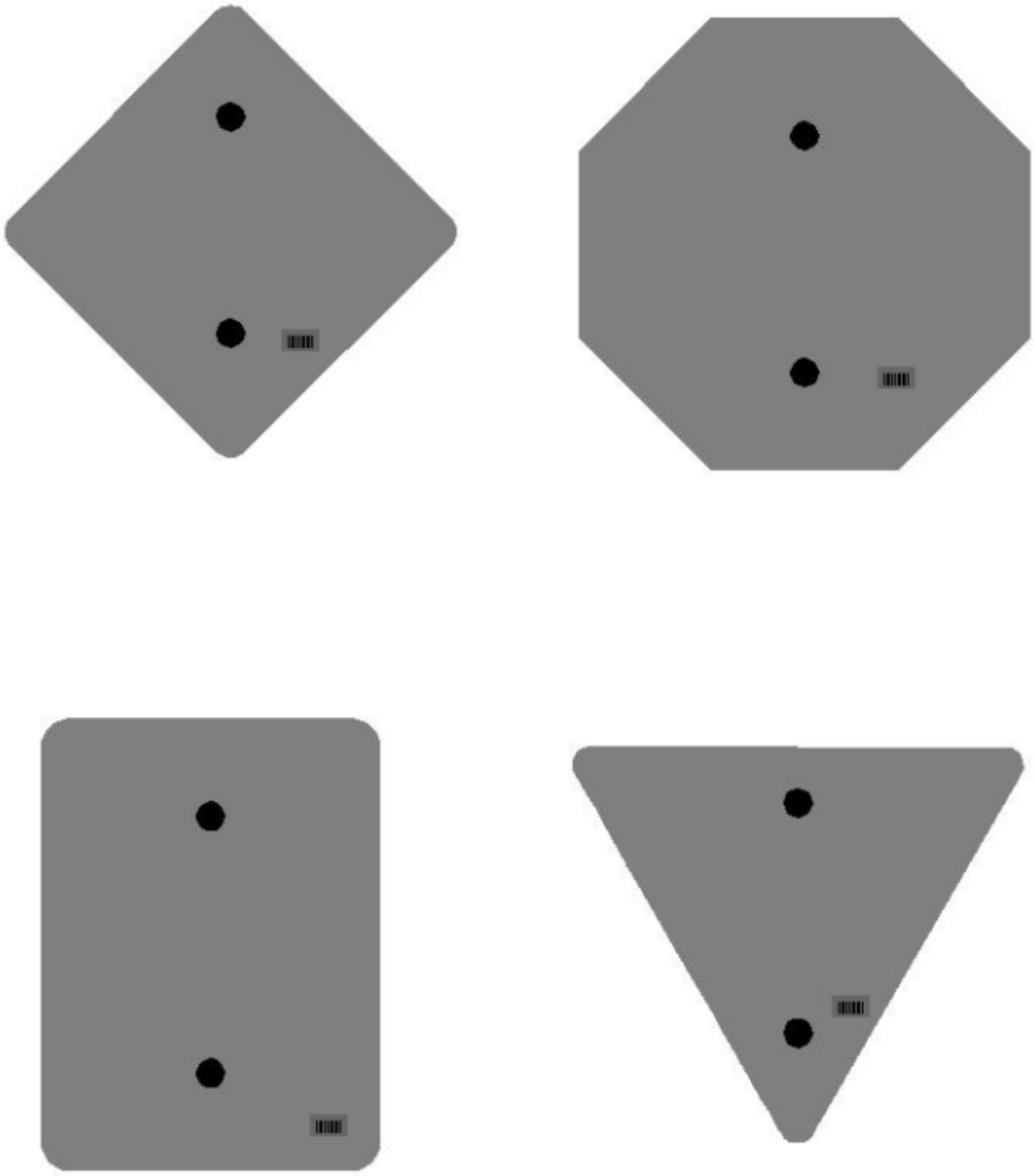
The Department will not make payment for this item until all barcodes are installed and sign inventory is complete on every permanent sign installed on the project. The Department will make payment for installation of the permanent sign in accordance to Section 715. The Department will consider payment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

