



CALL NO. 105

CONTRACT ID. 241107

NELSON COUNTY

FED/STATE PROJECT NUMBER STP 8334 (005)

DESCRIPTION WESTERN BARDSTOWN CONNECTOR (US 31E)

WORK TYPE ASPHALT SURFACE WITH GRADE & DRAIN

PRIMARY COMPLETION DATE

LETTING DATE: June 20,2024

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME June 20,2024. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 6.50%

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

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 04

CONTRACT ID - 241107

STP 8334 (005)

COUNTY - NELSON

PCN - DE090031E2407

STP 8334 (005)

WESTERN BARDSTOWN CONNECTOR (US 31E) WESTERN BARDSTOWN CONNECTOR, A DISTANCE OF 01.71 MILES.ASPHALT SURFACE WITH GRADE & DRAIN SYP NO. 04-08809.00.

GEOGRAPHIC COORDINATES LATITUDE 37:48:40.00 LONGITUDE 85:29:21.00

ADT 8,150

COMPLETION DATE(S):

COMPLETED BY 10/01/2025

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 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/construction-procurement). 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.

BOYCOTT PROVISIONS

If applicable, the contractor represents that, pursuant to [KRS 45A.607](#), they are not currently engaged in, and will not for the duration of the contract engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which Kentucky can enjoy open trade. **Note:** The term Boycott does not include actions taken for bona fide business or economic reasons, or actions specifically required by federal or state law.

If applicable, the contractor verifies that, pursuant to KRS 41.480, they do not engage in, and will not for the duration of the contract engage in, in energy company boycotts as defined by KRS 41.472.

LOBBYING PROHIBITIONS

The contractor represents that they, and any subcontractor performing work under the contract, have not violated the agency restrictions contained in [KRS 11A.236](#) during the previous ten (10) years, and pledges to abide by the restrictions set forth in such statute for the duration of the contract awarded.

The contractor further represents that, pursuant to [KRS 45A.328](#), they have not procured an original, subsequent, or similar contract while employing an executive agency lobbyist who was convicted of a crime related to the original, subsequent, or similar contract within five (5) years of the conviction of the lobbyist.

1.0 BUY AMERICA REQUIREMENT.

Follow the “Buy America” provisions as required by 23 U.S.C. § 313 and 23 C.F.R. § 635.410. Except as expressly provided herein all manufacturing processes of steel or iron materials including but not limited to structural steel, guardrail materials, corrugated steel, culvert pipe, structural plate, prestressing strands, and steel reinforcing bars shall occur in the United States of America, including the application of:

- Coating,
- Galvanizing,
- Painting, and
- Other coating that protects or enhances the value of steel or iron products.

The following are exempt, unless processed or refined to include substantial amounts of steel or iron material, and may be used regardless of source in the domestic manufacturing process for steel or iron material:

- Pig iron,
- Processed, pelletized, and reduced iron ore material, or
- Processed alloys.

The Contractor shall submit a certification stating that all manufacturing processes involved with the production of steel or iron materials occurred in the United States.

Produce, mill, fabricate, and manufacture in the United States of America all aluminum components of bridges, tunnels, and large sign support systems, for which either shop fabrication, shop inspection, or certified mill test reports are required as the basis of acceptance by the Department.

Use foreign materials only under the following conditions:

- 1) When the materials are not permanently incorporated into the project; or
- 2) When the delivered cost of such materials used does not exceed 0.1 percent of the total Contract amount or \$2,500.00, whichever is greater.

The Contractor shall submit to the Engineer the origin and value of any foreign material used.

2.0 – BUILD AMERICA, BUY AMERICA (BABA)

Contractor shall comply with the Federal Highway Administration (FHWA) Buy America Requirement in 23 C.F.R. § 635.410 and all relevant provisions of the Build America, Buy America Act (BABA), contained within the Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, §§ 70901-52 enacted November 15, 2021. The BABA requires iron, steel, manufactured products, and construction materials used in infrastructure projects funded by federal financial assistance to be produced in the United States. Comply with 2 C.F.R § 184.

BABA permits FHWA participation in the Contract only if domestic steel and iron will be used on the Project. To be considered domestic, all steel and iron used, and all products manufactured from steel and iron must be produced in the United States and all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied. This requirement does not preclude a minimal use of foreign steel and iron materials, provided the cost of such materials does not exceed 0.1% of the total contract amount under the Contract or \$2,500.00 whichever is greater.

BABA permits FHWA participation in the Contract only if all “construction materials” as defined in the Act are made in the United States. The Buy America preference applies to the following construction materials

incorporated into infrastructure projects: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); Fiber optic cable; optical fiber; lumber; engineered wood; and drywall. Contractor will be required to use construction materials produced in the United States on this Project. The Contractor shall submit a certification stating that all construction materials are certified to be BABA compliant.

Finally, BABA permits the continuation of FHWA's current general applicability waivers for manufactured products, raw materials, and ferryboat parts, but these waivers are subject to reevaluation, specifically the general applicability waiver for manufactured products.

The Contractor has completed and submitted, or shall complete and submit, to the Cabinet a Buy America/Build America, Buy America Certificate prior to the Cabinet issuing the notice to proceed, in the format below. After submittal, the Contractor is bound by its original certification.

A false certification is a criminal act in violation of 18 U.S.C. § 1001. The Contractor has the burden of proof to establish that it is in compliance.

At the Contractor's request, the Cabinet may, but is not obligated to, seek a waiver of Buy America requirements if grounds for the waiver exist under 23 C.F.R. § 635.410(c) or will comply with the applicable Buy America requirements if a waiver of those requirements is not available or not pursued by the Cabinet.

Please refer to the Federal Highway Administration's Buy America webpage for more information.

[Buy America - Construction Program Guide - Contract Administration - Construction - Federal Highway Administration \(dot.gov\)](#)

October 26, 2023 Letting

SPECIAL NOTE – BUY AMERICA REQUIREMENTS AND BUILD AMERICA, BUY AMERICA (BABA) ACT 10/26/2023

BUY AMERICA / BUILD AMERICA, BUY AMERICA (ACT) MATERIALS CERTIFICATE OF COMPLIANCE

The Contractor hereby certifies that it will comply with all relevant provisions of the Build America, Buy America Act, contained within the Infrastructure Investment and Jobs Act, Pub. L. NO. 117-58, §§ 70901-52, the requirements of 23 U.S.C. § 313, 23 C.F.R. § 635.410 and 2 C.F.R § 184.

Date Submitted: _____

Contractor: _____

Signature: _____

Printed Name: _____

Title: _____

NOTE: THIS CERTIFICATION IS IN ADDITION TO ANY AND ALL REQUIREMENTS OUTLINED IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND/OR SPECIAL NOTES CONTAINED IN THE PROJECT PROPOSAL.

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 | 102.08 Preparation and Delivery of Proposals |
| 102.13 Irregular Bid Proposals | 102.14 Disqualification of Bidders |
| 102.09 Proposal Guaranty | |

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.

AFTER PROJECT AWARD AND BEFORE NOTICE TO PROCEED/WORK ORDER IS ISSUED (SEE SECTION 103.06, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION)

Prime Contractors awarded a federally funded project with a DBE Goal greater than zero will be required to submit DBE Subcontract Agreement Form, TC 14-36, along with the attached FHWA 1273 and Certificate of Liability Insurance for each DBE Firm submitted as part of the previously approved DBE Utilization Plan (TC 14-35). A signed quote or purchase order shall be attached when the DBE subcontractor is a material supplier or broker.

The Certificate of Liability Insurance submitted must meet the requirements outlined in Section 107.18 of the Standard Specifications for Road and Bridge Construction.

Changes to **APPROVED** 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 certainty 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. Tony Youssefi. Mr. Youssefi's current contact information is email address – tyousseffi@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.

FUEL AND ASPHALT PAY ADJUSTMENT

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

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
Department of Highways
DIVISION OF ENVIRONMENTAL ANALYSIS
ENVIRONMENTAL PROJECT IMPACTS REEVALUATION

TC 58-49
Rev. 10/2019
Page 1 of 1

1. PROJECT SUMMARY FOR

Item #:	Project Sponsor:
Route(s):	County:
Project Description:	

2. ENVIRONMENTAL DETERMINATION

Functional Area	Original Determination	Reevaluation for	Comments/Commitments/ Mitigation
Public and Resource Agency Controversy			
Total acreage of fee simple ROW			
Number of Total Relocations			
Environmental Justice Impacts			
Section 106: Architectural Historic			
Section 106: Archaeological Resources			
Section 4(f)			
Section 6(f)			
Noise			
Air Quality Impacts			
Hazardous Materials Impacts			
Section 7: T&E Species			
Anticipated Feet of Stream Impacts			
Anticipated Acreage of Wetland Impacts			
Anticipated Permits			
Other:			
Other:			
Other:			

Based on the criteria listed above, in review of the most recent set of project plans, the subject project is determined to be considered a

3. ENVIRONMENTAL DOCUMENT APPROVAL

Based on the information obtained during the environmental review process and included as attachments to this form, the project is determined to be pursuant to the National Environmental Policy Act and complies with all other applicable environmental laws, regulations, and Executive Orders. The project action does not individually or cumulatively have a significant effect on the natural and human environment.

 _____ District Environmental Coordinator	_____ Date	 _____ Project Manager	5/5/2023 _____ Date
 _____ Environmental Project Manager	5/8/23 _____ Date	 _____ Director of Environmental Analysis	5/15/23 _____ Date
_____ Recommended by FHWA	_____ Date	_____ Federal Highway Administration	_____ Date

SPECIAL NOTE

For Tree Removal

**Nelson County
NEW ROUTE BETWEEN US 62 AND KY 245 WEST OF
BARDSTOWN
Item No. 4-8809**

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

Rev 9/2021

SPECIAL NOTE FOR PAVER MOUNTED TEMPERATURE PROFILES

This Special Note 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. Provide a paver mounted infrared temperature equipment to continually monitor the temperature of the asphalt mat immediately behind all paver(s) during the placement operations for all mainline pavements (including ramps for Interstates and Parkways) within the project limits. Provide thermal profiles that include material temperature and measurement locations.

2.0 MATERIALS AND EQUIPMENT. In addition to the equipment specified in Subsection 403.02 Utilize a thermal equipment supplier that can provide a qualified representative for on-site technical assistance during the initial setup, pre-construction verification, and data management and processing as needed during the Project to maintain equipment within specifications and requirements.

Provide operator settings, user manuals, required viewing/export software for analysis. Ensure the temperature equipment will meet the following:

(A) A device with one or more infrared sensors that is capable of measuring in at least 1 foot intervals across the paving width, with a minimum width of 12 feet, or extending to the recording limits of the equipment, whichever is greater. A **Maximum of two (2)** brackets are allowed in the influence area under the sensors. A temperature profile must be made on at least 1 foot intervals longitudinally down the road:

(B) Infrared sensor(s):

(1) Measuring from 32°F to 400°F with an accuracy of $\pm 2.0\%$ of the sensor reading.

(C) Ability to measure the following:

(1) The placement distance using a Global Positioning System (GPS) or a Distance Measuring Instrument (DMI) and a Global Positioning System (GPS).

(2) Stationing

(D) GPS: Accuracy ± 4 feet in the X and Y Direction

(E) Latest version of software to collect, display, retain and analyze the mat temperature readings during placement. The software must have the ability to create and analyze:

(1) Full collected width of the thermal profiles,

(2) Paver speed and

(3) Paver stops and duration for the entire Project.

(F) Ability to export data automatically to a remote data server ("the cloud").

At the preconstruction meeting, provide the Cabinet with rights to allow for web access to the data file location. Access to the data is not to be hindered in any way. The Contractor will provide the Cabinet with any vendor specific software, user id, passwords, etc. needed to access the data through this service, cost of this access is incidental to the thermal profile bid item. The Cabinet is to have access to all data as it is being collected. If a third party is used for collecting and distributing the data the Cabinet is to have the same access rights and time as the Contractor.

This web-based software must also provide the Department with the ability to download the raw files and software and to convert them into the correct format.

(G) The thermal profile data files must provide the following data in a neat easy to read table format.

(1) Project information including Road Name and Number, PCN, Beginning and Ending MPs.

(2) IR Bar Manufacturer and Model number

(3) Number of Temperature Sensors (N)

(4) Spacing between sensors and height of sensors above the asphalt mat

(5) Total number of individual records taken each day (DATA BLOCK)

- (a) Date and Time reading taken
- (b) Latitude and Longitude
- (c) Distance paver has moved from last test location
- (d) Direction and speed of the paver
- (e) Surface temperature of each of the sensors

3.0 CONSTRUCTION. Provide the Engineer with all required documentation at the pre-construction conference.

(A) Install and operate equipment in accordance with the manufacturer’s specifications.

(B) Verify that the temperature sensors are within ± 2.0% using an independent temperature device on a material of known temperature. Collect and compare the GPS coordinates from the equipment with an independent measuring device.

(1) Ensure the independent survey grade GPS measurement device is calibrated to the correct coordinate system (using a control point), prior to using these coordinates to validate the equipment GPS.

(2) The comparison is considered acceptable if the coordinates are within 4 feet of each other in the X and Y direction.

(C) Collect thermal profiles on all Driving Lanes during the paving operation and transfer the data to the “cloud” network or if automatic data transmission is not available, transfer the data to the Engineer at the end of daily paving.

(D) Contact the Department immediately when System Failure occurs. Daily Percent Coverage will be considered zero when the repairs are not completed within two (2) working days of System Failure. The start of this two (2) working day period begins the next working day after System Failure.

(E) Evaluate thermal profile segments, every 150 feet, and summarize the segregation of temperature results. Results are to be labeled as Minimal 0°-25°F, Moderate 25.1°-50°F and Severe >50°. Severe readings over 3 consecutive segments or over 4 or more segments in a day warrant investigation on the cause of the differential temperature distribution.

4.0 MEASUREMENT. The Department will measure the total area of the pavement lanes mapped by the infrared scanners. Full payment will be provided for all lanes with greater than 85% coverage. Partial payment will be made for all areas covered from 50% coverage to 85% coverage at the following rate Coverage area percentage X Total bid amount. And area with less than 50% coverage will not be measured for payment.

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

1. Payment is full compensation for all work associated with providing all required equipment, training, and documentation.
2. Delays due to GPS satellite reception of signals or equipment breakdowns will not be considered justification for contract modifications or contract extensions.

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24891EC	PAVE MOUNT INFRARED TEMP EQUIPMENT	SQFT

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	15 - 16	14	≤13
			103 - 105	106 - 107	108 - 109	≥ 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, ° 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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
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° +/- 1.8° F with a digital thermometer showing the water bath temperature. Also, one water bath shall have the ability to suspend gyratory specimen fully submerged in water in accordance with AASHTO T-166, current edition.

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

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

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

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

3.0 Testing Requirements

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

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

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

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

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

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

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

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

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

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

4.0 Data

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

5.0 Payment

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

June 15th, 2022

SPECIAL NOTE FOR DOUBLE ASPHALT SEAL COAT

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

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

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



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

TC 62-226
Rev. 01/2016
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RIGHT OF WAY CERTIFICATION

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION
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ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
04-8809	Nelson	12F0 FD52 090 92783 01R	STP 8334 (005)

PROJECT DESCRIPTION

NEW ROUTE BETWEEN US 62 AND KY 245 WEST OF BARDSTOWN (2020CCN) (2022CCR)

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	25	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	20		
Condemnation			
Signed ROE	5		

Notes/ Comments (Text is limited. Use additional sheet if necessary.)
Solitication for demolition is out with demolition to begin soon. will be complete prior to letting.

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Michael H Price
Signature		Signature	
Date		Date	5/3/2024
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature		Signature	
Date		Date	

Digitally signed by Kelly Divine
Date: 2024.05.03 14:21:08
-05'00'

UTILITIES AND RAIL CERTIFICATION NOTE

Nelson County
STP 8334 005
FD52 090 92783 01U
NEW ROUTE BETWEEN US 62 AND KY 245
ITEM NUMBER: 04-8809.00

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 under 2000 Linear feet which require a normal excavation locate request pursuant to KRS 367.4901-4917, the awarded contractor shall field mark the proposed excavation or construction boundaries of the project (also called white lining) using the procedure set forth in KRS 367.4909(9)(k). 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

UTILITIES AND RAIL CERTIFICATION NOTE

Nelson County
STP 8334 005
FD52 090 92783 01U
NEW ROUTE BETWEEN US 62 AND KY 245
ITEM NUMBER: 04-8809.00

specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

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

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

N/A

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

N/A

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 (Cable/Internet) has existing facilities along US 62, Old Boston Road, KY 1430, High Ridge Drive, Greenfield Ave., and Pleasurefield Avenue, and will relocate the existing overhead communications lines along US 62 between Brookview Lane and Connector Route, along the north side of KY 1430 from the Connector Route to Venetian Way, and along the south side of Ben Irvin Road - KY 2737 south of the intersection with KY 1430 by November 30, 2024.

UTILITIES AND RAIL CERTIFICATION NOTE

Nelson County
STP 8334 005
FD52 090 92783 01U
NEW ROUTE BETWEEN US 62 AND KY 245
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Bluegrass Network, LLC (Cable/Internet) has existing facilities along US 62 and will relocate existing overhead cables on relocated poles along US 62 from Clermont Drive to east of Connector Route by August 31, 2024.

City of Bardstown (Cable/Internet) has existing facilities along US 62, High Ridge Drive, KY 2737, KY 1430, Venetian Way, and Shannon Drive, and will relocate cable and conduit along US 62, High Ridge Drive, KY 2737, and across KY 1430 between Venetian Way and Shannon Drive, by August 31, 2024.

LG&E/KU (Gas) has a 4-inch gas main along the south side of KY 1430 just west of Bivens Lane within the existing right of way and will relocate it by December 31, 2024.

North Nelson Water District (Water) has facilities along the west side of KY 2737 near KY 1430, and will relocate 6-inch PVC water main, including a hydrant, along the west side of Connector Route at KY 2737, and a 1-inch HDPE service line across KY 1430 on the south side of the Venetian Way intersection with KY 1430 by August 31, 2024.

Salt River Electric Cooperative Corp. (Electric) has facilities along US 62, High Ridge Drive, KY 2737, KY 1430, and Piper Drive, and will relocate poles, cable, conduit, and related equipment along US 62, High Ridge Drive, across the Greenfield Avenue extension, across the Connector Route south of the Piper Drive extension, along KY 2737, and across KY 1430 between Venetian Way and Shannon Drive by August 15, 2024.

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

City of Bardstown (Water) relocations along US 62, KY 2737, Connector Route, Greenfield Avenue, KY 1430, and KY 245 include 6-inch PVC water main, 8-inch PVC water main, 16-inch ductile iron water main, and service lines.

City of Bardstown (Sewer) relocations along US 62, Connector Route, KY 1430, KY 2737, and KY 245 include an 8-inch PVC and ductile iron sanitary, 15-inch PVC sanitary sewer, and 24-inch PVC and ductile iron sanitary sewer including manholes and sewer laterals.

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

No Rail Involvement Rail Involved Rail Adjacent

UTILITIES AND RAIL CERTIFICATION NOTE

Nelson County
STP 8334 005
FD52 090 92783 01U
NEW ROUTE BETWEEN US 62 AND KY 245
ITEM NUMBER: 04-8809.00

AREA FACILITY OWNER CONTACT LIST

Facility Owner	Address	Contact Name	Phone	Email
AT&T - Cable/Internet	1340 E. John Rowan Blvd. Bardstown, KY 40004	Scott Roche	502-348-4528	sr8832@att.com
Bluegrass Network, LLC - Cable/Internet	115 W. Williams St. Elizabethtown, KY 42701	Terry Hullett	270-734-2177	thullett@bluegrassnetwork.com
City of Bardstown - Cable/Internet	220 North 5th St. Bardstown, KY 40004	Rick Workman	502-348-5947	rworkman@Bardstowncable.net
City of Bardstown - Electric	220 N. Fifth St. Bardstown, KY 40004	Eric Richter	502-348-5947	erichter@bardstowncable.net
City of Bardstown - Sewer	220 N. Fifth St. Bardstown, KY 40004	Jessica Filiatreau	502-348-5947	jhfiliatreau@bardstowncable.net
City of Bardstown - Water	220 N. Fifth St. Bardstown, KY 40004	Jessica Filiatreau	502-348-5947	jhfiliatreau@bardstowncable.net
LG&E/KU - Gas	10300 Ballardsville Rd. Louisville, KY 40241	Caroline Justice	502-627-3708	caroline.justice@lge-ku.com
North Nelson Water District - Water	5555 Louisville Rd. Cox's Creek, KY 40013	Cole Cissell	502-348-8342	colenwd@gmail.com
Salt River Electric Cooperative Corp. - Electric	111 West Brashear Ave. Bardstown, KY 40004	Daniel Carrico	502-373-7730	dcarrico@srelectric.com

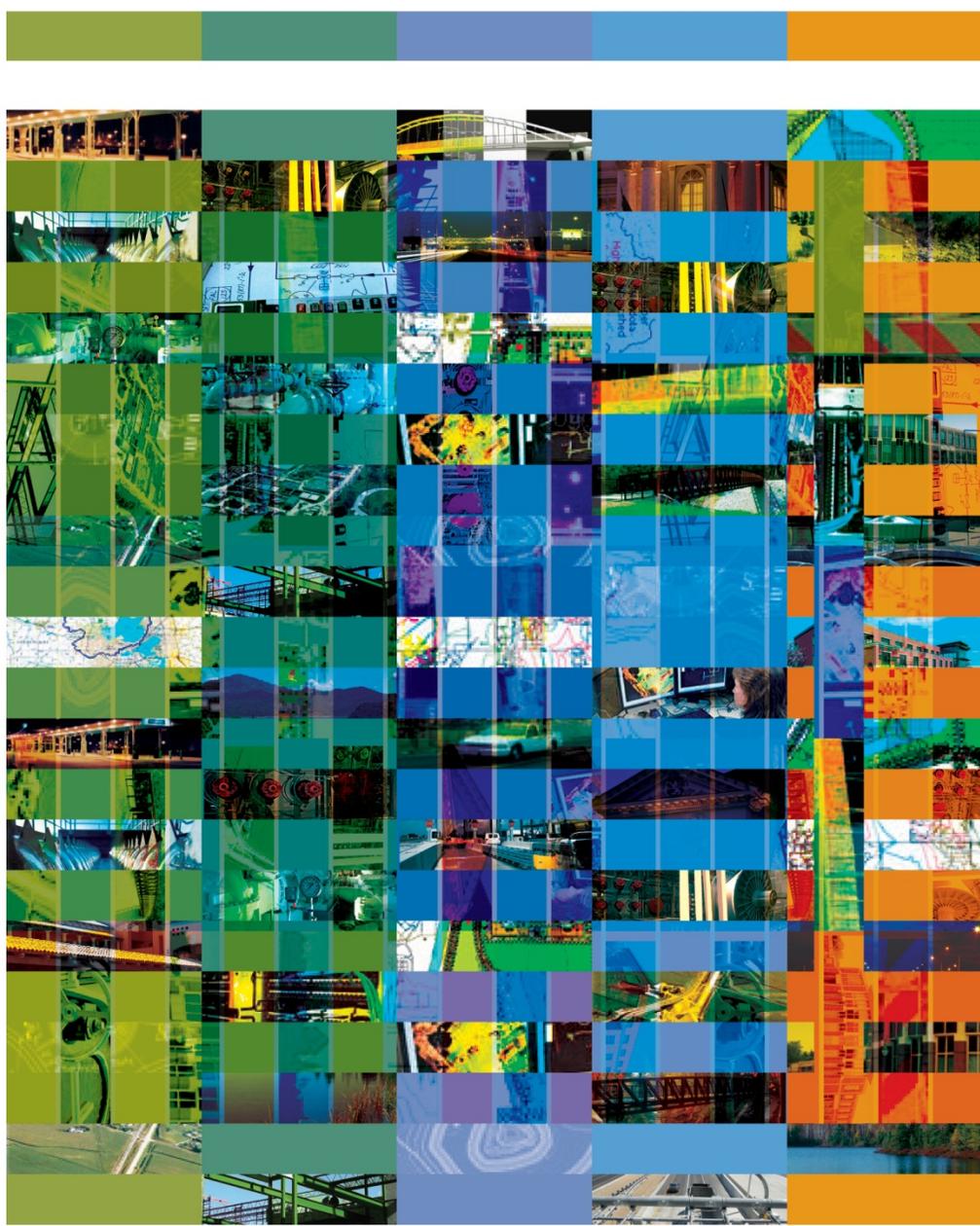
Professional

Engineering

Services

Western
Bardstown
Connector–
Water and
Sewer
Relocation

Item 4-8809.00



**Technical
Specifications**

Kentucky Transportation

Cabinet

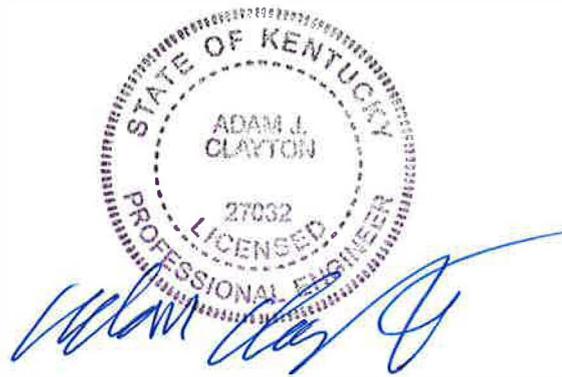
Frankfort, Kentucky

Issued for Bid

April 4, 2024



TECHNICAL SPECIFICATIONS
KENTUCKY TRANSPORTATION CABINET
FRANKFORT, KENTUCKY
WESTERN BARDSTOWN CONNECTOR-WATER AND SEWER RELOCATION
ITEM 4-8809.00



Prepared by:

STRAND ASSOCIATES, INC.®
325 West Main Street, Suite 710
Louisville, KY 40202
www.strand.com

Issued for Bid
April 4, 2024



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BURIED PIPING AND APPURTENANCES

PART 1—GENERAL

1.01 SUMMARY

- A. Work Included:
 - 1. All underground piping, valves, and appurtenances of every description.
 - 2. Excavation, dewatering, and backfilling for all work under this section unless otherwise noted.
 - 3. Underground piping connections to all equipment, whether furnished under this section or not.
- B. Measurement and Payment: Payment for all work, including materials, equipment, and miscellaneous items necessary to complete the installation, will be made at the Unit Price Bid for buried piping and appurtenances.

1.02 REFERENCED SPECIFICATIONS

- A. Standard Specifications: Unless otherwise stated Standard Specifications shall refer to Kentucky Standard Specifications of the Kentucky Transportation Cabinet, current edition, including supplemental specifications.
- B. KYTC Standard Sanitary Sewer Bid Item Descriptions and KYTC Standard Water Bid Item Descriptions.

