



CALL NO. 203

CONTRACT ID. 224309

JEFFERSON COUNTY

FED/STATE PROJECT NUMBER 056GR22T006-HSIP

DESCRIPTION VARIOUS INTERSECTIONS IN JEFFERSON COUNTY

WORK TYPE GRADE & DRAIN

PRIMARY COMPLETION DATE 7/31/2023

LETTING DATE: April 28,2022

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME April 28,2022. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

DBE CERTIFICATION REQUIRED - 16%

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

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 05

CONTRACT ID - 224309

056GR22T006-HSIP

COUNTY - JEFFERSON

PCN - 0505610652201

HSIP 8732(019)

OUTER LOOP (KY 1065) (MP 3.094) IMPROVEMENTS AT THE INTERSECTION OF OUTER LOOP & GRADE LANE (MP 3.294), A DISTANCE OF 0.20 MILES.JPC PAVEMENT WITH GRADE & DRAIN SYP NO. 05-09019.30.

GEOGRAPHIC COORDINATES LATITUDE 38:07:48.00 LONGITUDE 85:44:14.00

ADT 12,681

PCN - 0505617472201

HSIP 8725(013)

HURSTBOURNE PARKWAY (KY 1747) (MP 11.800) IMPROVEMENTS AT THE INTERSECTION OF HURSTBOURNE PARKWAY & THE I-64 WB OFF RAMP AT EXIT 15 (MP 12.289), A DISTANCE OF 0.49 MILES.GRADE & DRAIN SYP NO. 05-09019.65.

GEOGRAPHIC COORDINATES LATITUDE 38:13:28.00 LONGITUDE 85:34:42.00

ADT 47,984

PCN - 0505618652201

HSIP 8774(010)

TAYLOR BLVD (KY 1865) (MP 5.396) IMPROVEMENTS AT THE INTERSECTION OF TAYLOR BLVD & THE I-264 EB OFF RAMP AT EXIT 9 (MP 5.706), A DISTANCE OF 0.31 MILES.JPC PAVEMENT WITH GRADE & DRAIN SYP NO. 05-09019.10.

GEOGRAPHIC COORDINATES LATITUDE 38:11:11.00 LONGITUDE 85:47:01.00

ADT 23,353

PCN - DE05608642035

HSIP 8744(005)

FEGENBUSH LANE (KY 864) CONSTRUCT LEFT TURN LANE AT FENWICK DRIVE AND FEGENBUSH LANE, A DISTANCE OF 0.16 MILES.GRADE & DRAIN WITH ASPHALT SURFACE SYP NO. 05-09016.00.

GEOGRAPHIC COORDINATES LATITUDE 38:09:18.00 LONGITUDE 85:38:11.00

ADT

COMPLETION DATE(S):

COMPLETED BY 07/31/2023

APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

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

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

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

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

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

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

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

HARDWOOD REMOVAL RESTRICTIONS

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

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

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

ACCESS TO RECORDS

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

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

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

April 30, 2018

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 Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Federal Department of Transportation (49 C.F.R., Part 21), issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin.

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. There are special rules to DBE subcontractors satisfying DBE goals on federal-aid projects. 1st-Tier DBE Subcontractors may only enter into a 2nd-Tier subcontract with another DBE contractor.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

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

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

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

DBE GOAL

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

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

OBLIGATION OF CONTRACTORS

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

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

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

CERTIFICATION OF CONTRACT GOAL

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

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

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

DBE PARTICIPATION PLAN

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

The DBE Participation Plan shall include the following:

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

- b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
 - c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;
4. Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
 5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

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

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

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

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

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

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

1. Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2. Whether the bidder provided solicitations through all reasonable and available means;
3. Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4. Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with 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 of 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 of Civil Rights and Small Business Development
6th Floor West 200 Mero Street
Frankfort, KY 40622

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

DEFAULT OR DECERTIFICATION OF THE DBE

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

PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES

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

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

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

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

SECTION 7 is expanded by the following new Article:

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

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

ASPHALT MIXTURE

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

DGA BASE

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

DGA BASE FOR SHOULDERS

Unless otherwise noted, the Department estimates the rate of application for DGA Base for Shoulders to be 115 lbs/sy per inch of depth. The Department will not measure necessary grading and/or shaping of existing shoulders prior to placing of DGA Base, but shall be incidental to the Contract unit price per ton for DGA Base.

Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for grading and/or shaping of existing shoulders and furnishing, placing, and compacting the DGA Base.

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.

OPTION B

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

Special Notes Applicable to Project – General Notes & Description of Work

CAUTION

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

STATIONING

The contractor is advised that the planned locations of work were established from the following stations:

- **5-9016.00 – KY 864 (Fegenbush Lane) @ Fenwick Drive:**
Refer to the Coordinate Control Sheet within the Detail Sheets for the Stationing of Item 5-9016.00
- **5-9019.10 – KY 1865 (Taylor Blvd) @ EB I-264 Ramps / W Ashland Ave:**
KY 1865 Station 10+27.92 is the center of the intersection of KY 1865 and EB I-264 Ramps in Jefferson County. This location is MP 5.504 along KY 1865.
- **5-9019.30 – KY 1065 (Outer Loop) @ CR 1001G (Grade Lane):**
Grade Lane Station 111+72.96 is the center of the intersection of Grade Lane and KY 1065 in Jefferson County. This location is MP 4.058 along Grade Lane and MP 3.194 along KY 1065.
- **5-9019.65 – KY 1747 (Hurstbourne Pkwy) @ I-64 WB Ramps:**
KY 1747 Station 89+60.12 is the center of the intersection of KY 1747 and I-64 WB Ramps in Jefferson County. This location is MP 11.99 along KY 1747.

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

LIDAR

Some survey information was obtained from available KYTC Aerial LIDAR data and should be field verified as appropriate during construction and prior to incorporating the various project work items. Refer to the Special Note for Staking concerning staking operations required to control and construct the work.

ON-SITE INSPECTION

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

RIGHT OF WAY LIMITS

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

General Notes & Description of Work

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CONTROL

Perform all work under the absolute control of the Department of Highways. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties. Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and his/her decision shall be final and binding upon the Contractor.

DESCRIPTION OF WORK

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

5-9016.00 – KY 864 (Fegenbush Lane) @ Fenwick Drive:

Construct Left Turn Lane. Work involves widening the existing roadway to allow for a left turn lane along KY 864 into Fenwick Drive. This work will include roadway excavation, constructing full depth asphalt pavement, milling & surfacing, and application of striping. Refer to the Item 5-9016 Detail Sheets for more information.

5-9019.10 – KY 1865 (Taylor Blvd) @ EB I-264 Ramps / W Ashland Ave:

Construct Right Turn Lane and Tighten Right Turn Radius for I-264 EB OFF RAMP. Work involves sawcut existing pavement, roadway excavation, widening the off ramp with full depth concrete pavement, guardrail, standard integral curb, curb and gutter, sidewalk, Drop Box Inlet Type I, Flume TY 1 Modified, and Striping. Refer to the Typical Section, Plan Sheet, Construction Plan Sheet, Pipe Drainage Section, Cross Section, Summaries, Special Notes and Detail Sheets for more information.

Signing, lighting, striping, loops, and pedestrian pedestals are also construction activities included due to the construction of the right turn lane. Refer to the Sign Summary, Striping Summary, Lighting Relocation Summary, Loops and Pedestrian Pedestal, and the Plan Sheets for more information.

Signing. Install signing for I-264 on KY 1865 Northbound as shown on the Signing Plan Sheet. Use Type D (Surface Mount) for the proposed sign installed on existing median. Refer to the Signing Summary for more information.

Striping. Restripe KY 1865 two way left turn lane for the northbound approach as an extended left turn lane, as shown on the Striping Plan Sheets. Install elongated thermo route shield "TO I-264". Following the construction of the right turn lane, stripe the I-264 EB Off Ramp as shown on the Striping Plan Sheets. Install Ty I Tape 36" Yield Bar, dotted lane extension, and right turn curve arrows for I-264 WB On Ramp as shown on the Striping Plan Sheets. Refer to the Striping and Pavement Marking Summary for more information.

General Notes & Description of Work
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5-9019.30 – KY 1065 (Outer Loop) @ CR 1001G (Grade Lane):

Tighten Grade Lane Right Turn Radius onto KY 1065. Work involves sawcut existing pavement, roadway excavation of existing median island, full depth concrete pavement, asphalt seal aggregate and coat, lane separator curb, island integral curb, and Drop Box Inlet Type 13G. Refer to the Typical Section, Plan Sheet, Construction Plan Sheet, Pavement Elevation Detail Sheet, Pipe Drainage Section, Summaries, Special Notes, and Detail Sheets for more information.

Remove sign and striping are also construction activities included due to the construction of the tightened right turn radius. Refer to the General Summary, Striping Summary, and the Plan Sheets for more information.

5-9019.65 – KY 1747 (Hurstbourne Pkwy) @ I-64 WB Ramps:

Tighten I-64 WB Off Ramp Right Turn Radius onto KY 1747. Work involves sawcut existing pavement, roadway excavation of existing right turn lane and curb, standard curb and gutter modified (10”), Flume Inlet Type I – Modified (2 – Each), ditching, and channel lining. Refer to the Typical Section, Plan Sheet, Detail Sheet, Cross Sections, Summaries, Special Notes, and Detail Sheets for more information.

Striping and loops are also construction activities included due to the construction of the tightened right turn radius. Refer to the General Summary, Striping Summary, Loop Summary, and the Plan Sheets for more information.

Striping. Refresh existing striping and pavement markings as shown on the Striping Plan Sheets. Install proposed striping and pavement markings as shown on the Striping Plan Sheets. Refer to the Striping and Pavement Marking Summary for more information.

Elongated Thermo Route Shield Pavement Markings. Along KY 1747, Elongated Thermo Route Shield pavement markings are to be installed at the location(s) indicated on the Plan Sheets and according to the Elongated Thermo Route Shield Detail Sheet. This work will be paid under the bid item “Pave Marking-Thermo Elong Route Shield” and will consist of all materials, equipment, labor, and incidentals necessary to install each complete symbol (route shield and number). Elongated Thermo Route Shields are to be installed similar to other thermoplastic intersection markings and conform to the requirements of Section 717.

Signing. Includes install proposed sheeting signs on Type D posts and Type D Surface Mounts, removing existing panel signs from existing truss, installing proposed panel signs on existing truss, removing existing sign bridge attachment brackets (and sign on attachments), and constructing and installing proposed sign on new sign bridge attachment brackets. Refer to the Signing Plan Sheet, Signing Summary, Signing Detail Sheets, Bridge Mount Sign Support Detail Sheets, and Truss Standard Detail Sheets for more information.

SPECIAL NOTE FOR PIPE REPLACEMENTS / EXTENSIONS

I. DESCRIPTION

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

(1) Maintaining and Controlling Traffic; (2) Constructing pipe replacements and/or pipe extensions; (3) Embankment and/or Excavation; (4) Erosion Control; and (6) Any other work as specified by this contract.

II. MATERIALS

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

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Culvert Pipe.** Furnish pipe meeting the requirements of Section 810. Select pipe for pH range Medium and minimum fill cover height according to the applicable Standard or Sepia Drawings, current editions. Verify maximum and minimum fill cover height required for new pipe prior to construction and obtain the Engineer's approval of the class or gauge of pipe and type of coating prior to delivering pipe to project. Furnish approved connecting bands or pipe anchors and toe walls.
- C. Flowable Fill.** Furnish Flowable Fill for Pipe Backfill per Section 601.03.03(B).
- D. Erosion Control.** See Special Note for Erosion Control.

III. CONSTRUCTION METHODS

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Erosion Control.** See Special Note for Erosion Control.
- C. Site Preparation.** Be responsible for all site preparation including, but not limited to, saw cutting and removing pavement; clearing and grubbing; staking; incidental excavation and backfilling; common and solid rock excavation; embankment in place; removal of obstructions, or any other items; restoration of pavements, slopes, and all disturbed areas; final dressing and cleanup; and disposal of materials. Limit clearing and grubbing to the absolute minimum required to construct the drainage features. Perform all site preparation only as approved or directed by the Engineer.

Pipe Replacements/Extensions

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- D. Removing Headwalls, Pipe, and Excavation.** Remove existing headwalls and lengths of culvert and/or entrance pipes at the approximate locations noted on the summary. The Engineer will determine the exact locations and lengths of pipe to be removed at the time of construction. When removing pipe, or any portion of pipe under the roadway, saw cut the existing asphalt pavement and base to a neat edge prior to excavation and removal of the existing pipe. NOTE: Saw cutting the pavement shall be incidental. Obtain the Engineer's approval of trench width and/or saw cutting limits prior to saw cutting the pavement. Excavate the trench and remove the pipe as directed, or approved, by the Engineer without disturbing existing underground utilities.
- E. Constructing Pipe, Headwalls, and Drainage Boxes.** Construct culvert and/or entrance pipes, pipe extensions, headwalls, drainage boxes, and other drainage structures at the locations shown in the proposal or as designated by the Engineer. The contractor will establish, with the approval of the Engineer, the final centerlines, flow lines, and skews to obtain the best fit with the existing and/or proposed ditches and other proposed improvements. (See the Special Note for Staking.) Construct pipe bedding according to Section 701 and the applicable Standard or Sepia Drawings, current editions. Use approved connecting bands or concrete anchors as required. Prior to backfilling pipe, obtain the Engineer's approval of the pipe installation. Provide Positive drainage upon completion of pipe installation.
- F. Pipe Backfill.** Backfill entrance pipes according to Section 701.03.06. Contrary to Section 701.03.06, regardless of cover height, backfill culvert pipes with flowable fill as shown on the Culvert Pipe Replacement Detail from the outside edge of shoulder or back of curb to outside edge of shoulder or back of curb. Steel plates will likely be required to maintain traffic while the flowable fill cures. Once the flowable fill has sufficiently cured, place the Asphalt Base in lifts with thicknesses of 3-4 inches, up to the surface of the existing pavement. Seal with Leveling & Wedging. Allow the asphalt base and leveling & wedging to be exposed to traffic for a minimum of 14 days to allow for settlement. During the waiting period, level & wedge any settlement as directed by the Engineer. After the waiting period has been met for the last pipe replacement constructed, the final milling and/or surfacing operations can begin, unless directed otherwise by the Engineer. For culvert pipe beyond the outside edge of shoulder or back of curb, backfill according to Section 701.03.06.
- G. Embankments.** Backfill pipe and culvert extensions, and construct shoulder embankments as directed by the Engineer. The contractor shall bench into the existing slope and apply proper compaction according to Section 206. For more information and details on benching, refer to Note 2 on the detail sheet titled: DITCHING & SHOULDERING AND EMBANKMENT BENCHING DETAILS, found elsewhere in the Proposal. Provide positive drainage of ditches, shoulders, and slopes at all times during, and upon completion of construction.
- H. Property Damage.** Be responsible for all damage to public and/or private property resulting from the work. Repair or replace damaged roadway features in like kind materials and design, as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.
- I. Coordination with Utility Companies.** Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility

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companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs as a result of pipe replacement and pipe extension operations at no additional cost to the Department. NOTIFY THE ENGINEER AND THE UTILITY OWNER(S) IMMEDIATELY WHEN IT IS DISCOVERED OR ANTICIPATED THAT ANY UTILITY CONFLICT COULD DELAY THE CONTRACTOR'S OPERATIONS. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however, no extension will be granted for any delay caused by the Contractor's failure to notify the Engineer and/or the utility company as specified above when a conflict is discovered or anticipated as specified.