One Sign Post

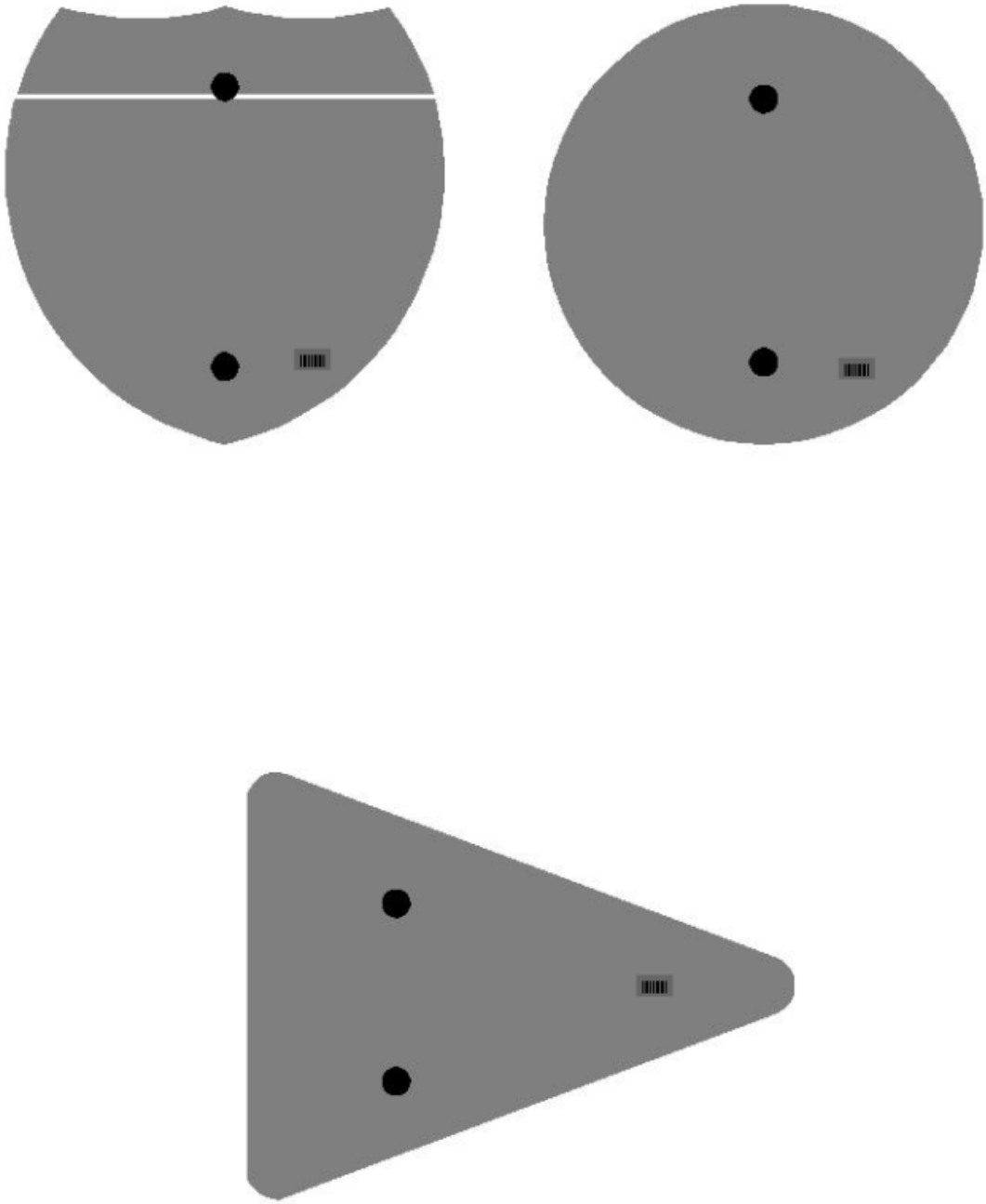




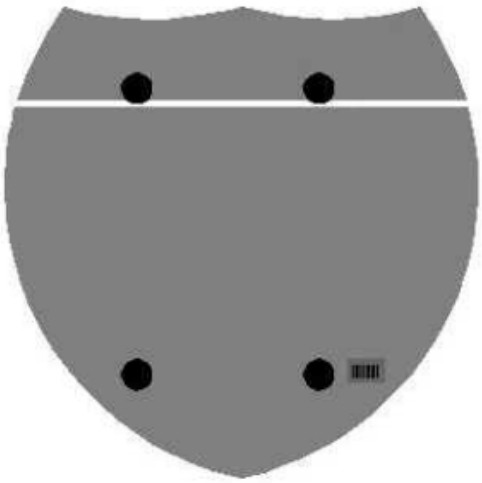
One Sign Post



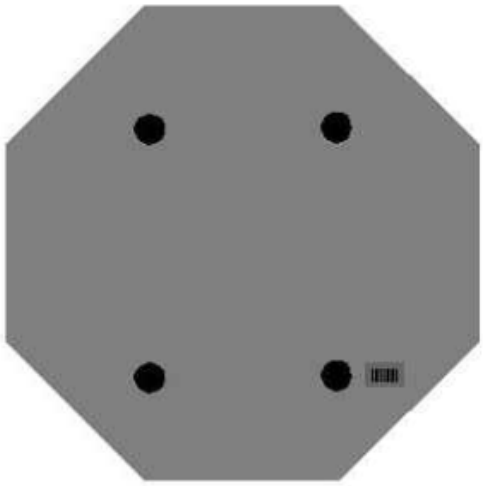
One Sign Post



Double Sign Post

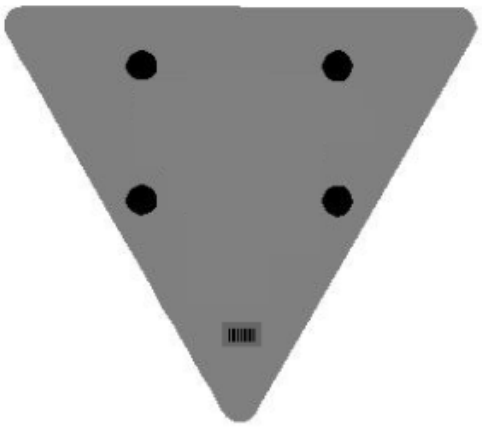


Interstate
Shield



48" Stop

2 Post Signs



SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES

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

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with soil, granular or cohesive pile core and place structure granular backfill, as the Plans require. Construct the embankment according to the requirements of this Special Provision, the Plans, Standard Drawing RGX 100 and 105, and the Standard Specifications, Current Edition.

2.0 MATERIALS.

2.1 Granular Embankment. Conform to Subsection 805.10. When Granular Embankment materials are erodible or unstable according to Subsection 805.03.04, use the Special Construction Methods found in 3.2 of the Special Provision.

2.2 Rock Embankment. Provide durable rock from roadway excavation that consists principally of Unweathered Limestone, Durable Shale (SDI equal to or greater than 95 according to KM 64-513), or Durable Sandstone.