PART 2—PRODUCTS

2.01 MATERIALS OF CONSTRUCTION

- A. All materials used in the manufacture, assembly, and painting of piping and valves in contact with water shall be compatible with potable water supplies and in contact with chemical feed systems shall be compatible with the chemicals being used. All glues, solvents, solders, etc., shall likewise be compatible. For instance, no lead-base solders shall be used. All materials in contact with water to be used for potable water supplies shall be National Sanitation Foundation (NSF)-approved.
- B. Size and Type:
 - 1. All materials shall conform to the size and type shown on the Drawings or called for in the specifications.
 - 2. In joining two dissimilar types of pipe, standard fittings shall be used when available. In the event standard fittings are not available, the method of joining shall be standard selected by CONTRACTOR and submitted for review by ENGINEER.
- C. Materials provided shall be suitable for the conditions in which they are being installed and used. CONTRACTOR shall review installation requirements of the Contract with material suppliers and incorporate any additional installation requirements necessary to meet the required use within the price bid for the Work.

- D. All pipe and materials used in performance of the Work shall be clearly marked as to strength, class, or grade. Pipe and materials not so marked shall be subject to rejection.
- E. When requested by ENGINEER, material suppliers shall furnish certificates of compliance indicating that all tests required by various Standards have been conducted and that the test results comply with the Standards.
- F. Piping appurtenances shall be made of the materials specified. All appurtenances not designated as to type shall be selected by CONTRACTOR and submitted for review by ENGINEER.

2.02 MANHOLES

- A. Unless otherwise specified or shown on the Drawings for special manholes, all manholes shall be reinforced concrete precast manholes. Reinforced concrete manhole base sections, riser sections, cones, and flat slabs shall conform to the requirements of ASTM C478. Solid precast manhole bottoms shall be provided except where shown on the Drawings. Manholes shall be provided with minimum diameters as shown on the Drawings.
- B. Manhole top sections shall be precast reinforced eccentric cones unless precast reinforced flat slabs are specifically required or shown on the Drawings or are necessary because of shallow depth. Flat slabs shall have opening offset unless otherwise required or shown. Flat slabs shall be designed for HS20 loadings.
- C. Manhole Chimney Adjusting Rings:
 - 1. Provide concrete manhole adjusting rings.
 - 2. Precast concrete adjusting rings for standard manholes shall have an inside diameter of 26 inches, be not less than 2 inches nor more than 6 inches high, and shall have a wall thickness of 6 inches unless otherwise specified. The rings shall contain a minimum of one No. 2 reinforcing rod centered within the ring. The joints between rings and between rings and castings shall be sealed with preformed flexible joint sealant as specified herein.
- D. Manhole Chimney Seals: All manholes shall be sealed using either a mechanically locking internal or external rubber seal conforming to ASTM C-923 with stainless expansion bands meeting the requirements of A-240 Type 304, or a chemically bonded chimney seal.
- E. Valve Boxes:
 - 1. A valve box shall be provided for fire hydrant auxiliary valves and for valves in the main. The valve box shall be centered and plumb over the wrench nut of the valve with the box cover flush with the finished ground elevation. Solid 4-inch concrete blocks shall be placed under the base of valve boxes so that the bottom of the base is about 2 inches away from contact with the valve bonnet. A Gate Valve Adaptor by Adaptor Inc., or equal, shall be provided. The valve box shall not transmit shock or stress to the valve.
 - 2. Valve boxes shall be made of cast iron conforming to ASTM A48. The castings shall be free from blowholes, porosity, hard spots, shrinkage defects or cracks, or other injurious defects and shall have a normal smooth casting finish. The castings shall be thoroughly coated with a 1 mil minimum thickness bituminous coating. Valve boxes shall be 5 1/4 inches in diameter. Valve boxes shall have a maximum length of 7 feet when extended without extension sections. Extensions shall be provided for deeper mains.

3. Valve boxes shall consist of a base section, tubular mid and top sections, both with cast threads by which one can be telescoped on the other, extension sections if required, and a circular drop cover unless indicated otherwise.
 4. Valve boxes shall be installed in accordance with the Drawings.
 5. Valve boxes shall be Tyler/Union 6850 Series, 4 inches through 12 inches, or equal. Extension heights shall be provided as required. Lids shall be marked for appropriate use. CONTRACTOR shall verify that all valve boxes are large enough to accommodate all operating nuts and wrenches. Provide one "Tee" valve key operator for each valve manhole and one for each tank with tank or channel drain.
- F. Precast Reinforced Concrete Manholes:
1. Lengths of manhole riser (barrel) shall be furnished in such combinations as to conveniently make up the depth of the manhole. A maximum of two handling holes per length of riser will be permitted.
 2. Drop entrances to sanitary sewer manholes shall be installed where indicated on the Drawings and as shown on the Drawings. Drop entrances shall be of the same diameter as the sewer main from sizes 8 inches through 18 inches. For larger diameters, the drop shall be 18 inches unless otherwise shown on the Drawings. Drop entrances for storm sewer manholes are not required.
 3. The interior bottom of sanitary sewer and storm sewer manholes shall be constructed of concrete benches which shall be precast or poured in place in the field. Benches shall extend to the top of each pipe to a maximum height of 42 inches. Flow lines shall be made smooth with uniform curves to promote flow through the manhole.
 4. All joints between manhole pipe sections and top shall be tongue and groove conforming to ASTM C443. Manhole joints shall be sealed with circular O-ring or preformed flexible joint sealant that shall be Ram-nek, Kent-Seal, Mas-stik, or equal.
 5. Manhole connections for sanitary sewer mains shall be made using flexible, watertight connections, PSX Press Seal, Kor N Seal, or equal, for sewers up through 18-inch diameter. All other sanitary sewer manhole connections shall be made with A Lok, PSX Press Seal, Kor N Seal, or equal. The joint shall provide a flexible, watertight connection between pipe and manhole. Manhole connections for storm sewer mains and leads may be made with cast-in-place concrete during completion of manhole interior in lieu of above.
 6. Manhole bottoms for sanitary sewer shall be monolithically precast with the bottom section for manholes up through 6-foot diameter. Bottoms for larger diameter manholes shall be precast but need not be monolithically cast with the bottom section. All other manhole bottoms shall be either poured in place or precast concrete.
 7. Manhole bottoms for air release manholes, force main cleanout manholes and water system valve manholes shall have an 18-inch diameter sump hole. Sump hole shall have a solid concrete bottom where groundwater is above the bottom of the manhole.
 8. Manholes shall be furnished of minimum diameters as shown on the Drawings. Manholes shall be furnished large enough to provide a minimum distance, between adjacent pipe, measured tangentially along the inside face of the manhole, equal to one half the outside diameter of the intersecting sewer pipe. In any event, manholes shall be furnished in the diameter necessary to accommodate intersecting sewer pipe and the pipe to manhole connection as proposed for use.
 9. Manhole steps shall be the polypropylene plastic type reinforced with a 1/2 inch diameter deformed steel rod. Step treads shall have anti-skid properties for hand and foot grips. Steps shall be cast, epoxy grouted, or attached by mechanical means into the walls of the manholes a minimum of 3 3/8 inches and/or in such manner as to conform to ASTM C478. The steps shall be 10 3/4 inches wide and extend 5 3/4 inches from the manhole wall. Steps shall line up over the downstream invert of

- the manhole and be centered on the grate or lid opening. Steps shall be uniformly spaced vertically at 12-inch to 16-inch intervals and shall be so arranged that the lowest rung is no more than 12 inches above the bench, and the top rung is no more than 18 inches below the bottom of the casting.
10. Precast reinforced concrete manhole risers and tops shall be tested in accordance with ASTM C497. Precast reinforced concrete manhole risers and tops meeting the strength requirements will be considered acceptable and shall be stamped with an appropriate monogram. When requested, copies of test reports shall be submitted to ENGINEER before the manhole sections are installed in the Project. Final acceptance will be made after field inspection upon delivery to the jobsite.
 11. Precast reinforced concrete manhole sections shall be subject to rejection for failure to conform to any of the requirements of the Standard Specifications. In addition, individual sections of manhole risers and tops may be rejected because of any of the following reasons:
 - a. Fracture or cracks passing through the wall, except for a single end crack that does not exceed the depth of the joint.
 - b. Defects that indicate imperfect proportioning, mixing, and molding.
 - c. Surface defects indicating honey combed or open texture.
 - d. Damaged ends, where such damage would prevent making a satisfactory joint.
 - e. Manhole steps out of line, or not properly spaced.
 - f. Noticeable infiltration into manhole.
 - g. Variation in diameter of the manhole section of more than 1% from the nominal diameter.
 - h. Any continuous crack having a surface width of 0.01 inch or more and extending for a length of 12 inches or more regardless of position in the section wall.
- G. Each precast reinforced concrete manhole riser and top section shall be clearly marked with the name or trademark of the manufacturer and the date of manufacture. This marking shall be indented into the manhole section or shall be painted thereon with waterproof paint.
- H. Storm Sewer Inlets: All inlets shall meet the requirements of ASTM C913. Inlets, in general, shall be rectangular in shape and shall be constructed of precast or poured-in-place concrete.
- I. Manhole Castings and Covers:
1. The castings shall be of good quality, strong, tough, eve-grained cast iron, smooth, free from scale, lumps, blisters, sandholes, and defects of every nature which would render them unfit for the service for which they are intended. Contact surfaces of covers and frame seats shall be machined to prevent rocking of covers.
 2. All castings shall be thoroughly cleaned and subject to a careful hammer inspection.
 3. Castings shall be at least Class 30 conforming to the ASTM Standard Specifications for Gray Iron Castings, Designation A48, latest revision.
 4. Unless otherwise specified, manhole covers shall be 22 3/4 inches in diameter, weighing not less than 350 pounds per frame and cover. Manhole covers shall set neatly in the rings, with contact edges machined for even bearings and tops flush with ring edge. They shall have sufficient corrugations to prevent slipperiness. The covers shall have two pick holes about 1 1/4 inches wide and 1/2 inch deep with 3/8 inch undercut all around. Covers shall not be perforated. Frames and covers shall be J.R. Hoe and Sons, MC-350, or approved equal.
 5. All covers for sanitary sewers shall be marked in large letters "SANITARY SEWER" in the center.

- J. Mortar: Mortar shall meet the requirements of ASTM C270. Mortar shall be one part Portland cement and 2 1/4 parts washed mortar sand.
- K. Preformed Flexible Joint Sealant: Preformed flexible joint sealant shall be EZ Stik, Kent Seal, Ram Nek, or equal, meeting the requirements of ASTM C990.
- L. O-Rings: O-rings shall meet the requirements of ASTM C443.

2.03 BURIED PIPING

A. Ductile Iron Piping and Fittings:

- 1. Unless otherwise shown or specified, all underground piping 3 inches in diameter or larger shall be ductile iron conforming to AWWA C151/A21.51 with mechanical joints or push-on joints. Pipe wall thickness shall be furnished as required by AWWA C150 for buried piping with the depth of cover as shown on the Drawings, minimum Special Thickness Class or Pressure Class as listed below, unless otherwise shown or specified.

Pipe Size (Inches)	Special Thickness (Class)	Pressure Class
3	53	---
4	53	---
6	53	---
8	53	---
10	53	---
12	53	---
14	52	---
16	52	---
18	52	---
20	---	250
24	---	250
30	---	250
36	---	250
42	---	250
48	---	250
54	---	250
60	---	250
64	---	250

- 2. Each pipe and fitting shall have the weight, class or nominal thickness, country where cast, casting period, manufacturer's mark, the year in which the pipe was produced, and the letters DI or DUCTILE cast or stamped thereon. Improper or incomplete marking will be cause for rejection of the pipe or fitting.
- 3. CONTRACTOR shall furnish certification data representing each class of pipe or fitting furnished. The certification report shall clearly state that all pipe and fittings furnished meet the appropriate AWWA specification. Ductile iron pipe shall consist of pipe centrifugally cast in metal or sand-lined molds. Pipe wall shall be homogeneous from inside to outside and shall be completely free of laminations, blisters, or other imperfections. Defects may be removed at the factory only.
- 4. Except as otherwise specified, underground pipe shall have mechanical joints or push-on joints conforming to AWWA C110 and C111, as well as AWWA C153

- (compact), with vulcanized styrene butadiene rubber gaskets conforming to AWWA C111. Gaskets that include metal locking segments vulcanized into the gasket to grip the pipe and provide joint restraint are not acceptable. Bolts on mechanical joints shall be high-strength low-alloy steel (Corten, or equal), conforming to AWWA C111. Certificate to that effect shall be provided.
5. Restrained joints shall be provided in accordance with Part 3–Execution. Mechanical joints shall be restrained with MEGALUG® Series 1100 or 1100 SD, by EBAA Iron Sales, Inc., UNIFLANGE Series 1400 by Ford Meter Box Co., Inc., or equal, restraint. Push-on joints for ductile iron piping shall be restrained with MEGALUG® Series 1700 or 1100 HD, by EBAA Iron Sales, Inc., UNIFLANGE Series 1450 by Ford Meter Box Co., Inc., Flex-Ring or Lok-Ring by American Cast Iron Pipe Company, TR Flex by U.S. Pipe Company, TR Flex by McWane, or equal.
 - a. Pipe restraint fittings shall be provided as follows:
 - (1) For ductile iron pipe with ductile iron mechanical joints MEGALUG® Series 1100 or 1100SD by EBAA Iron Sales, Inc.; Series D SLDE or SSLD by Sigma; Series 3000 or 3000S by Star Pipe Products; or equal.
 - (2) For ductile iron pipe with ductile iron push on joints MEGALUG® Series 1100HD or 1700 by EBAA Iron Sales, Inc; Series SLDEH or SSLDH by Sigma; Series 3100P or 3100S by Star Pipe Products; Flex Ring or Lok Ring by American Cast Iron Pipe Company; TR Flex by U.S. Pipe Company; or equal.
 - (3) For PVC pipe with ductile iron mechanical joint fittings–MEGALUG® Series 2000 PV, 1100SV, or 2000SV by EBAA Iron Sales, Inc.; Series D SLCE or PVM by Sigma; Series 1000C or 4000 by Star Pipe Products; or equal.
 - (4) For PVC pipe with PVC push on joints (not solvent welded)–MEGALUG® Series 1100HV, 1900, or 2800 by EBAA Iron Sales, Inc.; Series SLCEH, PWP (greater than 12-inch only), or D PWP (12 inches or less) by Sigma; Series 4100P by Star Pipe Products; or equal.
 - b. Gland body, wedges, and wedge actuating components shall be ductile iron conforming to ASTM A536 Grade 65 45 12. Bolts and tie rods shall be high strength low alloy steel conforming to AWWA C111.
 - c. Gaskets that include metal locking segments vulcanized into the gasket to grip the pipe to provide joint restraint are not acceptable.
 6. Joint restraint is not required for gravity sewers, drains. Joint restraint shall be provided for any pipe requiring pressure testing.
 7. Underground pipe shall have mechanical joint or push-on joint ductile iron fittings conforming to AWWA C110 and C111 or AWWA C153 compact fittings with a minimum rated working pressure of 150 psi. Gaskets for fittings shall be as specified for underground piping.
 8. All ductile iron fittings shall be American Cast Iron Pipe, Tyler Union, U.S. Pipe, McWane Ductile, Griffin, or equal.
 9. Unless otherwise specified, all exterior ductile iron piping and fittings shall be cement-mortar lined and asphaltic-coated inside. Cement-mortar lining shall be in accordance with AWWA C104. Unless otherwise specified, underground piping and fittings shall be shop primed or asphaltic-coated outside. Asphaltic coating shall conform to applicable standards herein for the pipe and fittings.
 10. For potable water systems, the outside pipe coating shall comply with AWWA C151. Lining and coatings shall be suitable with potable water systems. The asphaltic coating shall be applied over the cement lining on the inside of the pipe and directly on the outside of the pipe. The coatings shall be smooth and impervious to water without any tendency to scale off.

11. All buried ductile iron piping and appurtenances shall be polyethylene encased in accordance with AWWA C105. Polyethylene encasement shall be Class C (carbon black) and shall be minimum 8 mil thickness. Tape for securing the film shall be a thermoplastic material with a pressure sensitive adhesive face capable of bonding to metal, asphaltic coating, and polyethylene. Tape shall have a minimum thickness of 8 mils and a minimum width of 1 inch. The polyethylene film envelope shall be as free as is commercially possible of gels, streaks, pinholes, particles of foreign matter, and undispersed raw materials. There shall be no other visible defect, such as holes, tears, blisters, or thinning out at folds.
 12. Tapping and Bonding:
 - a. In cases where corporation stops are to be tapped into mains, pipe wall thickness shall be furnished as specified in AWWA C151 to provide four threads or pipe saddles shall be furnished as approved by manufacturer.
 - b. Cable bond conductor or electrobond conductivity straps shall be installed on all ductile iron piping to maintain electrical continuity across joints. Continuity across valves and fittings shall be made with multiple conductivity straps connected in series. Lead-tipped gaskets or bronze wedges will not be allowed.
 13. Cutting in and Repair Tees and Sleeves and Tapping Tees: Cutting-in and repair tees and sleeves and tapping tees shall be of ductile or cast iron with the same rated working pressure of the pipe in which they are installed but no less than 150 psi.
 14. Exterior Joints, Fittings, and Gaskets: Joints, fittings, and gaskets shall have the same rated working pressure of the pipe in which they are installed but no less than a minimum rated working pressure of 150 psi.
- B. Copper Water Tubing:
1. Copper tubing installed within trenches shall be Type K soft annealed seamless copper tubing and shall conform to the Specifications of ASTM B88. All other copper shall be Type K hard copper conforming to ASTM B88.
 2. Fittings shall be of the flared or compression type. Unions shall be extra heavy three-part unions only.
 3. The name or trademark of the manufacturer and a mark indicating the type shall be permanently and plainly marked on tubing.
 4. Fittings for copper tubing shall be copper alloy meeting the requirements of AWWA C800-14. The maximum lead content shall be 0.25%. They shall have uniformity in wall thickness and strength and shall be free from any defect that may affect their serviceability.
 5. Each fitting shall be permanently and plainly marked with the name or trademark of the manufacturer.
 6. Shutoff valves shall be placed on each branch for all underground piping.
 7. For services that will extend under a roadway, a minimum two inch diameter PVC conduit sleeve shall be installed during initial construction so that future connections to the public water main can be made without boring or cutting the roadway. Conduit sleeves shall extend from property line to property line on either side of the street and shall in no case terminate under and existing or future driveway.
- C. Solid Wall PVC:
1. Polyvinyl chloride (PVC) pipe shall meet the requirements of ASTM D3034 for pipe sizes 4 inches through 15 inches and ASTM F679 for pipe sizes 18 inches through 60 inches.
 2. PVC material for ASTM D3034 pipe shall have cell classification 12454 or 12364 as defined in ASTM D1784 with minimum modulus of elasticity of 400,000 psi. Pipe

stiffness shall be minimum 46 psi when tested in accordance with ASTM D2412. Pipe shall have a maximum standard dimension ratio (SDR) of 35.

3. PVC material for ASTM F679 pipe shall have cell classification 12454 or 12364 as defined in ASTM D1784 with a minimum modulus of elasticity of 500,000 psi. Pipe stiffness shall be a minimum 115 psi when tested in accordance with ASTM D2412.
4. Pipe and fittings shall be the product of one manufacturer, and the manufacturer shall have experience records substantiating acceptable performance of the pipe and fittings to be furnished. The minimum wall thickness of fittings shall be the same as the pipe to which it connects.
5. Acceptance of piping and fittings shall be subject to tests conducted in accordance with ASTM D3034 and/or ASTM F679.
6. Fittings such as saddles, elbows, tees, wyes, and others shall be of material and construction corresponding to and have a joint design compatible with the adjacent pipe. Approved adapters shall be provided for transitions to other types of pipe.
7. Joints shall be of the elastomeric type for pipes 4 inches or larger and elastomeric or solvent cement for pipes less than 4 inches.
8. Elastomeric joints shall be a bell and spigot joint conforming to ASTM D3212 sealed by a rubber gasket conforming to ASTM F477 so that the assembly will remain watertight under all conditions of service, including the movements resulting from the expansion, contraction, settlement, and deformation of the pipe. Bells shall be formed integrally with the pipe and shall contain a factory-installed positively restrained gasket.
9. Solvent cement joints shall be assembled using solvent cement obtained from the pipe manufacturer, which conforms to the requirements of ASTM D2564.
10. The assembled joint shall pass the performance tests as required in ASTM D3212.

D. Grinder Pump Pressure Sewer Pipe and Fittings (Less Than 4 Inches):

1. Grinder pump pressure sewer pipe and laterals shall be constructed of PVC conforming to ASTM D1785 for Schedules 40, 80, or 120 or to ASTM D2241, Class 250, SDR 17 with solvent weld joints.
2. All fittings shall be solvent weld, 1120 PVC, Schedule 40 conforming to ASTM D2466 or Schedule 80 in accordance with ASTM D2467. Threaded fittings shall be Schedule 80 minimum conforming to ASTM D2464.
3. All fittings and joints shall have a working pressure rating at least equal to the pipe to which they are attached. Fittings shall be compatible with the above specified SDR PR or Schedule Pipe. All PVC fittings outside of manholes shall have socket or bell ends. Transitions to curb stops shall be socket type on the PVC side and threaded on the curb stop side. Fittings inside manholes shall be as shown on the Drawings. All PVC pipe and fittings shall be approved by the National Sanitation Foundation and shall bear their mark of approval.
4. Provide tracer wire as specified.

E. Gravity Sanitary Sewer Service Branches and Laterals:

1. Branches (tees and wyes) shall be of the same material as the main except for reinforced concrete pipe used for sanitary sewer. For reinforced concrete pipe, special branches shall be furnished and installed to accept the lateral. Such special branches are subject to review by ENGINEER.
2. If a different thermoplastic material is specified for laterals than for the main line, appropriate solvent welds, fittings, transition couplings, and other appurtenances shall be provided to affect a water tight seal.

3. Fittings for laterals shall be of the same material as the lateral pipe unless special fittings are needed for transition between material types or sizes or standard fittings are not manufactured.
 4. Where the wye or tee branches and laterals are of dissimilar materials, CONTRACTOR shall provide a transition coupling for the connection.
 5. All fittings used, including type of jointing, are subject to review by ENGINEER.
- F. Force Main:
1. Force main pipe shall be PVC piping, pressure class 235 psi, DR 18, meeting the requirements of AWWA C900 or AWWA C905.
 2. Markings on the pipe shall include the following: Nominal pipe size, type of plastic pipe material, DR number, AWWA designation with which the pipe complies, and manufacturer's name.
 3. Fittings on PVC pipe shall be ductile iron mechanical joint conforming to requirements specified for ductile iron fittings with appropriate transition fittings and gaskets.
 4. Push-on joints for PVC piping shall be restrained with MEGALUG® Series 1500 (AWWA C900) by EBAA Iron Sales, Inc., Uni-Flange® Series 1350 by Ford Meter Box Co., Inc., or equal. PVC piping with ductile iron mechanical joint fittings shall be restrained with MEGALUG® Series 2000 PV by EBAA Iron Sales Inc., Uni-Flange® Series 1500 by Ford Meter Box Co., Inc., or equal.
- G. PVC Pipe (AWWA) and PVC Pressure Pipe Fittings (4 Inches and Larger):
1. PVC water main shall be AWWA PVC pressure-rated pipe and shall conform to the requirements of AWWA C900 for pipe from 4 inches to 60 inches. Pipe shall be furnished with integral elastomeric bell and spigot joints.
 2. PVC pipe diameter shall conform to ductile iron pipe sizes (DIPS). The type of PVC material, nominal pipe size, standard dimension ratio, and pressure class shall be not less than pressure class 235 and not greater than pipe dimension ratio 18.
 3. Markings on pipe shall include the following: Nominal pipe size, type of plastic pipe material, DR number, AWWA Designation with which the pipe complies, manufacturer's name, and the seal or mark of the laboratory making the evaluation of the suitability of the pipe for transport of potable water.
 4. All fittings for PVC pressure pipe shall be iron pipe fittings as specified herein.
 5. Provide tracer wire for underground PVC piping as specified herein, unless otherwise noted.
- H. Surface Water Crossings: Unless indicated otherwise on the Drawings, pipe for water crossings shall be ductile iron, Flex-Ring, or Lok-Ring by American Cast Iron Pipe Company, TR Flex by U.S. Pipe Company, or equal. Type of joint is subject to the review of ENGINEER and approval of OWNER. Mechanical joints with retainer glands will not be allowed.
- I. Transition Couplings for Gravity Sewer Service: Transition couplings shall be provided to join dissimilar pipe materials or to connect pipe where a standard pipe joint cannot be provided. Couplings shall be designed to join the pipe materials matching flow line elevations. Transition couplings for gravity sewer service shall be Fernco 5000 RC Strongback, Mission Flex Seal ARC Shielded, or equal. Shear rings shall be provided to minimize differential settlement. All bands, clamps, shear rings and other metal components shall be stainless steel. Bushings or transitions shall be provided to accommodate pipe size differences.

J. Miscellaneous Pipe:

1. Piping needed for repair or reconstruction of existing utilities and appurtenances shall be of the same type and strength as the existing. The type of jointing used in repair and reconstruction shall be reviewed by ENGINEER. Special fittings shall be furnished and installed as necessary for repair, reconstruction, or connection of existing facilities.
2. All special fittings on or for connection to utilities shall be specifically built for the type of gasket used. Special fittings shall have joints of the same type as the utility to which the connection is being made.
3. When sanitary sewer construction is within 50 feet of a potable well, 200 feet of a municipal well, or as requested by ENGINEER, a water main equivalent pipe shall be used. To transition from water main equivalent pipe to pipe normally supplied, a transition pipe with suitable joints to mate the two different pipes shall be supplied. No field constructed transitions will be allowed unless reviewed by ENGINEER and approved by OWNER. Construction shall not proceed until proper transition pipe is supplied.

K. Tracer Wire:

1. Provide minimum 10-gauge solid insulated copper tracer wire with buried thermoplastic pressurized pipe. Wire shall be continuous, terminate, and be accessible at valve boxes, manholes, fire hydrants, or at test stations as specified below. Tracer wire shall be located 12 inches above the top of the pipe. Any splices in copper wire shall be made with a 3M™ DBR/Y-6 splice kit, or equal.
2. Tracer wire test stations shall be SnakePit magnetized tracer boxes by Copperhead Industries, or equal. Tracer box shall be corrosion-resistant brass wire lugs and wax pad to cover wire connection. Cover shall be color-coded according to APWA standards for fluid conveyed. Provide SnakePit Lite Duty Box in unpaved areas and Roadway Box in paved areas. Provide Rhino Triview Marker Posts, or equal, at all test stations. Provide custom decals to identify fluid in piping. The tracer wire shall be accessible at a minimum of every 500 feet along the pipeline and at horizontal bends in piping. The tracer wire shall run into and up the sides of all manholes and be secured near the casting. Test stations shall be placed as required between manholes to comply with the minimum 500-foot tracer wire accessibility requirement.
3. CONTRACTOR shall perform continuity testing of all tracer wire in the presence of OWNER.

2.04 VALVES (VALVES FOR UNDERGROUND SERVICE ARE SPECIFIED IN DIVISIONS 23 AND 40)

A. Gate Valves:

1. Shutoff valves in potable and non-potable water lines 4-inch diameter and larger shall be AWWA C515, ductile iron, resilient seat, nonrising stem, 200 psi working pressure with O-ring packing box, Kennedy, or equal.
2. Where shown or specified, gate valves in lines 4 inches in diameter or larger shall be AWWA C500 iron body, bronze-mounted, nonrising stem, double-disc, parallel seat, Class 200, O-ring stem seals.