- J. Right-of-Way Limits.** The Department has not established exact limits of the Right-of-Way. Unless a consent and release form is obtained from the adjoining property owner, limit work activities to the obvious Right-of-Way and staging areas secured by the Contractor at no additional cost to the Department. In the event that private improvements (i.e. fences, buildings, etc.) encroach upon the Right-of-Way, the contractor shall notify the Engineer and limit work activities in order to NOT disturb the improvements. If they become necessary, the Department will secure consent and releases from property owners through the Engineer. Be responsible for all encroachments onto private lands.
- K. Clean Up, Disposal of Waste.** Clean up the project area as work progresses. Dispose of all removed concrete, pipe, pavement, debris, excess and unsuitable excavation, and all other waste at approved sites off the Right of Way obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.
- L. Final Dressing, Seeding and Protection.** Grade all disturbed areas to blend with the adjacent roadways features and to provide a suitable seed bed. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.
- M. Erosion Control.** See the Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

- A. Maintain and Control Traffic.** See the Traffic Control Plan.
- B. Site Preparation.** Other than the bid items listed, site preparation will NOT be measured for payment, but shall be incidental to culvert and/or entrance pipe bid items, as applicable.
- C. Remove Headwall.** The Department will measure the removal of existing headwalls as Each. Any excavation, including rock excavation, necessary to remove existing headwalls will NOT be measured for payment, but shall be incidental to the bid item "Remove Headwall".
- D. Remove Pipe.** Removal of existing culvert and entrance pipe shall be measured according to Section

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

- E. Culvert and Entrance Pipe.** The Department will measure the quantities according to Section 701.04. Any excavation, including rock excavation, necessary to install culvert or entrance pipe shall be incidental to the corresponding pipe bid items.
- F. Headwalls, Drainage Boxes.** The Department will measure according to Section 710. Any excavation, including rock excavation, necessary to construct headwalls and/or drainage boxes will NOT be measured for payment, but shall be incidental to the applicable bid item.
- G. Excavation, Pipe Backfill, Embankments.** The Department will NOT measure for payment the following items: any excavation, including rock excavation, necessary to remove the existing pipe and/or install the proposed culvert or entrance pipe, pipe backfill material, geotextile fabric, flowable fill, and re-constructing shoulder embankments, but shall considered these items incidental to the bid items for culvert and entrance pipe.
- H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection.** The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental to the project bid items. Seeding and Protection shall be measured according to Section 212.
- I. Erosion Control.** See the Special Note for Erosion Control.

V. BASIS OF PAYMENT

- A. Maintain and Control Traffic.** See the Traffic Control Plan.
- B. Remove Headwall.** The Department will make payment for the completed and accepted quantities of Each headwall removed. Payment at the Contract unit price per Each shall be full compensation for furnishing all labor, materials, equipment, and incidentals for removing the existing headwall.
- C. Remove Pipe.** The Department will make payment according to Section 701.05. Payment at the Contract unit price per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals for removing the existing pipe.
- D. Culvert and Entrance Pipe.** The Department will make payment according to Section 701.05. Payment at the Contract unit price per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals necessary for installing and backfilling new culvert and entrance pipe.
- E. Headwalls, Drainage Boxes.** The Department will make payment according to Section 710.
- F. Erosion Control.** See the Special Note for Erosion Control.

Special Note for Erosion Control

I. DESCRIPTION

Perform all erosion and water pollution control work in accordance with any other notes in the Proposal, the Department's Standard and Interim Supplemental Specifications, the Special Provisions and Special Notes, and the Standard and Sepia Drawings, current editions, or as directed by the Engineer. Section references are to the Standard Specifications. This work shall consist of:

(1) Developing and preparing a Best Management Practices Plan (BMP) tailored to suit the specific construction phasing for each site within the project; (2) Preparing the project site for construction, including locating, furnishing, installing, and maintaining temporary and/or permanent erosion and water pollution control measures as required by the BMP prior to beginning any earth disturbing activity on the project site; (3) Clearing and grubbing and removal of all obstructions as required for construction; (4) Removing all erosion control devices when no longer needed; (5) Restoring all disturbed areas as nearly as possible to their original condition; (6) Preparing seedbeds and permanently seeding all disturbed areas; (7) Providing a Kentucky Erosion Prevention and Sediment Control Program (KEPSC) qualified inspector; and (8) Performing any other work to prevent erosion and/or water pollution as specified by this contract, required by the BMP, or as directed by the Engineer.

II. MATERIALS

Furnish materials in accordance with these notes, the Standard Specifications and Interim Supplemental Specifications, applicable Special Provisions and Special Notes, and the Standard and Sepia Drawings, current editions. Provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual. Unless directed otherwise by the Engineer, make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

III. CONSTRUCTION

Be advised, these Erosion Control Notes do not constitute a BMP plan for the project. Jointly with the Engineer, prepare a site-specific BMP plan for each drainage area within the project in accordance with Section 213. Provide a unique BMP at each project site using good engineering practices taking into account existing site conditions, the type of work to be performed, the construction phasing, methods, and the techniques to be utilized to complete the work. Be responsible for all erosion prevention, sediment control, and water pollution prevention measures required by the BMP for each site. Represent and warrant compliance with the Clean Water Act (33 USC Section 1251 et seq.), the 404 Permit, the 401 Water Quality Certification, and applicable state and local government agency laws, regulations, rules, specifications, and permits. Contrary to Section 105.05, in case of discrepancy between these notes, the Standard Specifications, Interim Supplemental Specifications, Special Provisions and Special Notes, Standard and Sepia Drawings, and such state and local government agency requirements, adhere to the most restrictive requirement.

Conduct operations in such a manner as to minimize the amount of disturbed ground during each phase of the construction and limit the haul roads to the minimum required to perform the work. Preserve existing

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

Provide for erosion control measures to be in place and functioning prior to any earth disturbance within a drainage area. Compute the volume and size of silt control devices necessary to control sediment during each phase of construction. All silt control devices shall be sized to retain a volume of 3,600 cubic feet per disturbed contributing acre. Remove sediment from silt traps before they become a maximum of ½ full. Maintain silt fence by removing accumulated trappings and/or replacing the geotextile fabric when it becomes clogged, damaged, or deteriorated, or when directed by the Engineer. Properly dispose of all materials trapped by erosion control devices at approved sites off the right of way obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

As work progresses, add or remove erosion control measures as required by the BMP, applicable to the Contractor's project phasing, construction methods, and techniques. Update the volume calculations and modify the BMP as necessary throughout the duration of the project. Ensure that an updated BMP is kept on site and available for public inspection throughout the life of the project.

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

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

The use of Temporary Mulch is encouraged.

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

After all construction is complete, restore all disturbed areas in accordance with Section 212. Completely remove all temporary erosion control devices not required as part of the permanent erosion control from the construction site. Prior to removal, obtain the Engineer's concurrence of items to be removed. Grade the remaining exposed earth (both on and off the Right-of-Way) as nearly as possible to its original condition, or as directed by the Engineer. Prepare the seed bed areas and sow all exposed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

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IV. MEASUREMENT

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

V. Basis of Payment

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

SPECIAL NOTE FOR STAKING

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

1. Contrary to Section 201, perform items 1-2 usually performed by the Engineer.
2. Verify the dimensions, type, and quantities of the culvert pipes, storm sewer pipes, Drop Box Inlets, and Flume Inlets as listed and detailed in the proposal, and determine flow line elevations and slopes necessary to provide positive drainage. Revise as necessary to accommodate the existing site conditions; to provide proper alignment of the drainage structures with existing and/or proposed ditches, stream channels, swales, and the roadway lines and grades; and to ensure positive drainage upon completion of the work.
3. Using stakes, paint marks on the pavement, mag nails, and/or any other means approved by the Engineer, the Contractor shall mark and/or stake the proposed sign locations in the field. NOTE: The proposed signs are listed in the proposal by approximate location and are NOT to be taken as the exact location for the signs. During staking operations the Contractor shall review the signing layout and existing field conditions and look for potential conflicts, including but not limited to utilities, driveways, visual obstructions, etc. When conflicts are found, adjust the staked location of signs to mitigate conflicts. Because the sign locations in the proposal are approximate and the location of some signs may need to be adjusted due to conflicts, during staking operations the Contractor shall refer to and utilize the information in the Manual on Uniform on Traffic Control Devices (MUTCD), current edition. The MUTCD cover items such as: appropriate sign location, advance placement distances, and spacing requirements for signing. The intent is for the proposed signs to be consistent with, and meet the requirements of, the MUTCD. Once the proposed sign locations have been staked, notify and coordinate with the District Traffic Engineer, and perform a review of the staked locations. Adjust the staked locations, as directed by the District Traffic Engineer and obtain approval of the final staked locations. This review will also be used to determine if there are any existing signs that require removal and/or relocation. Provide the District Traffic Engineer with 2 weeks of notice when a route will be ready for a review of the staked locations. NOTE: The District Traffic Engineer may determine that the proposed signing, including sign types and messages, needs to be adjusted and/or modified from what is shown in the proposal. Therefore, the Contractor shall not order any sign material for a route until the route has been staked and final sign location approval has been given by the District Traffic Engineer.
4. Produce and furnish to the Engineer "As Built" information for the drainage improvements. For the drainage improvements, as built information will consist of a final record of the actual types, sizes, and locations of the drainage structures (i.e. box inlets, headwalls, junction boxes, etc.), culvert pipes, and/or box culverts constructed. Final elevation data of the drainage improvements is not necessary.
5. Using paint marks on the pavement, and/or any other means approved by the Engineer, the Contractor shall layout and pre-mark the proposed striping, pavement markings, etc.

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Adjust as necessary to accommodate the existing site conditions and to provide proper alignment of the proposed thru and turning lanes. Obtain approval of the pre-marked layout from the Engineer and/or District Traffic Engineer prior to installing the striping and/or pavement markings.

6. Prior to incorporating into the work, obtain the Engineers approval of all revisions determined by the Contractor.
7. Perform any and all other staking operations required to control and construct the work.

SPECIAL NOTE FOR SIGNAGE

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

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

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

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

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

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

SPECIAL NOTE FOR SIGNING

I. DESCRIPTION

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

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

II. MATERIALS

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

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

III. CONSTRUCTION METHODS

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Site Preparation.** Be responsible for all site preparation including, but not limited to: clearing and grubbing, staking, excavation, backfill, and removal of obstructions or any other material not covered by other items. Perform all site preparation only as approved, or directed, by the Engineer.
- C. **Staking.** See Special Note for Staking.
- D. **Signs and Posts.** Before beginning installation, the Contractor shall furnish to the Engineer drawings, descriptions, manufacturer's cuts, etc. covering all material to be used. Mill test reports for beams, steel panels, and each different gauge of aluminum or steel sheeting used must be submitted to the Division of Construction and approved prior to erection.

Fabricate sheet signs from .080 or .125 gauge aluminum alloy 5052-H38 or 6061-T6, in accordance with ASTM B-209, and to the size and shape specified. Prepare the side of the sheet to be used as the sign face to receive the retroreflective background material

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according to the recommendations of the sheeting and retroreflective material manufacturer(s). Sheeting used as background material for sign faces is to be the color specified and visually in accordance with the standard requirements of ASTM D-4956, and meet the requirements of Section 830 of the Standard Specifications. Contrary to Section 830.02.06, only the types and colors of sheeting as specified in the proposal will be accepted. All retroreflective material shall be fabricated and assembled in accordance with the specifications and/or recommendations of the manufacturer(s).

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

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

When listed in the summaries, Reflective Sign Post Panels shall be 2" wide x 60" tall (or 84" tall for urban installations) and shall have three 3/8" holes (one hole in the top 3", one hole near the center, and one hole in the bottom 3") that align with the holes on the Type I

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steel post. Sheeting for the Reflective Sign Post Panels shall be the same Type and color as the sign installed on the post. Examples include:

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

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

All sign blanks shall be hole punched by the manufacturer for either horizontal or vertical installation. Attach all aluminum sheeting signs to square post with 3/8" all steel rivets and nylon washers.

Post will be attached to the anchor with 5/16" corner bolts and 5/16" flanged nuts, and all post and anchor cuts shall be treated with a Cold Galvanizing Compound spray.

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

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

F. Coordination with Utility Companies. Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs due to the Contractor's operations at no additional cost to the Department. NOTIFY THE ENGINEER AND THE UTILITY OWNER(S) IMMEDIATELY WHEN IT IS DISCOVERED OR ANTICIPATED THAT ANY UTILITY CONFLICT COULD DELAY THE CONTRACTOR'S OPERATIONS. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however, no extension will be granted for any delay caused by the Contractor's failure to notify the Engineer and/or the utility company as specified above when a conflict is discovered or anticipated as specified.

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

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

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

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

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

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

IV. METHOD OF MEASUREMENT

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

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

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- C. Signs.** The Department will measure the finished in-place area of signs in Square Feet.
- D. Sign Posts.** The Department will measure the finished in-place length of sign posts in Linear Feet, from the top of the anchor, or top of the sign support, to the top of the sign post. Laps, cutoffs, excess, and waste will NOT be measured for payment.
- E. Type D Breakaway Sign Supports.** The Department will measure Type D sign supports as Each support installed.
- F. Type D Surface Mounts.** The Department will measure Type D Surface Mounts as Each surface mount installed.
- G. Class A Concrete for Signs.** The Department will measure the Class A Concrete used in conjunction with Type D breakaway sign support installations in Cubic Yards. Any concrete that is required as backfill due to hitting rock during a standard installation shall be incidental to the bid item STEEL POST TYPE I, and soil stabilizers will not be required.
- H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection.** The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection shall be measured according to Section 212.
- I. Erosion Control.** See Special Note for Erosion Control.
- J. Remove Sign.** The Department will consider all signs attached to one or more connected posts as a single sign. The Department will measure as Each sign assembly removed and NOT each individual sign removed.
- K. Items Provided by KYTC.** The Department will NOT measure for payment the installation of signs and/or surface mounts provided by KYTC. These activities shall be incidental to the bid item STEEL POST TYPE I.

V. BASIS OF PAYMENT

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

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- C. Sign Posts.** The Department will make payment for the completed and accepted quantities under the bid item STEEL POST TYPE I. The Department will consider payment full compensation for all work and incidentals necessary to install the sign posts as required by these notes and the details found elsewhere in the proposal.
- D. Type D Breakaway Sign Supports.** The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D. The Department will consider payment full compensation for all work and incidentals necessary to install the Type D breakaway sign supports as required by Standard Drawing RGX-065, current edition.
- E. Type D Surface Mounts.** The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D (SURFACE MOUNT). The Department will consider payment full compensation for all work and incidentals necessary to install the Type D surface mounts according to all applicable manufacturer requirements.
NOTE: The permissible Type D Surface Mount alternative is: Kleen Break Model 425 for Surface Mount Concrete Installations by Xcessories Squared of Auburn, IL
- F. Class A Concrete for Signs.** The Department will make payment for the completed and accepted quantities, used in conjunction with Type D breakaway sign support installations, under the bid item CLASS A CONCRETE FOR SIGNS. The Department will consider payment full compensation for all work and incidentals necessary to install the concrete as required by Standard Drawing RGX-065, current edition.
- G. Remove Sign.** The Department will make payment for the completed and accepted quantities under the bid item REMOVE SIGN. The Department will consider payment full compensation for all work and incidentals necessary to remove the existing signs, posts, anchors, and any other sign material or hardware, from the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.
- H. Erosion Control.** See Special Note for Erosion Control.

Special Note for Lane Separator Curb – Pexco FG 300

I. DESCRIPTION

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

(1) Maintaining and Controlling Traffic; (2) Installing Pexco FG 300 lane separator curb; and (3) All other work specified in the Contract.

II. MATERIALS

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

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

B. Lane Separator Curb. Furnish Pexco FG 300 lane separator curb guidance system that includes modular longitudinal curb sections, transition end sections, and upright delineator posts/panels. The longitudinal units of the system shall interface with each other to form a continuous longitudinal channelizing system. The design of the system shall allow a radius or curve as needed by roadway geometry. The complete system shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. System color shall match the adjacent pavement marking color.

- 1. Longitudinal Units.** The longitudinal units shall have a mountable design to allow for emergency vehicle crossovers. The longitudinal units shall be designed to allow for cross drainage under the units. Individual units of the system shall have a minimum length of 40 inches, maximum height of 4 inches and maximum width of 12 inches. The longitudinal base shall include retroreflective markings to match the system color. At least one upright post is required for each longitudinal curb unit.
- 2. Upright Posts.** Upright posts shall be a minimum of 26 inches in height and a minimum of 2 inches in width. Upright posts are to be uniformly spaced at intervals no greater than 44 inches along the system. Post color should match the longitudinal curb unit and adjacent pavement marking color. Each post shall have retroreflective markings of color matching the post, longitudinal system, and adjacent pavement marking. Upright posts should be easily replaceable under traffic conditions and shall be fabricated to withstand repeated impacts and return to a complete upright position with minimal maintenance to the unit.