2.3 Pile Core. Provide a pile core in the area of the embankments where deep foundations are to be installed unless otherwise specified. The Pile Core is the zone indicated on Standard Drawings RGX 100 and 105 designated as Pile Core. Material control of the pile core area during embankment construction is always required. Proper Pile Core construction is required for installation of foundation elements such as drilled or driven piles or drilled shafts. The type of material used to construct the pile core is as directed in the plans or below. Typically, the pile core area will be constructed from the same material used to construct the surrounding embankment. Pile Core can be classified as one of three types:

A) Pile Core - Conform to Section 206 of the Standard Specifications. Provide pile core material consisting of the same material as the adjacent embankment except the material in the pile core area shall be free of boulders or particle sizes larger than 4 inches in any dimension or any other obstructions that may hinder pile driving operations. If the pile core material hinders pile driving operations, take the appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

B) Granular Pile Core. Granular pile core is required only when specified in the plans. Select a gradation of durable rock to facilitate pile driving that conforms to Subsection 805.11. If granular pile core material hinders pile driving operations, take appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

C) Cohesive Pile Core. Cohesive Pile Core is required only when specified in the plans. Conform to Section 206 of the Standard Specifications and use soil with at least 50 percent passing a No. 4 sieve having a minimum Plasticity Index (PI) of 10. In addition, keep the cohesive pile core free of boulders, larger than 4 inches in any dimension, or any other obstructions, which would interfere with drilling operations. If cohesive pile core material interferes with drilling operations, take appropriate means necessary to maintain

excavation stability, at no expense to the Department.

2.4 Structure Granular Backfill. Conform to Subsection 805.11

2.5 Geotextile Fabric. Conform to Type I or Type IV in Section 214 and 843.

3.0 CONSTRUCTION.

3.1 General. Construct roadway embankments at end bents according to Section 206 and in accordance with the Special Provision, the Plans, and Standard Drawings for the full embankment section. In some instances, granular or rock embankment will be required for embankment construction for stability purposes, but this special provision does not prevent the use of soil when appropriate. Refer to the plans for specific details regarding material requirements for embankment construction.

Place and compact the pile core and structure granular backfill according to the applicable density requirements for the project. If the embankment and pile core are dissimilar materials (i.e., a granular pile core is used with a soil embankment or a cohesive pile core is used with a granular embankment), a Geotextile Fabric, Type IV, will be required between the pile core and embankment in accordance with Sections 214 and 843 of the Standard Specifications.

When granular or rock embankment is required for embankment construction, conform to the general requirements of Subsection 206.03.02 B. In addition, place the material in no greater than 2-foot loose lifts and compact with a vibrating smooth wheel roller capable of producing a minimum centrifugal force of 15 tons. Apply these requirements to the full width of the embankment for a distance of half the embankment height or 50 feet, whichever is greater, as shown on Standard Drawing RGX-105.

When using granular pile core, install 8-inch perforated underdrain pipe at or near the elevation of the original ground in the approximate locations depicted on the standard drawing, and as the Engineer directs, to ensure positive drainage of the embankment. Wrap the perforated pipe with a fabric of a type recommended by the pipe manufacturer.

After constructing the embankment, excavate for the end bent cap, drive piling, install shafts or other foundation elements, place the mortar bed, construct the end bent, and complete the embankment to finish grade according to the construction sequence shown on the Plans or Standard Drawings and as specified hereinafter.

Certain projects may require widening of existing embankments and the removal of substructures. Construct embankment according to the plans. Substructure removal shall be completed according to the plans and Section 203. Excavation may be required at the existing embankment in order to place the structure granular backfill as shown in the Standard Drawings.

After piles are driven or shafts installed (see design drawings), slope the bottom of the excavation towards the ends of the trench as noted on the plans for drainage. Using a separate pour, place concrete mortar, or any class concrete, to provide a base for forming and placing the cap. Place side forms for the end bent after the mortar has set sufficiently to support workmen and forms without being disturbed.

Install 4-inch perforated pipe in accordance with the plans and Standard Drawings. In the event slope protection extends above the elevation of the perforated pipe, extend the pipe through the slope protection.

After placing the end bent cap and achieving required concrete cylinder strengths, remove adjacent forms and fill the excavation with compacted structure granular backfill material (maximum 1’ loose lifts) to the level of the berm prior to placing beams for the bridge. Place Type IV geotextile fabric between embankment material and structure granular backfill. After completing the end bent backwall, or after completing the span end

wall, place the compacted structure granular backfill (maximum 1' loose lifts) to subgrade elevation. If the original excavation is enlarged, fill the entire volume with compacted structure granular backfill (maximum 1' loose lifts) at no expense to the Department. Do not place backfill before removing adjacent form work. Place structure granular backfill material in trench ditches at the ends of the excavation. Place Geotextile Fabric, Type IV over the surface of the compacted structure granular backfill prior to placing aggregate base course.

Tamp the backfill with hand tampers, pneumatic tampers, or other means approved by the Engineer. Thoroughly compact the backfill under the overhanging portions of the structure to ensure that the backfill is in intimate contact with the sides of the structure.

Do not apply seeding, sodding, or other vegetation to the exposed granular embankment.

3.2 Special Construction Methods. Erodible or unstable materials may erode even when protected by riprap or channel lining; use the special construction method described below when using these materials.

Use fine aggregates or friable sandstone granular embankment at "dry land" structures only. Do not use them at stream crossings or locations subject to flood waters.

For erodible or unstable materials having 50 percent or more passing the No. 4 sieve, protect with geotextile fabric. Extend the fabric from the original ground to the top of slope over the entire area of the embankment slopes on each side of, and in front of, the end bent. Cover the fabric with at least 12 inches of non-erodible material.

For erodible or unstable materials having less than 50 percent passing a No. 4 sieve, cover with at least 12 inches of non-erodible material.

Where erodible or unstable granular embankment will be protected by riprap or channel lining, place Type IV geotextile fabric between the embankment and the specified slope protection.

4.0 MEASUREMENT.

4.1 Granular Embankment. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment any Granular Embankment that is not called for in the plans.

The Department will not measure for payment any special construction caused by using erodible or unstable materials and will consider it incidental to the Granular Embankment regardless of whether the erodible or unstable material was specified or permitted.

4.2 Rock Embankment. The Department will not measure for payment any rock embankment and will consider it incidental to roadway excavation or embankment in place, as applicable. Rock embankments will be constructed using granular embankment on projects where there is no available rock present within the excavation limits of the project.

4.3 Pile Core. Pile core will be measured and paid under roadway excavation or embankment in place, as applicable. The Department will not measure the pile core for separate payment. The Department will not measure for payment the 8-inch perforated underdrain pipe and will consider it incidental to the Pile Core.