B. Corporation Stop and Curb Stop Valves:

1. Performance Requirements: Lead Free Requirements: All materials that contact potable water shall be lead free. Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content $\leq 0.25\%$ per the Federal Safe Drinking Water Act as amended January 4, 2011 Section 1417. All products used in potable water systems shall be

UL classified in accordance with ANSI/NSF 61 for potable water service and shall meet the low lead requirements of NSF 372.

2. Corporation Stop Valves: 2 Inches and smaller: Bronze body ground key valve, bronze plug, AWWA taper thread inlet and copper flare outlet nut connections or compression type, AWWA C800.
3. Curb Stop Valves: Boxes 2 Inches and smaller: Bronze body plug valve, bronze plug, quarter turn check, O-ring seals, copper flare nut connections or compression type, AWWA C800. Provide Minneapolis type curb box complete with lid and stationary rod.

2.05 FIRE HYDRANTS

- A. Fire hydrants provided under these Standard Specifications shall conform to AWWA C502 for Dry Barrel Fire Hydrants. Hydrants shall have the following features:

Bury Length	Approximately 3 1/2 feet to traffic flange.
Nozzle Size	One 4 1/2-inch- and two 2 1/2-inch-diameter openings.
Nozzle Threads	National standard fire hose coupling screw threads.
Drain Port	Drain port at base of hydrant barrel. Plug drain port when hydrant installed in area where groundwater level may rise above drain port.
Size of Main Valve Opening	5 1/4-inch-diameter minimum. The hydrant lead connection shall be minimum 6-inch-diameter mechanical joint.
Torque Requirements	Hydrant shall comply with AWWA C502 even if greater than 5-foot bury.
Lubrication	Nontoxic and providing proper lubrication for a temperature range of -30°F to +120°F.

- B. Hydrants shall have permanent markings identifying the manufacturer by name, initials, insignia, or abbreviations in common usage, and designating the size of the main valve opening and the year of manufacture. Markings shall be so placed as to be readily discernible and legible after hydrants have been installed.
- C. CONTRACTOR shall furnish certification to ENGINEER that the hydrant and all material used in its construction conform to the applicable requirements of AWWA C502 and the supplementary requirements thereto.
- D. All joints on fire hydrant leads shall be made using pipe restraint specified herein. Approximately 1/2 cubic yard of bedding stone shall be placed from the bottom of the trench around the hydrant elbow and up the hydrant barrel. Bedding stone shall be wrapped completely in filter fabric to prevent the in migration of fine materials.
- E. CONTRACTOR shall furnish all necessary fittings in the fire hydrant lead to install the fire hydrant in a plumb condition at locations shown on the Drawings and at the specified depth of bury. The pumper nozzle of all fire hydrants shall be installed with the nozzle pointing toward the street. ENGINEER reserves the right to alter the location of fire hydrants from that shown on the Drawings.
- F. Hydrants shall be installed as shown on the Drawings.
- G. Fire Hydrant:
1. Fire hydrant shall be Kennedy Guardian K81D, or equivalent, as approved by OWNER.
 2. Hydrant to be painted with two field coats of approved OSHA yellow enamel.
 3. Provide restrained joint system from auxiliary valve in road box back to tee.

4. Connect hydrant to auxiliary valve with 2-foot length of pipe.
5. Provide drain port at base of hydrant barrel. Plug drain port when hydrant installed in area where groundwater level may rise above drain port.
6. Fire hydrant shall be equipped with safety flanges designed to prevent barrel breakage when struck by a vehicle.

2.06 CONCRETE

- A. All concrete poured under this Contract, unless shown or specified otherwise, shall conform to the requirements of KYTC Class D.

2.07 AGGREGATE SLURRY (FLOWABLE) BACKFILL

- A. Aggregate slurry (flowable) backfill shall consist of fine and coarse aggregate conforming to ASTM C33. Coarse aggregate shall be size number 67 and fine aggregate shall be size number 4. The material shall be mixed with water to provide an approximate 3-inch slump. The mix shall be deposited in the trench from ready-mix concrete transit mix trucks and shall be consolidated using concrete vibrators or vibratory plate compactors.

PART 3-EXECUTION

3.01 INSTALLATION

- A. Underground Piping:
 1. Utility lines shall be laid and installed to the lines and grades specified with valves, fittings, manholes, and other appurtenances at the specified locations; spigots centered in bells; and all manholes and riser pipes plumb. Water main and force main shall be installed at the depth indicated. Water main, force main, and other pressure mains shall be installed to within (plus or minus) 0.1 feet of designed grades. Sanitary and storm sewer and laterals shall be installed to within (plus or minus) 0.03 feet of designed grades. Service lines shown on the Drawings are approximate. Staking shall be completed in conformance with the General Provisions.
 2. Deviations Occasioned by Underground Facilities: Wherever significant obstructions not shown on the Drawings are encountered during the progress of the Work, CONTRACTOR shall proceed in accordance with the General Conditions to notify owners and protect the facilities. Existing items unnecessarily damaged during the performance of the Work shall be repaired and replaced at the expense of CONTRACTOR.
 3. Prior to commencing pipe laying, CONTRACTOR shall notify ENGINEER of the intended date for starting Work. ENGINEER may request at CONTRACTOR's expense the removal and relaying of pipe which was installed prior to notification of ENGINEER.
 - a. Proper implements, tools, and facilities shall be provided and used by CONTRACTOR for the safe and convenient prosecution of the Work. All pipe, fittings, and appurtenances shall be carefully lowered into the trench piece by piece with a crane, rope, or other suitable tools or equipment, in such manner as to prevent damage to materials. Under no circumstance shall pipe be dropped or rolled into the trench.
 - b. Materials shall be as shown on the Drawings or as specified herein.
 4. Material Inspection: CONTRACTOR shall inspect the pipe, fittings, and appurtenances for defects when delivered to the jobsite and prior to lowering into the

trench. Defective material shall be removed from the jobsite. All material shall be clean and free of deleterious substances prior to use in the Work.

5. Except where noted or specified, all ductile iron underground piping shall be laid in accordance with AWWA C605 with the conditions that (a) blocking shall not be used to support pipe and (b) all bends and fittings shall be restrained as specified below, and pipe joints shall be restrained in all directions from all bends and fittings to the length as specified below.
6. Pipe Length:
 - a. The minimum length of pipe to be restrained shall be as shown in the following table.
 - b. This table assumes horizontal orientation of fittings, 150 psi test pressure plus a 100 psi water hammer allowance, ductile iron pipe, and a 3-foot bury. Lengths shall be adjusted for other conditions and fittings. For other fittings and for more specific requirements, see the Drawings:

REQUIRED LENGTH OF RESTRAINED PIPE BEYOND FITTING IN FEET

Fitting	Minimum Length—Ft
90 Degree Bend (≤ 6 inches)	36
90 Degree Bend (8 inches to 10 inches)	54
90 Degree Bend (12 inches to 14 inches)	72
90 Degree Bend (16 inches)	84
45 Degree Bend (≤ 8 inches)	18
45 Degree Bend (10 inches to 16 inches)	36
22 1/2 Degree Bend ≤ 16 inches	18
11 1/4 Degree Bend ≤ 16 inches	9
Fire Hydrant Leads	All Joints
End of Line Tees (≤ 4 inches)*	18 (Along Branch)
End of Line Tees (6 inches to 8 inches)*	36 (Along Branch)
End of Line Tees (10 inches to 12 inches)*	54 (Along Branch)
End of Line Tees (14 inches to 16 inches)*	72 (Along Branch)

*Restrained run length on tees assumed 18 feet on each side of fitting.

7. For restrained pipe joints, all underground ductile iron pipe joints (except for the branch of tees and dead ends) shall be restrained to the length listed below in all directions from all bends and fittings. The branch of tees shall be restrained to three times the length listed below. Dead ends shall be restrained to 3.5 times the length listed below. All joints on yard and fire hydrant leads shall be restrained. Additional restraint shall be provided inside of structures as required.

**MINIMUM LENGTH (IN FEET)
RESTRAINED PIPE FROM BENDS OR FROM BENDS OR FITTINGS
(POLYWRAPPED AND MINIMUM 3 FEET BURY DEPTH)**

	Test Pressure, psi				
	10	25	50	100	150
Pipe Size, Inches					
3 to 12	5	18	18	36	36
14 to 18	5	18	18	36	54
20 to 24	5	18	36	54	72
30	10	18	36	72	90

	Test Pressure, psi			
36	10	18	36	72
42	10	36	54	90
48	10	36	54	90

8. Force main and water main shall be installed in accordance with AWWA C600 for iron pipe, AWWA C605 for PVC pipe, and AWWA M55 for HDPE pipe. All plugs, caps, tees, hydrants, bends, and other fittings for water mains and force mains shall be provided with restrained joints.
9. PVC sewer and plant drain piping shall be installed in accordance with ASTM D2321. Except where noted or specified, PVC or other thermoplastic pressure piping shall be installed in accordance with ASTM D2774.
10. Except where noted or specified, reinforced concrete pipe shall be installed in accordance with ASTM C12.
11. CONTRACTOR shall lay all gravity pipe to the line and grade shown on the Drawings with bell ends uphill wherever possible. If not possible, CONTRACTOR shall lay pipe to the line and grade shown on the Drawings with bell ends in the direction of laying. Water piping shall have a minimum of 3 feet of cover.
12. Any pipe or fittings cracked in cutting or handling or otherwise not free from defects shall not be used. Pipe must be kept clean of mortar, cement, clay, sand, or other material. When PVC piping is installed during hot weather, it shall be laid in the trench with slack or permitted to cool to ground temperature before it is cut to length for making final connections. PVC expansion joints shall be provided where needed.
13. At times when pipe laying is not in progress, the open ends of pipe shall be closed with plugs to prevent the entry of foreign material. Acceptable plugs include Foreman Nite Caps by APS, mechanical joint cap or plug, bladder plug, or test plug. All foreign material shall be removed from the pipe prior to acceptance.
14. The locations and elevations of existing piping and manholes are approximate. Where necessary, existing piping shall be exposed by CONTRACTOR to confirm location and elevation before installing new piping. Any changes in pipe location or elevation shall be approved by OWNER.
15. General Excavation:
 - a. Pipe Laying:
 - (1) All pipe shall be laid accurately to the line and grade as designated. Preparatory to making pipe joints, all surfaces of the portions of the pipe to be joined or of the factory made jointing material shall be clean and dry. Lubricants, primers, adhesives, and other joint material shall be used and installed as recommended by the pipe or joint manufacturer's specifications. The jointing materials or factory fabricated joints shall then be placed, fitted, joined, and adjusted in such a workmanlike manner as to obtain the degree of watertightness specified. Pertinent specifications from the joint and pipe manufacturer which outline procedures to be followed in making the joint shall be furnished to ENGINEER.
 - (2) Wyes, tees, and special fittings shall be installed as called for on the Drawings, or as requested by ENGINEER. Wyes, tees, and special fittings, shall, in general, be jointed with the same type of joint as used in the pipe.
 - (3) In joining two dissimilar types of pipe, manufactured adapters and fittings shall be used. Adapters and fittings shall be configured to maintain invert elevations at same level.
 - (4) Joint deflections shall not exceed the limits established by the pipe manufacturer for the pipe and joint being used.
 - (5) Joints that are damaged because of carelessness, improper handling, or failure to prevent imperfections in manufacture shall be subject to rejection and gaskets shall

be subject to rejection whenever they show surface cracking, tears, or splice separation.

- (6) At times when pipe laying is not in progress, the open ends of pipe shall be closed with plugs to prevent the entry of foreign material. All foreign material shall be removed from the pipe prior to acceptance.
 - (7) After placing a length of pipe in the trench, the spigot end shall be centered in the bell and the pipe forced home and brought to correct line and grade. The pipe shall be secured in place with specified backfill material tamped around it except at the bells.
 - (8) Pipe shall be brought home by using a cross member and levers or jacks. It will not be permissible to push pipe home with motor powered excavation equipment.
 - (9) Force main and water main shall be installed in accordance with AWWA C600 for iron pipe, AWWA C605 for PVC pipe, and AWWA M55 for HDPE pipe. All plugs, caps, tees, hydrants, bends, and other fittings for water mains and force mains shall be provided with restrained joints.
- b. Sewer Service Branch and Lateral Installation:
- (1) CONTRACTOR shall furnish and install sanitary sewer and storm sewer branches, laterals, and leads as shown on the Drawings or requested by ENGINEER. Under normal circumstances, service laterals will be installed within the right of way or easement to serve all existing buildings and all platted lots. In certain cases, only wye or tee branches will be installed to vacant lots. Service laterals shall consist of a branch fitting at the main and extension of the specified lateral pipe to the end of lateral as called for and requested. All necessary fittings shall be furnished and installed to complete the installation as shown on the Drawings.
 - (2) Wye or tee branches: Wherever shown on the Drawings or requested by ENGINEER, wye or tee branches shall be provided for use in making sanitary sewer service and storm sewer inlet connections. Unless specified otherwise on the Drawings, wye or tee branches for sanitary sewer service lateral connections to single family residences shall be 4-inch diameter. All other sanitary sewer service lateral connections shall be 6 inches. Wye or tee branches for storm sewer inlet connections shall be of the size called for on the Drawings, 12 inches minimum.
 - (3) Sanitary sewer service branches shall be turned so that the branch is at an angle of 30 degrees or 45 degrees from the horizontal.
 - (4) Sanitary Sewer Service Laterals: Under normal conditions and unless otherwise shown on the Drawings or requested by ENGINEER, all service laterals shall be Standard Laterals, Type 1, as shown on the Drawings. Service laterals of Types 2 through 6 may be requested by ENGINEER to meet field conditions.
 - (5) It is the general intent to install Modified Laterals, Type 2, 4, or 5 for service to homes that presently have shallow or no basements or where the depth to groundwater at the end of lateral is shallow. Types 3 and 6 risers are only to be provided where shown on the Drawings.
 - (6) Installation and Testing Requirements: Except for those branches that are to be used on storm sewers or for extending sanitary sewer service laterals, wye and tee branches shall be closed with airtight stoppers blocked to withstand air test pressures.
 - (7) The ends of all laterals shall be plugged and blocked to resist air test pressures. All plugs shall be manufactured to fit the pipe used and shall be watertight. The ends of all laterals shall be marked as shown on the Drawings using flagging tape and 2 by 4 markers.
 - (8) Unless otherwise provided for in the Drawings, each service lateral shall have a tracer wire installed from the main to the property line or the location of the connection to the existing service, whichever is greater or applicable. The tracer wire shall be 10-gauge solid copper with no splices. The wire shall be secured to the pipe with duct tape at a minimum of 3-foot intervals. The ends of the tracer wire shall be brought to the ground surface and stored in an access terminal box, DWS-Tracer Wire Access Box, or equal, at a location selected by OWNER. Eighteen inches of additional wire length shall be coiled at the location of the terminal box.

CONTRACTOR shall confirm the method of installation is compatible with OWNER's means of detecting the location of the service lateral. Each tracer wire shall be tested by CONTRACTOR to confirm it accurately provides the location and depth of the sewer lateral.

- (9) A complete and accurate tabulation of length, depth, and location of all branches, risers, and laterals shall be kept by CONTRACTOR on cards available from ENGINEER. Measurements shall be made from the nearest downstream manhole. Lateral installation to meet these Standard Specifications and field conditions are the responsibility of CONTRACTOR. Problems occurring because of failure to provide proper installation or proper records shall be corrected by CONTRACTOR at its expense.
- (10) No installed lateral shall be backfilled until ENGINEER has been notified that the lateral is complete and reasonable time is allowed for observation of the Work.

c. Water Service Lateral Installation:

- (1) Water service laterals requiring reconstruction and new service laterals shall be installed in accordance with AWWA C600. CONTRACTOR shall perform all excavation, backfill, and other Work necessary for a complete installation. The service tubing shall be continuous and shall be placed at a minimum depth of 3 feet. Each service shall include a corporation stop at the main, copper service tubing, curb stop, curb box, couplings, and all other appurtenances necessary for a complete installation. Where existing services in the street are being reconstructed, the new service shall be connected to the existing service at the property line unless otherwise shown or specified. Taps in the main shall be at an angle of 45 degrees above the horizontal.
- (2) OWNER reserves the right to make taps and connections to the new mains prior to backfilling by CONTRACTOR. CONTRACTOR shall delay backfilling until OWNER has completed its Work.
- (3) All curb boxes on new services shall be marked by placing a 4-foot long 2 by 4 adjacent to it. The 2 by 4 shall project 1 foot above existing ground and shall be painted blue. All services shall be extended to the street property line, unless otherwise shown or specified.

d. Manholes:

- (1) Manholes shall be installed in accordance with the Drawings for sanitary sewer. Manholes shall be plumb with any steps aligned and openings located over steps. For sanitary sewers, openings shall be located over the bench and not the sewer flow line itself.
- (2) All manholes shall be made watertight and shall show no visible signs of leakage at the time of final review and within the correction period. Any leakage shall be sealed from the exterior of the manhole.

e. Connections to and Modifications of Structures and Mains: Unless otherwise noted on the Drawings, openings in existing structures to allow for connection of mains shall be core drilled, and the mains themselves shall be connected by use of watertight connections as specified in the Standard Specifications. Flow channels in the bottoms of existing structures shall be modified as necessary to provide smooth transition for incoming flow and/or orientation of mains. These modifications may include breaking out and reforming flow channels.

16. Valve Boxes: The valve box shall be centered and plumb over the wrench nut of the valve with the box cover flush with the finished ground elevation. Solid 4-inch concrete blocks shall be placed under the base of valve boxes so that the bottom of the base is about 2 inches away from contact with the valve bonnet. The valve box shall not transmit shock or stress to the valve.

3.02 FIELD QUALITY CONTROL

- A. CONTRACTOR shall include the cost of all televising, testing, cleaning, and disinfection in the price bid.
- B. Work shall be tested as specified in this section. Unless indicated in writing before testing begins, tests shall be witnessed by ENGINEER and others as necessary. Test results shall be recorded, and reports or appropriate certificates shall be submitted to ENGINEER in triplicate.
- C. New piping shall be tested. Prior to conducting the pressure and leakage test, CONTRACTOR shall backfill the trench for its full depth. All bends and special connections to the main shall be adequately blocked and tied prior to the test. Any damage caused to the main or its appurtenances during performance of these tests shall be corrected by CONTRACTOR at its expense. Should underground piping fail test, CONTRACTOR shall be responsible for removal and replacement of backfill, and relay new pipe if necessary, to repair the defective pipe. Under no circumstances shall defects be sealed from the interior of the pipe, and only where specifically allowed by ENGINEER, shall defects be sealed from the exterior of the pipe. Piping, interior or exposed, shall be subject to test before being covered with insulation or paint. Piping and appurtenances shall be watertight or airtight and free from visible leaks. Manholes and appurtenances shall be free of any visible leaks. Any leakage shall be sealed by methods acceptable to OWNER, from the exterior of the manhole or structure. Precast reinforced concrete manhole risers and tops shall be tested in accordance with ASTM C497.
- D. Piping shall be flushed or blown out after installation prior to testing. CONTRACTOR shall provide all necessary piping connections, water, air, test pumping equipment, water meter, bulkheads, valves, pressure gauge and other equipment, materials, and facilities necessary to complete the specified tests. CONTRACTOR shall provide all temporary sectionalizing devices and vents for testing.
- E. Pressure Tests:
 - 1. Pressure tests shall be performed as required by AWWA C600 and AWWA C605, unless otherwise noted herein.
 - 2. When test medium for piping is water, all air shall be removed from piping by flushing, opening vents, loosening flanges, utilizing equipment vents and/or installation of corporations at high points in system. Test pumping equipment used shall be centrifugal pumps or other pumping equipment that will not place shock pressures on the main. Power plunger pumps will not be permitted for use on closed pipe systems. Pumps shall be disconnected during test periods. Presence or absence of air will be determined during pressurization of the piping system.
 - 3. The test pressure in all lines shall be held for two hours, during which time the leakage allowance shall not exceed that specified. In case repairs are required, the pressure test shall be repeated until the pipeline installation conforms to the specified requirements.
 - 4. During performance of the hydrostatic pressure test, water main shall be subjected to a minimum pressure of at least 50% above normal working pressure with a minimum pressure 125 psi. Force main shall be tested to 200% of normal operating pressure in the main, but to no more than the pressure rating of the pipe.
 - 5. CONTRACTOR shall keep a record of all tests performed. These records shall show the individual lengths of main tested and test results.

6. Where connections are made to existing mains, it shall be the responsibility of CONTRACTOR to provide the necessary hydrostatic tests on all new mains installed. This may necessitate, but is not limited to, the installation of temporary valves and restraint to isolate the new system from the existing system. All materials, Work, and equipment necessary for this Work shall be furnished by CONTRACTOR at its expense.
7. All testing of pipelines shall proceed concurrently with installation. CONTRACTOR is encouraged to conduct daily preliminary testing of its Work.
8. Water from disinfection testing shall not be discharged to a stream, creek, river, storm sewer tributary thereto, or to a navigable water without first neutralizing the chlorine residual in the water and complying with local, state, and federal laws thereto.
9. Gauges used for testing shall have increments as follows:
 - a. Tests requiring a pressure of 10 psi or less shall use a testing gauge having increments of 0.10 psi or less.
 - b. Tests requiring a pressure of greater than 10 psi by less than or equal to 100 psi shall use a testing gauge having increments of 1 psi or less.
 - c. Tests requiring a pressure of greater than 100 psi shall use a testing gauge having increments of 2 psi or less.

Fluid Abbreviation or Name	Minimum Test Pressure in psi	Test Medium	Leakage Allowance Designation
Force Main	150	Water	"A" ⁽¹⁾
Water Main	50	Water	"A"

⁽¹⁾ Leakage allowance designation "A" shall mean not more than 0.002 gallons per hour per inch diameter per 100 feet of buried pipe for all piping except buried mechanical joint or push-on joint pipe. Buried mechanical and push-on joint pipe shall meet the leakage specifications of AWWA C600.

- F. Prior to making final connection between new and existing piping, new piping shall be tested as specified above.
- G. Infiltration/Exfiltration Tests:
 1. Leakage Testing:
 - a. All sanitary sewer gravity mains, shall be tested for leakage after installation of laterals and placement of backfill. Leakage testing of thermoplastic and iron sanitary sewer gravity mains shall be conducted in accordance with ASTM F1417. CONTRACTOR shall keep a record of all tests performed. These records shall show the individual lengths of main tested and test results.
 - b. Sewers 18 inches and larger may be tested for leakage by infiltration or exfiltration in lieu of vacuum testing. If groundwater is 2 feet or more above the sewer, measurements will be taken to determine the rate of infiltration into the sewer. If groundwater is below 2 feet above the sewer, the stretch of sewer shall be plugged at its downstream end and water shall be placed inside the sewer to provide a minimum of 4 feet of head above the upstream end.
 - c. Measurements will then be taken to determine the rate of leakage out of the sewer. CONTRACTOR shall furnish all labor and materials necessary for making the tests. The allowable leakage shall be as indicated below for final acceptance.
 - d. At the conclusion of construction and before final acceptance of the Work, the downstream end of all sanitary sewer will be measured for infiltration. Allowable infiltration shall not exceed 100 gallons/inch of pipe diameter/mile/day for that

portion of the Work under groundwater. If infiltration is exceeded, the leak or leaks shall be located and repaired.

- e. CONTRACTOR shall prepare all pipeline for testing and shall furnish all equipment, materials, tools, and labor necessary for performance of the tests. Equipment for the low pressure air test of gravity mains shall be equal in all operational aspects to that as furnished by Cherne Industries, Inc., United Survey, or equal.
 - f. Test apparatus and gauges shall be located such that ENGINEER or OWNER do not have to enter a confined space to verify readings.
 - g. Air and leakage testing of storm sewers will not be required.
2. Deflection Testing:
- a. All PVC pipe used for sanitary sewer shall be tested for vertical deflection. Maximum deflection after completion of backfilling shall be 5% of the inside pipe diameter. Testing shall not be started until trench backfill has been in place for 30 days. CONTRACTOR shall keep a record of all tests performed. These records shall show the individual lengths of main tested and test results. Deflection shall be measured by pulling a mandrel with a vertical diameter equal to 95% of the pipe inside diameter through the line, after thoroughly flushing the lines to be tested. The testing device shall be controlled using cables at both the upstream and downstream manholes. The testing device must pass freely through the sewer without the use of unreasonable force on the control cables. Any line that will not pass the test cylinder will not be accepted until the faulty sections have been removed and replaced and the line retested.
 - b. Deflection testing of thermoplastic storm sewer shall be provided in accordance with the above requirements.

H. Manhole Testing:

- 1. Sanitary sewer manholes shall be vacuum tested in accordance with ASTM C1244. Pipes entering the manhole shall be plugged and the seal inflated in accordance with manufacturer's recommendations. CONTRACTOR shall provide all required test apparatus, including vacuum pump and gauges.
- 2. Vacuum testing of storm sewer and other manholes will not be required.

3.03 CLEANING AND DISINFECTION

- A. All equipment and materials shall be clean before installation. CONTRACTOR shall disinfect and flush the potable water system before it is put online. Water main shall be disinfected according to AWWA C651.
- B. In accordance with the requirements of AWWA C651, at least one set of samples shall be collected from every 1,200 feet of new water main, plus one set from the end of the line and at least one set from each branch.
- C. CONTRACTOR shall obtain water samples and arrange for analysis of water in potable systems for bacteria in accordance with Option A of Section 5.1 of AWWA C651. Copies of test results shall be submitted to OWNER and ENGINEER.
- D. CONTRACTOR shall furnish all water and other materials, equipment, and labor necessary to disinfect all new water mains and all existing water mains disturbed by construction. CONTRACTOR shall notify the Health Department to observe disinfection test and shall coordinate and bear cost for necessary laboratory testing and shall provide safe bacteriological sample results to OWNER prior to placing the water main in service.

Sampling and testing shall be scheduled to complete the Work within the Contract Times. Items of material for testing shall be furnished in the size and quantity necessary to properly complete the test. Interruption or delay of CONTRACTOR's Work progress caused by testing and sampling shall not be cause for extra payment under the Contract nor shall they be cause for extension of Contract Time.

- E. Broken concrete, rubble fill, and other excess material shall be removed from the site and wasted.
- F. All waste disposal areas and all areas used for the storage of materials or the temporary deposit of excavated earth shall be leveled off, cleaned up, and returned to condition that existed prior to construction.
- G. All surplus material, tools, and equipment shall be removed, and the premises shall be left free of everything of the kind.

3.04 CLEANUP

- A. Upon completion of the work, all improvements disturbed by CONTRACTOR's operations shall be repaired or replaced. Broken concrete, rubble fill, and other excess material shall be removed from the site and wasted.
- B. All areas used for the storage of materials or the temporary deposit of excavated earth shall be leveled off and cleaned up. All surplus material, tools, and equipment shall be removed, and the premises shall be left free of everything of the kind.
- C. All pipes and manholes shall be flushed until clean, and all debris and mud shall be removed.