Lane Separator Curb - Pexco FG 300
Page 2 of 2

III. CONSTRUCTION METHODS

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Site Preparation.** Be responsible for all site preparation including, but not limited to: clearing and grubbing, staking, excavation, backfill, and removal of obstructions or any other material not covered by other items. Perform site preparation only as approved or directed by the Engineer.
- C. **Lane Separator Curb.** Assemble and fasten the lane separator curb system to the underlying pavement or bridge deck according to the manufacturer's recommendations.
- D. **Property Damage.** The Contractor shall be responsible for all damage to public and/or private property resulting from the Contractor's activities. Repair or replace damaged roadway features in like kind materials and design as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.
- E. **Caution.** The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

IV. METHOD OF MEASUREMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Site Preparation.** Other than the bid items listed, the Department will NOT measure Site Preparation for payment, but shall be incidental to the project bid items.
- C. **Lane Separator Curb.** The Department will measure Pexco FG 300 lane separator curb in LIN FT.

V. BASIS OF PAYMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Lane Separator Curb.** The Department will make payment for the completed and accepted quantities under the bid item "Lane Separator Curb (Pexco FG 300)." Payment at the Contract unit price per linear foot shall be full compensation for furnishing all materials, equipment, tools, hardware, labor, and incidentals necessary to properly install the Pexco FG 300 lane separator curb according to the manufacturer's installation instructions, these notes, and/or as directed by the Engineer.

SPECIAL NOTES FOR COMPLETION DATES & LIQUIDATED DAMAGES

The ultimate fixed completion date for all work in this contract shall be **July 31, 2023**. Liquidated Damages for failure to complete on time will be assessed following Section 108.09.

The Contractor shall notify the Engineer two (2) weeks prior to beginning construction activities at each intersection. The Contractor can choose when to begin work at each intersection, provided it doesn't violate any restrictions noted within the proposal. Upon beginning construction activities at an intersection, the Contractor shall have a set number of calendar days (see Table 1 below) to complete all work at that intersection. In addition, the Contractor will have a set number of calendar days (see Table 2 below) to complete paving related construction activities (existing pavement removal, asphalt pavement, concrete pavement, curb and gutter, and any other paving related construction activity that impacts traffic control, as directed by the Engineer). The Department will assess Liquidated Damages for failure to complete construction on time.

Table 1: Completion Duration for ALL Construction Activities

Intersection	Total Completion Duration (Calendar Days)
5-9016.00 – KY 864 (Fegenbush Ln) @ Fenwick Drive – Utility Work	90
5-9016.00 – KY 864 (Fegenbush Ln) @ Fenwick Drive – Roadway Work	90
5-9019.10 – KY 1865 (Taylor Blvd) @ EB I-264 Ramps	90
5-9019.30 – KY 1065 (Outer Loop) @ CR 1001G (Grade Lane)	90
5-9019.65 – KY 1747 (Hurstbourne Pkwy) @ I-64 WB Ramps	90

Table 2: Completion Duration for Paving Construction Activities

Intersection	Paving Completion Duration (Calendar Days)
5-9016.00 – KY 864 (Fegenbush Ln) @ Fenwick Drive – Roadway Work	45
5-9019.10 – KY 1865 (Taylor Blvd) @ EB I-264 Ramps	30
5-9019.30 – KY 1065 (Outer Loop) @ CR 1001G (Grade Lane)	30
5-9019.65 – KY 1747 (Hurstbourne Pkwy) @ I-64 WB Ramps	30

In addition to the requirements of Section 108.09, the Department shall assess Liquidated Damages in the amount of **\$1,000** for the first hour, or fraction of an hour, and **\$2,500** for any additional hour, or fraction of an hour, for any full or partial lane or road closures that are in place beyond the time frame(s) noted in the Traffic Control Plan and approved by the Engineer.

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

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

All liquidated damages will be applied accumulatively.

All other applicable portions of Section 108 apply.

SPECIAL PROVISION FOR WASTE AND BORROW SITES

Obtain U.S. Army Corps of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". The Corps of Engineers defines "Waters of the United States" as perennial or intermittent streams, ponds or wetlands. The Corps of Engineers also considers ephemeral streams, typically dry except during rainfall but having a defined drainage channel, to be jurisdictional waters. Direct questions concerning any potential impacts to "Waters of the United States" to the attention of the appropriate District Office for the Corps of Engineers for a determination prior to disturbance. Be responsible for any fees associated with obtaining approval for waste and borrow sites from the U.S. Army Corps of Engineer or other appropriate regulatory agencies.

1-296 Waste & Borrow Sites
01/02/2012

October 2021

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	20 max.	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.

October 2021

- 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. From September 1st to June 1st, 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.

October 2021

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	20 max.	≤ 21	22 - 23	24 - 25	26 - 27	≥ 28
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

COORDINATION OF WORK WITH OTHER CONTRACTS

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

1-3193 Coordination Contracts
01/02/2012

SPECIAL NOTE FOR DOUBLE ASPHALT SEAL COAT

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

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

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

SPECIAL NOTES FOR GUARDRAIL

I. DESCRIPTION

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

Furnish all equipment, labor, materials, and incidentals for the following work items:

(1) Site preparation; (2) Remove existing guardrail systems; (3) Construct Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections, as applicable; (4) Delineators for guardrail; (5) Maintain and Control Traffic; and (6) all other work specified as part of this contract.

II. MATERIALS

Except as specified herein, provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual and make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing.

- A. Maintain and Control Traffic.** See Traffic Control Plan.
- B. Guardrail.** Furnish guardrail system components according to Section 814 and the Standard and Sepia Drawings; except use steel posts only, no alternates.
- C. Delineators for Guardrail.** Furnish white and/or yellow Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.
- D. Erosion Control.** See the Special Note for Erosion Control.

III. CONSTRUCTION METHODS

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

Guardrail
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filling voids left as the result of removing existing guardrail and guard posts with dry sand; temporary pollution and erosion control; disposal of excess, waste materials, and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the engineer.

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

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

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

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

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

IV. METHOD OF MEASUREMENT

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

V. BASIS OF PAYMENT

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

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS

Consider the dimensions shown on the typical sections for pavement and shoulder widths and thickness' to be nominal or typical dimensions. The Engineer may direct or approve varying the actual dimensions to be constructed to fit existing conditions. Do not widen existing pavement or shoulders unless specified elsewhere in this proposal or directed by the engineer.

1-3725 Typical Section Dimensions
01/02/2012

SPECIAL NOTE FOR SIDEWALK RAMPS & DETECTABLE WARNINGS

GENERAL

Unless otherwise stated in the contract, or as directed by or with prior approval from the Engineer, construct Sidewalk Ramps and Detectable Warnings in accordance with Sections 505 and 720; Supplemental Specifications; Standard Drawings RGX-040-03, RPM-150-08, RPM-152-08, RPM-170-09, and RPM-172-07; current editions, as applicable. In lieu of the Detectable Warnings shown on Standard Drawing RGX-040-03, the Department will also allow the use of any Detectable Warnings listed as Phase XI on the [Kentucky Product Evaluation List](http://www.ktc.uky.edu/kytc/kypel/allevvaluations.php) (<http://www.ktc.uky.edu/kytc/kypel/allevvaluations.php>). For Detectable Warnings as shown on Standard Drawing RGX-040-03, saw cut existing sidewalks, curb and gutter, and pavement, if present, as shown on the detail and reconstruct sidewalk ramps with detectable warnings as directed or approved by the Engineer. For Detectable Warnings from the Kentucky Product Evaluation List, install according to the manufacturer's recommendations. Unless specified otherwise in the Contract, construct sidewalk with 4" nominal minimum required thickness; however, if the existing sidewalk thickness is found to be greater or less than the thickness specified, transition the thickness as directed by the Engineer.

Except as required by the work, do not disturb drainage pipe, catch basins, and other roadway features, appurtenances and installations. Restore any roadway features, appurtenances, and installations damaged by the work in like kind materials and design at no additional cost to the Department. Dispose of all waste off the right of way at sites obtained by the Contractor at no additional cost to the Department (see Special Note for Waste and Borrow).

MEASUREMENT & PAYMENT

SIDEWALK RAMPS – The Department will measure Sidewalk Ramps in accordance with Section 505.04.01 and Standard Drawing RPM-170-09, current editions; however, contrary to Sections 505.04.05 and 505.04.06, the Department will not measure Roadway Excavation or Embankment in Place, but shall be incidental to the Sidewalk. Accept payment at the Contract unit price per square yard as full compensation for all labor, materials, equipment, and incidentals required for removal and disposal of existing sidewalk and curb and gutter, excavation and embankment, construction of the sidewalk ramps, reconstruction of the adjacent curb and/or sidewalk as necessary to install the sidewalk ramps, and restoration of disturbed features in accordance with these notes or as directed by the Engineer.

DETECTABLE WARNINGS – The Department will measure Detectable Warnings in accordance with Section 505.04.04 and Standard Drawings RGX-040-03 and RPM-170-09, current editions. The Department will make payment according to Section 505.05.

HANDRAIL – The Department will measure and make payment for Handrail in accordance with Section 720.05 and Standard Drawing RPM-172-07, current editions.

**TRAFFIC CONTROL PLAN
JEFFERSON COUNTY
VARIOUS INTERSECTIONS
ITEM NUMBERS: 5-9019.10, 5-9019.30, & 5-9019.65**

TRAFFIC CONTROL GENERAL

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

- A. All labor and materials necessary for construction and maintenance of traffic control devices and markings.
- B. All flag persons and traffic control devices such as, but not limited to, flashers, signs, barricades and vertical panels, plastic drums (steel drums will not be permitted), and cones, necessary for the control and protection of vehicular and pedestrian traffic as specified in these notes, the proposal, the Manual on Uniform Traffic Control Devices (MUTCD) current edition, or the Engineer.

Contrary to Section 106.01, furnish new, or used in like new condition, traffic control devices at the beginning of the work and maintain in like new condition until completion of the work. Any temporary traffic control items, devices, materials, and incidentals shall remain the property of the contractor when no longer needed. Traffic control devices will conform to current MUTCD.

PROJECT PHASING & CONSTRUCTION PROCEDURES

Provide movement for all directions at all times. Do NOT erect lane closures or partial lane closures during the following days and/or hours:

Normal Weekday Rush Hours

Monday-Friday 6:00 am – 9:00 am and 3:00 pm – 6:00 pm, daily

Holiday & Special Events

Memorial Day Weekend	3 pm Fri, May 27, 2022 – 8 pm Mon, May 30, 2022
Independence Day Weekend	3 pm Fri, July 1, 2022 – 11 pm Mon, July 4, 2022
Labor Day Weekend	3 pm Fri, Sept 2, 2022 – 8 pm Mon, Sept 5, 2022
Thanksgiving Holiday	3 pm Wed, Nov 23, 2022 – 8 pm Sun, Nov 27, 2022
Christmas Holiday	3 pm Fri, Dec 23, 2022 – 8 pm Sun, Dec 25, 2022
New Year’s Day Holiday	7 am Sat, Dec 31, 2022 – 8 pm Sun, Jan 1, 2023
Easter Weekend	3 pm Fri, Apr 7, 2023 – 8 pm Sun, Apr 9, 2023
Thunder Over Louisville & Kentucky Derby	3 pm Fri, Apr 28, 2023 – 9 am Mon, May 8, 2023
Memorial Day Weekend	3 pm Fri, May 26, 2023 – 8 pm Mon, May 29, 2023
Independence Day Weekend	3 pm Fri, Jun 30, 2023 – 11 pm Tues, July 4, 2023

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

Traffic Control Plan
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On routes with 4 lanes or more, the Contractor shall maintain a two-lane traveled way in each direction, with a minimum lane width of 10 feet. However, during working hours, one lane of traffic in either direction may be allowed at the discretion of the Engineer.

On routes with 3 lanes or less, the Contractor shall maintain a two-lane traveled way with a minimum lane width of 10 feet. However, during working hours, alternating one-way traffic may be allowed at the discretion of the Engineer, provided adequate signing and flag persons are in place. When maintaining alternating one-way traffic provide a minimum clear lane width of 10 feet; however, provide for the passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus or emergency vehicle on an official run arrives on the scene, make provisions for the passage of the school bus or emergency vehicle as quickly as possible.

In general, all traffic control devices shall be placed starting and proceeding in the direction of the flow of traffic and removed starting and proceeding in the direction opposite the flow of traffic. The Contractor shall completely cover any signs, existing, permanent, or temporary, which do not properly apply to the current traffic phasing and shall maintain the covering until signs are applicable or are removed.

The Contractor shall provide reasonable egress and ingress to each such property when actual operations are not in progress at that location. Limit the time during which a residential or farm entrance is blocked to the minimum length of time required for actual operations, do not extend the time for the Contractor's convenience, and in no case allow the blockage to exceed six (6) hours. Notify all residents twenty-four hours in advance of any driveway or entrance closings and make any accommodations necessary to meet the access needs of disabled residents.

LANE AND SHOULDER CLOSURES

When the road is open to through traffic, do not leave lane closures in place during non-working hours. Maintain lane closures only during hours of actual operations. Reduce lane closures to a shoulder closure, or remove as appropriate, when active operations do not require a lane closure. The Engineer will permit shoulder closures during non-working hours; however, do not park equipment or store materials on a closed shoulder during non-working hours. The Engineer may designate days and hours when lane and/or shoulder closures will not be allowed.

Contrary to Section 112.04.17, lane closures, whether long term or short term, will not be measured for payment and will be incidental to the bid item "Maintain and Control Traffic".

BARRICADES

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

TEMPORARY SIGNS

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

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

PAVEMENT MARKINGS

If there is to be a deviation from the existing striping plan, the Engineer will furnish the Contractor a striping plan prior to placement of final surface course. Removal of pavement markings will be by water blasting process to the satisfaction of the Engineer. Place temporary and permanent striping in accordance with Section 112 with following exception for Temporary Striping:

If the Contractor's operations or phasing requires temporary markings that must subsequently be removed from the final surface course or existing surface to remain in place, use an approved removable lane tape; however, the Department will not measure removable lane tape for separate payment, but will measure and pay for removable lane tape as temporary striping.

PORTABLE CHANGEABLE MESSAGE SIGNS

Provide portable changeable message sign (PCMS) at least two weeks prior to construction at the locations approved by the Engineer. The messages required to be provided will be designated by the Engineer. The PCMS will be in operation at all times. In the event of damage or mechanical/electrical failure, the contractor will repair or replace the PCMS immediately. The Department will not take possession of the signs upon completion of the work. The Department will measure for payment the maximum number of PCMS in concurrent use at the same time on a single day on all sections of the contract. PCMS will be paid for once, no matter how many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged changeable message signs directed by the Engineer to be replaced due to poor condition or readability will not be measured for payment.

ARROW PANELS

Use arrow panels as shown on the Standard Drawings or as directed by the Engineer. The Department will measure for payment the maximum number of arrow panels in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Arrow Panels only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged Arrow Panels or for panels signs the Engineer directs be replaced due to poor condition or readability for payment. Retain possession of the Arrow Panels upon completion of the work.

PAVEMENT EDGE DROP-OFFS

Do not allow a pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation with an elevation difference greater than 1½". Place Warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and un-resurfaced areas which traffic may cross with asphalt mixture for leveling and wedging. Remove the wedges prior to placement of the final surface course.

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

Less than 2" - No protection required.