4.4 Structure Granular Backfill. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure any additional material required for backfill outside the limits shown on the Plans and Standard Drawings for payment and will

consider it incidental to the work.

The Department will not measure for payment the 4-inch perforated underdrain pipe and will consider it incidental to the Structure Granular Backfill.

4.5 Geotextile Fabric. The Department will not measure the quantity of fabric used for separating dissimilar materials when constructing the embankment and pile core and will consider it incidental to embankment construction.

The Department will not measure for payment the Geotextile Fabric used to separate the Structure Granular Backfill from the embankment and aggregate base course and will consider it incidental to Structure Granular Backfill.

The Department will not measure for payment the Geotextile Fabric required for construction with erodible or unstable materials and will consider it incidental to embankment construction.

4.6 End Bent. The Department will measure the quantities according to the Contract. The Department will not measure furnishing and placing the 2-inch mortar or concrete bed for payment and will consider it incidental to the end bent construction.

4.7 Structure Excavation. The Department will not measure structure excavation on new embankments for payment and will consider it incidental to the Structure Granular Backfill or Concrete as applicable.

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

Code	Pay Item	Pay Unit
02223	Granular Embankment	Cubic Yards
02231	Structure Granular Backfill	Cubic Yards

The Department will consider payment as full compensation for all work required in this provision.

September 16, 2016

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised July 5, 2022

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding (29 CFR 5.5)

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records (29 CFR 5.5)

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or

subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees (29 CFR 5.5)

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the

corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility (29 CFR 5.5)

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1 of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 1 of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1 of this section. 29 CFR 5.5.

* $27 as of January 23, 2019 (See 84 FR 213-01, 218) as may be adjusted annually by the Department of Labor; pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990).

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this section. 29 CFR 5.5.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 1 through 4 of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1 through 4 of this section. 29 CFR 5.5.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance

with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.326.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.326.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant

who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is

submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(a) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(b) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(c) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier

subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

EMPLOYMENT REQUIREMENTS
RELATING TO
NONDISCRIMINATION OF EMPLOYEES
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)

AN ACT OF THE KENTUCKY GENERAL ASSEMBLY TO PREVENT DISCRIMINATION IN EMPLOYMENT

KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:

    a. withholding payments to the contractor under the contract until the contractor complies; and/or
    b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

EXECUTIVE BRANCH CODE OF ETHICS

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

KRS 11A.040 (7) provides:

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

KRS 11A.040 (9) states:

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

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

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

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

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

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 1025 Capital Center Drive, Suite 104, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: May 23, 2022

"General Decision Number: KY20220038 11/04/2022

Superseded General Decision Number: KY20210038

State: Kentucky

Construction Type: Highway

Counties: Anderson, Bath, Bourbon, Boyd, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grant, Grayson, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Mason, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington and Woodford Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a

conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at https://www.dol.gov/agencies/whd/government-contracts.

Modification Number	Publication Date
0	01/07/2022
1	02/11/2022
2	02/18/2022
3	02/25/2022
4	05/06/2022
5	06/10/2022
6	06/24/2022
7	07/01/2022
8	08/05/2022
9	08/12/2022
10	11/04/2022

BRIN0004-003 06/01/2021

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER	$ 29.57	14.75

BRKY0001-005 06/01/2021

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 29.57	15.10

BRKY0002-006 06/01/2021

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 30.87	15.87

BRKY0007-004 06/01/2021

BOYD, CARTER, ELLIOT, FLEMING, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 36.19	19.54

BRKY0017-004 06/01/2021

ANDERSON, BATH, BOURBON, BOYLE, CLARK, FAYETTE, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, OWEN, SCOTT, WASHINGTON & WOODFORD COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 30.87	15.87

CARP0064-001 04/01/2022

	Rates	Fringes
CARPENTER	$ 30.84	22.19
Diver	$ 46.64	22.19
PILEDRIVERMAN	$ 31.09	22.19

ELEC0212-008 06/07/2022

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 33.29	20.05

ELEC0212-014 11/25/2019

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician	$ 24.35	12.09

ELEC0317-012 05/30/2022

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
ELECTRICIAN (Wiremen)	$ 35.85	28.25

ELEC0369-007 06/01/2022

ANDERSON, BATH, BOURBON, BOYLE, BRECKINRIDGE, BULLITT, CARROLL, CLARK, FAYETTE, FRAONKLIN, GRAYSON, HARDIN, HARRISON, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, MONTGOMERY, NELSON, NICHOLAS, OLDHAM, OWEN, ROBERTSON, SCOTT, SHELBY, SPENCER, TRIMBLE, WASHINGTON, & WOODFORD COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 34.60	19.57

---

* ELEC0575-002 05/30/2022

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 35.50	20.63

ENGI0181-018 07/01/2021

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 34.80	17.85
GROUP 2	$ 31.94	17.85
GROUP 3	$ 32.39	17.85
GROUP 4	$ 31.62	17.85

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Conrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points; & Whirley Oiler

GROUP 3 - All Off Road Material Handling Equipment, including Articulating Dump Trucks; Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine; Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler; Paving Joint Machine; Power Form Handling Equipment; Pump; Roller (Earth); Steerman; Tamping Machine; Tractor (Under 50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling leads equals or exceeds 150 ft. - $1.00 over Group 1 rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID 10%
ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT WORK.