3.05 DEMOLITION

- A. All exterior piping removals, including manholes and appurtenances and abandonment, shall be by CONTRACTOR. The locations and elevations of existing piping are approximate. Where necessary, existing piping shall be exposed before installing new piping. Any changes in pipe location or elevation shall be reviewed by ENGINEER.
- B. CONTRACTOR shall remove or abandon all existing piping and appurtenances as noted. Unless otherwise shown or specified, piping and appurtenances to be removed shall become the property of CONTRACTOR and shall be removed from the site for salvage or disposal. Water pipes 12 inches or less shown or specified to be abandoned shall have each end plugged with concrete or nonshrink grout. Water pipes larger than 12 inches and all sewer piping shall be abandoned in accordance with the abandonment specification section. Wherever excavations cross piping to be abandoned, piping shall be removed to the limits of the excavation and the ends shall be filled as specified above.
- C. Valve boxes and exposed valves and operators on piping to be abandoned shall be removed. All concrete surfaces to remain shall be patched as required to provide a smooth surface. Repiping and connections to new piping shall be as specified for new piping.

- D. It is the responsibility of CONTRACTOR to remove the items listed below, including piping and appurtenances, as specified, and patch all holes resulting therefrom unless specified or shown otherwise. The intent of these specifications is to require that the removal of materials, patching of all existing holes, and repiping be done in a workmanlike manner.

END OF SECTION

SECTION 33 01 30
SUMMARY OF WORK-UTILITIES

PART 1-GENERAL

1.01 SUMMARY

- A. The Work consists of providing all the labor, material and equipment necessary to complete the following:
 - 1. Sewer Bypass Pumping.
 - 2. Excavation Rehabilitation.
 - 3. Manhole Resurfacing and Coating.

1.02 DEFINITIONS

- A. The following definitions or abbreviations apply to the Work in this Division:
 - 1. Mobilization-The initial process of assembling, making ready, and transporting to the Project site, the necessary materials and equipment to complete the package of Work designated by OWNER. The timetable for mobilization shall be as needed to allow for completion of the Work within the time frame required by OWNER.
 - 2. Emergency Mobilization-Mobilization within the time period indicated in the Bid to meet emergency conditions as determined by OWNER.

1.03 SUBMITTALS

- A. Any proposed method of sewage bypass pumping shall be submitted in accordance with Section 33 01 31-Sewer Bypass Pumping.

1.04 MATERIALS AND SUPPLIES

- A. CONTRACTOR shall provide materials and supplies to satisfactorily complete the Work to the satisfaction of OWNER. Materials and supplies shall be suitable for the environment in which they are to be used or installed and shall be compatible with each other.
- B. Suppliers shall be deemed to impliedly warrant that their products and all component materials incorporated into them are suitable and fit for the intended use of such products and shall be free from defect in material, workmanship or design, such warranty to run to the benefit of OWNER and ENGINEER. The foregoing applies whether the products or their component parts are specified in the Contract Documents or are of supplier's design.

1.05 WATER

- A. Water required for the Project shall be provided by CONTRACTOR. CONTRACTOR is responsible for making all arrangements to obtain water and for its use in the Work.

1.06 WASTE DISPOSAL

- A. CONTRACTOR is responsible for proper and safe disposal of all material removed from the sewers.

1.07 PAYMENT

- A. Payment for changes in quantities, as shown in the Bid, shall be made in accordance with the prices bid for the Work for the various items indicated. No change of quantities shall annul or impair the Contract made and entered into relative to said Work. Payment shall be made for the quantities of each Bid item as actually installed.
- B. If a price is not provided in the Bid for an item of Work, the Work shall be considered incidental and included in adjacent or associated items of Work.
- C. Cost for providing the following shall be considered incidental to the Work unless otherwise indicated in the Bid.
 - 1. Providing water for use in the Work.
 - 2. Removing, transporting, and disposing of material from the sewers.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

3.01 SITE CONDITIONS

- A. CONTRACTOR is expected to carefully examine the site of the proposed Work and fully acquaint itself with the conditions as they exist to fully understand any restraints, difficulties or other extenuating circumstances that may be present during the performance of the Work.
- B. See the Supplementary Conditions for listing of any reports and drawings related to the Work.

3.02 PROTECTION

- A. The sewers in the Project are operated and maintained by OWNER. CONTRACTOR shall perform the Work in such a manner that the operation of the existing sewers and pumping stations are not interrupted, impaired or damaged. Existing sewers and pumping stations must be maintained in operation at all times or adequate provisions provided to convey both dry and wet weather flow. No CONTRACTOR operation shall impede the functions of the pumping station or sewer system including increasing surcharging in the system and basement backups. Any Work impacting the operation of OWNER's system shall be coordinated with OWNER.
- B. CONTRACTOR shall assume full responsibility for any damage to adjacent lands and buildings and to the owners or occupants thereof. CONTRACTOR shall examine adjacent lands and buildings and shall account for protection of the lands and buildings during the Work. Any damage caused shall be repaired at the expense of CONTRACTOR.
- C. CONTRACTOR shall be aware of the attractive nuisance of the Work and make provisions for mitigating any problems.

- D. CONTRACTOR shall take into account the impact precipitation events may have on the Work and shall schedule the Work accordingly. CONTRACTOR shall protect Work from damage caused by such events whether locally or regionally as they may impact the Work.

3.03 SEWER SERVICE

- A. It shall be CONTRACTOR's responsibility to maintain sewer service throughout the duration of the Work. When the Work is being conducted, CONTRACTOR shall maintain sewer service by use of bypass pumping as necessary. Sewer service shall be maintained to each home or business that is connected to the sewer or manhole where the Work is being conducted. All sewers shall be kept in service when work is not being performed.
- B. Sewage or jetting water shall not be allowed to back up into basements. CONTRACTOR shall be responsible for preventing any sewage backups into basements or cleaning impacts of such backups should they occur.

3.04 USE OF PREMISES

- A. CONTRACTOR shall confine its operations, equipment and storage areas to the existing rights-of-way and easements as shown on the Drawings in which the existing sewer system is located unless CONTRACTOR enters into written agreements with property owners for use of lands during construction. Such agreements shall be provided to OWNER.

END OF SECTION

SECTION 33 01 31
SEWER BYPASS PUMPING

PART 1–GENERAL

1.01 SUMMARY

- A. Work Included: Providing all materials, labor, equipment, power, and maintenance necessary to perform bypass pumping while the Work is being completed.
- B. Coordinate the Work of this section with Section 33 01 30–Summary of Work–Utilities.
- C. Unit Price: A unit price is not provided for Sewer Bypass Pumping.
- D. Payment:
 - 1. Sewer Bypass Pumping shall be paid as a unit price bid item per each location. All costs for bypass pumping required to complete the Work shall be considered incidental to the Work and included in the unit price cost.
 - 2. The cost of retrieving equipment under all circumstances, including when it becomes lodged, shall be incidental to the Work.

1.02 SUBMITTALS

- A. Submittals shall be in accordance with the following:
 - 1. CONTRACTOR shall submit to OWNER detailed plans and descriptions outlining all provisions and precautions to be taken by CONTRACTOR regarding the handling of existing sewage flows. This plan must be specific and complete, including such items as schedules, locations, elevations, capacities of equipment, materials, and all other incidental items necessary and/or required to provide proper protection of the facilities, including protection of the access and bypass pumping locations from damage because of the discharge flows and compliance with the requirements specified in these Contract Documents. No rehabilitation or construction shall begin until all provisions and requirements have been reviewed by OWNER.
 - 2. The Bypass Pumping plan shall include but not be limited to details of the following:
 - a. Staging areas for pumps.
 - b. Sewer plugging method and types of plugs.
 - c. Number, size, material, location, and method of installation of suction piping.
 - d. Number, size, material, method of installation, and location of installation of discharge piping.
 - e. Bypass pump sizes, capacity, number of each size to be on-site, and power requirements.
 - f. Standby power generator size and location.
 - g. Downstream discharge plan.
 - h. Method of protecting discharge manholes or structures from erosion and damage.
 - i. Method of noise control for each pump and/or generator.
 - j. Any temporary pipe supports and anchoring required.
 - k. Design plans for access to bypass pumping locations.
 - l. Schedule for installation and maintenance of bypass pumping lines.
 - m. Plan indicating location of bypass pumping lines.
- B. Any proposed method of other flow controls shall be submitted for review by OWNER.

- C. CONTRACTOR may not proceed with bypass pumping operation until UTILITY OWNER (Bardstown Utilities) has accepted the required submittal material.

PART 2–PRODUCTS

NOT APPLICABLE

PART 3–EXECUTION

3.01 SEWER BYPASS PUMPING

- A. Where required by sewage flows or inability to prevent debris from falling into the flow stream, CONTRACTOR shall bypass the sewage around the sewer sections or manholes as required to complete the Work.
- B. Precautions shall be taken when bypass pumping is required to prevent the flooding of nearby property.
- C. Under no circumstances will the diversion or dumping of raw sewage be allowed onto the streets, trenches, or into storm sewers. The bypass shall be made by plugging an existing upstream manhole and pumping the sewage into a downstream manhole or adjacent sanitary sewer system if acceptable to OWNER. Bypass pumping shall mean the use of pumps, tanks, hoses, and other necessary equipment to cause uninterrupted flow of sewage around the section or reach in which the Work is being accomplished.
- D. All bypass pumping operations must be attended by personnel to prevent flooding in case of pump failure. Under no conditions shall a bypass pumping operation be left unattended. All personnel for setup, operation, and supervision of the bypass pumping equipment shall be provided as necessary.
- E. All hoses and pumps shall be sized by CONTRACTOR to be of sufficient capacity to handle the existing sewage flow, plus additional flow that may occur during wet weather periods and during periods of high runoff. All equipment used in bypass pumping shall be operated and maintained in proper running condition at all times.
- F. All hose connections shall be watertight and no leakage shall be allowed to the surface. Pumping system hoses and appurtenances shall be tested prior to use in the sewer system to provide watertightness.
- G. CONTRACTOR shall provide a pump capable of conveying all flow that passes through the sewers within the bypassed area. A backup pump capable of conveying all flow that passes through the existing sewer pipes within the bypass area shall be present on site during bypass pumping operations. A backup generator capable of powering the bypass pump, if not integral to the backup pump, shall be provided on site during bypass pumping operations.
- H. No bypass pumping shall occur during non-working hours or on Saturday or Sunday without prior approval by OWNER. OWNER shall have the authority to prevent bypass pumping operations from occurring on a specific day or days if OWNER decides that bypass pumping operations could occur during periods of forecasted rain events. CONTRACTOR shall adjust bypass pumping schedule based on comments and restrictions from OWNER at no cost to OWNER.

- I. At the end of each working day, the reach or section being bypassed shall be placed in service and the bypass plug removed.
- J. The pumps shall be specifically designed for sewage, capable of passing 3-inch solids.
- K. CONTRACTOR shall satisfactorily demonstrate to OWNER that the bypass system works for at least the diurnal flow pattern before beginning any Work.

END OF SECTION

SECTION 33 01 38
MANHOLE COATING

PART 1–GENERAL

1.01 SUMMARY

- A. Work Included: Providing all labor, material, and equipment necessary for resurfacing and coating of manhole interiors.
- B. Work related to Manhole Coating includes coating manholes identified in the Drawings.
- C. Coordinate the Work of this section with Section 33 01 30–Summary of Work–Utilities.
- D. Unit Prices: The unit prices for Manhole Resurfacing and Manhole Coating shall include the cost for furnishings and installing all labor, material, and equipment to complete the Work.
- E. Payment:
 - 1. Payment for manhole coating shall be included in the unit price for S Manhole with Lining.
 - 2. The cost of retrieving equipment under all circumstances, including when it becomes lodged, shall be incidental to the Work.

1.02 QUALITY ASSURANCE

- A. CONTRACTOR shall provide documentation that the coating applicator is an approved installer and licensed by the coating system manufacturer.
- B. Documentation shall include:
 - 1. 5 years experience in epoxy application in manholes.
 - 2. A list of at least 5 past clients, including names and telephone numbers to verify previous satisfactory performance on projects of similar or greater size and difficulty factor.

PART 2–PRODUCTS

2.01 MANUFACTURERS

- A. Manhole Coating materials shall be:
 - 1. Warren Environmental.
 - 2. Thermal-Chem Corporation.
 - 3. Or equal.

2.02 REFERENCES

- A. Manhole Coating:
 - 1. ASTM C297–Standard Test Method for Flatwise Tensile Strength of Sandwich Construction.
 - 2. ASTM D543–Standard Practice for Evaluating the Resistance of Plastics to Chemical Reagents.

3. ASTM D638—Standard Test Method for Tensile Properties of Plastics.
4. ASTM D695—Standard Test Method for Compression Properties of Rigid Plastics.
5. ASTM D790—Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
6. ASTM D1653—Test Method for Water Vapor Transmission of Organic Coating Films.
7. ASTM D2240—Standard Test Method for Rubber Property—Durometer Hardness.
8. ASTM D2584—Standard Test Method of Ignition Loss of Cured Reinforced Resins.
9. ASTM D4060—Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
10. ASTM D4541—Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.

2.03 MANHOLE COATING

- A. Active Water Leakage Sealer:
 1. Strong-Seal Strong Plug rapid setting, high early strength, hand applied, cementitious material,
 2. Quadex Quad Plug fast-setting cementitious waterstop,
 3. Or equal.
- B. Void Filler and Surfacer Cementitious Material:
 1. Strong-Seal High Performance Mix,
 2. Quadex Aluminaliner,
 3. Or equal.
- C. Protective Coating:
 1. Warren Environmental P301, S301, and F301.
 2. Thermal-Chem Corporation SewerGard HM.
 3. Or equal.

2.04 REQUIREMENTS

- A. Manhole Coating:
 1. Warren Environmental:
 - a. Solids by weight, 100%.
 - b. Temperature Resistance, >200°F.
 - c. ASTM C297-Flatwise Tensile Strength, 2600 psi
 - d. ASTM D638-Tensile Strength, 7,500 psi
 - e. ASTM D638-Tensile Ultimate Elongation, 2%
 - f. ASTM D695-Compressive Strength, 13,600 psi
 - g. ASTM D790-Flexural Strength, 13,875 psi
 - h. ASTM D790-Flexural Modulus, 548,000 psi
 - i. ASTM D1653-Method B, Water Vapor Transmission, 3.8 gms/sq m per 24 hours
 - j. ASTM D2240-Shore D Hardness, 81
 - k. ASTM D4060-Taber Abrasion, CS17 Wheel, <112 mg loss
 - l. ASTM D4541-Concrete Adhesion, Substrate Failure
 - m. ASTM D4541-Steel Adhesion, >1,400 psi
 2. Thermal-Chem Sewer Gard HM:
 - a. Solids by weight, 100%.
 - b. Temperature Resistance, 175°F.
 - c. ASTM D579-Compressive Strength, 13,400 psi
 - d. ASTM D580-Flexural Strength, 9,500 psi

- e. ASTM D580-Flexural Modulus, 505,000 psi
- f. ASTM D638-Tensile Strength, 7,500 psi
- g. ASTM D638-Tensile Elongation, 4-7%
- h. ASTM D790-Flexural Strength, 11,600 psi
- i. ASTM D790-Flexural Modulus, 552,000 psi
- j. ASTM D2240-Shore D Hardness, 82-84

PART 3–EXECUTION

3.01 MANHOLE COATING

- A. Bypassing Pump: Manhole bypass pumping shall be maintained until the sewer may be put back into service as soon as the final inspection has taken place. However, for severe corrosion duty such as high concentrations of acids, bases or solvents, 3 to 7 days and/or force cure by heat induction to the coated surfaces may be necessary prior to return to service. Consult coating manufacturer for further details.
- B. Surface Preparation:
 - 1. Manhole walls from the manhole invert to the top of the cone for manholes to receive resurfacing shall be prepared by pressure water blast or abrasive blast as recommended by manufacturer.
 - 2. Remove and dispose of all debris that has been cleaned from the manhole walls.
- C. Manhole Resurfacing: New manholes placed in service prior to application of coating shall be prepared according to manufacturer's recommendations and procedures for coating existing manholes.
- D. Coating Application:
 - 1. Installation of the coating shall be done in accordance with coating manufacturer's published recommendations and procedures.
 - a. Substrate preparation and temperatures shall be strictly adhered to.
 - (1) Abrasive blast or high pressure water blast prior to installation. All contaminants to surfaces during installation shall be removed prior to application of materials.
 - (2) All active leaks shall be stopped.
 - (3) Voids greater than 1/4-inch in depth shall be filled with cementitious material.
 - (4) Manhole walls shall be restored to their original inside dimensions. The surface shall have the texture of coarse sand paper.
 - b. Material storage temperatures shall be strictly adhered to.
 - c. Material mixing requirements shall be strictly adhered to. Retempering or use of material which has begun to set will not be permitted.
 - d. Material shall not be applied when manholes are subjected to direct sunlight and when air and surface temperatures are rising rapidly.
 - e. Environmental temperature and humidity conditions shall be maintained in conformance with the material suppliers' recommendations and specifications.
 - 2. Coverage shall be 125 mils minimum to all cementitious interior surfaces from the invert of the pipe to the top of the cone.
- E. Inspection: During application, a wet film thickness gauge meeting ASTM D4414–Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gauges, shall be used to provide a monolithic coating and uniform thickness during application.
- F. Cleanup:
 - 1. After all work is complete, remove all extraneous material from the manhole.

2. CONTRACTOR shall be responsible for proper disposal of all extraneous materials.
- G. Testing: After the protective coating has set hard to the touch, it shall be checked with high-voltage holiday detection equipment. Surfaces shall first be dried, an induced holiday shall then be made on to the coated concrete surface and shall serve to determine the minimum/maximum voltage to be used to test the coating for holidays at that particular area. The spark tester shall be initially set at 100 volts per 1 mil of film thickness applied but may be adjusted as necessary to detect the induced holiday (refer to NACE RPO188-99). All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper marked or other hand tooling method. After abrading and cleaning, additional protective coating material can be hand applied to the repair area. All touch-up/repair procedures shall follow the protective coating manufacturer's recommendations.
- H. Measurement of bond strength of the system to the substrate shall be made at regular intervals and along different sections of the structure (i.e., wall, bench). Bond strength shall be measured in accordance with ASTM D4541. Any areas detected to have inadequate (less than 200 psi or 80% substrate failure to concrete) bond strength shall be evaluated. Further bond tests shall be performed in that area to determine the extent of potentially deficient bonded area and repairs shall be made by Applicator in strict accordance with monolithic surfacing system manufacturer=s recommendations.

END OF SECTION

SECTION 33 05 07

CASING PIPE

PART 1-GENERAL

1.01 SUMMARY

- A. Work Included: Provide all utilities required through the construction techniques as shown on the drawings or as specified.
- B. Unit Prices: The unit price for casing pipe shall include all necessary materials and equipment to perform the work including but not limited to end seals, spacers, and strapping.
- C. Measurement and Payment: Measurement for casing pipe will be based on the linear footage of pipe installed.

PART 2-PRODUCTS

2.01 PIPE AND APPURTENANCES

- A. Ductile Iron Pipe:
 - 1. See Section 33 00 10–Buried Piping and Appurtenances for ductile iron pipe specifications.
 - 2. All joints for carrier pipes shall be restrained within steel casing pipe. Restrained joints shall meet the applicable requirements of ANSI A21.11 (AWWA C111).
 - 3. The words, “Ductile Iron” and the weight and class of pipe shall be plainly marked on each piece of exterior pipe.
- B. Polyvinyl Chloride (PVC):
 - 1. See Section 33 00 10–Buried Piping and Appurtenances for PVC pipe specifications.
 - 2. All PVC pipe shall be restrained at each joint within steel casing pipe.
- C. Steel Casing Pipe:
 - 1. The welded steel casing pipe used shall be leak proof and of adequate diameter and thickness to support all jacking, earth, live, and other loads imposed and to permit installation of the carrier pipe to plan line and grade. The steel casing pipe shall be installed to within plus or minus 0.1 feet of designed grades. Type and minimum size of casing pipe shall be as called for below. Steel casing pipe shall conform to ASTM A139 Grade B. The minimum yield strength shall be 35,000 psi. The steel casing pipe shall be designed for E-80 loading. Coated steel casing pipe shall be coated with asphaltic coating applied at place of manufacture. Asphaltic coating shall be minimum 1 mil thick.

Nominal Diameter (Inches)	Minimum Thickness	
	for Coated (Inch)	Noncoated (Inch)
12 and Under	0.188	0.188
14 and 16	0.219	0.282

Nominal Diameter (Inches)	Minimum Thickness for Coated (Inch)	Noncoated (Inch)
18	0.250	0.313
20	0.281	0.344
22	0.312	0.375
24	0.344	0.407
26	0.375	0.438
28	0.406	0.469
30	0.406	0.469
32	0.438	0.501
34 and 36	0.469	0.532
38, 40 and 42	0.500	0.563
44 and 46	0.531	0.594
48	0.563	0.625
50	0.594	0.656
52	0.625	0.688
54	0.656	0.719
56 and 58	0.688	0.750
60	0.719	0.781
62	0.750	0.813
64	0.718	0.844
66 and 68	0.813	0.875
70	0.844	0.906
72	0.875	0.938

- (1) Thicker walls shall be provided to meet jacking pressures, soil loading, or to conform to permit requirements for the Work.
 - (2) Ring deflection shall not exceed 2% of the nominal diameter.
 - (3) Sections of pipe shall be field welded with a continuous circumferential, full depth single "V" groove (butt joint) weld. Welds shall have strength equal to pipe walls.
2. Casing pipe shall be installed using equipment and material that cases the hole as earth is removed to eliminate cavities at the lead end of the casing pipe. Grouting between casing pipe and soil opening shall be performed when needed to secure casing pipe, to prevent soil collapse, and to fill voids between the casing pipe and native soil. The front of the casing pipe shall be provided with a mechanical arrangement or device that positively prevents the auger from leading the pipe so that no unsupported excavation is ahead of the pipe. The auguring process shall be set such that it permits a balance between jacking pressures and the ratio of carrier pipe advancement to the quantity of soil excavated to eliminate voids in the soil. This is especially critical in the event granular, loose, or unstable soils are encountered at the face of the casing pipe. CONTRACTOR shall maintain a record of soil removed against carrier pipe volume as a check against formation of voids.
 3. The carrier pipe shall be placed inside the casing pipe using stainless steel casing spacers or either wood or plastic skids, as shown on the Drawings. Casing spacers shall be designed to guide and support the carrier pipe in the casing.
 4. All carrier pipe within the limits of jacking pits shall be installed at CONTRACTOR's expense to resist all loads imposed including, if necessary, the use of special pipe.

PART 3-EXECUTION

3.01 OPEN CUT INSTALLATION OF CASING PIPE

- A. Where shown on the Drawings or specified, the sewer, water main, or force main (carrier pipe) shall be placed inside a casing pipe that is installed by open cut construction techniques. Installation shall be accomplished in accordance with Federal and State Laws and municipal ordinances. Installation shall also conform to any permit requirements obtained by OWNER or CONTRACTOR from railroads; local, county, state or federal agencies; or any other such entity requiring a permit to allow the Work to proceed. Should there be a conflict between permit requirements and those herein, the stricter requirement shall control.
- B. Open cut excavations shall be excavated by methods determined by CONTRACTOR to be capable of and suitable for coping with the surface and subsurface conditions.
- C. Installation of casing and carrier pipe shall proceed in such a manner as to minimize disruption of traffic and to avoid damage to adjacent roadways, railroad tracks, and other structures. No equipment shall operate off the pavement or tracks or the shoulder of the roadway or tracks being crossed during the course of construction. Signs, barricades, flag men, and lighting shall be provided or may be modified by any permit requirements and as needed to complete the Work—the more stringent requirement controlling.
- D. CONTRACTOR shall submit manufacturer's data for the casing pipe, spacers, and carrier pipe. Information shall include the name of the pipe manufacturer, the dimensions of the pipe, and details on the material and method of pipe manufacturer or fabrication.
- E. The carrier pipe shall be the same material as specified for open cut installation in the adjacent pipe.
- F. All casing pipe shall be on-site before any installation is to start. Once jacking operation is started, it shall be continued without interruption until completion. The position for spacers shall adequately support the carrier pipe throughout the casing. A casing spacer shall be installed within 1 foot of each end of the casing, on each side of each pipe joint, and at a maximum spacing of 10 feet for ductile iron carrier pipe. The carrier pipe shall be adjusted so that the end extends past the end of the casing 18 inches. After the carrier pipe is installed, the casing end seals shall be neoprene with stainless steel bands. The casing end seals shall be Cascade, or equal.

3.02 FINISHED PIPE

- A. The installed pipe shall be continuous over the entire length and shall be free from visual defects, such as foreign inclusions, concentrated ridges, discoloration, pitting, varying wall thickness, and other deformities. Pipe with gashes, nicks, abrasions, or any such physical damage which may have occurred during storage and/or handling, which are deeper than 10% of the wall thickness shall not be used and shall be removed from the construction site.

3.03 TESTING

- A. Testing of pipes installed with trenchless techniques shall be in accordance with Section 33 00 10–Buried Piping and Appurtenances.

END OF SECTION

SECTION 33 11 13.19

CONDUCTIVE TRACE WIRE FOR NONMETALLIC PIPE INSTALLATION

PART 1—GENERAL

1.01 SUMMARY

- A. This section covers the requirements for installation of a conductive trace wire with non-metallic pipe underground.

1.02 MEASUREMENT AND PAYMENT

- A. Work performed under this section shall be considered incidental to adjacent work.

1.03 SYSTEM DESCRIPTION

- A. Install electrically continuous trace wire with access points as described herein to be used for locating nonmetallic pipe with an electronic pipe locator after installation.

1.04 SUBMITTALS

- A. Submit copies of shop drawings showing materials being offered and catalog data verifying the products meet the requirements of this section. CONTRACTOR shall submit four copies of each submittal, which will be retained by ENGINEER, plus the number of copies that are to be returned to CONTRACTOR by ENGINEER after review is completed.

PART 2—PRODUCTS

2.01 PRODUCTS

- A. Trace wire to be 10-gauge minimum solid copper with thermoplastic insulation recommended for direct burial. Wire connectors to be 3M DBR, or approved equal and shall be watertight and provide electrical continuity.

PART 3—EXECUTION

3.01 ERECTION/INSTALLATION/APPLICATION AND/OR CONSTRUCTION

- A. Trace wire shall be installed in the same trench and inside bored holes and casing with nonmetallic pipe during pipe installation. It shall be secured to the pipe as required so that the wire remains adjacent to the pipe. The trace wire shall be securely bonded together at all wire joints with an approved watertight connector to provide electrical continuity, and it shall be accessible at all new water valve boxes, water meter boxes, fire hydrants, sewer manholes, sewer cleanouts, gas valves and gas meter risers, as applicable to the utility line being installed. At manholes, the wire shall be installed from the exterior of the manhole to the interior by installing a 24-inch loop in the wire underneath the manhole frame. A single branch wire shall be terminated at each access location (new water valve boxes, water meter boxes, etc. as previously listed), and the wires shall be spliced underground using the

specified connector. For lines with more than 5 feet of cover, the wire shall be installed directly over the pipe at a depth of 5 feet. If the spacing of valves and meters is greater than one mile, install an intermediate trace wire access assembly as detailed on the Drawings. Where access points for trace wire on gas lines exceeds 500 feet, install test lead boxes such that maximum access point spacing is 500 feet.