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

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

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

USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

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

Application

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

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

CMS should not be used for:

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

Traffic Control Plan
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Messages

Basic principles that are important to providing proper messages and ensuring the proper operation of a CMS are:

- Visible for at least ½ mile under ideal daytime and nighttime conditions
- Legible from all lanes a minimum of 650 feet
- Entire message readable twice while traveling at the posted speed
- No more than two message panels should be used (three panels may be used on roadways where vehicles are traveling less than 45 mph). A panel is the message that fits on the face of the sign without flipping or scrolling.
- Each panel should convey a single thought; short and concise
- Do not use two unrelated panels on a sign
- Do not use the sign for two unrelated messages
- Should not scroll text horizontally or vertically
- Should not contain both the words left and right
- Use standardized abbreviations and messages
- Should be accurate and timely
- Avoid filler/unnecessary words and periods (hazardous, a, an, the)
- Avoid use of speed limits
- Use words (not numbers) for dates

Placement

Placement of the CMS is important to ensure that the sign is visible to the driver and provides ample time to take any necessary action. Some of the following principles may only be applicable to controlled access roadways. The basic principles of placement for a CMS are:

- When 2 signs are needed, place on same side of roadway and at least 1,000 feet apart
- Place behind semi-rigid/rigid protection (guardrail, barrier) or outside of the clear zone
- Place 1,000 feet in advance of work zone; at least one mile ahead of decision point
- Normally place on right side of roadway; but should be placed closest to the affected lane so that either side is acceptable
- Signs should not be dual mounted (one on each side of roadway facing same direction)
- Point trailer hitch downstream
- Secure to immovable object to prevent theft (if necessary)
- Do not place in sags or just beyond crest
- Check for reflection of sun to prevent the blinding of motorist
- Should be turned ~3 degrees outward from perpendicular to the edge of pavement
- Bottom of sign should be 7 feet above the elevation of edge of roadway
- Should be removed when not in use

Traffic Control Plan
Page 7 of 9**Standard Abbreviations**

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

<u>Word</u>	<u>Abbrev</u>	<u>Example</u>
Access	ACCS	ACCIDENT AHEAD/ USE ACCS RD NEXT RIGHT
Alternate	ALT	ACCIDENT AHEAD/ USE ALT RTE NEXT RIGHT
Avenue	AVE	FIFTH AVE CLOSED/ DETOUR NEXT LEFT
Blocked	BLKD	FIFTH AVE BLKD/ MERGE LEFT
Boulevard	BLVD	MAIN BLVD CLOSED/ USE ALT RTE
Bridge	BRDG	SMITH BRDG CLOSED/ USE ALT RTE
Cardinal Directions	N, S, E, W	N I75 CLOSED/ DETOUR EXIT 30
Center	CNTR	CNTR LANE CLOSED/ MERGE LEFT
Commercial	COMM	OVRSZ COMM VEH/ USE I275
Condition	COND	ICY COND POSSIBLE
Congested	CONG	HVY CONG NEXT 3 MI
Construction	CONST	CONST WORK AHEAD/ EXPECT DELAYS
Downtown	DWNTN	DWNTN TRAF USE EX 40
Eastbound	E-BND	E-BND I64 CLOSED/ DETOUR EXIT 20
Emergency	EMER	EMER VEH AHEAD/ PREPARE TO STOP
Entrance, Enter	EX, EXT	DWNTN TRAF USE EX 40
Expressway	EXPWY	WTRSN EXPWY CLOSED/ DETOUR EXIT 10
Freeway	FRWY, FWY	GN SYNDR FWY CLOSED/ DETOUR EXIT 15
Hazardous Materials	HAZMAT	HAZMAT IN ROADWAY/ ALL TRAF EXIT 25
Highway	HWY	ACCIDENT ON AA HWY/ EXPECT DELAYS
Hour	HR	ACCIDENT ON AA HWY/ 2 HR DELAY
Information	INFO	TRAF INFO TUNE TO 1240 AM
Interstate	I	E-BND I64 CLOSED/ DETOUR EXIT 20
Lane	LN	LN CLOSED MERGE LEFT
Left	LFT	LANE CLOSED MERGE LFT
Local	LOC	LOC TRAF USE ALT RTE
Maintenance	MAINT	MAINT WRK ON BRDG/ SLOW
Major	MAJ	MAJ DELAYS I75/ USE ALT RTE
Mile	MI	ACCIDENT 3 MI AHEAD/ USE ALT RTE
Minor	MNR	ACCIDENT 3 MI MNR DELAY
Minutes	MIN	ACCIDENT 3 MI/ 30 MIN DELAY
Northbound	N-BND	N-BND I75 CLOSED/ DETOUR EXIT 50
Oversized	OVRSZ	OVRSZ COMM VEH/ USE I275 NEXT RIGHT
Parking	PKING	EVENT PKING NEXT RGT
Parkway	PKWY	CUM PKWAY TRAF/ DETOUR EXIT 60
Prepare	PREP	ACCIDENT 3 MI/ PREP TO STOP
Right	RGT	EVENT PKING NEXT RGT
Road	RD	HAZMAT IN RD/ ALL TRAF EXIT 25
Roadwork	RDWK	RDWK NEXT 4 MI/ POSSIBLE DELAYS
Route	RTE	MAJ DELAYS I75/ USE ALT RTE
Shoulder	SHLDR	SHLDR CLOSED NEXT 5 MI
Slippery	SLIP	SLIP COND POSSIBLE/ SLOW SPD
Southbound	S-BND	S-BND I75 CLOSED/ DETOUR EXIT 50
Speed	SPD	SLIP COND POSSIBLE/ SLOW SPD

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Standard Abbreviations (cont.)

<u>Word</u>	<u>Abbrev</u>	<u>Example</u>
Street	ST	MAIN ST CLOSED/ USE ALT RTE
Traffic	TRAF	CUM PKWAY TRAF/ DETOUR EXIT 60
Vehicle	VEH	OVRSZ COMM VEH/ USE I275 NEXT RIGHT
Westbound	W-BND	W-BND I64 CLOSED/ DETOUR EXIT 50
Work	WRK	CONST WRK 2MI/ POSSIBLE DELAYS

Certain abbreviations are prone to inviting confusion because another word is abbreviated or could be abbreviated in the same way. DO NO USE THESE ABBREVIATIONS:

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

Typical Messages

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

<u>Reason/Problem</u>	<u>Action</u>
ACCIDENT	ALL TRAFFIC EXIT RT
ACCIDENT/XX MILES	AVOID DELAY USE XX
XX ROAD CLOSED	CONSIDER ALT ROUTE
XX EXIT CLOSED	DETOUR
BRIDGE CLOSED	DETOUR XX MILES
BRIDGE/(SLIPPERY, ICE, ETC.)	DO NOT PASS
CENTER/LANE/CLOSED	EXPECT DELAYS
DELAY(S), MAJOR/DELAYS	FOLLOW ALT ROUTE
DEBRIS AHEAD	KEEP LEFT
DENSE FOG	KEEP RIGHT
DISABLED/VEHICLE	MERGE XX MILES
EMER/VEHICLES/ONLY	MERGE LEFT
EVENT PARKING	MERGE RIGHT
EXIT XX CLOSED	ONE-WAY TRAFFIC
FLAGGER XX MILES	PASS TO LEFT
FOG XX MILES	PASS TO RIGHT

Traffic Control Plan
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Typical Messages (cont.)

Reason/Problem

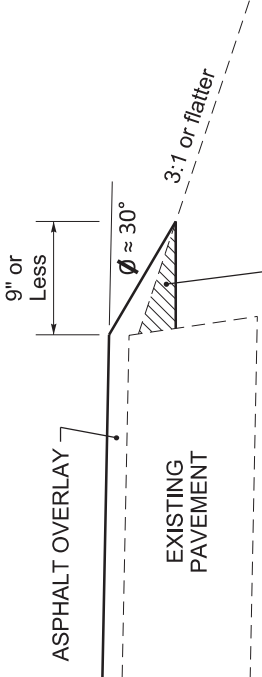
FREEWAY CLOSED
FRESH OIL
HAZMAT SPILL
ICE
INCIDENT AHEAD
LANES (NARROW, SHIFT, MERGE, ETC.)
LEFT LANE CLOSED
LEFT LANE NARROWS
LEFT 2 LANES CLOSED
LEFT SHOULDER CLOSED
LOOSE GRAVEL
MEDIAN WORK XX MILES
MOVING WORK ZONE, WORKERS IN ROADWAY
NEXT EXIT CLOSED
NO OVERSIZED LOADS
NO PASSING
NO SHOULDER
ONE LANE BRIDGE
PEOPLE CROSSING
RAMP CLOSED
RAMP (SLIPPERY, ICE, ETC.)
RIGHT LANE CLOSED
RIGHT LANE NARROWS
RIGHT SHOULDER CLOSED
ROAD CLOSED
ROAD CLOSED XX MILES
ROAD (SLIPPERY, ICE, ETC.)
ROAD WORK
ROAD WORK (OR CONSTRUCTION) (TONIGHT, TODAY, TOMORROW, DATE)
ROAD WORK XX MILES
SHOULDER (SLIPPERY, ICE, SOFT, BLOCKED, ETC.)
NEW SIGNAL XX MILES
SLOW 1 (OR 2) - WAY TRAFFIC
SOFT SHOULDER
STALLED VEHICLES AHEAD
TRAFFIC BACKUP
TRAFFIC SLOWS
TRUCK CROSSING
TRUCKS ENTERING
TOW TRUCK AHEAD
UNEVEN LANES
WATER ON ROAD
WET PAINT
WORK ZONE XX MILES
WORKERS AHEAD

Action

PREPARE TO STOP
REDUCE SPEED
SLOW
SLOW DOWN
STAY IN LANE
STOP AHEAD
STOP XX MILES
TUNE RADIO 1610 AM
USE NN ROAD
USE CENTER LANE
USE DETOUR ROUTE
USE LEFT TURN LANE
USE NEXT EXIT
USE RIGHT LANE
WATCH FOR FLAGGER

DURABLE PAVEMENT EDGE DETAIL

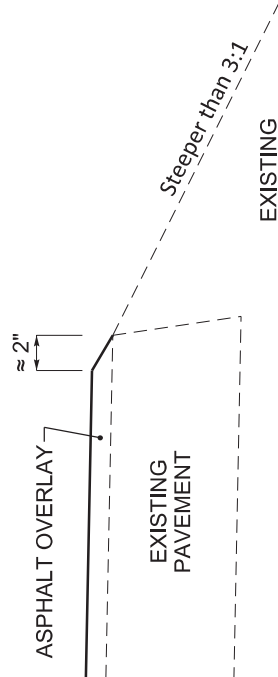
(Resurfacing adjacent to fill slope or ditch foreslope that is 3:1 or less)



PREPARE SHOULDER ACCORDING TO STANDARD SPECIFICATIONS

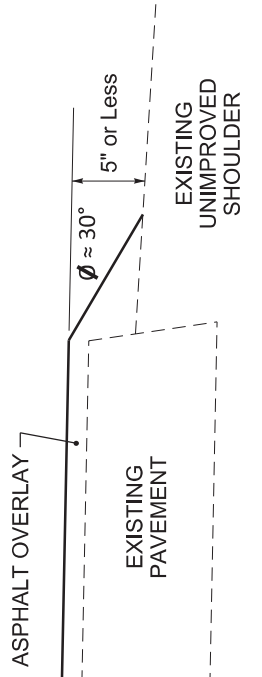
DURABLE PAVEMENT EDGE DETAIL

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



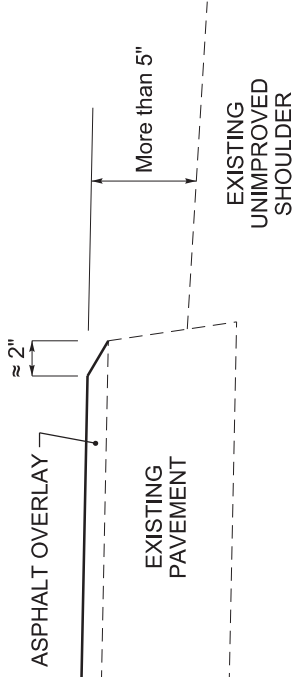
DURABLE PAVEMENT EDGE DETAIL

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



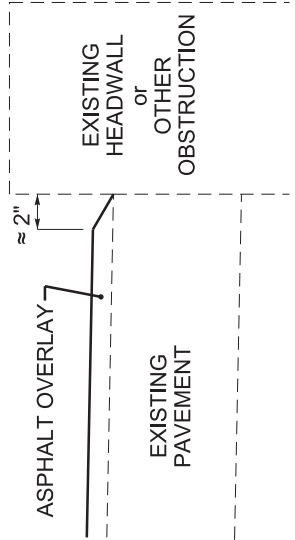
DURABLE PAVEMENT EDGE DETAIL

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



DURABLE PAVEMENT EDGE DETAIL

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



NOTES

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

DRAWING NOT TO SCALE

DURABLE PAVEMENT EDGE DETAILS

SPECIAL NOTES FOR TRAFFIC SIGNAL LOOP DETECTORS CITY OF LOUISVILLE

Be advised, existing traffic signal loop detectors are within the construction limits of this project. Notify the Engineer in writing, (2) weeks prior to beginning any work on the project. Install and test the new signal loops according to the Special Notes for Traffic Signal Loop Replacement.

The Engineer will contact and maintain liaison with the District Traffic Engineer and the City of Louisville to coordinate any necessary work.

On projects that include milling of roadways with existing traffic signal loops and if after milling the remnant contents of the existing saw slot (grout, loop wires, backer rod, and/or loop sealant) are not intact and flush with or below the top of the milled portion of the asphalt and with the saw slot completely filled with fines from the milling operation, clear the saw slot of loose remnant contents and refill the saw slot with natural sand. Obtain the Engineer's approval of the stabilized saw slot prior to resurfacing. The Department will not measure for separate payment clearing the saw slot and refilling with natural sand, but shall be incidental to Asphalt Pavement Milling and Texturing.

1-3893 Louisville Traffic Signal Loops
01/02/2012



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

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

RIGHT OF WAY CERTIFICATION

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION
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ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
5-9019.10	Jefferson	FD52 056 1865 005-006	HSIP 8774(010)

PROJECT DESCRIPTION

Improve the right turn lane and radius on the EB I-264 Off Ramp at Exit 9 and update the striping, pavement markings, and signing at the intersection of Taylor Blvd & the I-264 EB Off Ramp.

No Additional Right of Way Required

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

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

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

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

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

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

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

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

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Tom Boykin <small>Digitally signed by Tom Boykin Date: 2022.01.17 09:30:52 -05'00'</small>
Signature		Signature	
Date		Date	
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature	 <small>Digitally signed by Kelly R. Divine Date: 2022.01.18 06:43:40 -06'00'</small>	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date		Date	

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES	TC 62-226 Rev. 01/2016 Page 1 of 1
RIGHT OF WAY CERTIFICATION		

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION
ITEM #		COUNTY		PROJECT # (STATE)
5-9019.30		Jefferson		FD52 056 1065 003-004
PROJECT DESCRIPTION		PROJECT # (FEDERAL)		
		HSIP 8732(019)		

Realign the right turn slip ramp from Grade Lane onto KY 1065

No Additional Right of Way Required

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

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

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

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


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

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

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

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

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Tom Boykin <small>Digitally signed by Tom Boykin Date: 2022.01.17 09:33:14 -05'00'</small>
Signature		Signature	
Date		Date	
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature	 Digitally signed by Kelly R. Divine Date: 2022.01.18 06:45:14 -06'00'	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date		Date	

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES	TC 62-226 Rev. 01/2016 Page 1 of 1
RIGHT OF WAY CERTIFICATION		

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION
ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)	
5-9019.65	Jefferson	FD52 056 1747 011-013	HSIP 8725(013)	
PROJECT DESCRIPTION				

Improve lane alignment and turning radius of the WB I-64 Off Ramp at Exit 15 and update the striping, pavement markings, and signing at the intersection of Hurstbourne Lane & the I-64 WB Off Ramp

No Additional Right of Way Required

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

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

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

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


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

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

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

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

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Tom Boykin <small>Digitally signed by Tom Boykin Date: 2022.01.17 09:38:09 -05'00'</small>
Signature		Signature	
Date		Date	
Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature		Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date	<small>Digitally signed by Kelly R. Divine Date: 2022.01.18 06:46:15 -06'00'</small>	Date	

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES RIGHT OF WAY CERTIFICATION	TC 62-226 Rev. 01/2016 Page 1 of 1
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<input checked="" type="checkbox"/> Original	<input type="checkbox"/> Re-Certification	RIGHT OF WAY CERTIFICATION	
ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
5-9016.00	Jefferson	FD52 056 0864 005-007	HSIP 8744 005

PROJECT DESCRIPTION

Widen KY 864 to create a northbound left turn lane between mile points 5.950 and 6.20

No Additional Right of Way Required

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

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

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

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


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

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

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

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

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Tom Boykin
Signature		Signature	Tom Boykin <small>Digitally signed by Tom Boykin Date: 2020.10.19.20:31:46 -0400</small>
Date		Date	
Right of Way Director		FHWA	
Printed Name		Printed Name	No Signature Required as per FHWA-KYTC
Signature	 2020.10.20	Signature	Current Stewardship Agreement
Date	07:44:44 -05'00'	Date	

UTILITIES AND RAIL CERTIFICATION NOTE

**Improvements at Various Intersections in Jefferson County
HSIP 8774(010), HSIP 8732(019), & HSIP 8725(013)
Item Numbers: 5-9019.10, 5-9019.30, & 5-9019.65**

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

- **WATER / SEWER**
Louisville Water Company and Louisville MSD has existing water and sewer mains within the limits of the project areas. These facilities are to remain and are **not to be disturbed**.
- **GAS**
Louisville Gas & Electric / Kentucky Utilities has existing gas mains within the limits of the project areas. These facilities are to remain and are **not to be disturbed**.
- **ELECTRIC / TELEPHONE / CABLE**
AT&T Distribution, AT&T Transmission, Louisville Gas & Electric / Kentucky Utilities, and Louisville Metro – Electrical Maintenance has possible overhead and possible underground facilities within the limits of the project areas. These facilities are to remain and are **not to be disturbed**.