IRON0044-009 06/01/2022

BRACKEN, GALLATIN, GRANT, HARRISON, ROBERTSON,

BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);
CARROLL (Eastern third, including the Township of Ghent);
FLEMING (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
MASON (Western two-thirds, including Townships of Dover, Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);
NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);
OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);
SCOTT (Northern two-thirds, including Townships of Biddle, Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall)

	Rates	Fringes
IRONWORKER		
Fence Erector	$ 30.28	22.30
Structural	$ 31.87	22.30

IRON0070-006 06/01/2022

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN, GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE, WASHINGTON & WOODFORD
BOURBON (Southern two-thirds, including Townships of Austerlity, Centerville, Clintonville, Elizabeth, Hutchison, Littlerock, North Middletown & Paris);
CARROLL (Western two-thirds, including Townships of Carrollton, Easterday, English, Locust, Louis, Prestonville & Worthville);
CLARK (Western two-thirds, including Townships of Becknerville, Flanagan, Ford, Pine Grove, Winchester & Wyandotte);
OWEN (Eastern eighth, including Townships of Glenmary, Gratz, Monterey, Perry Park & Tacketts Mill);
SCOTT (Southern third, including Townships of Georgetown, Great Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER	$ 31.79	24.30

IRON0769-007 06/01/2022

BATH, BOYD, CARTER, ELLIOTT, GREENUP, LEWIS, MONTGOMERY & ROWAN
CLARK (Eastern third, including townships of Bloomingdale, Hunt, Indian Fields, Kiddville, Loglick, Rightangele & Thomson);
FLEMING (Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
MASON (Eastern third, including Townships of Helena, Marshall, Orangeburg, Plumville & Springdale);

NICHOLAS (Eastern eighth, including the Township of Moorefield Sprout)

	Rates	Fringes
IRONWORKER		
ZONE 1	$ 33.71	27.69
ZONE 2	$ 34.11	27.69
ZONE 3	$ 35.71	27.69

ZONE 1 - (no base rate increase) Up to 10 mile radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 2 - (add $0.40 per hour to base rate) 10 to 50 mile radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 3 - (add $2.00 per hour to base rate) 50 mile radius & over of Union Hall, 1643 Greenup Ave, Ashland, KY.

LABO0189-003 07/01/2022

BATH, BOURBON, BOYD, BOYLE, BRACKEN, CARTER, CLARK, ELLIOTT, FAYETTE, FLEMING, FRANKLIN, GALLATIN, GRANT, GREENUP, HARRISON, JESSAMINE, LEWIS, MADISON, MASON, MERCER, MONTGOMERY, NICHOLAS, OWEN, ROBERTSON, ROWAN, SCOTT, & WOOLFORD COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 23.76	17.12
GROUP 2	$ 24.01	17.12
GROUP 3	$ 24.06	17.12
GROUP 4	$ 24.66	17.12

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

---

LABO0189-008 07/01/2022

ANDERSON, BULLITT, CARROLL, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 23.76	17.12
GROUP 2	$ 24.01	17.12
GROUP 3	$ 24.06	17.12
GROUP 4	$ 24.66	17.12

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal

Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

---

LABO0189-009 07/01/2022

BRECKINRIDGE & GRAYSON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 23.76	17.12
GROUP 2	$ 24.01	17.12
GROUP 3	$ 24.06	17.12
GROUP 4	$ 24.66	17.12

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

---

PAIN0012-005 06/11/2005

BATH, BOURBON, BOYLE, CLARK, FAYETTE, FLEMING, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, ROBERTSON, SCOTT & WOODFORD COUNTIES:

	Rates	Fringes

PAINTER
Bridge/Equipment Tender
and/or Containment Builder..$ 18.90 5.90
Brush & Roller.....$ 21.30 5.90
Elevated Tanks;
Steeplejack Work; Bridge &
Lead Abatement.....$ 22.30 5.90
Sandblasting &
Waterblasting.....$ 22.05 5.90
Spray.....$ 21.80 5.90

PAIN0012-017 05/01/2015

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

	Rates	Fringes
PAINTER (Heavy & Highway Bridges - Guardrails - Lightpoles - Striping)		
Bridge Equipment Tender and Containment Builder	$ 20.73	9.06
Brush & Roller	$ 23.39	9.06
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement	$ 24.39	9.06
Sandblasting & Water Blasting	$ 24.14	9.06
Spray	$ 23.89	9.06

PAIN0118-004 06/01/2018

ANDERSON, BRECKINRIDGE, BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES:

	Rates	Fringes
PAINTER		
Brush & Roller	$ 22.00	12.52
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning	$ 23.00	12.52

PAIN1072-003 12/01/2021

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations	$ 35.06	21.15
Power Generating Facilities	$ 31.82	21.15

PLUM0248-003 06/01/2022

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
Plumber and Steamfitter	$ 38.50	22.40

---

* PLUM0392-007 06/01/2022

BRACKEN, CARROLL (Eastern Half), GALLATIN, GRANT, MASON, OWEN & ROBERTSON COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters.........	$ 36.81	27.35

PLUM0502-003 08/01/2021

BRECKINRIDGE, BULLITT, CARROLL (Western Half), FRANKLIN (Western three-fourths), GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

	Rates	Fringes
PLUMBER..........................	$ 38.07	20.78

SUKY2010-160 10/08/2001

	Rates	Fringes
Truck drivers:		
GROUP 1.....................	$ 16.57	7.34
GROUP 2.....................	$ 16.68	7.34
GROUP 3.....................	$ 16.86	7.34
GROUP 4.....................	$ 16.96	7.34

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Mobile Batch Truck Tender

GROUP 2 - Greaser; Tire Changer; & Mechanic Tender

GROUP 3 - Single Axle Dump; Flatbed; Semi-trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Distributor; Mixer; & Truck Mechanic

GROUP 4 - Euclid & Other Heavy Earthmoving Equipment & Lowboy; Articulator Cat; 5-Axle Vehicle; Winch & A-Frame when used in transporting materials; Ross Carrier; Forklift when used to transport building materials; & Pavement Breaker

---

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including

preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material,

etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISIO"

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Director
Division of Construction Procurement
Frankfort, Kentucky 40622
502-564-3500

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
9.6%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609