- B. For termination of trace wire at locations other than a manhole, a valve box, or a water meter, provide a standard plastic water meter box and terminate the wire inside the meter box.

3.02 TESTING

- A. CONTRACTOR shall provide line location (tracing) equipment (sending unit and receiver) and shall demonstrate in the presence of ENGINEER that the trace wire functions properly throughout all of the work.

3.03 REPAIR/RESTORATION

- A. CONTRACTOR shall replace all trace wire that does not function properly or shall make repairs to make the trace wire function properly.

END OF SECTION

SECTION 33 31 23

ABANDONMENT OF SEWERS AND WATER

PART 1–GENERAL

1.01 SUMMARY

- A. Abandonment in place of existing sewers, junction structures, manholes, force mains, and water pipes larger than 12 inches.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices:
 - 1. Payment for flowable fill and abandonment of existing sewers, including boxes and elliptical shaped sewers, and water pipes larger than 12 inches is on cubic yard basis.
 - 2. Payment for grout fill and abandonment of sewer manholes or junction structure is by each manhole or junction structure abandoned in conformance with this Section.
 - 3. Payment for removal of sewer manholes is by each manhole removed in conformance with this section.
 - 4. Payment will be full compensation for all material, equipment, and labor required for complete abandonment grouting, including air venting, testing, temporary plugs, PVC pipes and incidentals.

1.03 DEFINITIONS

- A. Abandonment: Sewer abandonment consists of demolition and removal of portion of manholes existing within specified depth, and abandonment in place of sewer lines and manholes as specified in this Section.
- B. Flowable Fill: Flowable fill (abandonment grout) shall be controlled low-strength material consisting of fluid mixture of cement, fly ash, aggregate, water and with admixtures as necessary to provide workable properties. Placement of flowable fill may be by grouting techniques in sewer pipes or other restricted areas, or as mass placement by chutes or tremie methods in unrestricted locations with open access. Long-term hardened strength shall be within specified range.
- C. Ballast: Large aggregate either replaced with voids subsequently filled with flowable fill injected by grouting method; or in areas with open access, placed individually and sequentially at same time as flowable fill placement.
- D. Backgrouting: Secondary stage pressure grouting so that voids have been filled within abandoned sewer. Backgrouting will only be required at critical locations indicated on Drawings or if there is evidence of incomplete flowable fill placements.
- E. Removal: Removal of sanitary sewer structures consists of removing the structure entirely.

1.04 REFERENCE STANDARDS

- A. ASTM C 150–Standard Specification for Portland Cement.

- B. ASTM C 494–Standard Specification for Chemical Admixture for Concrete.
- C. ASTM C 618–Standard Specification for Fly Ash and Raw or Calcinated Natural Pozzolan for use as Mineral Admixture in Portland Cement Concrete.
- D. ASTM C 937–Standard Specification for Grout Fluidifier for Pre-placed Aggregate Concrete.
- E. ASTM C 940–Standard Test Method for Expansion and Bleeding of Freshly Mixed Grout for Replaced Aggregate Concrete in the Laboratory.
- F. ASTM C 1017–Standard Specification for Chemical Admixture for Use in Producing Flowing Concrete.
- G. ASTM C 1107–Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrink).

1.05 SUBMITTALS

- A. Conform to requirements of applicable section.
- B. Flowable fill mix design report:
 - 1. Flowable fill type and production method. Described if fill will be mixed to final proportions and consistency in batch plant or if constituents will be added in transit mixer at placement location.
 - 2. Use of ballast. Provide percentage of ballast of total placement and size limits for ballast if fill is intended to be used with ballast.
 - 3. Aggregate gradation of fill. Aggregate gradation of mix (excluding ballast) shall be used as pilot curve for quality control during production.
 - 4. Fill mix constituents and proportions including materials by weight and volume, and air content but excluding ballast. Give types and amount of admixtures including air entrainment or air generating compounds.
 - 5. Fill densities and viscosities, including wet density at point of placement.
 - 6. Initial time of set.
 - 7. Bleeding and shrinkage.
 - 8. Compressive strength.
- C. Technical information for equipment and operational procedures including projected slurry injection rate, grout pressure, method of controlling grout pressure, bulkhead and vent design, and number of stages of grout application.
- D. Experience record for proposed crew, showing minimum of 100 cubic yards of flowable fill placed using proposed or similar equipment and methods.
- E. At least 60 days prior to commencing abandonment activities, submit plan for abandonment, describing proposed grouting sequence, by-pass pumping requirements and plugging, if any, and other information pertinent to completion of work.
- F. CONTRACTOR shall submit four copies of each submittal, which will be retained by ENGINEER, plus the number of copies that are to be returned to CONTRACTOR by ENGINEER after review is completed.

PART 2-PRODUCTS

2.01 FLOWABLE FILL

- A. Design Mix Criteria: Provide design of one or more mixes to meet design criteria and conditions for placement. Present information required by Paragraph 1.05.B. in mix design report including following:
1. Cement: ASTM C 150 Type I or II. Volume and weight per cubic yard of fill. Provide minimum cement content of 100 pounds per cubic yard.
 2. Fly Ash: ASTM C 618 Class C or F. Volume and weight per cubic yard of fill. Provide minimum Fly ash content of 200 pounds per cubic yard.
 3. Potable Water: Volume and weight per cubic yard of fill. Amount of water determined by mix design testing.
 4. Aggregate Gradation: 100 percent passing 3/8-inch sieve and not more than 10 percent passing No. 200 sieve. Mix design report shall define pilot gradation based on following sieve sizes 3/8-inch, Nos. 4, 8, 16, 30, 50, 100, and 200. Do not deviate from pilot gradation by more than plus or minus 10 percentage points for any sieve for production material.
 5. Aggregate Source Material: Screened or crushed aggregate, pit or bank run fine gravels or sand, or crushed concrete. If crushed concrete is used, add at least 30 percent of natural aggregate to provide workability.
 6. Admixtures: Use admixtures meeting ASTM C 494 and ASTM C 1017 as needed to improve pumpability, to control time of set, and reduce bleeding.
 7. Fluidifier: Use fluidifier meeting ASTM C 937 as necessary to hold solid constituents in suspension. Add shrinkage compensator if necessary.
 8. Performance Additive: Use flowable fill performance additive, such as Darafill or approved equal, to control fill properties.
- B. Flowable Fill Requirements:
1. Unconfined Compressive Strength: Minimum 75 psi and maximum 150 psi at 56 days as determined based on an average of three tests for same placement. Present at least three acceptable strength tests for proposed mix design in mix design report.
 2. Placement Characteristics: Self-leveling.
 3. Shrinkage Characteristics: Non-Shrink.
 4. Water bleeding for fill to be placed by grouting method in sewers: not to exceed 2 percent according to ASTM C 940.
 5. Minimum Wet Density: 90 pounds per cubic foot.

2.02 BALLAST

- A. Ballast Material: Natural rock or concrete pieces with minimum size equal to at least 10 times maximum aggregate size of flowable fill and maximum size of 24 inches. Maximum dimension shall not be more than 20 percent of minimum dimension of space to be filled.
- B. Ballast Composition: Free of regulated waste material.

PART 3-EXECUTION

3.01 PREPARATION

- A. Have fill mix design reports and other submittals required by Paragraph 1.05 accepted by ENGINEER prior to start of placement. Notify OWNER and ENGINEER at least 24 hours in advance of grouting with flowable fill.
- B. Select fill placement equipment and follow procedures with sufficient safety and care to avoid damage to existing underground utilities and structures. Operate equipment at pressure that will not distort or imperil portion of work, new or existing.
- C. Remove free water prior to starting fill placement.

3.02 EQUIPMENT

- A. Mix flowable fill in automated batch plant and deliver it to site in ready-mix trucks. Performance additives may be added at placement site if required by mix design.
- B. Use concrete or grout pumps capable of continuous delivery at planned placement rate.

3.03 DEMOLITION OF SEWER MANHOLES AND PIPELINE STRUCTURES, PRIOR TO ABANDONMENT

- A. Remove manhole frames and covers and castings from other existing pipeline structures. Deliver castings to OWNER for future use.
- B. Demolish and remove pre-cast concrete adjustment rings and corner section, or brick and mortar corbel and chimney, or other pipeline structure, to minimum depth of 4 feet below finished grade. Structure may be removed to greater depth, but not deeper than 18 inches above crown of abandoned sewer.
- C. When adjacent sewer lines are not to be filled, place temporary plugs in each line connecting to manhole, in preparation for filling manhole.

3.04 INSTALLATION

- A. Abandon sewer and water lines by completely filling sewer line with flowable fill. Abandon manholes and other structures by filling with flowable fill, together with ballast as applicable, within depth of structures left in place.
- B. Place flowable fill to fill volume between manholes. Continuously place flowable fill from manhole to manhole with no intermediate pour points, but not exceeding 500 feet in length.
- C. Have filling operation performed by experienced crews with equipment to monitor density of flowable fill and to control pressure.
- D. Temporarily plug sewer lines which are to remain in operation during pouring/pumping to keep lines free of flowable fill.

- E. Pump flowable fill through bulkheads constructed for placement of two 2-inch PVC pipes or use other suitable construction methods to contain flowable fill in lines to be abandoned. These pipes will act as injection points or vents for placement of flowable fill.
- F. Place flowable fill under pressure flow conditions into properly vented open system until flowable fill emerges from vent pipes. Pump flowable fill with sufficient pressure to overcome friction and to fill sewer from downstream end, to discharge at upstream end.
- G. Inject flowable fill through replaced ballast using grouting equipment and series of grout pipes discharging at bottom of placement, allowing fill to rise through ballast effectively filling all voids. Alternatively, sequentially place individual pieces of ballast at same time as flowable fill is placed. Do not fill with ballast more than 50 percent of volume at any level, to prevent nesting and void formation.
- H. Remediate placement of flowable fill which does not fill voids in sewer, in manhole or other structures, or where voids develop due to excessive shrinkage or bleeding of fill.
- I. Force Main Abandonment:
 - 1. Clean inside surface of force main at least 12 inches from ends to achieve firm bond and seal grout plug or manufactured plug to pipe surface. Similarly, clean and prepare exterior pipe surface if manufactured cap is to be used.
 - 2. When using grout plug, place temporary plug or bulkhead approximately 12 inches inside pipe. Fill pipe end completely with dry-pack grout mixture.
 - 3. When using manufactured plug or cap, install fitting as recommended by manufacturer's instructions, to form water tight seal.
- J. Backfill to surface, above pipe or structures left in place, with flowable fill in restricted areas, compacted cement stabilized sand in unrestricted areas to be paved or select fill in unrestricted areas outside of pavement. Place and compact backfill, other than flowable fill, in compliance with applicable section.

3.05 FIELD QUALITY CONTROL

- A. Provide batch plant tickets for each truck delivery of flowable fill. Note on tickets addition of admixtures at site.
- B. Check flow characteristics and workability of fill as placement proceeds.
- C. Obtain at least three test cylinders for each placement area for determination of 56-day compressive strength and bleeding.
- D. Record volume of ballast together with flowable fill placement for same space to demonstrate that voids have been filled.

3.06 PROTECTION OF PERSONS AND PROPERTY

- A. Maintain access to adjacent property and buildings. Do not obstruct roadways, sidewalks or passageways adjacent to work.

END OF SECTION

For more location information
please visit www.strand.com

Office Locations

Ames, Iowa | 515.233.0000

Brenham, Texas | 979.836.7937

Cincinnati, Ohio | 513.861.5600

Columbus, Indiana | 812.372.9911

Columbus, Ohio | 614.835.0460

Joliet, Illinois | 815.744.4200

Lexington, Kentucky | 859.225.8500

Louisville, Kentucky | 502.583.7020

Madison, Wisconsin* | 608.251.4843

Milwaukee, Wisconsin | 414.271.0771

Nashville, Tennessee | 615.800.5888

Phoenix, Arizona | 602.437.3733

*Corporate Headquarters





DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOUISVILLE DISTRICT
600 DR. MARTIN LUTHER KING JR PL
LOUISVILLE, KY 40202

June 7, 2023

Regulatory Division
South Branch (RDS)
ID No. LRL-2022-00540-ncc

Mr. Andrew Logsdon
Kentucky Transportation Cabinet (KYTC)
Division of Environmental Analysis
200 Mero Street
Frankfort, Kentucky 40622

Dear Mr. Logsdon,

This is in response to your request for a Department of the Army (DA) permit to construct a new road on new alignment from US 62 (Boston Rd) to KY 245. The roadway would utilize two 11' or 12' wide travel lanes with 8' wide paved shoulders. In addition, a 10' wide shared use path would be constructed on one side of the road between Templin Avenue and KY 245 (KYTC Item No. 4-8809.00). The project is located in west Bardstown, Nelson County, Kentucky (Latitude: 37. 83172 N/Longitude: -85.48381 W). We have reviewed your application and have made the following determinations: The work is minor in nature, will not have a significant impact on the environment, and should encounter no opposition.

Based on these determinations, your proposed work satisfies the Transportation Letter of Permission (LOP) criteria, as specified in our regulations. Therefore, you are authorized, in accordance with 33 USC 1344, to place fill material into approximately 618 (0.096 acre) of Withrow Creek and an unnamed perennial tributary, 2,016 linear feet (0.133 acre) of unnamed intermittent tributaries, and 848 linear feet (0.023 acre) of unnamed ephemeral tributaries of Withrow Creek. In addition, the proposed project would impact 0.082 acre of wetlands. This permission is granted with the following Special Conditions:

- a. All work authorized by this permit shall be performed in strict compliance with the attached plans, dated April 7, 2016, for KYTC Item No. 4-8809.0, which are a part of this permit. Any modification to these plans affecting the authorized work shall be approved by the U.S. Army Corps of Engineers prior to implementation.
- b. The Permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all

conditions, drawings and attachments shall be available at the project site during the construction phase of this project. A description of the authorized work, as provided in the DA permit on ENG FORM 4336, shall be displayed at the project site during construction.

- c. The Permittee shall comply with all conditions of the Section 401 Water Quality Certification No. WQCLOP2022-075-7, dated August 26, 2022, issued by the Kentucky Division of Water (KDOW), which are incorporated herein by reference.
- d. Prior to initiating the authorized work, the Permittee shall provide written verification to the U.S. Army Corps of Engineers that 3,157 stream AMUs have been purchased from the Kentucky Department of Fish and Wildlife Resources (KDFWR) prior to the discharge of fill material into waters of the United States. The required verification shall reference this project's permit number (LRL-2022-00540-ncc). Please note that the cost per credit is determined by KDFWR, in accordance with the requirements set forth in 33 CFR 332.8, and may increase or decrease. Inquiries regarding credit purchase may be made directly to KDFWR by calling Mr. Clifford Scott at (502) 564-5101, by email at: clifford.scott@ky.gov, or in writing at: Kentucky Department of Fish and Wildlife Resources, Division of Fisheries, #1 Sportsman's Lane, Frankfort, Kentucky, 40601.
- e. To compensate for the removal of 17.95 acres of suitable forested Indiana bat habitat, the permittee shall comply with the processes identified in the 2020 KYTC-FHWA Programmatic Bat Program for Foraging Habitat, and Summer/Temporary Roosting in the Commonwealth of Kentucky between the FHWA, KYTC, and the USFWS Kentucky Field Office.
- f. The Permittee shall implement all necessary precautions and measures so that any activity will not kill, injure, capture, harass, or otherwise harm any protected federally listed species. If the Permittee discovers or observes an injured/dead listed endangered or threatened species while accomplishing the authorized work, the Permittee shall immediately notify the Corps to initiate the required federal coordination.
- g. Unless otherwise requested in the application and depicted on the approved work plans, culverts greater than 48 inches in diameter shall be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic organism passage during drought or low flow conditions and maintain the existing channel slope. Culverts shall be constructed in a manner that ensures channel stability.
- h. The permittee shall comply with the enclosed General Conditions.
- i. The time limit for completing the work authorized ends on **June 7, 2028**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.

- j. Upon completion of construction, you are to notify the District Engineer. The enclosed Completion Report must be completed and returned to this office.

For your information, effective March 9, 1999, the Corps of Engineers instituted an administrative appeals process. A permit applicant may appeal an individual permit denial or an individual permit that was issued with conditions (a proffered individual permit). To initiate the appeals process regarding the terms and conditions of this permit, you must write a letter to the district engineer explaining your objections to the permit. The enclosed Notification of Applicant Options (NAO) outlines the initial appeals process and options available to you. The objection letter must be received by the district engineer within 60 days of the date of the NAO. Please be aware that no work can occur in jurisdictional waters until the appeals process is completed.

Based on the information provided to this office, the site contains approximately 848 linear feet (0.023 acre) of seven ephemeral streams, 2,016 linear feet (0.133 acre) of eight intermittent streams, 618 linear feet (0.096 acre) of two perennial streams and 0.082 acres of two emergent wetlands that may be considered jurisdictional "waters of the U.S.," in accordance with the Regulatory Guidance Letter for Jurisdictional Determinations issued by the U.S. Army Corps of Engineers on October 31, 2016 (RGL No. 16-01).

As indicated in the guidance, this Preliminary Jurisdictional Determination is non-binding and cannot be appealed and only provides a written indication that "waters of the U.S.," including wetlands, may be present on-site. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a Preliminary Jurisdictional Determination will treat all waters and wetlands on the site as if they are jurisdictional "waters of the U.S."

Attached to this letter are a preliminary jurisdictional determination (PJD), a Notification of Appeal Process (NAP) fact sheet, and Request for Appeal (RFA) form, as mentioned above. However, a PJD is not appealable and impacting "waters of the U.S." identified in the PJD will result in you waiving the right to request an approved jurisdictional determination (AJD) at a later date. An AJD may be requested (which may be appealed), by contacting me for further instruction.

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center prior to starting work.

Please indicate your acceptance of the terms and conditions of the permit by signing and dating both copies of the permit form on the lines provided for "Permittee" and "Date" and return one copy to us via email to norma.c.condra@usace.army.mil. This permit will not be valid until we receive the signed copy.

Should any modification of the plans become necessary for any reason, approval from the District Engineer must be received prior to the start of the work. Copies of this letter will be sent to the appropriate coordinating agencies (see enclosure for addresses).

If you have any questions, please contact this office by writing to the above address, ATTN: CELRL-RDS, or by calling Mrs. Norma C. Condra at (502) 315-6680. All correspondence pertaining to this matter should refer to our ID No. LRL-2022-00540-ncc.

FOR THE DISTRICT ENGINEER:

Sincerely,

David
Baldrige

Digitally signed by
David Baldrige
Date: 2023.06.07
12:53:42 -04'00'

David Baldrige
Chief, South Branch
Regulatory Division

Enclosures:

1. Transportation LOP General Conditions
2. WQC Conditions
3. Project Vicinity Map, Alignment Map, Project Plans and Impact Stations Map

Copies Furnished:

U.S. Environmental Protection Agency
Fitzgerald.austin@epa.gov

U.S. Fish and Wildlife Service
kentuckyES@fws.gov

Kentucky Energy & Environment Cabinet
Division of Water
401wqc@ky.gov

State Historic Preservation Officer
Kentucky Heritage Council
Khc.section106@ky.gov

Compliance Certification:

Permit Number: LRL-2022-00540-ncc

Name of Permittee: Kentucky Transportation Cabinet (KYTC)

Date of Issuance: June 6, 2023

Upon completion of the activity authorized by this permit and any mitigation required by this permit, sign this certification, and return it to the following address:

U.S. Army Corps of Engineers
CELRL-RDS
P.O. Box 59
Louisville, Kentucky 40201

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.



Signature of Permittee



Date

KyTC BMP Plan for Project CID ## - #####



Kentucky Transportation Cabinet

Highway District 4

And

_____ (2), Construction

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

Groundwater protection plan

For Highway Construction Activities

For

**NEW ROUTE BETWEEN US 62 AND KY 245 WEST
OF BARDSTOWN (2020CCN) (2022CCR)**

Project: CID ## - #####

KyTC BMP Plan for Project CID ## -

Project information

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

1. Owner – Kentucky Transportation Cabinet, District __ (1)
2. Resident Engineer: **Chad Filiatreau**
1400 E John Rowan Blvd
Bardstown, KY 40004
270-766-5066
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)
New Route
6. Latitude/Longitude (project mid-point) dd/mm/ss, dd/mm/ss
37.811111
-85.489167
7. County (project mid-point)
Nelson
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KyTC BMP Plan for Project CID ## -

A. Site description:

1. Nature of Construction Activity (from letting project description)

NEW ROUTE BETWEEN US 62 AND KY 245 WEST OF BARDSTOWN
(2020CCN) (2022CCR)
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved
391,713
4. Estimate of total project area (acres)

66
5. Estimate of area to be disturbed (acres)
66
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
Existing soil to be is undisturbed farmland. Details may be found in the geotechnical report.
8. Data describing existing discharge water quality (if any) (2)
No existing Water quality data exist
9. Receiving water name (1)
Withrow Creek
10. TMDLs and Pollutants of Concern in Receiving Waters:
No TMDL Streams
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

KyTC BMP Plan for Project CID ## -

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:

KyTC BMP Plan for Project CID ## -

- 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.

KyTC BMP Plan for Project CID ## -

- 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 : No permanent BMPs are being proposed.

C. Other Control Measures

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

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

3. Hazardous Waste

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

KyTC BMP Plan for Project CID ## -

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:**

KyTC BMP Plan for Project CID ## -

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:

KyTC BMP Plan for Project CID ## -

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

D. Other State and Local Plans

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. (1)

E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.
- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.
 - Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post

KyTC BMP Plan for Project CID ## -

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

KyTC BMP Plan for Project CID ## -

G. Non – Storm Water discharges

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

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

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

KyTC BMP Plan for Project CID ## - #####

_____ 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);

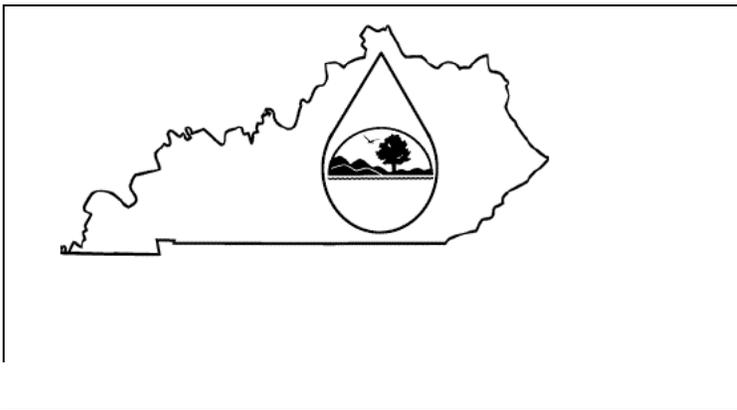
Or, check the following only if there are no qualifying activities

_____ 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.)



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.
\(http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf\)](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:(*) <input type="text" value="Application for New Permit Coverage"/>	Agency Interest ID: <input type="text" value="Agency Interest ID"/>	Permit Number:(✓) <input type="text" value="KPDES Permit Number"/>
--	--	---

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

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

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

SECTION I -- FACILITY OPERATOR INFORMATION (PERMITTEE)

Company Name:(✓) <input type="text" value="KYTC District 4"/>	First Name:(✓) <input type="text" value="Bradley"/>	M.I.: <input type="text" value="MI"/>	Last Name:(✓) <input type="text" value="Bottoms"/>
Mailing Address:(*) <input type="text" value="634 East Dixie Ave"/>	City:(*) <input type="text" value="Elizabethtown"/>	State:(*) <input type="text" value="Kentucky"/>	Zip:(*) <input type="text" value="42701"/>
eMail Address:(*) <input type="text" value="bradley.bottoms@ky.gov"/>	Business Phone:(*) <input type="text" value="270-766-5066"/>	Alternate Phone: <input type="text" value="Phone"/>	

SECTION II -- GENERAL SITE LOCATION INFORMATION

Project Name:(*) <input type="text" value="21-XXXX - NEW ROUTE BETWEEN US 62 AND KY 245 WEST OF BARDSTOV"/>	Status of Owner/Operator(*) <input type="text" value="State Government"/>	SIC Code(*) <input type="text" value="1611 Highway and Street Const"/>
Company Name:(✓) <input type="text" value="KYTC District 4"/>	First Name:(✓) <input type="text" value="Bradley"/>	M.I.: <input type="text" value="MI"/>
Last Name:(✓) <input type="text" value="Bottoms"/>		
Site Physical Address:(*) <input type="text" value="US 62"/>		
City:(*) <input type="text" value="Bardstown"/>	State:(*) <input type="text" value="Kentucky"/>	Zip:(*) <input type="text" value="40004"/>
County:(*) <input type="text" value="Nelson"/>	Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal) <input type="text" value="37.811111"/>	Longitude(decimal degrees)(*) <input type="text" value="-85.489167"/>

SECTION III -- SPECIFIC SITE ACTIVITY INFORMATION

Project Description:(*)

a. For single projects provide the following information

Total Number of Acres in Project:(✓) <input style="width:95%;" type="text" value="66"/>	Total Number of Acres Disturbed:(✓) <input style="width:95%;" type="text" value="66"/>
Anticipated Start Date:(✓) <input style="width:95%; height: 20px;" type="text"/>	Anticipated Completion Date:(✓) <input style="width:95%; height: 20px;" type="text"/>

b. For common plans of development provide the following information

Total Number of Acres in Project:(✓) <input style="width:95%;" type="text" value="# Acre(s)"/>	Total Number of Acres Disturbed:(✓) <input style="width:95%;" type="text" value="# Acre(s)"/>
Number of individual lots in development, if applicable:(✓) <input style="width:95%;" type="text" value="# lot(s)"/>	Number of lots in development:(✓) <input style="width:95%;" type="text" value="# lot(s)"/>
Total acreage of lots intended to be developed:(✓) <input style="width:95%;" type="text" value="Project Acres"/>	Number of acres intended to be disturbed at any one time:(✓) <input style="width:95%;" type="text" value="Disturbed Acres"/>
Anticipated Start Date:(✓) <input style="width:95%; height: 20px;" type="text"/>	Anticipated Completion Date:(✓) <input style="width:95%; height: 20px;" type="text"/>

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

	Company Name		
+			

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

Discharge Point(s):

	Unnamed Tributary?	Latitude	Longitude	Receiving Water Name
+				

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: <input style="width:95%;" type="text" value="Date"/>	Discharge Point(s):(*) <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;"></th> <th style="width:20%;">Latitude</th> <th style="width:15%;">Longitude</th> <th style="width:20%;"></th> <th style="width:20%;"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">+</td> <td style="height: 80px;"></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Latitude	Longitude			+				
	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?: (*)	<input style="width:95%;" type="text" value="Yes"/>
If Yes, describe scope of activity: (✓)	<input style="width:95%;" type="text" value="Construct roadway crossings"/>
Is a Clean Water Act 404 permit required?:(*)	<input style="width:95%;" type="text" value="Yes"/>