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

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

N/A

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

N/A

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

N/A

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

- No Rail Involved** **Minimal Rail Involved (See Below)** **Rail Involved (See Below)**

UTILITIES AND RAIL CERTIFICATION NOTE

**Improvements at Various Intersections in Jefferson County
HSIP 8774(010), HSIP 8732(019), & HSIP 8725(013)
Item Numbers: 5-9019.10, 5-9019.30, & 5-9019.65**

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

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.

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

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

The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

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

UTILITIES AND RAIL CERTIFICATION NOTE

**Improvements at Various Intersections in Jefferson County
HSIP 8774(010), HSIP 8732(019), & HSIP 8725(013)
Item Numbers: 5-9019.10, 5-9019.30, & 5-9019.65**

AREA UTILITIES CONTACT LIST

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
1. AT&T KY 1350 E. John Rowan Blvd Bardstown, KY 40004	Scott Roche	sr8832@att.com (502) 348-4528
2. LG&E 820 West Broadway Louisville, KY 40202	Caroline Justice	caroline.justice@lge-ku.com (502) 627-3708
3. Louisville Water Company 550 South Third Street Louisville, KY 40202	Pat Howard	phoward@lwcky.com (502) 569-3615
4. Metropolitan Sewer District 700 West Liberty Street Louisville, KY 40203	Brandon Flaherty	brandon.flaherty@louisvillemtd.org O: (502) 381-0804 C: (502) 540-6632
5. Louisville Metro – Electrical Maintenance		502-574-3261

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

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County

OHSIP8744005

FD52 056 9470101U

Mile point: 5.950 TO 6.200

WIDEN KY 864 TO CREATE A NORTHBOUND LEFT TURN LANE. (2018BOP)

ITEM NUMBER: 05-9016.00

PROJECT NOTES ON UTILITIES

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

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

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County
 OHSIP8744005
 FD52 056 9470101U
 Mile point: 5.950 TO 6.200
WIDEN KY 864 TO CREATE A NORTHBOUND LEFT TURN LANE. (2018BOP)
 ITEM NUMBER: 05-9016.00

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

AT&T Kentucky - Communications– The Company has aerial communication lines on the LG&E owned pole route better described below. The Company has an underground communication line located south/west of and running parallel to Fegenbush Lane (KY 864) on the opposite side of the roadside ditch and crosses Fenwick Drive before exiting the Project limits at ~STA. 27+10 50' LT.

Charter Communications (Insight/Spectrum/Time Warner) - Communications The Company has aerial communication lines on the LG&E owned pole route better described below. The Company also has underground communication lines feeding Shallow Creek from the existing pole at the entrance to Fenwick Drive.

Louisville Gas and Electric Company – Electric - The Company has an existing aerial distribution pole route on the north/east side of KY 864 from the beginning of the project until STA. 26+50 where it crosses KY 864 and continues on the west side of the roadway. Also located at STA. 26+50 is a crossing serving Shallow Creek neighborhood.

Louisville Gas and Electric Company – Gas - See below for gas.

Louisville Water Company – Water – See below.

Verizon – Communications - The Company has aerial communication lines on the LG&E owned pole route better described above.

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

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

LG&E – Gas – The Company has 4” M.P. PL gas main that is located south/west of and running parallel to Fegenbush Lane (KY 864). The Company has relocated the existing gas main from approximately STA. 22+35 to STA. 27+30 and is located 25’-35’ LT of KY 864 centerline. There are 5 property service connections within the project limits including a 2” M.P. crossing at STA. 23+65. The Company has 500 LF of an abandoned 4” M.P. under the proposed pavement widening.

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

Not Applicable

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County
 OHSIP8744005
 FD52 056 9470101U
 Mile point: 5.950 TO 6.200
WIDEN KY 864 TO CREATE A NORTHBOUND LEFT TURN LANE. (2018BOP)
 ITEM NUMBER: 05-9016.00

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

Louisville Water Company – Water – The Company has an existing 12” CLD water main (WM) that is located south/west of and running parallel to Fegenbush Lane (KY 864). The existing 12” CLD WM is to be relocated by the roadway contractor from ~STA. 22+24 to ~STA. 27+80. The Roadway Contractor will tie-in the 12” DPW WM to an existing 8” DI WM located under the east lane of Fenwick Drive at ~STA. 26+60.

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

No Rail Involvement Rail Involved Rail Adjacent

AREA FACILITY OWNER CONTACT LIST

- | | |
|--|---|
| <p>1. AT&T KY
 1340 E. John Rowan Blvd
 Bardstown, KY 40004</p> | <p>Scott Roche
 Office (502) 348-4528
 Cell (502) 827-4703
 SR8832@att.com</p> |
| <p>2. Charter Communications
 10168 Linn Station Road, Suite 120
 Louisville, KY 40223</p> | <p>Nathen L Howerton
 Office (502) 357-4318
 Cell (502) 639-6838
 Nathen.Howerton@charter.com
 James Whitehouse
 (502) 643-0863
 James.Whitehouse@charter.com
 Kevin Mercer
 Office (502) 357-4724
 Cell (502) 817-5055
 Kevin.Mercer@charter.com
 Michael York
 Cell (502) 548-1632
 Michael.York@charter.com
 Richard Bast
 Office (502) 357-4118
 Cell (502) 817-0734</p> |
| <p>3. LG&E KU (Electric)
 820 West Broadway
 Louisville, KY 40202
 LG&E Emergency Number (502) 589-1444
 LG&E and KU Emergency Number 1-800-331-7370</p> | <p>Caroline Justice
 Office: (502) 627-3708
 Caroline.Justice@LGE-KU.com</p> |

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County

OHSIP8744005

FD52 056 9470101U

Mile point: 5.950 TO 6.200

WIDEN KY 864 TO CREATE A NORTHBOUND LEFT TURN LANE. (2018BOP)

ITEM NUMBER: 05-9016.00

4. LG&E (Gas)
820 West Broadway
Louisville, KY 40202
Gas Emergency Number (502) 589-5511
LG&E and KU Emergency Number 1-800-331-7370

Caroline Justice
Office: (502) 627-3708
Caroline.Justice@LGE-KU.com

5. Louisville Water Company
550 South Third Street
Louisville, KY 40202

Daniel Tegene, PE
(502) 569-3649
DTegene@LWCky.com

6. Metropolitan Sewer District
700 West Liberty Street
Louisville, KY 40203-1911

Brandon Flaherty
Office (502) 540-6632
Cell (502) 381-0804
Brandon.Flaherty@LouisvilleMSD.org
Greg Powell
Greg.Powell@LouisvilleMSD.org

7. Verizon
730 West Henry Street
Indianapolis, IN 46225

Verizon
2421 Holloway Road
Louisville, KY 40299

Dean Boyers
Office (615) 777-7855
Cell (615) 507-5287
Dean.Boyers@verizon.com
Jeffrey Tucker, Engr III Spec-Ntwk Eng & Ops
Office (502) 830-1827
Cell (502) 593-5585
Jeffrey.Tucker@verizon.com
Ronnie Kuerzi, Eng IV Spec-Ntwk Eng & Ops
Cell (502) 780-2748
Ronald.Kuerzi@verizon.com
Dave Wiley (Field)
(502) 439-8783
Dave.Wiley@verizon.com
John Binkley, John.Binkley@tcscomm.com
Mike Escollies, MEscollies@tcscomm.com

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

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

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

PROTECTION OF EXISTING UTILITIES

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

PREQUALIFIED UTILITY CONTRACTORS

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

Louisville Water Company

The bidding contractor needs to choose a subcontractor that is a Louisville Water Company prequalified contractor in the category of 4-16 inch ductile iron water main.

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

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

CONTRACT ADMINISTRATION RELATIVE TO UTILITY WORK

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

SUBMITTALS AND CORRESPONDENCE

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

ENGINEER

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

STANDARD SPECIFICATIONS

The contractor shall follow the Louisville Water Company *TECHNICAL SPECIFICATIONS AND STANDARD DRAWINGS FOR PIPELINE CONSTRUCTION*. All work shall be performed in accordance with accepted workmanship practices and the Technical Specifications and Standard Drawings.

https://www.louisvillewater.com/sites/louisvillewater.com/files/user_uploads/Procurement%20Other/2008%20TECHNICAL%20SPECIFICATIONS%20FOR%20PIPELINE%20CONSTRUCTION%20%28Final%20Complete%203-10-2008%20Print%20PDF%29.pdf

INSPECTOR OR RESIDENT PROJECT REPRESENTATIVE

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

NOTICE TO UTILITY OWNERS OF THE START OF WORK

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

UTILITY SHUTDOWNS

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

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

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

CUSTOMER SERVICE AND LATERAL ABANDONMENTS

When temporary or permanent abandonment of customer water, gas, or sewer services or laterals are necessary during relocation of utilities included in the contract, the utility contractor shall perform these abandonments as part of the contract as incidental work. No separate payment will be made for service line and lateral abandonments. The contractor shall provide all labor, equipment and materials to accomplish

the temporary or permanent abandonment in accordance with the plans, specifications and/or as directed by the engineer. Abandonment may include, but is not limited to, digging down on a water or gas main at the tap to turn off the tap valve or corporation stop and/or capping or plugging the tap, digging down on a sewer tap at the main and plugging or capping the tap, digging down on a service line or lateral at a location shown on the plans or agreeable to the engineer and capping or plugging, or performing any other work necessary to abandon the service or lateral to satisfactorily accomplish the final utility relocation.

STATIONS AND DISTANCES

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

RESTORATION

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

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

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

MATERIAL

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

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

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

SECURITY OF SUPPLIED MATERIALS

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

Standard Water Bid Item Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

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

W FIRE HYDRANT ASSEMBLY Includes all labor, equipment, new fire hydrant, isolating valve and valve box, concrete pad around valve box (when specified in specifications or plans), piping, anchoring tee, anchoring couplings, fire hydrant extension, excavation, concrete blocking, granular drainage material, backfill, and restoration, to install a new fire hydrant assembly as indicated on plans and on standard drawings complete and ready for use. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

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

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

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

W FLUSHING ASSEMBLY This item shall include the flushing device assembly, service line, meter box and lid, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the

flushing device at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

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

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

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

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

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

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

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

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

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

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

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

This item shall be paid EACH (EA) when complete.

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

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

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

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

W PRESSURE REDUCING VALVE This description shall apply to all pressure reducing valves (PRV) of every size required in the plans and specifications except those bid items defined as “Special”. Payment under this description is to be for PRVs being installed with new main. This item includes the PRV as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), pit or vault, backfill, restoration, testing, disinfection, and etc., required to install the specified PRV at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, PRVs shall be restrained. PRV restraint shall be considered incidental to the

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

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

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

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

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

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

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

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

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

W TAPPING SLEVE AND VALVE SIZE 1 OR 2 This item shall include the specified tapping sleeve, valve, valve box, concrete pad around valve box (when required in specifications or plans), labor, and equipment to install the specified tapping sleeve and valve, complete and ready for use in accordance with

the plans and specifications. The size shall be the measured internal diameter of the live pipe to be tapped. The size tapping sleeve and valve to be paid under sizes 1 or 2 shall be as follows:

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

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

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

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

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

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

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

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

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

SUPPLEMENTARY SPECIFICATIONS

KY 864-Fegenbush Lane @ Fenwick WATER MAIN RELOCATION PROJECT KYTC Item No. 5-9016.00

PROJECT LIMITS

Limits of the referenced project include **Fegenbush Lane** between **Woodrow Way** to **Fenwick Drive**. See plans for location.

PROJECT SUMMARY

The referenced project consists of the supply and installation of approximately **570 +/-** linear feet of 12-inch Pressure Class 350 ductile iron water main (using traditional trench installation techniques). Also included with the project is the transfer, renewal, relocation or discontinue of **5 +/-** customer services.

SCOPE OF WORK

1. Supply and Install **570 +/-** linear feet of 12-inch Pressure Class 350 ductile iron water main along Fegenbush Lane.
2. Complete all tie-ins as shown on the plans.
3. Transfer, renew, relocate and/or discontinue **5** customer services.

GENERAL INFORMATION

4. **The contractor is bound by and shall comply with the provisions of the "Louisville Water Company Technical Specifications and Standard Drawings for Pipeline Construction" (2008 Edition) which shall govern work on this project with the following additions/exceptions:** All materials shall be supplied and installed by the Contractor. Louisville Water Company will not supply any material. Contractor shall disregard any reference in the Louisville Water Company Technical Specification where it says Louisville Water Company shall/will supply materials.

GENERAL REQUIREMENTS

5. All work performed for the installation and relocation of the water main and related construction must be performed by an LWC pre-qualified contractor in the following category:
 - Category 1: 4" – 16" Ductile Iron Water Main

PIPELINE MATERIALS

6. Unless otherwise approved by the LWC Project Manager, all pipe replacement work in this project scope shall be constructed with Contractor-supplied Pressure Class 350 ductile iron pipe in accordance with the plans using traditional trenching techniques. The contractor shall provide LWC with material submittals for all materials that the contractor plans to use for LWC work including but not limited to pipe, valves, fittings, casing pipe, etc. The submittals shall be reviewed and approved by the LWC Project Manager prior to installation of any material. The contractor shall provide alternate materials for any materials that the LWC Project Manager rejects until an acceptable material is selected by the contractor as approved by the LWC Project Manager. Material submittal review takes approximately two weeks for each submittal.

TRAFFIC CONTROL

7. This project will be bid and constructed in conjunction with the Kentucky Transportation Cabinet's (KYTC) KY 864-Fegenbush Lane @ Fenwick project; therefore, no KYTC permits will be required. Contractor shall obtain all permits through KYTC and follow the procedures as specified.

VIDEO RECORDING

8. A preconstruction Video Recording of the water relocation limits shall be completed by the contractor and provided to the LWC Project Manager prior to construction.
9. Video Recording shall be provided in DVD format

SITE WORK

10. Field modifications to the proposed pipeline alignment may be necessary to avoid or minimize the effects of potential conflicts. To avoid potential conflicts with existing utilities located perpendicular and/or parallel to the proposed main, the Contractor should anticipate the need to use offsets, bends and fittings when installing the new main, and for large service connections at no additional cost to LWC or KYTC.
11. Utility locations are shown on the plans from available information and are approximate. The contractor is responsible for locating all existing utilities including water line facilities prior to start of construction. The contractor is responsible for relocating any existing utility that is in conflict with the proposed construction at no additional cost to LWC or KYTC.