4. As used in this Notice, and in the contract resulting from this solicitation, the **"covered area"** is Henry County.

PART IV

INSURANCE

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

PART V

BID ITEMS

221063

PROPOSAL BID ITEMS

Report Date 11/16/22

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	37,079.00	TON		$	
0020	00008		CEMENT STABILIZED ROADBED	81,531.00	SQYD		$	
0030	00020		TRAFFIC BOUND BASE	5,000.00	TON		$	
0040	00100		ASPHALT SEAL AGGREGATE	294.00	TON		$	
0050	00103		ASPHALT SEAL COAT	36.00	TON		$	
0060	00190		LEVELING & WEDGING PG64-22	2,485.00	TON		$	
0070	00212		CL2 ASPH BASE 1.00D PG64-22	23,328.00	TON		$	
0080	00301		CL2 ASPH SURF 0.38D PG64-22	428.00	TON		$	
0090	00307		CL2 ASPH SURF 0.38B PG64-22	6,762.00	TON		$	
0100	00358		ASPHALT CURING SEAL	82.00	TON		$	
0110	02101		CEM CONC ENT PAVEMENT-8 IN	586.00	SQYD		$	
0120	02542		CEMENT	2,311.00	TON		$	
0130	02702		SAND FOR BLOTTER	204.00	TON		$	
0140	20071EC		JOINT ADHESIVE	50,448.00	LF		$	
0150	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	72.00	TON		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0160	00078		CRUSHED AGGREGATE SIZE NO 2	1,227.00	TON		$	
0170	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		$	
0180	01310		REMOVE PIPE	112.00	LF		$	
0190	01691		FLUME INLET TYPE 2	2.00	EACH		$	
0200	01891		ISLAND HEADER CURB TYPE 2	70.00	LF		$	
0210	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	68.00	EACH		$	
0220	02014		BARRICADE-TYPE III	6.00	EACH		$	
0230	02091		REMOVE PAVEMENT	7,943.00	SQYD		$	
0240	02159		TEMP DITCH	8,274.00	LF		$	
0250	02200		ROADWAY EXCAVATION	267,576.00	CUYD		$	
0260	02242		WATER	1,000.00	MGAL		$	
0270	02351		GUARDRAIL-STEEL W BEAM-S FACE	3,387.50	LF		$	
0280	02360		GUARDRAIL TERMINAL SECTION NO 1	9.00	EACH		$	
0290	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	2.00	EACH		$	
0300	02373		GUARDRAIL END TREATMENT TYPE 3	1.00	EACH		$	
0310	02381		REMOVE GUARDRAIL	1,746.00	LF		$	
0320	02391		GUARDRAIL END TREATMENT TYPE 4A	11.00	EACH		$	
0330	02397		TEMP GUARDRAIL	362.50	LF		$	
0340	02429		RIGHT-OF-WAY MONUMENT TYPE 1	160.00	EACH		$	
0350	02432		WITNESS POST	4.00	EACH		$	
0360	02483		CHANNEL LINING CLASS II	738.00	TON		$	
0370	02484		CHANNEL LINING CLASS III	689.00	TON		$	
0380	02545		CLEARING AND GRUBBING (APPROX. 59.96 ACRES)	1.00	LS		$	
0390	02555		CONCRETE-CLASS B	1.00	CUYD		$	

221063

PROPOSAL BID ITEMS

Report Date 11/16/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	02562		TEMPORARY SIGNS	800.00	SQFT		$	
0410	02585		EDGE KEY	247.00	LF		$	
0420	02602		FABRIC-GEOTEXTILE CLASS 1	3,544.00	SQYD		$	
0430	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0440	02651		DIVERSIONS (BY-PASS DETOURS) DIVERSION #1 12' RT. STA. 250+00 TO 12' RT. STA. 264+50	1.00	LS		$	
0450	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		$	
0460	02696		SHOULDER RUMBLE STRIPS	34,456.00	LF		$	
0470	02701		TEMP SILT FENCE	8,274.00	LF		$	
0480	02704		SILT TRAP TYPE B	60.00	EACH		$	
0490	02705		SILT TRAP TYPE C	60.00	EACH		$	
0500	02707		CLEAN SILT TRAP TYPE B	60.00	EACH		$	
0510	02708		CLEAN SILT TRAP TYPE C	60.00	EACH		$	
0520	02720		SIDEWALK-4 IN CONCRETE	4.00	SQYD		$	
0530	02726		STAKING	1.00	LS		$	
0540	02731		REMOVE STRUCTURE 2.5' X 1.5' RCBC STA. 245+37	1.00	LS		$	
0550	02731		REMOVE STRUCTURE 2.5' X 2.5' RCBC STA. 149+22	1.00	LS		$	
0560	02731		REMOVE STRUCTURE 3' X 2' RCBC STA. 230+46	1.00	LS		$	
0570	02731		REMOVE STRUCTURE 3' X 3' RCBC STA. 239+71	1.00	LS		$	
0580	02731		REMOVE STRUCTURE 3' X 3' RCBC STA. 258+32	1.00	LS		$	
0590	02731		REMOVE STRUCTURE 4' X 3' RCBC STA. 167+15	1.00	LS		$	
0600	02731		REMOVE STRUCTURE 4' X 4' RCBC STA. 177+45	1.00	LS		$	
0610	02731		REMOVE STRUCTURE 5' X 4' RCBC STA. 251+94	1.00	LS		$	
0620	02731		REMOVE STRUCTURE 6' X 4' RCBC STA. 184+62	1.00	LS		$	
0630	02731		REMOVE STRUCTURE 6' X 4' RCBC STA. 209+40	1.00	LS		$	
0640	02731		REMOVE STRUCTURE 8' X 4' RCBC STA. 204+17	1.00	LS		$	
0650	02731		REMOVE STRUCTURE 8' X 4' RCBC STA. 263+35	1.00	LS		$	
0660	02731		REMOVE STRUCTURE 8' X 6' RCBC STA. 191+65	1.00	LS		$	
0670	02731		REMOVE STRUCTURE DOUBLE 10' X 6' RCBC STA. 217+75	1.00	LS		$	
0680	05950		EROSION CONTROL BLANKET	17,902.00	SQYD		$	
0690	05952		TEMP MULCH	193,506.00	SQYD		$	
0700	05953		TEMP SEEDING AND PROTECTION	145,130.00	SQYD		$	
0710	05963		INITIAL FERTILIZER	10.00	TON		$	
0720	05964		MAINTENANCE FERTILIZER	10.00	TON		$	
0730	05985		SEEDING AND PROTECTION	168,586.00	SQYD		$	
0740	05989		SPECIAL SEEDING CROWN VETCH	72,269.00	SQYD		$	
0750	05992		AGRICULTURAL LIMESTONE	191.00	TON		$	
0760	06511		PAVE STRIPING-TEMP PAINT-6 IN	25,442.00	LF		$	
0770	06515		PAVE STRIPING-PERM PAINT-6 IN	58,371.00	LF		$	