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

SECTION VII -- NOI PREPARER INFORMATION				
First Name:(*) Joseph	M.I.: MI	Last Name:(*) Ferguson	Company Name:(*) KYTC District 4	
Mailing Address:(*) 634 East Dixie Ave	City:(*) Elizabethtown	State:(*) Kentucky	Zip:(*) 42701	
eMail Address:(*) joseph.ferguson@ky.gov		Business Phone:(*) 2707665066	Alternate Phone: Phone	

SECTION VIII -- ATTACHMENTS	
Facility Location Map:(*)	<input type="button" value="Upload file"/>
Supplemental Information:	<input type="button" value="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:(*) Bradley Bottoms		Title:(*) Chief District Engineer	
First Name:(*) Bradley	M.I.: MI	Last Name:(*) Bottoms	
eMail Address:(*) bradley.bottoms@ky.gov	Business Phone:(*) 2707665066	Alternate Phone: Phone	Signature Date:(*) Date

<input type="button" value="Click to Save Values for Future Retrieval"/>	<input type="button" value="Click to Submit to EEC"/>
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SPECIAL NOTE

Filing of eNOI for KPDES Construction Stormwater Permit

County: Nelson
Item No.: 4-8809

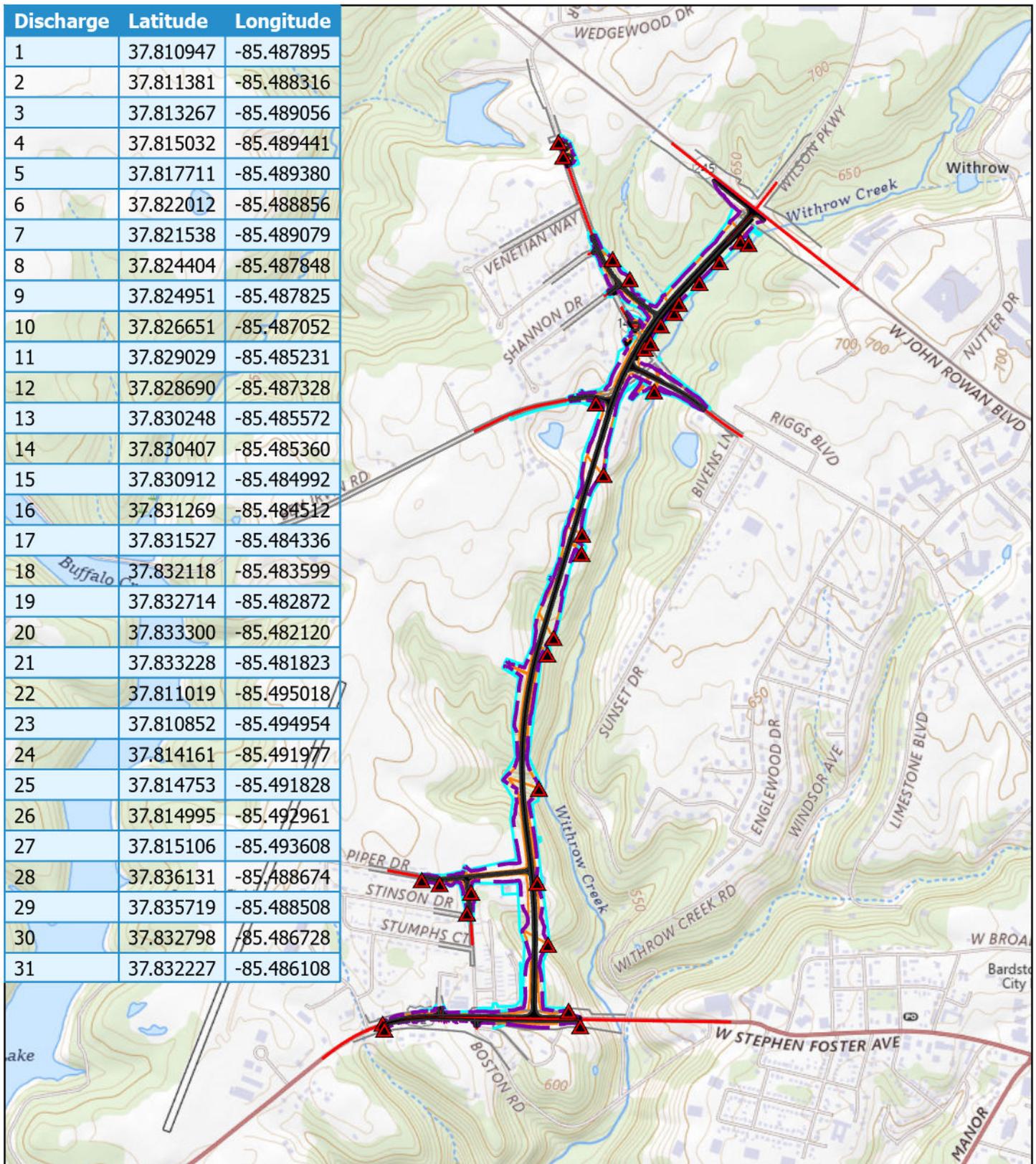
Route: New Route
KDOW Submittal ID:
e9c41ba8-743f-4270-a549-
94e1d607536c

**Project Description: NEW ROUTE BETWEEN US 62 AND KY 245 WEST OF
BARDSTOWN (2020CCN) (2022CCR)**

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

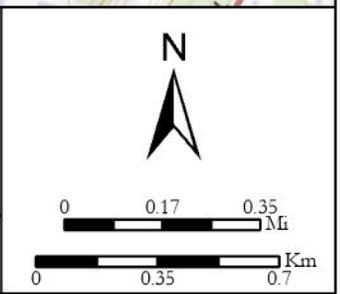
If there are any questions regarding this note, please contact Danny Peake, Director, Division of Environmental Analysis, TCOB, 200 Mero Street, Frankfort, KY 40622, Phone: (502) 564-7250.

Discharge	Latitude	Longitude
1	37.810947	-85.487895
2	37.811381	-85.488316
3	37.813267	-85.489056
4	37.815032	-85.489441
5	37.817711	-85.489380
6	37.822012	-85.488856
7	37.821538	-85.489079
8	37.824404	-85.487848
9	37.824951	-85.487825
10	37.826651	-85.487052
11	37.829029	-85.485231
12	37.828690	-85.487328
13	37.830248	-85.485572
14	37.830407	-85.485360
15	37.830912	-85.484992
16	37.831269	-85.484512
17	37.831527	-85.484336
18	37.832118	-85.483599
19	37.832714	-85.482872
20	37.833300	-85.482120
21	37.833228	-85.481823
22	37.811019	-85.495018
23	37.810852	-85.494954
24	37.814161	-85.491977
25	37.814753	-85.491828
26	37.814995	-85.492961
27	37.815106	-85.493608
28	37.836131	-85.488674
29	37.835719	-85.488508
30	37.832798	-85.486728
31	37.832227	-85.486108



Drainage Features	Disturb Limit
Existing ROW	Edge of Road
Proposed ROW	Proposed Shoulder
Centerline	Discharge Points

4-8809 - Western Bardstown Connector



	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY AND UTILITIES	TC 62-235 Rev. 05/2019 Page 1 of 2
MEMORANDUM OF UNDERSTANDING		

COUNTY	ITEM NO.	PARCEL	NAME
Nelson	4-8809.00	003	The Walter K. Bischoff & Hollace P. Bischoff Living Trust
PROJECT NO.	FEDERAL NUMBER		PROJECT
12FO FD52 090 92783 01R	STP 8334 (005)		Western Bardstown Connector

Property Owners: The Walter K. Bischoff & Hollace P. Bischoff Living Trust

This Memorandum of Understanding contains all the representations and agreements made between the parties hereto and upon which they relied in executing a Deed of Conveyance, Deed of Easement, or Grant of Easement dated January 20th, 2024.

The related deed conveys the following interests and amounts of real property as shown on the official plans:

	Amount	Square feet	Acres
Fee simple	15.929	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Permanent easement	0.134	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temporary easement	0.491	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excess property in fee simple		<input type="checkbox"/>	<input type="checkbox"/>

The total consideration to be paid for the property conveyed is \$ _____.

This consideration includes payment for any and all reacquisition or reversion rights of the property owners or their heirs or assigns, which may arise pursuant to KRS 416.670.

- This is a total acquisition.
- This is a partial acquisition. The remaining property will have the following access to the proposed highway improvement:
 - Access as provided by the Department's permit. Access not designated on the plans will be the sole responsibility of the Property Owners (proposed highway access is by permit).
 - Access at designated points as shown on the plans (proposed highway access is limited).
 - No access (proposed highway access is fully controlled).
 - The remaining property will be landlocked by this acquisition.
- No improvements are being acquired.
- Improvements are being acquired. The disposition of the acquired improvements will be as follows:
 - The Cabinet receives titles to the improvements.
 - The Cabinet receives titles to the improvements, but for the salvage value of \$ _____ the Property Owners agree to remove the same from the right of way as outlined in the building removal contract. When the structure has been moved clear of the right of way and easement areas, the Property Owners regain the titles. Where tenants occupy improvements, the tenants must be afforded ample time to relocate prior to the Property Owners' being authorized to start the removal.

- SIGNS**
- No sign is being acquired.
 - One or more signs are being acquired.
 - The Cabinet receives and retains title to each sign.
 - The Cabinet receives title to each sign, but for the salvage value of \$ _____ the Property Owners agree to remove the same from the right of way by _____ or forfeit both the recovery of each sign and the salvage value paid.

The Property Owners understand that they will not be required to vacate or move personal property from any improvement in less than 90 days from the date of receiving the written offer of relocation assistance. The Property Owners further understand that before being required to vacate or move personal property, they will be given a 30-day written notice that will specify the date they must be completely clear of the improvement.

The Property Owners will assist in obtaining necessary releases of all mortgages, liens, or other encumbrances on the property conveyed. They will pay direct all taxes due for the year in which the Cabinet receives title to the property and, upon submission of the paid receipt, will be reimbursed a pro-rata portion of these property taxes. Also, they will pay direct any penalty costs for prepayment of an existing recorded mortgage and similar expenses incidental to conveying real property to the Cabinet and, upon submission of properly supported paid receipts, will be reimbursed. All reimbursement claims must be deemed fair, necessary, and properly supported for payment.



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

TC 62-235
Rev. 05/2019
Page 2 of 2

MEMORANDUM OF UNDERSTANDING

Unless otherwise stated, Property Owners state that no drainage outlets such as pipes, sump pump outlets, gutter downspouts, or septic system drainage of any kind, currently extend onto the existing right of way.

In addition, the parties agree as follows:

The property owner will sign a consent and release to allow access to construct the new entrances if the existing temporary easements do not encompass the area needed to construct the entrances at the revised locations.

- Proposed 16-foot entrance to be located at Station 129+00.00 Right.
- Proposed 16-foot entrance to be located at Station 144+00.00 Right.
- Proposed 24-foot entrance to be located at Station 150+00.00 Left.
- Proposed 16-foot entrance to be located at Station 156+00.00 Right.

As owners of the property to be conveyed, we request payment be made as follows:

Name: <u>Kent Bischoff</u>		Name:	
Address: <u>275 Ben Irvin</u>		Address:	
SSN or Tax ID:	Amount of Check: \$	SSN or Tax ID:	Amount of Check: \$
Telephone Number:		Telephone Number:	
Name:		Name:	
Address:		Address:	
SSN or Tax ID:	Amount of Check: \$	SSN or Tax ID:	Amount of Check: \$
Telephone Number: <u>502 507-5358</u>		Telephone Number:	

Note: Attach additional pages, as needed.

The Property Owners acknowledge that if the agreed consideration for this transaction was negotiated based upon a waiver valuation/Minor Acquisition Review (MAR) amount of at least \$10,000.00 but not more than \$25,000.00, the Property Owners were offered the option of having the Cabinet obtain an appraisal of the property and have hereby waived that option.

This Memorandum of Understanding, together with the Right of Way Plans, the Deed of Conveyance, Deed of Easement, or Grant of Easement, and any other documents referenced in these instruments, represent all the terms and conditions of the agreement between the Transportation Cabinet and the Property Owners, which was reached without coercion, threats, or other promises by either party.

By their signatures on this document, the agents representing the Transportation Cabinet certify that they have no direct, indirect, present, or contemplated future interest in this property and in no way will benefit from this acquisition.

This Memorandum of Understanding was signed January 20th, 2024

Signature of Agents for Transportation Cabinet [Signature]

Signatures of Property Owners	Signatures of Property Owners
<u>[Signature]</u> Walter Kent Bischoff, Trustee	<u>[Signature]</u> Hollace Phillips Bischoff, Trustee

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY AND UTILITIES	TC 62-235 Rev. 05/2019 Page 1 of 2
MEMORANDUM OF UNDERSTANDING		

COUNTY	ITEM NO.	PARCEL	NAME
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PROJECT NO.	FEDERAL NUMBER		PROJECT
12FO FD52 090 92783 01R	STP 8334 (005)		Western Bardstown Connector

Property Owners: The Louis T. Bischoff & Joyce H. Bischoff Trust

This Memorandum of Understanding contains all the representations and agreements made between the parties hereto and upon which they relied in executing a Deed of Conveyance, Deed of Easement, or Grant of Easement dated January 20th, 2024.

The related deed conveys the following interests and amounts of real property as shown on the official plans:

	Amount	Square feet	Acres
Fee simple	1.662	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Permanent easement		<input type="checkbox"/>	<input type="checkbox"/>
Temporary easement	0.434	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excess property in fee simple		<input type="checkbox"/>	<input type="checkbox"/>

The total consideration to be paid for the property conveyed is \$ _____.

This consideration includes payment for any and all reacquisition or reversion rights of the property owners or their heirs or assigns, which may arise pursuant to KRS 416.670.

- This is a total acquisition.
- This is a partial acquisition. The remaining property will have the following access to the proposed highway improvement:
 - Access as provided by the Department's permit. Access not designated on the plans will be the sole responsibility of the Property Owners (proposed highway access is by permit).
 - Access at designated points as shown on the plans (proposed highway access is limited).
 - No access (proposed highway access is fully controlled).
 - The remaining property will be landlocked by this acquisition.
- No improvements are being acquired.
- Improvements are being acquired. The disposition of the acquired improvements will be as follows:
 - The Cabinet receives titles to the improvements.
 - The Cabinet receives titles to the improvements, but for the salvage value of \$ _____ the Property Owners agree to remove the same from the right of way as outlined in the building removal contract. When the structure has been moved clear of the right of way and easement areas, the Property Owners regain the titles. Where tenants occupy improvements, the tenants must be afforded ample time to relocate prior to the Property Owners' being authorized to start the removal.

SIGNS

- No sign is being acquired.
- One or more signs are being acquired.
 - The Cabinet receives and retains title to each sign.
 - The Cabinet receives title to each sign, but for the salvage value of \$ _____ the Property Owners agree to remove the same from the right of way by _____ or forfeit both the recovery of each sign and the salvage value paid.

The Property Owners understand that they will not be required to vacate or move personal property from any improvement in less than 90 days from the date of receiving the written offer of relocation assistance. The Property Owners further understand that before being required to vacate or move personal property, they will be given a 30-day written notice that will specify the date they must be completely clear of the improvement.

The Property Owners will assist in obtaining necessary releases of all mortgages, liens, or other encumbrances on the property conveyed. They will pay direct all taxes due for the year in which the Cabinet receives title to the property and, upon submission of the paid receipt, will be reimbursed a pro-rata portion of these property taxes. Also, they will pay direct any penalty costs for prepayment of an existing recorded mortgage and similar expenses incidental to conveying real property to the Cabinet and, upon submission of properly supported paid receipts, will be reimbursed. All reimbursement claims must be deemed fair, necessary, and properly supported for payment.



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

TC 62-235
Rev. 05/2019
Page 1 of 2

MEMORANDUM OF UNDERSTANDING

COUNTY	ITEM NO.	PARCEL	NAME
Nelson	4-8809.00	016	Richard V. and Sandra R. Williams
PROJECT NO.	FEDERAL NUMBER	PROJECT	
12FO FD52 090 92783 01R	STP 8334 (005)	Western Bardstown Connector	

Property Owners: Richard V. and Sandra R. Williams, 139 Northwood Road, Frankfort KY 40601

This Memorandum of Understanding contains all the representations and agreements made between the parties hereto and upon which they relied in executing a Deed of Conveyance, Deed of Easement, or Grant of Easement dated January 23, 2023.

The related deed conveys the following interests and amounts of real property as shown on the official plans:

	Amount	Square feet	Acres
Fee simple	0.031	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Permanent easement		<input type="checkbox"/>	<input type="checkbox"/>
Temporary easement		<input type="checkbox"/>	<input type="checkbox"/>
Excess property in fee simple		<input type="checkbox"/>	<input type="checkbox"/>

The total consideration to be paid for the property conveyed is \$ _____.

This consideration includes payment for any and all reacquisition or reversion rights of the property owners or their heirs or assigns, which may arise pursuant to KRS 416.670.

- This is a total acquisition.
- This is a partial acquisition. The remaining property will have the following access to the proposed highway improvement:
 - Access as provided by the Department's permit. Access not designated on the plans will be the sole responsibility of the Property Owners (proposed highway access is by permit).
 - Access at designated points as shown on the plans (proposed highway access is limited).
 - No access (proposed highway access is fully controlled).
 - The remaining property will be landlocked by this acquisition.
- No improvements are being acquired.
- Improvements are being acquired. The disposition of the acquired improvements will be as follows:
 - The Cabinet receives titles to the improvements.
 - The Cabinet receives titles to the improvements, but for the salvage value of \$ _____ the Property Owners agree to remove the same from the right of way as outlined in the building removal contract. When the structure has been moved clear of the right of way and easement areas, the Property Owners regain the titles. Where tenants occupy improvements, the tenants must be afforded ample time to relocate prior to the Property Owners' being authorized to start the removal.

SIGNS

- No sign is being acquired.
- One or more signs are being acquired.
 - The Cabinet receives and retains title to each sign.
 - The Cabinet receives title to each sign, but for the salvage value of \$ _____ the Property Owners agree to remove the same from the right of way by _____ or forfeit both the recovery of each sign and the salvage value paid. _____

The Property Owners understand that they will not be required to vacate or move personal property from any improvement in less than 90 days from the date of receiving the written offer of relocation assistance. The Property Owners further understand that before being required to vacate or move personal property, they will be given a 30-day written notice that will specify the date they must be completely clear of the improvement.

The Property Owners will assist in obtaining necessary releases of all mortgages, liens, or other encumbrances on the property conveyed. They will pay direct all taxes due for the year in which the Cabinet receives title to the property and, upon submission of the paid receipt, will be reimbursed a pro-rata portion of these property taxes. Also, they will pay direct any penalty costs for prepayment of an existing recorded mortgage and similar expenses incidental to conveying real property to the Cabinet and, upon submission of properly supported paid receipts, will be reimbursed. All reimbursement claims must be deemed fair, necessary, and properly supported for payment.



KENTUCKY TRANSPORTATION CABINET
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MEMORANDUM OF UNDERSTANDING

Unless otherwise stated, Property Owners state that no drainage outlets such as pipes, sump pump outlets, gutter downspouts, or septic system drainage of any kind, currently extend onto the existing right of way. In addition, the parties agree as follows:

A ENTRANCE will be constructed to Property

As owners of the property to be conveyed, we request payment be made as follows:

Name: <i>Richard V. Williams</i>		Name:	
Address: <i>139 Northwood Rd Frankfort, KY 40601</i>		Address:	
SSN or Tax ID:	Amount of Check: \$	SSN or Tax ID:	Amount of Check: \$
Telephone Number: <i>(502) 382-6188</i>		Telephone Number:	
Name:		Name:	
Address:		Address:	
SSN or Tax ID:	Amount of Check: \$	SSN or Tax ID:	Amount of Check: \$
Telephone Number:		Telephone Number:	

Note: Attach additional pages, as needed.

The Property Owners acknowledge that if the agreed consideration for this transaction was negotiated based upon a waiver valuation/Minor Acquisition Review (MAR) amount of at least \$10,000.00 but not more than \$25,000.00, the Property Owners were offered the option of having the Cabinet obtain an appraisal of the property and have hereby waived that option.

This Memorandum of Understanding, together with the Right of Way Plans, the Deed of Conveyance, Deed of Easement, or Grant of Easement, and any other documents referenced in these instruments, represent all the terms and conditions of the agreement between the Transportation Cabinet and the Property Owners, which was reached without coercion, threats, or other promises by either party.

By their signatures on this document, the agents representing the Transportation Cabinet certify that they have no direct, indirect, present, or contemplated future interest in this property and in no way will benefit from this acquisition.

This Memorandum of Understanding was signed *January 23, 2023*.

Signature of Agents for Transportation Cabinet *[Signature]*

Signatures of Property Owners	Signatures of Property Owners
Richard V. Williams	Sandra R. Williams
<i>[Signature]</i>	<i>Sandra Williams</i>

Note: Attach additional pages, as needed.

GUARDRAIL DELIVERY VERIFICATION SHEET

Contract Id: _____

Contractor: _____

Section Engineer: _____

District & County: _____

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

***Required Signatures before Leaving Project Site**

Printed Section Engineer's Representative _____ & Date _____

Signature Section Engineer's Representative _____ & Date _____

Printed Contractor's Representative _____ & Date _____

Signature Contractor's Representative _____ & Date _____

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

Printed Bailey Bridge Yard Representative _____ & Date _____

Signature Bailey Bridge Yard Representative _____ & Date _____

Printed Contractor's Representative _____ & Date _____

Signature Contractor's Representative _____ & Date _____

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

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

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

STANDARD SPECIFICATIONS

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

SUPPLEMENTAL SPECIFICATIONS

The contractor shall use the Supplemental Specifications that are effective at the time of letting. The Supplemental Specifications can be found at the following link:
<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

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

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

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

2.3 Power.

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

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

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

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

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

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

11

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

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

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

Effective June 15, 2012

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.

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, channels with high shear stresses, 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.

Properties	Type 1	Type 2	Type 3	Type 4
Maximum Slope (H:V)	1:1	1:1	0.5:1	0.5:1
Un-vegetated Shear	≥ 2.0 lbs/ft ² (≥ 96 Pa)	≥ 2.0 lb/ft ² (≥ 96 Pa)"	≥ 2.0 lb/ft ² (≥ 96 Pa)	≥ 2.0 lb/ft ² (≥ 96 Pa)

Stress ^{b, c, d} ASTM D6460				
Vegetated Shear Stress ^{c, d, e, f} ASTM D6460	≥ 6.0 lbs/ft ² (≥ 287 Pa)	≥ 8.0 lb/ft ² (≥ 383 Pa)	≥ 10.0 lb/ft ² (≥ 479 Pa)	≥ 12.0 lb/ft ² (≥ 575 Pa)
Seedling Emergence ^d ASTM D7322	≥ 250%	≥ 250%	≥ 250%	≥ 250%
MD Material Tensile Strength ^{d, f} ASTM D6818	≥ 150 lbs/ft (≥ 2.2 kN/m)	≥ 175 lbs/ft (≥ 2.6 kN/m)	≥ 200 lbs/ft (≥ 2.9 kN/m)	≥ 1,500 lbs/ft (≥ 21.9 kN/m)
TD Material Tensile Strength ^{d, f} ASTM D6818	≥ 150 lbs/ft (≥ 2.2 kN/m)	≥ 175 lbs/ft (≥ 2.6 kN/m)	≥ 200 lbs/ft (≥ 2.9 kN/m)	≥ 1,500 lbs/ft (≥ 21.9 kN/m)
Mass Per Unit Area ^d ASTM D6566	≥ 8.0 oz/yd ² (≥ 271 g/m ²)	≥ 8.0 oz/yd ² (≥ 271 g/m ²)	≥ 8.0 oz/yd ² (≥ 271 g/m ²)	≥ 8.0 oz/yd ² (≥ 271 g/m ²)
Material Thickness ^d ASTM D6525	≥ 0.25 in (≥ 6.35 mm)			
UV Stability ^{c, e} ASTM D4355	≥ 80% @ 500 hrs	≥ 80% @ 500 hrs	≥ 80% @ 1,000 hrs	≥ 90% @ 1,000 hrs

- a. For Type 4 mats, property values tested per ASTM D6818 and D6525 are reported as minimum average roll values (MARVs). MARVs are calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.
- b. Required minimum shear stress TRM (un-vegetated) can sustain without physical damage or excess erosion (> 12.7 mm (0.5 in.) soil loss during successive, minimum 30 minute flow events in large scale testing.
- c. Acceptable large-scale testing protocol may include ASTM D6460, or other independent testing deemed acceptable by the engineer. Large-scale performance testing typically involves limited soil types and vegetative stands, therefore it is recommended that an appropriate factor of safety be used in design and product selection (see Guidance Document for further information).
- d. Typical values are calculated as the average value, it yields a 50% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.
- e. Required minimum shear stress TRM (fully vegetated) can sustain without physical damage or excess erosion (> 12.7 mm (0.5 in.) soil loss during successive, minimum 30 minute flow events in large scale testing.
- f. For TRMs containing degradable components, property values must be obtained on the non-degradable portion of the matting alone.

NOTE: TRMs are typically used in hydraulic applications, such as high flow ditches and channels, steep slopes, stream banks, and shorelines, where erosive forces may exceed the limits of natural, unreinforced vegetation or in areas where limited vegetation establishment is anticipated.

2.3 Quality Assurance Sampling, Testing, and Acceptance

- A) 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.

- B) 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.
- C) 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.
- D) 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. Mats that exceed the criteria for KYTC Types 1-4 are available. Contact an erosion control material supplier for more information.

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. 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. Smoothly 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.