RETURN OF USED HYDRANTS

12. Fire hydrants that are discontinued, abandoned or replaced shall be removed and returned with caps to the LWC Allmond Avenue Warehouse. The contractor shall also complete the "RETURN OF USED FIRE HYDRANTS" form, sign and submit the form to the inspector for record keeping and proper accounting. Any removed hydrant that is not returned to the LWC warehouse will be invoiced to the contractor in the amount of \$75 per hydrant.
13. Fire Hydrant Extension Kits shall not be used for any fire hydrant installation on this project. Contractor shall adjust the depth of the water main at the location where a hydrant will be installed to accommodate the height of a standard fire hydrant.

EXCAVATION

14. Excavation on this project shall be unclassified.
15. Rock shall be removed using mechanical methods (backhoe, hoe ram, or rock trenching machine). Blasting shall not be permitted.

INSTALLATION, HANDLING AND STORAGE

16. Forklifts' forks or other material handling equipment shall not be inserted into the barrels of pipe, valves or other fittings to lift or move them or for any other construction activity.
17. Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.
18. Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way.
19. Pipe shall not be stored on-site for periods greater than 3 months or as approved by the LWC Inspector and Project Manager.
20. Pipe shall be stored and stacked per the pipe supplier's guidelines and as approved by the LWC Inspector and Project Manager.

BACKFILLING PROCEDURES AND TAMPING

21. When under the *pavement in state right-of-way*, the final backfill material shall be selected, placed and compacted in accordance with section 7 of the LWC Technical Specifications and Standard Drawing No. 4000 – State of Kentucky Backfill and Paving Restoration.
22. When under *pavement other than state right-of-way*, (side streets, driveways, and entrances), the final backfill material shall be selected, placed and compacted in accordance with section 7 of the LWC Technical Specifications and Standard Drawing No. 4100 – Louisville and Jefferson County Metro Backfill and Paving Restoration.
23. If septic system / lateral field is encountered, contractor shall put 6 inches of compacted DGA on all sides of pipe for a distance of 5 feet on each side of line encountered.

PLACING WATER MAIN IN SERVICE

24. All new ductile iron and PVC pipe installations longer than 50 feet shall be pig cleaned. Ductile iron and PVC pipe sections shorter than 50 feet in length may require pig cleaning at the direction of the LWC Construction Inspector. Pigs shall be used one time and discarded.
25. A chlorine injection system shall be used to fill the new main. The LWC Construction Inspector will provide the equipment needed to inject the chlorine-based solution into the main. The Contractor shall assist the LWC Construction Inspector with the connection of hoses and the operation of valves.

CUSTOMER SERVICES

26. The renewal of 5/8" services shall include the upsizing of the service to 3/4".
27. The contractor shall review the proposed private/public service lines as shown on the plans prior to bidding. The contractor is responsible for relocating the customer's service line (the line from the main to the meter and the line from the meter to the right of way or property line. The contractor shall coordinate each relocated service with the property owner and obtain property owners approval prior to any construction outside of the right-of-way. The property shall be restored to the satisfaction of the property owner.
28. Prior to beginning any work that requires a shut-down of the main or individual services, the Contractor shall make a thorough evaluation of each service connection and meter vault within the limits of the shut-down. Discrepancies between the field conditions and the Project Plans shall be discussed with the LWC Construction Inspector.

29. The use of copper couplings under paved areas shall be avoided. In situations where the new main is located on the opposite side of the roadway from the existing main or where the new main is located in the roadway and more than two feet from the existing main, "long" service transfers shall be completed by advancing a new service line from the new main to the meter vault.
30. The type, size and condition of the existing customer service at the property line shall be verified before completing the service reconnection. Where lead is encountered at the property line and an existing property connection is not found, the Contractor shall extend the service excavation up to three (3) feet behind the property line to remove additional lead and to search for an existing property connection. The service reconnection shall then be completed at the three-foot distance, or less, if an existing property connection is encountered.
31. During lead service renewals, meter vault frames and covers that have the old style "1/4-Turn" or "J-Hook" locking mechanisms shall be replaced with new frames and covers. Additionally, where covers are broken or inoperable the covers and frames shall be replaced. The removed frame and cover shall be returned to LWC for proper disposal.

WORK SCHEDULE

32. A 'Staging 'Plan' for how the work is to proceed is to be presented by the contractor at the Preconstruction meeting. Staging of the work should try to minimize the time between installing the new main and working on or removing the existing water main so that the time between the restorations of the two events is minimized.
33. Normal work hours shall be limited to work hours approved by KYTC. All other work hour requests must be submitted by the contractor to the approving agency for approval after standard applications have been made and approved.
34. The Contractor shall anticipate the need to work after-hours and on weekends to accommodate all critical customer needs as directed by the LWC Project Manager. In addition, after-hour or weekend work may be needed to shut down transmission mains or to connect to a tank. All such work will be considered incidental to the project and no additional compensation will be provided. This after-hour work must be pre-approved by the LWC Project Manager.
35. In the case of an emergency, the Contractor shall immediately notify the LWC Construction Inspector. If the contractor can not reach the inspector, then they shall immediately notify the Radio Room or Project Manager. Prior to the actual shut-off, an attempt shall also be made to contact each customer (door-to-door) to alert customers of the emergency situation and the need to shut-off the main.

EROSION CONTROL MEASURES

36. An erosion control plan is required for this project. An erosion control plan shall be prepared by the contractor and submitted to LWC for review. The erosion control plan shall be submitted by the contractor to the respective agencies upon request of LWC. The contractor is responsible for maintaining all erosion control measures within the project limits in accordance with the latest MSD, Louisville Metro and LWC specifications. The contractor is responsible for making all erosion control modifications within the project limits required by MSD, Louisville Metro, LWC, or any other permitting authority at no additional cost to LWC. The contractor is responsible to rectify any disputes that may arise due to inadequate erosion control measures as determined by MSD, Louisville Metro, LWC, or any other permitting authority.
37. As a minimum, erosion control features shall be provided at catch basins, headwalls and in small ditches where associated construction procedures may cause the transport of sediment into the storm drainage system. When soil is disturbed within grassy areas, erosion control protection shall also be provided at yard drains. Care will be required to minimize stockpiling or placing backfill or excavated materials on roadways.

PIPELINE CONSTRUCTION

38. Prior to the start of any work at the site (including saw-cutting), the Contractor and LWC Construction Inspector shall review the proposed pipeline alignment with respect to the utility locations marked by the local utility locate company, trees, and other existing site improvements.
39. Standard burial depth for new water mains is 42 inches, as measured from the top of ground to the top of the newly installed pipe. While the Contractor is expected to adhere to this standard burial depth requirement at all times, it is understood that revisions to the burial depth will be necessary when the installation of mains and large services conflict with existing utilities and other site improvements. Prior approval from the LWC Project Manager is required for these deviations.
40. The type, size and condition of the existing pipe shall be verified prior to completing tie-ins. When the existing pipe is other than indicated on the Project Plans, the LWC Construction Inspector or LWC Project Manager shall be contacted immediately to assess the need for revising the tie-in location. The Contractor shall be compensated in accordance with the supplementary unit prices for any additional pipeline installed to revise the tie-in location.

41. All tree root systems that require boring shall be bored a minimum of 30 feet; 15 feet either side of the tree trunk. The bore shall be located a minimum of 4 feet below the ground surface and a minimum of 5 feet from the center of the tree.

RESTORATION

42. Unless otherwise noted on the Project Plans, surface restoration of grassy areas shall consist of seed and straw. The seed type used shall match the existing grass. Reseeded areas that are located within ditches or on other sloped ground shall be covered with erosion control netting secured with pins or stakes. As an alternative, the Contractor may utilize prefabricated matting containing mulch, seed, and fertilizer.
43. All driveways requiring replacement shall be restored in the following manner: (1) concrete driveways shall be replaced in their entirety to the nearest construction joint and (2) asphalt driveways shall be restored via a utility cut, as approved by the inspector and property owner.

POST CONSTRUCTION

44. All in-line and service valves installed and/or operated during the completion of this project shall be inspected after construction to verify that all valves used by the Contractor are left in the proper operating position. Unless otherwise noted, or directed, all gates shall be left open.

WARRANTY

45. The Contractor warrants to the Company that materials and equipment furnished by the Contractor under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Company, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
46. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of the Contractor's obligation to perform the work in accordance with the Contract Documents:
 1. Observations by the Project Manager;
 2. Payment by the Company;

3. Issuance of a certificate of Substantial Completion;
 4. Use or occupancy of any part of the Work by the Company;
 5. Review of Shop Drawings or other Submittals;
 6. Any inspection, test, or approval by others; or
 7. Any correction of defective Work by the Company.
47. Failure on the part of the Company to insist on strict performance by the Contractor of any provision of this Contract is not a waiver of any of the Company's rights and/or remedies, nor shall it relieve the Contractor from performing any subsequent obligations strictly in accordance with the terms of this Contract.
48. The Company may, at its option, waive compliance with any particular Contract requirement. No waiver shall be effective unless in writing and signed by both the Company and the Contractor. Written waivers shall be limited to the specified provisions of this Contract specifically referred to herein, and shall not be deemed a waiver of any other provision. The written waiver shall not constitute a continuing waiver unless it states otherwise.
49. All work shall be warranted for two (2) years from the date of Final Completion unless specified otherwise. Paved surfaces and restoration of structures will be warranted for five (5) years. Contractor-furnished iron pipe materials shall be warranted for five (5) years after the iron pipeline is placed in service. Satisfactory performance of the iron water main and appurtenances, as they relate to installation, shall be warranted for two (2) years after the iron pipeline is placed in service. The Company reserves the right to require Contractor's presence at scheduled Warranty inspections held within the 12-month period following acceptance of the Project.
50. Contractor shall assign to the Company all manufacturers' warranties. All such warranties shall be directly enforceable by the Company. Such assignment shall in no way affect the Contractor's responsibilities and duties during the warranty period.



Louisville Water

4” -20” Pipeline

Material Specification

March 2020

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03 21 00 - REINFORCEMENT BARS
SECTION 03 21 16
EPOXY-COATED REBAR ANCHORS

1. GENERAL

- A. Steel Reinforcing Bar Anchors shall conform to the requirements of ASTM A615 – Specification for Deformed and Plain Billet –Steel Bars for Concrete Reinforcement for Grade 60 reinforcing steel.
- B. Steel Reinforcing Bar Anchors shall be fusion bonded epoxy coated in accordance with ASTM A775 –Specification for Epoxy-Coated Reinforcing Steel Bars and the Concrete Reinforcing Steel Institute's Fusion Bonded Epoxy Coating Applicator Plant Certification Program. The fusion bonded epoxy coating shall show no evidence of separation from the bar and be free from holes, voids, contamination, cracks or other damaged areas.

2. PRODUCTS

- A. Fabrication: Reinforcing steel shall be accurately formed to the dimensions and shapes shown on Louisville Water Company Standard Drawing #5006. Standard Hooks (180° degrees) shall be bent around a pin having a diameter of 3 inches (3") for No.4 bars; 4.5 inches (4.5") for No.6 bars; 6 inches (6") for No. 8 bars; and 10.75 inches (10.75") for No. 10 bars. Bars shall be bent cold.
- B. Fabrication Tolerances:
 - 1. Sheared Length: +/- One inch (1")
 - 2. Bend Dimensions:
 - 3. +/-One Half inch (1/2") for #4 Bar Size.
 - 4. +/-One inch (1") for Larger than #4 Bar Size.
- C. Reinforcing Steel shall be rejected if the extent of the epoxy coating damage exceeds 1% of the surface area in any one-foot length.
- D. The proposed contractor(s) shall provide certification stating that the reinforcing steel and epoxy coating conform to the requirements of ASTM A615 and/or ASTM A775 Standards (latest editions) upon request by LWC.

**SECTION 04 22 00
CONCRETE UNIT MASONRY**

1. GENERAL

- A. Provision of concrete blocks for supporting fire hydrants and temporary support of gate valves.
- B. Related work:
 - a. Fire hydrants and gate valves
- C. Submittals:
 - a. Submit manufacture's information showing the concrete block type, dimensions and compliance with ASTM C90.

2. PRODUCTS

- A. The concrete blocks shall be new, 4" x 8" x 16" solid concrete block, with actual dimensions of 3.625" x 7.625" x 15.625".
- B. The solid concrete block shall comply with ASTM C90 for normal weight load bearing concrete masonry units. The solid concrete block shall have a minimum weight of 31.25 lbs. and have a minimum compressive strength of 1,900 psi.

3. MANUFACTURERS

- A. The concrete block shall be as supplied by Lowes Home Improvement or approved equal.

22 11 00 FACILITY WATER DISTRIBUTION
SECTION 22 11 16.02
BRASS FITTINGS AND VALVES

1. GENERAL

- A. All items shall comply with applicable provisions of the AWWA C800 section 4 "material shall comply with the requirements of the Safe Drinking Water Act standards currently in effect for no lead brass". Louisville Water Company reserves the right to require the contractor to supply an affidavit from the manufacturer stating that the products provided comply.

2. PRODUCTS

- A. Contractor shall provide installation instructions with all couplings and valves and will be required to provide to the Inspectors.
- B. All items that the Louisville Water Company rejects as not conforming to standards shall be returned to the Contractor at the expense of the Contractor. If the items are found to be defective, they shall be replaced with like items at the Contractor's expense.
- C. Valves and fittings shall be complete and ready to install when shipped. The Contractor shall use care in preparing them for shipment to avoid damage during handling or transit. Damaged items will be returned at contractor's expense.
- D. Corporation stops shall be suitable for both dry and wet tapped connections on PVC and ductile iron water mains.
- E. All fittings in the Bidders Proposal Sheet described as "compression" style, shall be manufactured with a stainless steel gripper ring. The gripper ring shall be molded into the gasket and is drawn down when the nut is tightened, providing a mechanical restraint and hydraulic seal. In addition, the interior portion of the nut must have a transparent fluorocarbon coating that provides smooth torque transfer.
- F. Items 2050006 & 2050007 height must not exceed 7 *W'* from bottom of inlet to the top of the stop.

3. MANUFACTURERS

- A. Prequalified manufacturers of brass fittings and valves are (or approved equal):

Mueller	Trenton Pipe
Ford Meter Box	Merit Brass
A Y McDonald	Lee Brass
Cambridge Brass	Milwaukee
Watts	Kitz

**26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL
SECTION 26 05 19
LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES**

1. GENERAL

- A. Provision of tracing wire for locating buried PVC pipe.
- B. Related work:
 - a. PVC pipe, Asbestos Cement (AC) pipe, gate valves and key tubes
- C. Submittals:
 - a. Submit manufacture's information showing the tracer wire type, AWG size, insulation color and materials composition and wire materials of construction.

2. PRODUCTS

- A. Tracer wire shall be new, 12 AWG solid THHN copper conductor.
- B. The wire shall be covered with PVC insulation over which a nylon (polyamide) jacket is applied and rated for 600 volts. The insulation and jacket shall be RoHS compliant and utilize virgin grade material.
- C. The insulation color shall be blue for water service to match the APWA color code standard for identification of buried utilities.

3. MANUFACTURERS

- A. The tracer wire shall be Pro-Line Safety Products or approved equal.

**31 25 00 – EROSION & SEDIMENTATION CONTROLS
SECTION 31 25 14.16
ROLLED EROSION CONTROL MATS AND BLANKETS**

1. GENERAL

- A. Provision of geotextile filter fabric for lining of fire hydrant drainage pits.
- B. Related work:
 - 1. Fire Hydrants
- C. Submittals
 - 2. Submit manufacture’s information showing the geotextile fabric type, weight, color and materials of construction.

2. PRODUCTS

- A. The geotextile fabric shall be #200 spun bond polypropylene (i.e., 2 ounces per square yard or 67.7 grams per square meter) with the following characteristics:

Test		ASTM Method	Unit	Average	Minimum
Material weight			$\frac{g}{m^2}$	68	65.5
Tensile Grab	MD	D5034-09	lbs.	38.5	34.6
Grab Elongation	MD	D5034-09	%	118	106
Tensile Grab	CD	D5034-09	lbs.	34.4	31
Grab Elongation	CD	D5034-09	%	128	115.5

- B. The geotextile fabric shall be supplied in 48-inch x 48-inch sheets.

3. MANUFACTURERS

- A. Geotextile filter fabric shall be #200 polypropylene as manufactured by Ovasco Industries or approved equal.