221063

PROPOSAL BID ITEMS

Report Date 11/16/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0780	06531		PAVE STRIPING REMOVAL-6 IN	6,360.00	LF		$	
0790	06568		PAVE MARKING-THERMO STOP BAR-24IN	28.00	LF		$	
0800	10020NS		FUEL ADJUSTMENT	145,411.00	DOLL	$1.00	$	$145,411.00
0810	10030NS		ASPHALT ADJUSTMENT	119,313.00	DOLL	$1.00	$	$119,313.00
0820	20191ED		OBJECT MARKER TY 3	11.00	EACH		$	
0830	20458ES403		CENTERLINE RUMBLE STRIPS	16,709.00	LF		$	
0840	20550ND		SAWCUT PAVEMENT	247.00	LF		$	
0850	20738NS112		TEMP CRASH CUSHION	6.00	EACH		$	
0860	23007EN		CONC MEDIAN BARRIER TY 9T	650.00	LF		$	
0870	23019EN		ASPHALT MILLING AND TEXTURING	400.00	SQYD		$	
0880	23274EN11F		TURF REINFORCEMENT MAT 1	13,626.00	SQYD		$	
0890	23275EN11F		TURF REINFORCEMENT MAT 2	24.00	SQYD		$	
0900	23276EN11F		TURF REINFORCEMENT MAT 3	24.00	SQYD		$	
0910	23277EN11F		TURF REINFORCEMENT MAT 4	32.00	SQYD		$	
0920	24814EC		PIPELINE INSPECTION	2,108.00	LF		$	
0930	25078ED		THRIE BEAM GUARDRAIL TRANSITION TL-3	4.00	EACH		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0940	00440		ENTRANCE PIPE-15 IN	681.00	LF		$	
0950	00441		ENTRANCE PIPE-18 IN	88.00	LF		$	
0960	00443		ENTRANCE PIPE-24 IN	236.00	LF		$	
0970	00462		CULVERT PIPE-18 IN	50.00	LF		$	
0980	00464		CULVERT PIPE-24 IN	509.00	LF		$	
0990	00466		CULVERT PIPE-30 IN	198.00	LF		$	
1000	00468		CULVERT PIPE-36 IN	139.00	LF		$	
1010	00469		CULVERT PIPE-42 IN	329.00	LF		$	
1020	00470		CULVERT PIPE-48 IN	335.00	LF		$	
1030	00471		CULVERT PIPE-54 IN	420.00	LF		$	
1040	00472		CULVERT PIPE-60 IN	127.00	LF		$	
1050	00473		CULVERT PIPE-66 IN	151.00	LF		$	
1060	00498		CULVERT PIPE-42 IN EQUIV	79.00	LF		$	
1070	00505		CULVERT PIPE-78 IN EQUIV	71.00	LF		$	
1080	00521		STORM SEWER PIPE-15 IN	354.00	LF		$	
1090	00524		STORM SEWER PIPE-24 IN	85.00	LF		$	
1100	00528		STORM SEWER PIPE-36 IN	364.21	LF		$	
1110	01000		PERFORATED PIPE-4 IN	2,509.00	LF		$	
1120	01010		NON-PERFORATED PIPE-4 IN	1,036.00	LF		$	
1130	01020		PERF PIPE HEADWALL TY 1-4 IN	4.00	EACH		$	
1140	01028		PERF PIPE HEADWALL TY 3-4 IN	19.00	EACH		$	
1150	01032		PERF PIPE HEADWALL TY 4-4 IN	9.00	EACH		$	
1160	01204		PIPE CULVERT HEADWALL-18 IN	2.00	EACH		$	
1170	01208		PIPE CULVERT HEADWALL-24 IN	7.00	EACH		$	
1180	01210		PIPE CULVERT HEADWALL-30 IN	4.00	EACH		$	
1190	01212		PIPE CULVERT HEADWALL-36 IN	5.00	EACH		$	
1200	01214		PIPE CULVERT HEADWALL-42 IN	4.00	EACH		$	
1210	01216		PIPE CULVERT HEADWALL-48 IN	4.00	EACH		$	

PROPOSAL BID ITEMS

221063

Report Date 11/16/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1220	01220		PIPE CULVERT HEADWALL-60 IN	2.00	EACH		$	
1230	01222		PIPE CULVERT HEADWALL-66 IN	2.00	EACH		$	
1240	01398		METAL END SECTION TY 3-54 IN	1.00	EACH		$	
1250	01424		METAL END SECTION TY 4-42 IN (EQUIV)	2.00	EACH		$	
1260	01425		METAL END SECTION TY 3-78 IN (EQUIV)	2.00	EACH		$	
1270	01451		S & F BOX INLET-OUTLET-24 IN	3.00	EACH		$	
1280	01452		S & F BOX INLET-OUTLET-30 IN	2.00	EACH		$	
1290	01496		DROP BOX INLET TYPE 3	2.00	EACH		$	
1300	01767		MANHOLE TYPE C	2.00	EACH		$	
1310	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	7,419.00	SQYD	$2.00	$	$14,838.00
1320	08100		CONCRETE-CLASS A	1.68	CUYD		$	
1330	21799EN		BORE AND JACK PIPE-24 IN	55.00	LF		$	
1340	23332EC		BORE AND JACK PIPE-42 IN	62.00	LF		$	
1350	23952EC		DRAINAGE JUNCTION BOX TY B	1.00	EACH		$	
1360	24026EC		PIPE CULVERT HEADWALL-54 IN	5.00	EACH		$	
1370	24186EC		BORE AND JACK PIPE-36 IN	60.00	LF		$	
1380	26181EC		BORE AND JACK PIPE-60 IN	55.00	LF		$	
1390	26182EC		BORE AND JACK PIPE-66 IN	60.00	LF		$	