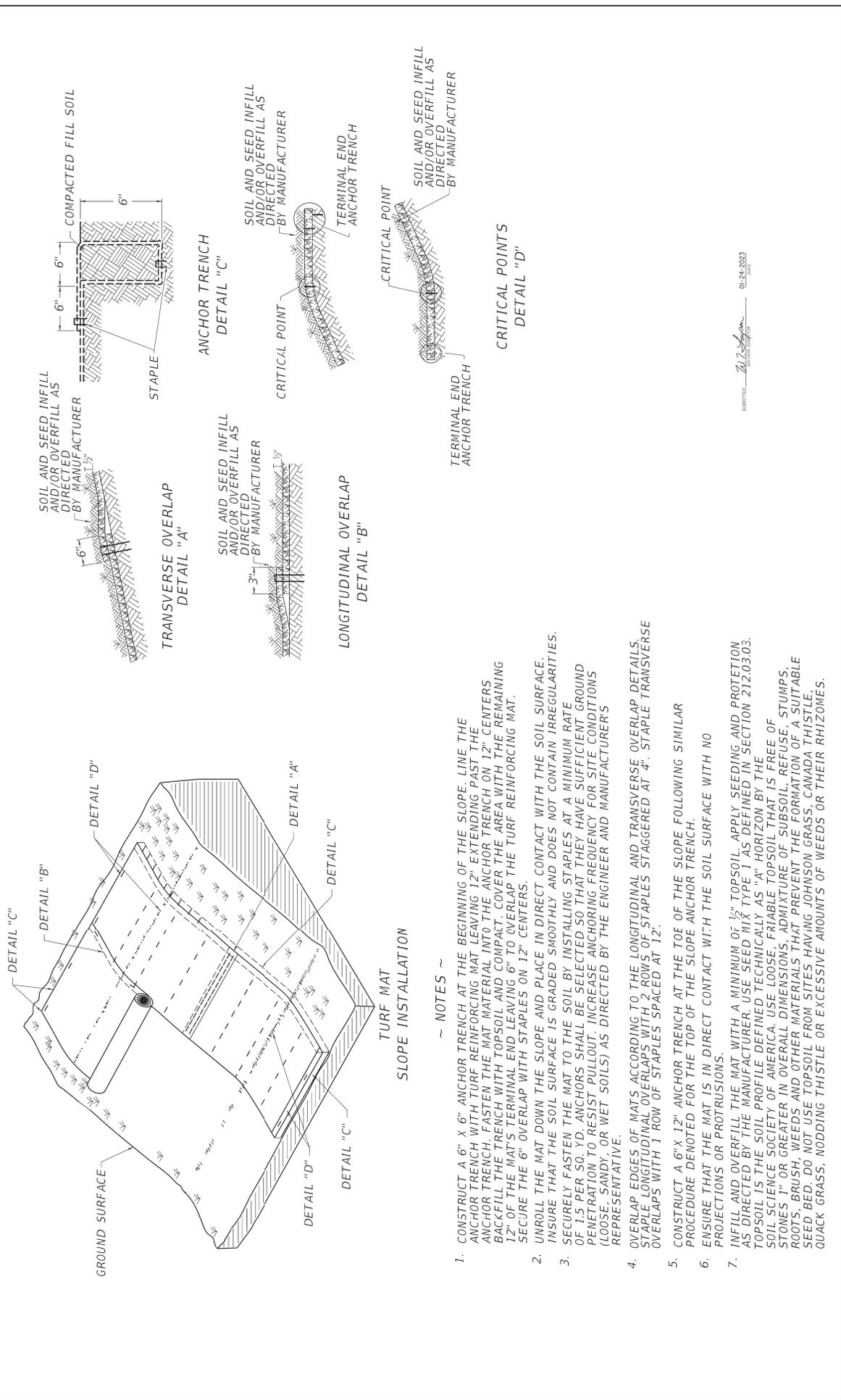
3.2 Installation. Install mats according to Standard Drawing Sepias "Turf Mat Channel Installation" and "Turf Mat Slope Installation." Install mats at the specified elevation and alignment. Anchor the mats with staples with a minimum length of 12 inches. Use longer anchors for installations in sandy, loose, or wet soils as directed by the Engineer or Manufacturer's Representative. The mat should be in direct contact with the soil surface. Infill and overfill the mat with a minimum of ½" of soil as directed by the Manufacturer.

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:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
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

June 29, 2023



~ NOTES ~

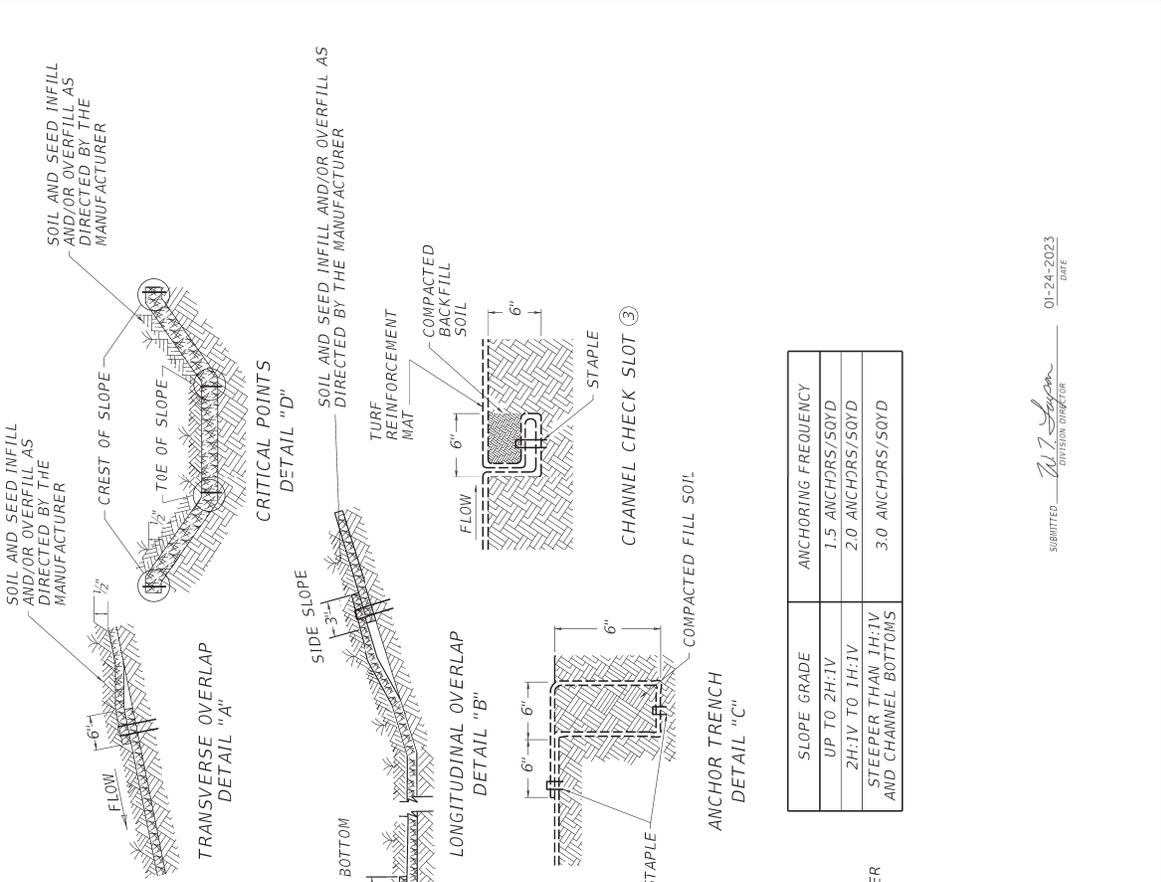
1. CONSTRUCT A 6" X 6" ANCHOR TRENCH AT THE BEGINNING OF THE SLOPE LINE THE ANCHOR TRENCH WITH TURF REINFORCING MAT LEAVING 12" EXTENDING PAST THE ANCHOR TRENCH. FASTEN THE MAT MATERIAL INTO THE ANCHOR TRENCH ON 12" CENTERS BACKFILL THE TRENCH WITH TOPSOIL AND COMPACT COVER THE AREA WITH THE REMAINING 12" OF THE MAT'S TERMINAL END LEAVING 6" TO OVERLAP THE TURF REINFORCING MAT. SECURE THE 6" OVERLAP WITH STAPLES ON 12" CENTERS.
2. UNROLL THE MAT DOWN THE SLOPE AND PLACE IN DIRECT CONTACT WITH THE SOIL SURFACE. INSURE THAT THE SOIL SURFACE IS GRADED SMOOTHLY AND DOES NOT CONTAIN IRREGULARITIES.
3. SECURELY FASTEN THE MAT TO THE SOIL BY INSTALLING STAPLES AT A MINIMUM RATE OF 1.5 PER SQ. YD. ANCHORS SHALL BE SELECTED SO THAT THEY HAVE SUFFICIENT GROUND PENETRATION TO RESIST PULLOUT. INCREASE ANCHORING FREQUENCY FOR SITE CONDITIONS (LOOSE, SANDY, OR WET SOILS) AS DIRECTED BY THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE.
4. OVERLAP EDGES OF MATS ACCORDING TO THE LONGITUDINAL AND TRANSVERSE OVERLAP DETAILS. STAPLE LONGITUDINAL OVERLAPS WITH 2 ROWS OF STAPLES STAGGERED AT 4". STAPLE TRANSVERSE OVERLAPS WITH 1 ROW OF STAPLES SPACED AT 12".
5. CONSTRUCT A 6" X 12" ANCHOR TRENCH AT THE TOE OF THE SLOPE FOLLOWING SIMILAR PROCEDURE DENOTED FOR THE TOP OF THE SLOPE ANCHOR TRENCH.
6. ENSURE THAT THE MAT IS IN DIRECT CONTACT WITH THE SOIL SURFACE WITH NO PROJECTIONS OR PROTUSIONS.
7. INFILL AND OVERFILL THE MAT WITH A MINIMUM OF 1/2" TOPSOIL. APPLY SEEDING AND PROTECTION AS DIRECTED BY THE MANUFACTURER. USE SEED MIX TYPE 1 AS DEFINED IN SECTION 212.03.03. TOPSOIL IS THE SOIL PROFILE DEFINED TECHNICALLY AS "A" HORIZON BY THE SOIL SCIENCE SOCIETY OF AMERICA. USE LOOSE, FRIABLE TOPSOIL THAT IS FREE OF STONES 1" OR GREATER IN OVERALL DIMENSIONS. ADMIXTURE OF SUBSOIL, REFUSE, STUMPS, ROOTS, BRUSH, WEEDS AND OTHER MATERIALS THAT PREVENT THE FORMATION OF A SUITABLE SEED BED. DO NOT USE TOPSOIL FROM SITES HAVING JOHNSON GRASS, CANADA THISTLE, QUACK GRASS, NODDING THISTLE OR EXCESSIVE AMOUNTS OF WEEDS OR THEIR RHIZOMES.

DESIGNED BY *J. J. Seay*
DATE: 01-24-2023

ITEM NO.	COUNTY OF
SHEET NO.	

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
DRAWING TITLE: SEPIA 22 - TURF MAT SLOPE INSTALLATION
USER: cmlmberger

FILE NAME: C:\PWORK\KTC_CV\MLMBERGER\22\SEPIA22 - TURF MAT SLOPE INSTALLATION.DGN



TURF MAT
CHANNEL INSTALLATION

~ NOTES ~

1. CONSTRUCT A 6" X 6" ANCHOR TRENCH AT THE UPSTREAM END OF THE CHANNEL LINE. THE ANCHOR TRENCH WITH TURF REINFORCEMENT MAT LEAVING 12" EXTENDING PAST THE ANCHOR TRENCH. FASTEN THE MAT MATERIAL INTO THE ANCHOR TRENCH ON 12" CENTERS. BACKFILL THE TRENCH WITH SOIL AND COMPACT COVER THE AREA WITH THE REMAINING 1/2" OF THE MATS. TERMINAL END LEAVING 6" TO OVERLAP THE TURF REINFORCING MAT. SECURE THE 6" OVERLAP WITH STAPLES ON 12" CENTERS.
2. UNROLL THE MAT PARALLEL TO THE PRIMARY DIRECTION OF WATER FLOW AND PLACE IN DIRECT CONTACT WITH THE SOIL SURFACE. INSURE THAT THE SOIL SURFACE IS GRADED SMOOTHLY AND DOES NOT CONTAIN IRREGULARITIES.
3. EXCAVATE 6" X 6" CHECK SLOTS EVERY 25' ALONG THE LENGTH OF THE CHANNEL. LINE THE SIDE AND BOTTOM OF THE SLOT WITH THE MAT AND THEN PULL BACK OVER, FASTEN WITH STAPLES ON 12" CENTERS. FILL THE CHECK SLOT WITH TOPSOIL, COMPACT, AND CONTINUE UNROLLING THE MAT DOWN THE CHANNEL.
4. CHECK SLOTTING OR TERMINAL ANCHOR TRENCH. IF MORE THAN ONE SECTION OF MAT, AS SHOWN IN THE TRANSVERSE OVERLAP DETAIL, IS USED OVERLAP UPSTREAM MATS OVER TOP OF THE DOWNSTREAM MAT 6" AND SECURE IF MATS ARE PLACED PARALLEL TO EACH OTHER ALONG THE CHANNEL. PLACE CHANNEL SECTIONS FIRST, THEN OVERLAP TOP SLOPE CHECK SLOTS. FOR THE CHANNEL CHECK SLOTS, SHOW THE LONGITUDINAL OVERLAP DETAIL AND SECURE WITH STAPLES ON 12" CENTERS. PROCEED UP THE SIDE SLOPES IN THE SAME MANNER UNTIL THE TOP OF CHANNEL IS REACHED.
5. SECURE MATS WHILE UNROLLING ON SIDESLOPES AND CHANNEL BOTTOMS WITH STAPLES AT A FREQUENCY THE TABLE INDICATES. USE STAPLES HAVING SUFFICIENT GROUND PENETRATION TO RESIST PULLOUT. INCREASE ANCHORING FREQUENCY AS DIRECTED BY THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE.
6. INFILL AND OVERFILL THE MAT WITH A MINIMUM OF 1/2" TOPSOIL. APPLY SEEDING AND PROTECTION AS DIRECTED BY THE MANUFACTURER. USE SEED MIX TYPE 1 AS DEFINED IN SECTION 212.03.03. TOPSOIL IS THE SOIL PROFILE DEFINED TECHNICALLY AS "A" HORIZON BY THE SOIL SCIENCE SOCIETY OF AMERICA. USE LOOSE, FRIABLE TOPSOIL THAT IS FREE OF STONES 1" OR GREATER IN OVERALL DIMENSIONS, ADMIXTURE OF SUBSOIL, REFUSE, STUMPS, ROOTS, BRUSH, WEEDS AND OTHER MATERIALS THAT PREVENT THE FORMATION OF A SUITABLE SEED BED. DO NOT USE TOPSOIL FROM SITES HAVING JOHNSON GRASS, CANADA THISTLE, QUACK GRASS, NODDING THISTLE OR EXCESSIVE AMOUNTS OF WEEDS OR THEIR RHIZOMES.

SLOPE GRADE	ANCHORING FREQUENCY
UP TO 2H:1V	1.5 ANCHORS/SQYD
2H:1V TO 1H:1V	2.0 ANCHORS/SQYD
STEEPER THAN 1H:1V AND CHANNEL BOTTOMS	3.0 ANCHORS/SQYD

SUBMITTED: *[Signature]* DIVISION DIRECTOR
DATE: 01-24-2023

ITEM NO.
SHEET NO.

DRAWING TITLE: SEPIA 23 - TURF MAT CHANNEL INSTALLATION

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
OpenRoads Designer 11.0.2.207

FILE NAME: CP\WORK\KTC\CIVIL\BINGERC\180626\04 - TURF MAT CHANNEL INSTALLATION.DGN
USER: cmlbinger

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

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

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

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

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

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

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

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

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

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

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

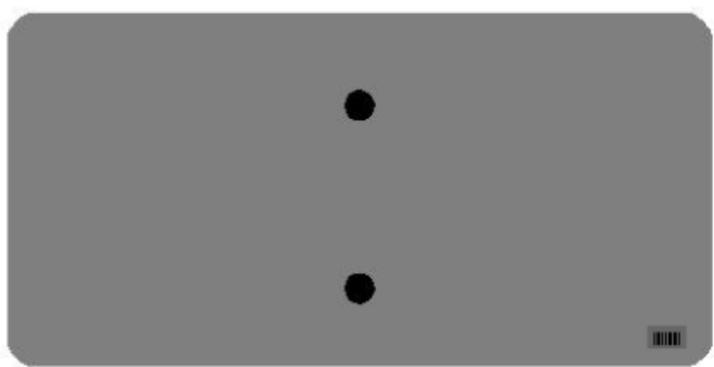
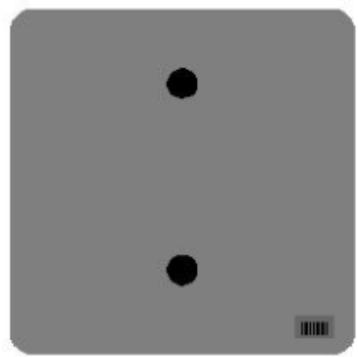
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

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

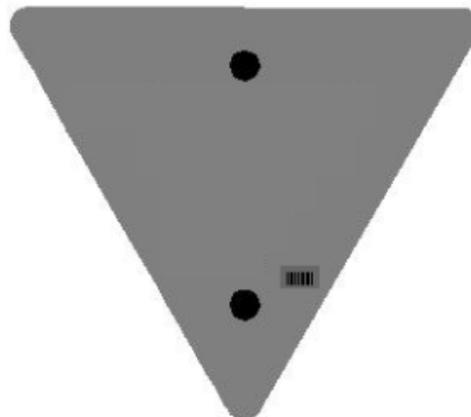
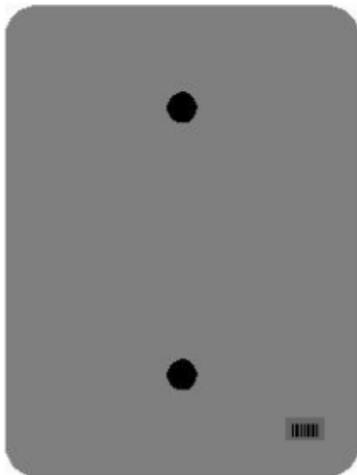
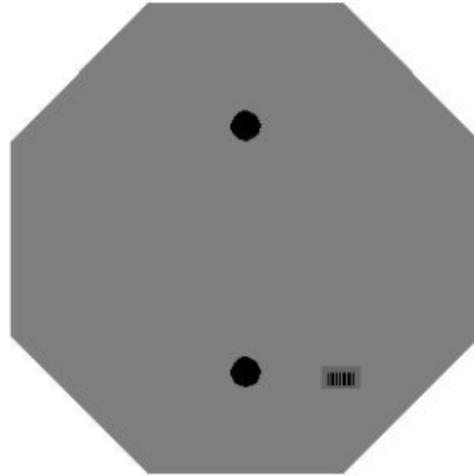
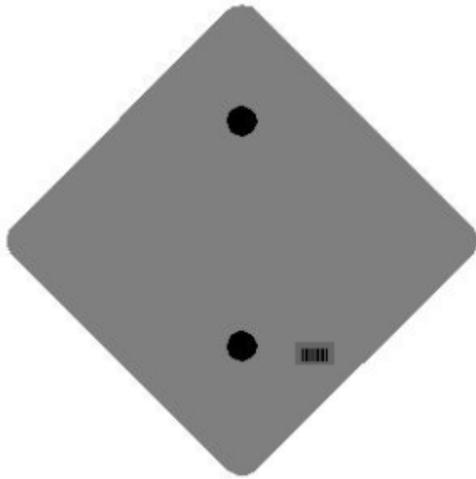
One Sign Post



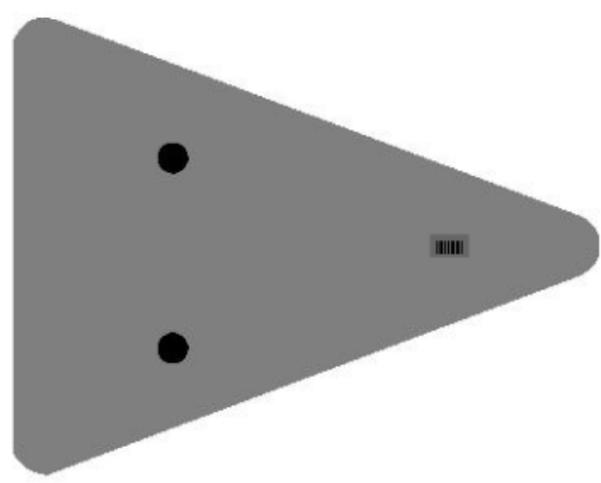
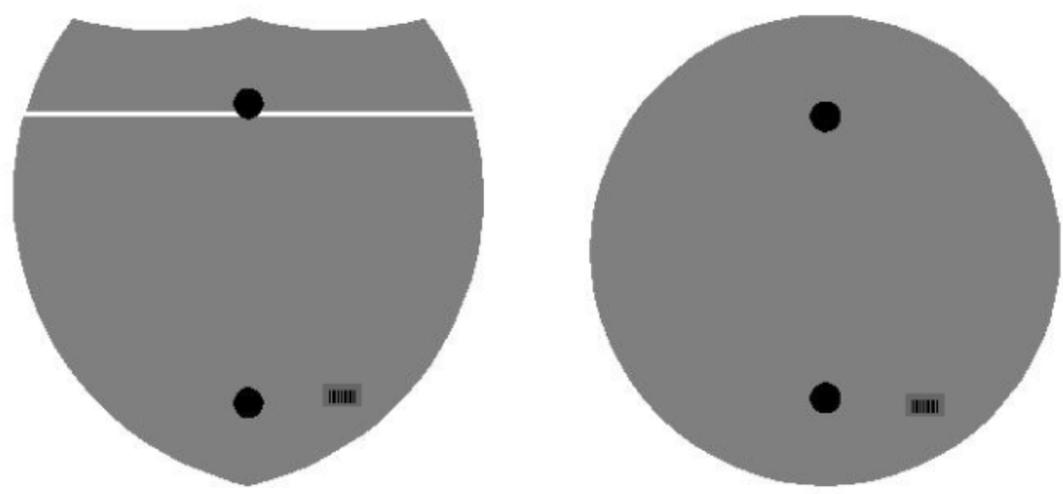
↑
2" Wide Post



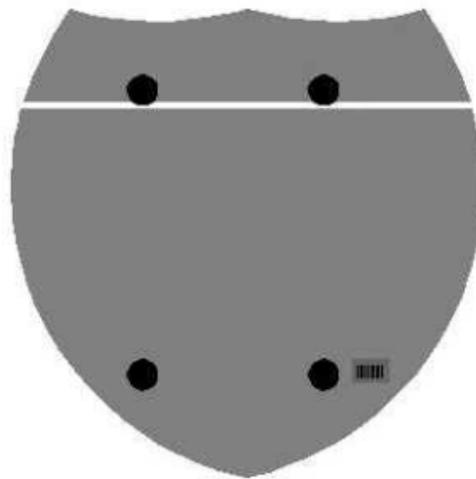
One Sign Post



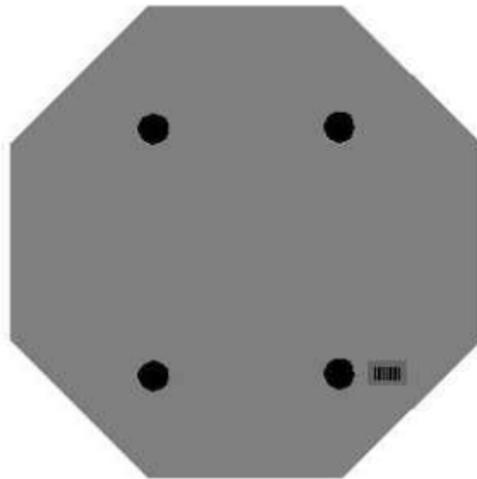
One Sign Post



Double Sign Post



Interstate
Shield

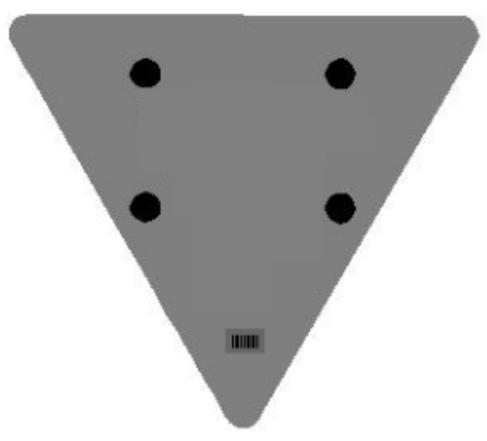


48" Stop

2 Post Signs



↑
2" Wide Post



SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE

1. DESCRIPTION. This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joint between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.
2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Viscosity, 400 ° F (Pa·s)	4.0 – 10.0	ASTM D 4402
Cone Penetration, 77 ° F	60 – 100	ASTM D 5329
Flow, 140 ° F (mm)	5.0 max.	ASTM D 5329
Resilience, 77 ° F (%)	30 min.	ASTM D 5329
Ductility, 77 ° F (cm)	30.0 min.	ASTM D 113
Ductility, 39 ° F (cm)	30.0 min.	ASTM D 113
Tensile Adhesion, 77 ° F (%)	500 min.	ASTM D 5329, Type II
Softening Point, ° F	171 min.	AASHTO T 53
Asphalt Compatibility	Pass	ASTM D 5329

Ensure the temperature of the pavement joint adhesive is between 380 and 410 °F when the material is extruded in a 0.125-inch-thick band over the entire face of the longitudinal joint.

2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.

2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.

2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air.

Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.

3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of 40 ° F during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's 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 random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude two 5 lb. samples of the heated material and forward the sample to the Division of Materials for testing. Reynolds oven bags, turkey size, placed inside small cardboard boxes or cement cylinder molds have been found suitable. Ensure the product temperature is 400°F or below at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. 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 Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.
5. PAYMENT. The Department will pay for the Pavement Joint Adhesive 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. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

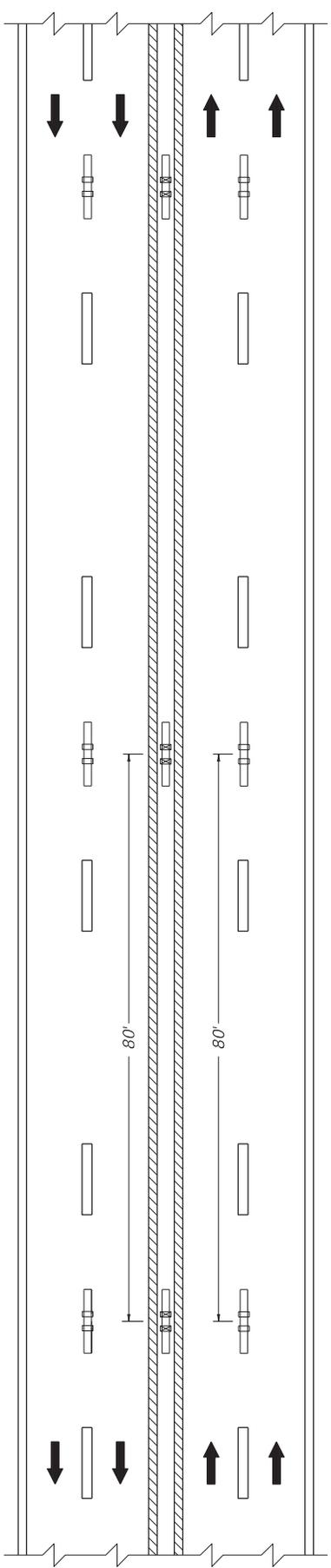
Pavement Joint Adhesive Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Joint Adhesive Referenced in Subsection 2.1.1						
Viscosity, 400 ° F (Pa•s) ASTM D 3236	4.0-10.0	3.5-10.5	3.0-3.4 10.6-11.0	2.5-2.9 11.1-11.5	2.0-2.4 11.6-12.0	≤1.9 ≥ 12.1
Cone Penetration, 77 ° F ASTM D 5329	60-100	57-103	54-56 104-106	51-53 107-109	48-50 110-112	≤ 47 ≥ 113
Flow, 140 ° F (mm) ASTM D 5329	≤ 5.0	≤ 5.5	5.6-6.0	6.1-6.5	6.6-7.0	≥ 7.1
Resilience, 77 ° F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 ° F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, ° F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9
Ductility, 39 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9

Code
20071EC

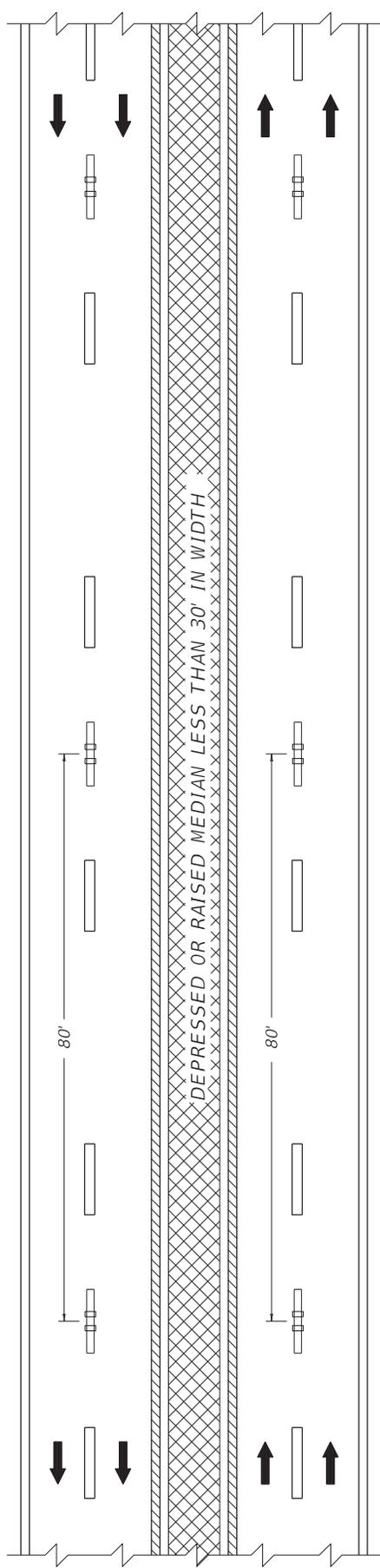
Pay Item
Joint Adhesive

Pay Unit
Linear Foot

May 7, 2014



ARRANGEMENT "A" (UNDIVIDED HIGHWAY)



ARRANGEMENT "B" (DIVIDED HIGHWAY WITH DEPRESSED OR RAISED MEDIAN LESS THAN 30' IN WIDTH)

- ~ NOTES ~
1. MARKERS INSTALLED WITH DOUBLE YELLOW CENTERLINES SHOULD BE PLACED BETWEEN THE TWO LINES.
 2. MARKERS INSTALLED ALONG LANE LINES SHOULD BE PLACED BETWEEN AND IN LINE WITH THE SKIPS.
 3. MARKERS SHALL NOT BE INSTALLED ON TOP OF THE PAVEMENT JOINT. OFFSET MARKERS A MINIMUM OF 2" FROM THE PAVEMENT JOINT. ENSURE THAT THE FINISHED LINE OF MARKERS IS STRAIGHT WITH MINIMAL LATERAL DEVIATION. MARKERS MAY BE ELIMINATED OR PLACEMENT ADJUSTED AT THE DISCRETION OF THE ENGINEER.
 4. MARKERS SHALL BE INSTALLED AT 40' SPACING ALONG SOLID WHITE AUXILIARY LANES. MARKER COLOR SHALL MATCH THE MARKERS INSTALLED ALONG THE WHITE LANE LINES.