**33 01 00 - OPERATION & MAINTENANCE OF UTILITIES
SECTION 33 01 10.54
CLEANING OF WATER UTILITY PIPING (POLY PIGS)**

1. GENERAL

- A. Provision of polyurethane foam pipeline cleaners for pigging of the water main prior to placing the main in-service.
- B. Related Work:
 - a. Ductile Iron Pipe and PVC Pipe, Ductile Iron Fittings, Gate Valves
- C. Submittals:
 - a. Submit manufacture’s information showing the pipeline cleaner type, diameter, density, length of nose and length of body, color and materials of construction.

2. PRODUCTS:

- A. Pipeline cleaners shall be new, of medium density (5-8 lbs./c.f.), flexible, and composed of an open cell urethane foam body with high resilience.
- B. The outer coating shall be composed of a tough urethane elastomer coating applied in crisscross bands to enhance cleaning and yield strong resistance to wear yet remain flexible to allow the cleaner to pass through fittings, bends, gate valves and other diameter reductions of up to 65% of the cross-section area of the nominal main.
- C. Pipeline cleaner shall be bullet shaped and have a nose on one end and be blunt on the other end and have crisscross bands and sized for the type of water main being cleaned.
- D. Pipeline cleaners shall be color coded for the type of service intended and for easy identification, e.g., blue for PVC pipeline cleaners and red for ductile iron pipeline cleaners.
- E. The materials that compose the pipeline cleaner shall be food grade compatible.
- F. Pipeline cleaners must have an outside diameter based on the type and size of main to be pigged, in accordance with Table 1 for DR 18 PVC pipe and Table 2 for Pressure Class 350 Ductile Iron pipe.

Table 1- Poly Pig Sizes for DR 18 PVC Pipe

Nominal Pipe Size, in.	AWWA C900 DR 18 PVC I.D, in.	Poly Pig Size, in.
4	4.27	4.55
6	6.13	6.35
8	8.04	8.3
12	11.73	12.05

Table 2- Poly Pig Sizes for PC 350 Ductile Iron Pipe

Nominal Pipe Size, in.	Pressure Class 350 Ductile Iron Pipe I.D, in.	Poly Pig Size, in.
4	4.3	4.55
6	6.4	6.65
8	8.55	8.85
12	12.64	13.05
16	16.72	17.10
20	20.84	21.35

3. MANUFACTURERS

- A. Pipeline cleaners shall be Municipal Series Model B4 for DR 18 PVC pipe and Model RX-4 for Ductile Iron pipe as manufactured by Pipeline Pigging Products, Incorporated or approved equal.

33 05 00 – COMMON WORK RESULTS FOR UTILITIES
SECTION 33 05 07.24
STEEL CASING PIPE

1. GENERAL

- A. The Casing Pipe shall be shipped on flatbed trucks with end bulkheads on the truck and shall be banded together in a maximum of one layer. Each bundle shall not exceed six lengths of pipe. A non-construction grade 4 x 4 timber shall be placed between each layer and/or bundle. Each 4 x 4 timber shall contain a wood chock at the end of the 4 x 4 placed firmly against the pipe. The wood chock shall be 3 ½ x 3 ½ x 3 ½ triangular in shape.

2. PRODUCTS

- A. The material shall conform to the chemical and mechanical requirements of the latest revision of ASTM A 139 “Electric-Fusion (ARC) Welded Steel Pipe” (NPS 4 and over), unless otherwise stated herein.
- B. The pipe furnished shall be grade B. The steel shall be new and previously unused.
- C. Hydrostatic testing shall not be necessary.
- D. All pipe lengths shall be 20 feet, + or – ½ inch, and shall be beveled at one end (for field welding of circumferential joints) and shall be plain right angle cut at the other end. All burrs at the end of the pipe shall be removed.
- E. The wall thickness at any point shall be within 12.5% of the thickness specified in the “Louisville Water Company Technical Specifications and Standard Drawings for Pipeline Construction 2008”.
- F. Circumference- The outside circumference of the pipe shall not vary more than + or – 1% but not exceeding + or – 3/4” from the nominal outside circumference.
- G. Ovality (Out-of-Roundness) - The pipe diameter within 4.0 in. of ends, shall not vary more than 1% from the specified diameter.
- H. Straightness- All pipe lengths shall be 20-foot in length unless approved by the Project Manager.
- I. All ID obstructions (bead welds, slags, etc.) shall not extend more than 3.32” from the ID face.

**SECTION 33 05 07.24.01
CASING SPACERS**

1. GENERAL

- A. Casing Spacers shall be utilized to protect pipe from damage caused by being pulled through metal casing pipe and to prevent the bells from sliding and resting on the casing pipe. Refer to "Louisville Water Company Technical Specifications and Standard Drawings for Pipeline Construction 2008" Drawing 1500, Steel Casing Pipe and Casing Runners.

2. PRODUCTS

- A. Casing spacers shall provide projections around the entire circumference of the carrier pipe.
- B. Casing spacers shall be in segments for field assembly, without the need for special tools.
- C. Spacer segments shall be secured around the carrier pipe by means other than adhesives.
- D. If Casing spacers contain polymers, the polymer shall contain ultraviolet inhibitors.
- E. Casing spacers shall have a minimum compressive strength of 3000 psi.
- F. Casing spacers shall have impact strength of 1.5 ft-lbs./inch.
- G. Casing spacers shall have a dielectric strength of 800 volts/mil.
- H. Each casing spacer shall have full length, integral skids with a minimum bandwidth of 5" and a runner height of 1.95" – 2.2" for a carrier pipe diameter of 4" through 14".
- I. Each casing spacer shall have full length, integral skids, with a minimum bandwidth of 8" and a runner height of 1.95" – 2.2" for a carrier pipe diameter of 16" through 30".
- J. Casing spacers may utilize varying numbers of same size segments to comprise a wrap, around the entire circumference of the carrier pipe.

3. MANUFACTURERS

- A. Prequalified manufacturer are APS, GPT Ranger II, or approved equal.

**SECTION 33 05 09.43
TAPPING SADDLES**

1. GENERAL

- A. The Louisville Water Company has both PVC and Ductile Iron Pipe installed in the system. The Louisville Water Company has DR14 and DR18 PVC pipe that meets AWWA C900, “Standard for Polyvinyl Chloride (PVC) Pressure Pipe – 4” through 12” for Water.” Louisville Water Company infrastructure contains thickness class 54 and Pressure Class 350 Ductile Iron Pipe that meets AWWA C151. Water temperature inside the pipe will vary from 34° Fahrenheit to 90° Fahrenheit. Water pressure rating for pipe shall be: 305 PSI for DR14 PVC Pipe; 350 PSI for Ductile Iron Pipe and 235 PSI for DR18 PVC Pipe. Saddles must withstand the aforementioned service conditions.

2. PRODUCTS

- A. Materials received damaged will be returned at contractor’s expense.
- B. The straps for PVC Pipe shall be constructed of type #304 stainless steel or better and flattened to provide a wide bearing surface against the pipe. All saddles shall provide a minimum of two inches total width along the pipe’s axis for taps up to one inch in size. Taps 1 ¼” through 2” shall have a minimum of three inches total band width with full circumferential support.
- C. Service Saddles for Ductile Iron Pipe must be constructed with dual bronze straps and having 4 bolts attached with brass unitized nuts and washers in accordance with AWWA C800 & M23. Nuts shall be brass alloy per ASTM B62 and AWWA C800.
- D. The body shall be cast from certified 85-5-5-5 water works brass conforming to the latest edition of ASTM B-62 and AWWA C800.
- E. The rubber gasket shall be EPDM rubber or better and shall conform to the pipe surface and bonded in place for easy installation.

3. MANUFACTURERS

- A. Provided below is a list of prequalified manufacturers for PVC Pipe and Ductile Iron Pipe (or approved equal):

Pre-qualified Manufacturers	PVC Pipe	Ductile Iron Pipe
A.Y. McDonald	3845	3825
Ford Style	202BS	202B
Mueller	BR2S	BR2B
SmithBlair	325’S	325’S

**SECTION 33 05 09.44
TAPPING SLEEVE & GATE VALVE**

1. PRODUCTS

A. TAPPING SLEEVE

1. Tapping Sleeve shall meet the requirements of AWWA C223 and AWWA C500/C509 as applicable to the type of valve specified.
2. Tapping sleeve shall be a high-pressure full circumference band with a flanged (FLG) outlet. Sleeves shall have a rated minimum working pressure of 200 PSI up to and including 10-inch outlets.
3. Sleeve bodies and branches shall be 18-8 stainless steel type 304 per ASTM A240 and fully passivated for maximum corrosion protection. FLG outlets shall be the same stainless steel or ductile iron and joined to the body as one unit.
4. The branch shall contain a 3/4-inch NPT bronze or stainless steel test plug located at the 12 o'clock position, based on length of sleeve (top of sleeve) for release of air during installation and to allow for hydrostatic testing.
5. Gaskets shall provide a full circumferential seal around the body and a hydro-mechanical seal at the outlet seal and be compounded for use with potable water and shall meet or exceed the most recent edition of ASTM D2000.
6. Bolts, heavy hex nuts and washers shall be 18-8 stainless steel type 304 and treated to prevent galling.
7. Sleeves shall be delivered complete with gaskets & accessories. Sleeves must be tagged and marked indicating the size & O.D. ranges.

B. GATE VALVE

1. General Requirements:
 - i. Unless otherwise specified below, these requirements shall apply to all gate valves.
 - ii. Gate valves shall meet the requirements of AWWA C500 and AWWA C509 as applicable to the type of valve specified.
 - iii. Buried and submerged valves shall be furnished with mechanical joints and stainless steel hardware, non-rising stem design.
 - iv. Exposed valves shall be furnished with Class 250 flanged ends; provide valves outside screw and yoke. Exposed valves 16-inch and larger shall be furnished with a valve bypass.
 - v. The valve body, bonnet, and gate castings shall be constructed of ductile iron, and shall have full shell thickness according to AWWA C509, Table 2, Section 4.4.
 - vi. Rising stem valves shall be sealed with adjustable and replaceable packing; valve design must permit packing replacement under operating system pressures with only moderate leakage.
 - vii. Non-rising stem valves shall use double O-ring stem seal, except that packing shall be used where gear operators are required.

- viii. Except as otherwise specified, valves shall be rated for the following working water pressures:

Valve Size	Pressure (psig)
3-inch to 20-inch	250

- ix. All valve bodies shall be hydrostatically tested to at least twice the rated working water pressure. In addition, valves shall be seat-tested, bi-directional at the rated working pressure, with a bubble tight seal. Provide certification of testing.
- x. Flanged valves to have face-to-face dimensions per ANSI C115.
- xi. All bonnet and packing gland bolts shall be zinc or cadmium electroplated steel; packing gland bolts shall have bronze nuts.
- xii. All valves shall be marked per AWWA Standards, including name of manufacturer, valve size and working pressure, and year of manufacture.
- xiii. Valve operation shall be open right (turning clockwise). Provide permanent label showing “OPEN” and arrows.
- xiv. Valves shall be suitable for potable water service.
- xv. Gate Valves shall be Type V134 resilient seated ductile iron gate valves manufactured by Mueller, American Flow Control, or equal.
- xvi. Internal and external epoxy of valve body, including bonnet, per AWWA C550.
- xvii. Gate shall be encapsulated with synthetic rubber. It shall be bonded and vulcanized in accordance with ASTM D429 Method B.
- xviii. No recesses in valve body.
- xix. Valves shall be installed as shown on the PROJECT DRAWINGS.

2. Buried Valve Requirements

- i. Buried valves shall conform to the requirements above, except mechanical joint bell ends per AWWA C111. All exposed valve hardware (nuts, bolts, washers, etc.) including bonnet, bonnet cover, stuffing box, gear adapter, and joints shall be Type 304 stainless steel.
- ii. Stem shall be non-rising design, double O-ring seals for non-gear valves and shall incorporate packing for geared valves.
- iii. Valve shall be provided with valve box, 2-inch operating nut and extension stem and stem cover, and tee handled valve wrenches.
- iv. All valves that have mechanical joint ends shall have MJ coupled restraint joints.

**SECTION 33 05 19
DUCTILE IRON PIPE**

1. GENERAL

A. Pipe shall be ductile iron and shall be manufactured in accordance with the latest edition of AWWA C150 and C151 and AWWA/ANSI C104/A21.4-Standard for Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-lined Molds, for the water distribution system of the Louisville Water Company. Water temperature inside the pipe will vary from approximately 34° F to 84° F. All pipe shall be furnished with push-on joints as per the latest edition of AWWA/ANSI C151/A21.51, Sec. 51.2.6.

2. PRODUCTS

A. METAL THICKNESS REQUIRED FOR DUCTILE IRON PIPE

Size	Rated Working Pressure (Meet or Exceed)	Nominal Metal Thickness
4"	350	0.25"
6"	350	0.25"
8"	350	0.25"
10"	350	0.26"
12"	350	0.28"
14"	350	0.31"
16"	350	0.34"
20"	250	0.38"
24"	250	0.43"
30"	250	0.49"
36"	250	0.56"
48"	250	0.70"

B. SPECIFIC REQUIREMENTS

1. Certificate of Compliance: A certificate stating compliance with the latest edition of AWWA/ANSI C104/A21.4 shall be submitted with this bid. Records supporting compliance with the testing procedures and acceptance values established in the standard shall be made available upon request.
2. Louisville Water Company reserves the right to have either independent testing or its own employee evaluation present during production to verify compliance to applicable AWWA standards.
3. Coating: Pipe shall have an outside asphaltic coating approximately 1 mil thick. The finished coating shall be continuous, smooth, neither brittle when cold nor sticky when exposed to the sun and strongly adherent of the pipe. The inside shall be lined with cement mortar lining and seal coated in accordance with the latest edition of AWWA/ANSI C104/A21.4 – Standard for Cement-Mortar Linings for Ductile Iron Pipe and fittings for Water. Thickness of the cement lining shall not be less than 1/6 inch for 3 to 12 inch pipe, 3/32 inch for 14 to 24 inch pipe and 1/8 inch for 30 to 48 inch pipe. Special attention is directed to strict observance of the requirements in AWWA Standard C104, 4.11, relating to characteristic of asphaltic seal as to

deleterious effects upon quality, color, taste or odor imparted to potable water, leaching resistance and limit of toxic substances.

4. Joints:
 - A. Mechanical and Push-On: Mechanical and push-on joints including accessories shall conform to ANSI/AWWA C111/A21.11.
 - B. Restrained: When restrained joints are required, they shall be boltless push-on type. Boltless restrained joints shall be either U.S. Pipe and Foundry “TR Flex”, American Ductile Iron Pipe “Flex-Ring”, or equal. Restrained joint pipe shall be furnished with a factory welded retaining ring. The use of field installed retaining rings such as “Gripper Rings” and “Field Lock Gaskets” will be permitted for 12” and smaller ductile iron water main only.
5. Marking Pipe: Each length of pipe shall be clearly marked by the manufacturer identifying the name of the manufacturer, year of manufacture, identified as being ductile iron, new weight without lining, pressure rating, metal thickness or nominal thickness, casting period and nominal length of pipe.
6. Type and Class: Pipe shall be of nominal 18 ft. or 20 ft. laying lengths as per the latest edition of AWWA/ANSI C151/A21.51, free of surface defects, especially pitting, with push-on type joints and shall be furnished complete with standard rubber o-ring gaskets meeting the latest edition of AWWA/ANSI C111/A21.11- Standard for Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.

3. MANUFACTURERS

- A. Past accepted or used Manufacturers (or Approved Equal):

US Pipe	McWane
Griffin Pipe	Clow
American Ductile Iron	
7. All others shall submit technical specifications and affidavit of compliance that the pipe meets AWWA specifications as listed and all other Louisville Water Company specifications listed herein.