Section: 0004 - BRIDGE - NO. 27328 - STA. 135+77.74 BRIDGE WIDENING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1400	02231		STRUCTURE GRANULAR BACKFILL	92.00	CUYD		$	
1410	02403		REMOVE CONCRETE MASONRY	54.00	CUYD		$	
1420	03299		ARMORED EDGE FOR CONCRETE	41.50	LF		$	
1430	08001		STRUCTURE EXCAVATION-COMMON	214.00	CUYD		$	
1440	08002		STRUCTURE EXCAV-SOLID ROCK	23.00	CUYD		$	
1450	08019		CYCLOPEAN STONE RIP RAP	409.00	TON		$	
1460	08033		TEST PILES	50.00	LF		$	
1470	08046		PILES-STEEL HP12X53	107.00	LF		$	
1480	08094		PILE POINTS-12 IN	8.00	EACH		$	
1490	08100		CONCRETE-CLASS A	96.60	CUYD		$	
1500	08104		CONCRETE-CLASS AA	103.50	CUYD		$	
1510	08150		STEEL REINFORCEMENT	10,024.00	LB		$	
1520	08151		STEEL REINFORCEMENT-EPOXY COATED	23,648.00	LB		$	
1530	08504		EPOXY SAND SLURRY	33.40	SQYD		$	
1540	08534		CONCRETE OVERLAY-LATEX	19.90	CUYD		$	
1550	08549		BLAST CLEANING	634.00	SQYD		$	
1560	08551		MACHINE PREP OF SLAB	351.00	SQYD		$	
1570	08632		PRECAST PC I BEAM TYPE 2	250.70	LF		$	
1580	20663ED		REPLACE ARMORED EDGE	52.10	LF		$	
1590	21532ED		RAIL SYSTEM TYPE III	257.30	LF		$	
1600	23378EC		CONCRETE SEALING	4,895.00	SQFT		$	
1610	24094EC		PARTIAL DEPTH PATCHING	10.50	CUYD		$	

Section: 0005 - BRIDGE - NO. 27329 - STA. 217+86.12 20' X 7' RCBC

PROPOSAL BID ITEMS

221063

Report Date 11/16/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1620	08002		STRUCTURE EXCAV-SOLID ROCK	188.00	CUYD		$	
1630	08003		FOUNDATION PREPARATION	1.00	LS		$	
1640	08100		CONCRETE-CLASS A	281.50	CUYD		$	
1650	08150		STEEL REINFORCEMENT	31,648.00	LB		$	

Section: 0006 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1660	06406		SBM ALUM SHEET SIGNS .080 IN	488.00	SQFT		$	
1670	06407		SBM ALUM SHEET SIGNS .125 IN	30.00	SQFT		$	
1680	06410		STEEL POST TYPE 1	452.00	LF		$	
1690	06412		STEEL POST MILE MARKERS	6.00	EACH		$	
1700	20418ED		REMOVE & RELOCATE SIGNS	3.00	EACH		$	
1710	24631EC		BARCODE SIGN INVENTORY	42.00	EACH		$	

Section: 0007 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1720	14002		W AIR RELEASE VALVE SPECIAL	1.00	EACH		$	
1730	14005		W ENCASEMENT CONCRETE	500.00	LF		$	
1740	14007		W ENCASEMENT STEEL BORED RANGE 2	140.00	LF		$	
1750	14008		W ENCASEMENT STEEL BORED RANGE 3	275.00	LF		$	
1760	14012		W ENCASEMENT STEEL OPEN CUT RANGE 1	80.00	LF		$	
1770	14013		W ENCASEMENT STEEL OPEN CUT RANGE 2	20.00	LF		$	
1780	14014		W ENCASEMENT STEEL OPEN CUT RANGE 3	260.00	LF		$	
1790	14023		W FLUSHING ASSEMBLY	2.00	EACH		$	
1800	14025		W METER 1 INCH	8.00	EACH		$	
1810	14030		W METER RELOCATE	5.00	EACH		$	
1820	14057		W PIPE PVC 03 INCH	730.00	LF		$	
1830	14059		W PIPE PVC 06 INCH	12,510.00	LF		$	
1840	14074		W PLUG EXISTING MAIN	2.00	EACH		$	
1850	14077		W SERV PE/PLST LONG SIDE 1 IN	3.00	EACH		$	
1860	14079		W SERV PE/PLST LONG SIDE 2 IN	3.00	EACH		$	
1870	14082		W SERV PE/PLST SHORT SIDE 1 IN	24.00	EACH		$	
1880	14089		W TAPPING SLEEVE AND VALVE SIZE 1	4.00	EACH		$	
1890	14092		W TIE-IN 03 INCH	3.00	EACH		$	
1900	14094		W TIE-IN 06 INCH	1.00	EACH		$	
1910	14103		W VALVE 03 INCH	9.00	EACH		$	
1920	14105		W VALVE 06 INCH	7.00	EACH		$	
1930	14156		W METER REMOVE	8.00	EACH		$	

Section: 0008 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1940	02568		MOBILIZATION	1.00	LS		$	
1950	02569		DEMOBILIZATION	1.00	LS		$	

221063

PROPOSAL BID ITEMS

Report Date 11/16/22