BID ITEMS	UNIT TO BID
06610 - INLAID PAVEMENT MARKER - MW	EACH
06612 - INLAID PAVEMENT MARKER - BY	EACH

LEGEND

	BI-DIRECTIONAL PAVEMENT MARKER (YELLOW)
	MONO-DIRECTIONAL PAVEMENT MARKER (WHITE)
	MARKINGS (YELLOW)
	MARKINGS (WHITE)
	DEPRESSED OR RAISED MEDIAN

DRAWING NOT TO SCALE

KENTUCKY DEPARTMENT OF HIGHWAYS
INLAID PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS
SUBMITTED DIVISION DIRECTOR 06-09-21 <small>DATE</small> 006

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 – Revised October 23, 2023

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Non-segregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

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. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate 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 used 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) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to DBAconformance@dol.gov. 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.

(4) 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 will, by email to DBAconformance@dol.gov, 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must 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.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements (1) Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must 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.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements (1) Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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](#); and

(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(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH-347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* 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. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access (1) Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. 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 journeyworkers 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 must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 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. a. By entering into this contract, the contractor certifies that neither it 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 [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

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 watchpersons 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 and interest from the date of the underpayment. 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 watchpersons 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.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) 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

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- d. Informing any other person about their rights under CWHSSA or this part.

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 200.327.

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 200.327.

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.

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) 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;

(2) 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

(3) 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)

b. 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 administering 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: KY20240038 03/22/2024

Superseded General Decision Number: KY20230038

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)(1).

<p>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:</p>	<ul style="list-style-type: none"> . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 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 2024.
<p>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:</p>	<ul style="list-style-type: none"> . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 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 2024.

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 <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	02/09/2024
2	03/01/2024
3	03/15/2024
4	03/22/2024

BRIN0004-003 06/01/2023

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER.....	\$ 34.17	19.60

BRKY0001-005 06/01/2023		

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 33.48	15.92

BRKY0002-006 06/01/2023		

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 33.48	15.92

BRKY0007-004 06/01/2023		

BOYD, CARTER, ELLIOT, FLEMING, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 39.46	20.14

BRKY0017-004 06/01/2023		

ANDERSON, BATH, BOURBON, BOYLE, CLARK, FAYETTE, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, OWEN, SCOTT, WASHINGTON & WOODFORD COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 33.48	15.92

CARP0064-001 04/01/2023		

	Rates	Fringes
CARPENTER.....	\$ 31.81	22.86

Diver.....	\$ 48.09	22.86
PILEDRIVERMAN.....	\$ 32.06	22.86

* ELEC0212-008 06/05/2023

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 34.41	21.55

* ELEC0212-014 11/27/2023

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician.....	\$ 27.20	14.54

ELEC0317-012 05/29/2023

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
ELECTRICIAN (Wiremen).....	\$ 37.15	22.73

ELEC0369-007 05/28/2023

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.....	\$ 35.39	20.45

ELEC0575-002 05/29/2023

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 37.00	22.26

ENGI0181-018 07/01/2023

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 38.55	18.60
GROUP 2.....	\$ 35.69	18.60
GROUP 3.....	\$ 36.14	18.60
GROUP 4.....	\$ 35.37	18.60

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 Concrete 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 06/01/2023

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.....	\$ 30.75	22.70
Structural.....	\$ 32.37	22.70

 IRON0070-006 06/01/2023

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.....	\$ 32.59	24.50

 IRON0769-007 06/01/2023

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
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IRONWORKER

ZONE 1.....	\$ 36.16	28.34
ZONE 2.....	\$ 36.56	28.34
ZONE 3.....	\$ 38.16	28.34

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.

 LAB00189-003 07/01/2023

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.....	\$ 23.96	17.57
GROUP 2.....	\$ 24.21	17.57
GROUP 3.....	\$ 24.26	17.57
GROUP 4.....	\$ 24.86	17.57

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; Bushhammer; 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

LAB00189-008 07/01/2023

ANDERSON, BULLITT, CARROLL, HARDIN, HENRY, JEFFERSON, LARUE,
MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE &
WASHINGTON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.96	17.57
GROUP 2.....	\$ 24.21	17.57
GROUP 3.....	\$ 24.26	17.57
GROUP 4.....	\$ 24.86	17.57

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; Bushhammer; 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

LAB00189-009 07/01/2023

BRECKINRIDGE & GRAYSON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.96	17.57
GROUP 2.....	\$ 24.21	17.57
GROUP 3.....	\$ 24.26	17.57
GROUP 4.....	\$ 24.86	17.57

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; Bushhammer; 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 12/01/2023

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations.....	\$ 35.64	23.69
Power Generating Facilities.....	\$ 32.40	23.69

PLUM0248-003 06/01/2023

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
Plumber and Steamfitter.....	\$ 41.00	22.95

PLUM0392-007 06/01/2023

BRACKEN, CARROLL (Eastern Half), GALLATIN, GRANT, MASON, OWEN &
ROBERTSON COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 38.62	25.73

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.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

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) (iii)).

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.

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END OF GENERAL DECISION"

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 Notification of Construction Contract Award Portal (NCAP) is OFCCP's preferred method for receiving construction contract award notifications. The NCAP can be found on OFCCP's website at <https://www.dol.gov/agencies/ofccp/ncap>. Users who prefer not to use the portal maintain the option to send their notifications via mail, email and facsimile to the OFCCP Regional office in which the work will be performed. 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 must include: Prime Contract Number (issued by the federal agency or applicant); Name of Awarding Federal Agency, Applicant or Contractor; Contracting Officer, Applicant Representative or Contractor Representative Submitting Notification with name, phone number, email address; Contractor Awarded Contract or Subcontract with name, address, phone number, email address, EIN, dollar amount of the contract, estimated start date of the contract, estimated completion date of the contract, geographical area in which the contract is to be performed (state, county's city (if applicable)).
The notification shall be mailed to:

**Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8931
Main Number: 404-893-4545 Fax: 404-893-4546
Regional Director Contact: OFCCP-SE@dol.gov
Construction Award Email: OFCCP-SE-ConstructionAward@dol.gov**

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is Nelson County.

PART IV
INSURANCE

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

PART V
BID ITEMS

PROPOSAL BID ITEMS

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Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	26,625.00	TON		\$	
0020	00013		LIME STABILIZED ROADBED	61,481.00	SQYD		\$	
0030	00014		LIME	1,195.00	TON		\$	
0040	00078		CRUSHED AGGREGATE SIZE NO 2	14,925.00	TON		\$	
0050	00100		ASPHALT SEAL AGGREGATE	243.00	TON		\$	
0060	00103		ASPHALT SEAL COAT	30.00	TON		\$	
0070	00212		CL2 ASPH BASE 1.00D PG64-22	798.00	TON		\$	
0080	00214		CL3 ASPH BASE 1.00D PG64-22	18,104.00	TON		\$	
0090	00216		CL3 ASPH BASE 1.00D PG76-22	9,358.00	TON		\$	
0100	00301		CL2 ASPH SURF 0.38D PG64-22	362.00	TON		\$	
0110	00339		CL3 ASPH SURF 0.38D PG64-22	1,901.00	TON		\$	
0120	00356		ASPHALT MATERIAL FOR TACK	13.20	TON		\$	
0130	00358		ASPHALT CURING SEAL	66.00	TON		\$	
0140	00387		CL3 ASPH SURF 0.38B PG76-22	4,250.00	TON		\$	
0150	00389		CL3 ASPH SURF 0.38D PG76-22	590.00	TON		\$	
0160	02075		JPC PAVEMENT-6 IN	199.00	SQYD		\$	
0170	02101		CEM CONC ENT PAVEMENT-8 IN	584.00	SQYD		\$	
0180	02555		CONCRETE-CLASS B	40.00	CUYD		\$	
0190	02702		SAND FOR BLOTTER	159.00	TON		\$	
0200	10020NS		FUEL ADJUSTMENT	1.00	DOLL	\$55,044.00	\$	\$55,044.00
0210	10030NS		ASPHALT ADJUSTMENT	1.00	DOLL	\$138,255.0	\$	\$138,255.00
0220	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	53.00	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0230	01810		STANDARD CURB AND GUTTER	464.00	LF		\$	
0240	01897		ASPHALT WEDGE CURB	410.00	LF		\$	
0250	01921		STANDARD BARRIER MEDIAN TYPE 4	101.00	SQYD		\$	
0260	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	25.00	EACH		\$	
0270	02091		REMOVE PAVEMENT	2,185.00	SQYD		\$	
0280	02200		ROADWAY EXCAVATION	423,990.00	CUYD		\$	
0290	02223		GRANULAR EMBANKMENT	5,185.00	CUYD		\$	
0300	02242		WATER	1,740.00	MGAL		\$	
0310	02262		FENCE-WOVEN WIRE TYPE 1	21,830.00	LF		\$	
0320	02351		GUARDRAIL-STEEL W BEAM-S FACE	2,150.00	LF		\$	
0330	02360		GUARDRAIL TERMINAL SECTION NO 1	4.00	EACH		\$	
0340	02367		GUARDRAIL END TREATMENT TYPE 1	5.00	EACH		\$	
0350	02381		REMOVE GUARDRAIL	1,125.00	LF		\$	
0360	02404		SEPTIC TANK TREATMENT	1.00	EACH		\$	
0370	02429		RIGHT-OF-WAY MONUMENT TYPE 1	103.00	EACH		\$	
0380	02432		WITNESS POST	9.00	EACH		\$	
0390	02483		CHANNEL LINING CLASS II	6,203.00	TON		\$	
0400	02484		CHANNEL LINING CLASS III	6,750.00	TON		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0410	02545		CLEARING AND GRUBBING 66 ACRES	1.00	LS		\$	
0420	02585		EDGE KEY	630.00	LF		\$	
0430	02602		FABRIC-GEOTEXTILE CLASS 1	53,178.00	SQYD		\$	
0440	02603		FABRIC-GEOTEXTILE CLASS 2	23,459.00	SQYD		\$	
0450	02604		FABRIC-GEOTEXTILE CLASS 1A	19,678.00	SQYD		\$	
0460	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0470	02677		ASPHALT PAVE MILLING & TEXTURING	266.00	TON		\$	
0480	02697		EDGE LINE RUMBLE STRIPS	23,015.00	LF		\$	
0490	02701		TEMP SILT FENCE	11,736.00	LF		\$	
0500	02703		SILT TRAP TYPE A	11.00	EACH		\$	
0510	02704		SILT TRAP TYPE B	155.00	EACH		\$	
0520	02705		SILT TRAP TYPE C	54.00	EACH		\$	
0530	02706		CLEAN SILT TRAP TYPE A	11.00	EACH		\$	
0540	02707		CLEAN SILT TRAP TYPE B	155.00	EACH		\$	
0550	02708		CLEAN SILT TRAP TYPE C	54.00	EACH		\$	
0560	02720		SIDEWALK-4 IN CONCRETE	678.00	SQYD		\$	
0570	02726		STAKING	1.00	LS		\$	
0580	05950		EROSION CONTROL BLANKET	99,703.00	SQYD		\$	
0590	05952		TEMP MULCH	170,270.00	SQYD		\$	
0600	05953		TEMP SEEDING AND PROTECTION	134,994.00	SQYD		\$	
0610	05963		INITIAL FERTILIZER	14.00	TON		\$	
0620	05964		MAINTENANCE FERTILIZER	8.00	TON		\$	
0630	05985		SEEDING AND PROTECTION	155,702.00	SQYD		\$	
0640	05989		SPECIAL SEEDING CROWN VETCH	90,147.00	SQYD		\$	
0650	05992		AGRICULTURAL LIMESTONE	159.00	TON		\$	
0660	06514		PAVE STRIPING-PERM PAINT-4 IN	6,616.00	LF		\$	
0670	06515		PAVE STRIPING-PERM PAINT-6 IN	7,947.00	LF		\$	
0680	06530		PAVE STRIPING REMOVAL-4 IN	7,981.00	LF		\$	
0690	06542		PAVE STRIPING-THERMO-6 IN W	29,304.00	LF		\$	
0700	06543		PAVE STRIPING-THERMO-6 IN Y	24,984.00	LF		\$	
0710	06544		PAVE STRIPING-THERMO-8 IN W	708.00	LF		\$	
0720	06546		PAVE STRIPING-THERMO-12 IN W	976.00	LF		\$	
0730	06547		PAVE STRIPING-THERMO-12 IN Y	441.00	LF		\$	
0740	06556		PAVE STRIPING-DUR TY 1-6 IN W	1,465.00	LF		\$	
0750	06557		PAVE STRIPING-DUR TY 1-6 IN Y	1,391.00	LF		\$	
0760	06562		PAVE MARKING-THERMO R 6 FT	4.00	EACH		\$	
0770	06568		PAVE MARKING-THERMO STOP BAR-24IN	559.00	LF		\$	
0780	06573		PAVE MARKING-THERMO STR ARROW	2.00	EACH		\$	
0790	06574		PAVE MARKING-THERMO CURV ARROW	75.00	EACH		\$	
0800	06575		PAVE MARKING-THERMO COMB ARROW	7.00	EACH		\$	
0810	06578		PAVE MARKING-THERMO MERGE ARROW	5.00	EACH		\$	
0820	06610		INLAID PAVEMENT MARKER-MW	120.00	EACH		\$	
0830	06612		INLAID PAVEMENT MARKER-BY	74.00	EACH		\$	
0840	06613		INLAID PAVEMENT MARKER-B W/R	22.00	EACH		\$	
0850	20191ED		OBJECT MARKER TY 3	5.00	EACH		\$	
0860	20430ED		SAW CUT	5,638.00	LF		\$	
0870	20458ES403		CENTERLINE RUMBLE STRIPS	12,966.00	LF		\$	
0880	21289ED		LONGITUDINAL EDGE KEY	5,188.00	LF		\$	
0890	23158ES505		DETECTABLE WARNINGS	70.00	SQFT		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0900	23268ES717		PAVE MARK TY 1 TAPE-MERGE ARROW	2.00	EACH		\$	
0910	23274EN11F		TURF REINFORCEMENT MAT 1	321.00	SQYD		\$	
0920	24540		R/W MONUMENT TYPE 3	20.00	EACH		\$	
0930	24663ED		WITNESS R/W MONUMENT TYPE 4	2.00	EACH		\$	
0940	24880EC		REMOVE PAVEMENT MARKER	82.00	EACH		\$	
0950	24891EC		PAVE MOUNT INFRARED TEMP EQUIPMENT	760,234.00	SF		\$	
0960	25078ED		THRIE BEAM GUARDRAIL TRANSITION TL-3	2.00	EACH		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0970	00440		ENTRANCE PIPE-15 IN	772.00	LF		\$	
0980	00441		ENTRANCE PIPE-18 IN	180.00	LF		\$	
0990	00443		ENTRANCE PIPE-24 IN	54.00	LF		\$	
1000	00460		CULVERT PIPE-12 IN	40.00	LF		\$	
1010	00461		CULVERT PIPE-15 IN	241.00	LF		\$	
1020	00462		CULVERT PIPE-18 IN	76.00	LF		\$	
1030	00464		CULVERT PIPE-24 IN	471.00	LF		\$	
1040	00466		CULVERT PIPE-30 IN	185.00	LF		\$	
1050	00468		CULVERT PIPE-36 IN	352.00	LF		\$	
1060	00469		CULVERT PIPE-42 IN	216.00	LF		\$	
1070	00470		CULVERT PIPE-48 IN	261.00	LF		\$	
1080	00471		CULVERT PIPE-54 IN	439.00	LF		\$	
1090	00521		STORM SEWER PIPE-15 IN	500.00	LF		\$	
1100	01000		PERFORATED PIPE-4 IN	13,034.00	LF		\$	
1110	01010		NON-PERFORATED PIPE-4 IN	785.00	LF		\$	
1120	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		\$	
1130	01020		PERF PIPE HEADWALL TY 1-4 IN	14.00	EACH		\$	
1140	01024		PERF PIPE HEADWALL TY 2-4 IN	1.00	EACH		\$	
1150	01028		PERF PIPE HEADWALL TY 3-4 IN	12.00	EACH		\$	
1160	01032		PERF PIPE HEADWALL TY 4-4 IN	13.00	EACH		\$	
1170	01202		PIPE CULVERT HEADWALL-15 IN	10.00	EACH		\$	
1180	01204		PIPE CULVERT HEADWALL-18 IN	2.00	EACH		\$	
1190	01208		PIPE CULVERT HEADWALL-24 IN	6.00	EACH		\$	
1200	01210		PIPE CULVERT HEADWALL-30 IN	1.00	EACH		\$	
1210	01212		PIPE CULVERT HEADWALL-36 IN	4.00	EACH		\$	
1220	01214		PIPE CULVERT HEADWALL-42 IN	2.00	EACH		\$	
1230	01216		PIPE CULVERT HEADWALL-48 IN	5.00	EACH		\$	
1240	01310		REMOVE PIPE	137.00	LF		\$	
1250	01394		METAL END SECTION TY 3-30 IN	3.00	EACH		\$	
1260	01456		CURB BOX INLET TYPE A	2.00	EACH		\$	
1270	01529		DROP BOX INLET TYPE 6D	7.00	EACH		\$	
1280	01580		DROP BOX INLET TYPE 15	3.00	EACH		\$	
1290	01691		FLUME INLET TYPE 2	1.00	EACH		\$	
1300	01791		ADJUST MANHOLE FRAME TO GRADE	1.00	EACH		\$	
1310	02159		TEMP DITCH	9,175.00	LF		\$	
1320	02160		CLEAN TEMP DITCH	4,588.00	LF		\$	
1330	02625		REMOVE HEADWALL	1.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1340	02731		REMOVE STRUCTURE	1.00	LS		\$	
1350	24026EC		PIPE CULVERT HEADWALL-54 IN	4.00	EACH		\$	
1360	24814EC		PIPELINE INSPECTION	2,958.00	LF		\$	
1370	26132ED		SLOPED AND MITERED HEADWALL-24 IN	2.00	EACH		\$	

Section: 0004 - BRIDGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1380	08002		STRUCTURE EXCAV-SOLID ROCK	336.00	CUYD		\$	
1390	08003		FOUNDATION PREPARATION	1.00	LS		\$	
1400	08100		CONCRETE-CLASS A	341.00	CUYD		\$	
1410	08150		STEEL REINFORCEMENT	36,595.00	LB		\$	

Section: 0005 - SEWER

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1420	02690		SAFELOADING	99.00	CUYD		\$	
1430	15000		S BYPASS PUMPING	5.00	EACH		\$	
1440	15012		S ENCASEMENT CONCRETE	35.00	LF		\$	
1450	15023		S ENCASEMENT STEEL OPEN CUT RANGE 4	198.00	LF		\$	
1460	15024		S ENCASEMENT STEEL OPEN CUT RANGE 5	319.00	LF		\$	
1470	15025		S ENCASEMENT STEEL OPEN CUT RANGE 6	236.00	LF		\$	
1480	15062		S FORCE MAIN PVC 10 INCH	313.00	LF		\$	
1490	15076		S FORCE MAIN TIE-IN 10 INCH	1.00	EACH		\$	
1500	15089		S LATERAL SHORT SIDE 04 INCH	8.00	EACH		\$	
1510	15092		S MANHOLE	9.00	EACH		\$	
1520	15093		S MANHOLE ABANDON/REMOVE	10.00	EACH		\$	
1530	15095		S MANHOLE CASTING STANDARD	10.00	EACH		\$	
1540	15096		S MANHOLE CASTING WATERTIGHT	5.00	EACH		\$	
1550	15101		S MANHOLE WITH DROP	1.00	EACH		\$	
1560	15102		S MANHOLE WITH LINING	5.00	EACH		\$	
1570	15104		S PIPE DUCTILE IRON 08 INCH	18.00	LF		\$	
1580	15109		S PIPE DUCTILE IRON 24 INCH	69.00	LF		\$	
1590	15112		S PIPE PVC 08 INCH	1,334.00	LF		\$	
1600	15117		S PIPE PVC 24 INCH	313.00	LF		\$	
1610	15137		S PIPE PVC 15 INCH	209.00	LF		\$	

Section: 0006 - MOT & SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1620	02014		BARRICADE-TYPE III	20.00	EACH		\$	
1630	02562		TEMPORARY SIGNS	1,147.00	SQFT		\$	
1640	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
1650	02653		LANE CLOSURE	2.00	EACH		\$	
1660	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		\$	
1670	02775		ARROW PANEL	1.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1680	06406		SBM ALUM SHEET SIGNS .080 IN	714.00	SQFT		\$	
1690	06407		SBM ALUM SHEET SIGNS .125 IN	164.00	SQFT		\$	
1700	06411		STEEL POST TYPE 2	1,688.00	LF		\$	
1710	06510		PAVE STRIPING-TEMP PAINT-4 IN	18,507.00	LF		\$	
1720	06550		PAVE STRIPING-TEMP REM TAPE-W	3,179.00	LF		\$	
1730	06551		PAVE STRIPING-TEMP REM TAPE-Y	3,764.00	LF		\$	
1740	20418ED		REMOVE & RELOCATE SIGNS	2.00	EACH		\$	
1750	21373ND		REMOVE SIGN	31.00	EACH		\$	
1760	21596ND		GMSS TYPE D	8.00	EACH		\$	
1770	24631EC		BARCODE SIGN INVENTORY	202.00	EACH		\$	

Section: 0007 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1780	04811		ELECTRICAL JUNCTION BOX TYPE B	6.00	EACH		\$	
1790	04820		TRENCHING AND BACKFILLING	2,000.00	LF		\$	
1800	04844		CABLE-NO. 14/5C	2,275.00	LF		\$	
1810	04845		CABLE-NO. 14/7C	1,200.00	LF		\$	
1820	04886		MESSENGER-15400 LB	835.00	LF		\$	
1830	04932		INSTALL STEEL STRAIN POLE	8.00	EACH		\$	
1840	20188NS835		INSTALL LED SIGNAL-3 SECTION	10.00	EACH		\$	
1850	20390NS835		INSTALL COORDINATING UNIT	1.00	EACH		\$	
1860	20408ES835		INSTALL LED BEACON-12 IN	8.00	EACH		\$	
1870	23157EN		TRAFFIC SIGNAL POLE BASE	33.00	CUYD		\$	
1880	24525EC		ADVANCE WARNING FLASHER	2.00	EACH		\$	
1890	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	1,920.00	LF		\$	
1900	24901EC		PVC CONDUIT-2 IN-SCHEDULE 80	80.00	LF		\$	
1910	24908EC		INSTALL SIGNAL CONTROLLER-TY ATC	1.00	EACH		\$	
1920	24955ED		REMOVE SIGNAL EQUIPMENT	3.00	EACH		\$	
1930	26119EC		INSTALL RADAR PRESENCE DETECTOR TYPE A	4.00	EACH		\$	

Section: 0008 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1940	02556		CONCRETE CAP	4.00	CUYD		\$	
1950	14003		W CAP EXISTING MAIN	10.00	EACH		\$	
1960	14016		W ENCASMENT STEEL OPEN CUT RANGE 5	216.00	LF		\$	
1970	14017		W ENCASMENT STEEL OPEN CUT RANGE 6	337.00	LF		\$	
1980	14019		W FIRE HYDRANT ASSEMBLY	2.00	EACH		\$	
1990	14021		W FIRE HYDRANT REMOVE	1.00	EACH		\$	
2000	14024		W MAIN POINT RELOCATE	1.00	EACH		\$	
2010	14040		W PIPE DUCTILE IRON 16 INCH	1,414.00	LF		\$	
2020	14059		W PIPE PVC 06 INCH	479.00	LF		\$	
2030	14060		W PIPE PVC 08 INCH	350.00	LF		\$	
2040	14081		W SERVICE RELOCATE	3.00	EACH		\$	
2050	14089		W TAPPING SLEEVE AND VALVE SIZE 1	6.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2060	14090		W TAPPING SLEEVE AND VALVE SIZE 2	2.00	EACH		\$	
2070	14095		W TIE-IN 08 INCH	1.00	EACH		\$	
2080	14105		W VALVE 06 INCH	1.00	EACH		\$	
2090	14109		W VALVE 16 INCH	1.00	EACH		\$	

Section: 0009 - MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2100	02568		MOBILIZATION	1.00	LS		\$	
2110	02569		DEMOBILIZATION	1.00	LS		\$	