**SECTION 33 05 19.01
POLYWRAP FOR WRAPPING DUCTILE IRON**

1. GENERAL

A. POLYETHYLENE WRAP

1. All material supplied shall be free from defects in material and workmanship and shall meet standards as stated in this specification.
2. All polyethylene wrap shall be linear low density, 8 mil thick, Tube-Type.
3. Wrap shall be furnished in rolls appropriate to the project (no scrap pieces), non-perforated.
4. Wrap shall be tinted PMS color 299-C or LWC approved tinted blue color.
5. Product shall be in conformance with the latest edition of AWWA Standard C105/A21.5.
6. Film shall be manufactured of virgin polyethylene materials.
7. A certificate of compliance to all AWWA C105/A21.5 requirements shall be provided by the manufacturer.
8. Approved manufacturers are Hamilton Plastics, Christy's, Champion Plastics, and AA Thread.

**SECTION 33 05 19.02
POLYTAPE FOR WRAPPING DUCTILE IRON**

1. GENERAL

A. POLYETHYLENE TAPE

1. All material supplied shall be free from defects in material and workmanship and shall meet standards as stated in this specification.
2. The material shall have a polyethylene film backing with the following performance characteristics.
 - (1) Minimum thickness shall be 7 mils.
 - (2) Minimum tensile strength shall be 20 lbs/inch per ASTM D-1000.
 - (3) Adhesion to steel shall be a minimum of 25 oz/inch per PSTC-101.
 - (4) Adhesion to backing shall be a minimum of 25 oz/inch per PSTC-101.
 - (5) Minimum operating temperature shall be no greater than 40 degrees Fahrenheit.
 - (6) Maximum operating temperature shall be no less than 180 degrees Fahrenheit.
3. Tape shall be minimum 1.89 inches in width and yellow in color.
4. Tape shall be Polyken 809 as manufactured by Berry Global Inc. or equal.

SECTION 33 05 31.16
PVC PIPE

1. GENERAL

- A. The pipe supplied shall be Polyvinyl Chloride Pipe, cast iron O.D. base design, blue in color and manufactured in accordance with the latest edition of ANSI/AWWA C900, "AWWA standard for underground installation of Polyvinyl Chloride (PVC) Pressure Pipe and fabricated fittings, 4" through 12" for water distribution." This pipe is intended for use as municipal water pipe in the potable water distribution system of Louisville Water Company.

2. PRODUCTS

A. Certifications:

1. The manufacturer of the pipe furnished under these specifications must be listed by the Underwriters Laboratory, be approved by the Factory Mutual System and in compliance with the National Sanitation Foundation (NSF) standard number 61.
2. Certification of compliance with the latest edition of AWWA C900 with the testing procedures and acceptance values established in the standard shall be made available upon request. Each length of pipe, including the integral bell, shall be pressure tested to two times the AWWA rated pressure for a minimum of five (5) seconds.
3. Louisville Water Company reserves the right to have independent testing or an its own representative evaluation present during production to verify compliance to referenced AWWA standards.

B. Type and Class:

1. Pipe shall be of nominal 20' laying lengths. Exclusions are taken to the AWWA allowance of random lengths, length variance shall be ± 1 inch. Pipe shall have gasket bell end type joints and shall be furnished complete with gaskets in place, meeting the latest revision to ASTM F477, "Elastomeric Seals for Joining Plastic Pipe".

C. Markings:

1. Pipe shall bear identification markings that will remain legible during normal handling, storage, and installation. The markings shall be prescribed by AWWA Standards applied in a manner that will not reduce the strength of the pipe or otherwise damage it. The tapered end of the pipe shall have a fully-seated line encircling its circumference. Additional markings on the pipe shall include the following and shall be applied at intervals of not more than five feet:
 - a. Nominal size (for example, 4 in.)
 - b. PVC
 - c. Dimension Ratio (DR)
 - d. AWWA pressure class
 - e. AWWA designation number for this standard
 - f. Manufacture's name or trademark and production record code, including year of manufacture
 - g. Seal (mark) of the testing agency that verified the suitability of the pipe material for potable water service.

D. Bevel Requirements:

1. Factory-finished spigot ends must have a minimum level of 15 degrees to a maximum bevel of 22.5 degrees. The vertical face of the spigot end may not exceed 75% of pipe wall thickness and the horizontal length of the bevel shall not exceed 1.25".

3. MANUFACTURERS

A. PVC water main shall be manufactured by (or approved equal):

North American	Certainteed
Sanderson	Diamond Plastics Royal
Vulcan	National Pipe
Vinylplex	

SECTION 33 05 31.26
SERVICE SLEEVES

1. GENERAL

- A. Provision of SERVICE SLEEVE for installing water service line 2-inch and smaller.
Service sleeve shall be used as a casing pipe installed prior to the installation of paved roads for the future service line (carrier pipe).

2. PRODUCTS

- A. Service sleeve shall be new Schedule 40 PVC pipe with a minimum 2-inch inside diameter.
- B. Schedule 40 PVC pipe shall be made in accordance to ASTM 1785 and ASTM 2466.
- C. Schedule 40 PVC pipe shall be gray in color.
- D. Schedule 40 PVC pipe shall be IPS.
- E. Schedule 40 PVC pipe shall be supplied in 20-ft length

**SECTION 33 05 73
VALVE BOXES, LIDS, & RISERS**

1. PRODUCTS

A. LWC Valve Boxes

- i. LWC Valve boxes are a unit and shall be delivered as a valve box set.
- ii. The units must conform to the enclosed drawings.
- iii. Contractor will be required to create molds for the valve boxes.
- iv. The casting shall be cast iron conforming to the latest editions of ANSI/AWWA A21.10/C110; ASTM 126, Class B; or ASTM A48, Class 30.
- v. The casting shall be uniform, smooth and free of burrs, spurs and cracks.
- vi. The thickness and dimensions shall conform to the attached drawings.
- vii. The coating for general use under normal conditions shall be a petroleum-asphaltic coating approximately 1 mil thick. The coating shall be applied to the entire external portions of the unit.
- viii. The finished coating shall be continuous, smooth, neither brittle when cold nor sticky when exposed to the sun and strongly adherent to the casting.
- ix. The weight of each complete unit shall be a minimum of seventy (70) pounds.
- x. Drawings are included in the bid package for clarification and measurement purposes. All units must conform to the enclosed drawings.

B. County 5 1/4-inch Valve Box Lids & Risers

- i. The Lids and Risers furnished under this bid must be interchangeable with the Tyler Union
- ii. Two Piece 5 1/4" shaft valve boxes marked "Water".
- iii. The casting shall be cast iron conforming to the latest editions of ANSI/AWWA A21.10/C110; ASTM 126, Class B; or ASTM A48, Class 30.
- iv. The casting shall be uniform, smooth and free of burrs, spurs and cracks.
- v. The coating for general use under normal conditions shall be a petroleum-asphaltic coating approximately 1 mil thick. The coating shall be applied to the entire external portions of the unit.
- vi. The finished coating shall be continuous, smooth, neither brittle when cold nor sticky when exposed to the sun and strongly adherent to the casting.

2. MANUFACTURERS

- A. Preapproved manufacturers for LWC Valve Boxes are Sigma Corporation, Russell Pipe or General Foundries.
- B. Preapproved manufacturers for County 5 1/4" Valve Box Lids & Risers are Sigma Corporation, Russell Pipe, Star Pipe, Tyler Union or General Foundries.

**SECTION 33 05 73.01
PLASTIC METER VAULTS & EXTENSION RINGS**

1. PRODUCTS

- A. Meter vaults and elevator rings shall be designed to support a vertical 20,000 pound axial load equally distributed around the rim while freestanding (without horizontal support) on a flat surface with a maximum deflection of less than or equal to 0.5 inches.
- B. The vaults shall be designed to a minimum pipe stiffness of four (4) PSI. The pipe stiffness shall be tested in accordance with ASTM D2412.
- C. Meter vaults shall not develop environmental stress cracking or be subject to deformation, sagging, or degradation in any manner while in storage or in underground applications.
- D. Meter vaults shall be resistant to moisture and both acid and alkaline conditions.
- E. Meter vaults shall be suitable to be stored outside and withstand ultra violet (U.V.) radiation and all weather conditions with temperatures ranging from -30° (degrees) to 140° (degrees) Fahrenheit.
- F. The small meter vault weight shall not exceed 50 lbs. and the large meter vault weight shall not exceed 80 lbs. Meter vaults shall not be corrugated.
- G. The small meter vault shall have an inside diameter range of 19.50” to 20.30” at the top of the vault and shall be 19.0” on the bottom of the vault.
- H. The large meter vault shall have an inside diameter range of 35.50” to 36.25”.
- I. Manufacturer’s data showing inside diameter, outside diameter, length, pipe stiffness (testing according to ASTM D2412), section modules, vertical load carried at 0.25 inch deflection of pipe shall be provided upon request. Certified test data showing compliance with the strength requirements of this specification shall be provided upon request.
- J. The interior surface area shall be of white color for reflective purposes.
- K. There shall be 2 mouse holes measuring 3” wide X 4” tall 180 degrees opposite each other at bottom of vault.
- L. Elevator rings must be compatible with the manufacturer’s own vault and with pre-qualified manufacturer’s vaults listed.
- M. Sizes of elevator rings for the 20 x 36 vault shall be 4”, 6”, 8”. A 22-degree sloped model shall also be provided. The size provided for the 36 x 36 vault shall be 3”.
- N. Average Thermal Resistance “R” per specimen thickness shall be no less than 0.150 (Hr.ft².degF)/BTU.

2. MANUFACTURERS

- A. The following are Pre-qualified:
 - i. Oldcastle Precast: Item #00202032, body HW0020-36 Blk/Wht, 2MH, SW, LVILLE
 - ii. Oldcastle Precast: Item #00362003 0036-36 B Body B-W 2 MsHI
 - iii. Bingham & Taylor: Item # MMP2036 – Diameter 20-inch, Depth 36-inch
 - iv. Bingham & Taylor: Item # PMP3636 – Diameter 36-inch, Depth 36-inch

**SECTION 33 05 73.02
METER SETTERS**

1. GENERAL

- A. The 1 1/2-inch and 2-inch Meter Setters with 1-inch bypass to be furnished shall be manufactured in accordance with these specifications and the standards of the water service industry for potable water service installation.
- B. The setter assemblies shall have dimensions in compliance with the attached drawings.
- C. These setters shall be utilized in the potable water distribution system of Louisville Water Company; water temperature will vary from 34 · F to 90 · F, with a maximum working water pressure of 125 psi.

2. PRODUCTS

A. General Assembly and Shipment

- 1. Copper Tubing: The copper tubing shall be soft copper, Type K in all sizes and shall conform to the latest edition of AWWA C800 A.2, ASTM B88 and B88M.
- 2. Fittings: The fittings shall be in accordance with the latest edition of AWWA C800 and ASTM B88 with joints as described in the attached drawing (see pages DR-1 and DR-2).
- 3. Solder connections shall be lead-free and suitable for standard copper tubing.
- 4. Threaded connections shall be standard iron pipe threads.
- 5. Meter flanges shall be standard 1 ½ and 2-inch with support brackets and contain either EPDM or better rubber gaskets with 5/8-inch holes in wings for meter bolts.
- 6. Meter assembly bottom support spreaders shall be copper.
- 7. Each setter shall be packaged complete with all components and gaskets and shall be partially assembled into the following components:

(1) 1½-INCH METER SETTER

- (a) Two (2) 90° ell with yoke bar and eye (1 1/2 -inch solder x 1 1/2 -inch male thread with female compression coupling)
- (b) Four (4) adapters (1 1/2 -inch solder x 1 1/2 -inch male thread or compression)
- (c) Two (2) tees (1 1/2—inch x 1 1/2-inch x 1-inch thread)
- (d) One (1) 1 1/2 -inch angle meter valve with padlock wings on inverted key and support brackets on meter flange (1 ½ female thread on 1 ½ meter flange).
- (e) One (1) 1 1/2 -inch angle check valve with support brackets on meter flange (1 1/2 -inch female thread on 1 1/2-inch meter flange).
- (f) Two (2) 1-inch angle meter valves on bypass with padlock wings on inverted key and a 1-inch meter coupling nut (1 -inch female thread x 1 -inch female thread).
- (g) Four (4) adapters on bypass (1-inch male thread x 1-inch solder).

(2) 2-INCH METER SETTER

- (a) Two (2) 90° ell with yoke bar and eye (2-inch solder x 2-inch male thread with female compression coupling).
- (b) Four (4) adapters (2-inch solder x 2-inch male thread or compression).
- (c) Two (2) tees (2-inch x 2-inch x 1-inch thread)
- (d) One (1) 2-inch angle meter valve with padlock wings on inverted key and support brackets on meter flange (female thread on meter flange).
- (e) One (1) 2-inch angle check valve with support brackets on meter flange (female thread on meter flange).

- (f) Two (2) 1-inch angle meter valves on bypass with padlock wings on inverted key and a 1-inch meter coupling nut (1-inch female thread x 1-inch female thread).
- (g) Four (4) adapters on bypass (1-inch male thread x 1-inch solder).

3. MANUFACTURERS

A. The following are pre-qualified models. All other models must be pre-approved by the Project Manager.

- 1. 1-1/2-inch Meter Setter
 - (1) Ford VFH 66
 - (2) A.Y. McDonald 20R621WDFE 664
 - (3) Mueller

- 2. 2-inch Meter Setter
 - (1) Ford VFH 77
 - (2) A.Y. McDonald 20R721WDFE 774
 - (3) Mueller

SECTION 33 05 73.03 PIPE REPAIR SLEEVES

1. GENERAL

- A. Stainless Steel Bands - Shall be of flexible stainless steel. Consist of one or more sections. Made of #304 stainless steel per ASTM A240, minimum 20 gauge. Bands shall have applicable outside diameter (O.D.) ranges adhered to the band in the form of a stamp or label, for easy identification.

2. PRODUCTS

- A. Lugs - Shall be made of high-strength ductile iron. Designed so there is no interference between lug fingers and wrench room used to tighten the nuts.
- B. Bolts and Nuts - Shall be #304 stainless steel with rolled NC threads and treated to prevent galling. Nuts shall be #304 stainless steel, heavy hexagon head.
- C. Bolt Length - On the 4, 6 and 8 inch sleeves, the center bolt shall be 1 ½ inch longer than the standard 6 7/8 inches (shall be minimum of 8 3/8 inch). On the larger sleeves, the center bolt shall be 2 inches longer than the standard 7 inches (shall be a minimum of 9 inches).
- D. Gaskets - Shall be engineered of a rubber compound suitable for potable water. Must be gridded and overlapping to ensure adequate seal. Must meet or exceed ASTM D2000. Must be free of excessive adhesive, which could interfere with the seal.
- E. Band Lengths - Sleeves 12 inch and smaller shall be single band not less than 12 inches in length, with a five (5) bolt lug pattern. Sleeves 16 inch shall be double band and not be less than fifteen (15) inches in length with a six (6) bolt lug pattern. Sleeves 20 inch and larger shall be double band not less than 24 inches in length, with a ten (10) bolt lug pattern.

SECTION 33 05 73.04
FRAMES, RISERS, AND MONITOR CASTINGS

1. GENERAL

- A. All castings for water meter vaults shall be iron-cast gray iron per ASTM A48, Class 25 or ductile iron with a minimum tensile strength of 25,000 pounds.
- B. All castings shall be painted with one coat of black asphaltic material, or electrostatically applied epoxy paint. The finished coating shall be continuous, smooth, neither brittle when cold nor sticky when exposed to the sun and shall be strongly adherent to the casting.
- C. Monitor castings shall consist of a flange and ring.
- D. Hooks, bolts, and nuts for elevator/ riser rings for J-hook style shall be brass or bronze and installed in the frames prior to delivery. Hooks must be capable of bending to a minimum deflection of 90 degrees in any direction without breaking or cracking.
- E. Hex-head bolts and nuts for risers shall be carbon steel and meet ASTM 325 Type 1.

2. PRODUCTS

A. Workmanship

- 1. Inside lip of the frame must be void free with a clean, uniform, smooth, machined like finish.
- 2. The surface of the casting shall be free of adhering sand, scale, cracks, and hot tears as determined by visual inspections.
- 3. No repairing by plugging and welding will be accepted.
- 4. All frames shall be smooth and free of burrs and sharp edges.

B. Dimensions

- 1. Dimensions shall be in accordance with the attached drawings 5102, 5103, 5103B, 5104, 5105, and 5106. A tolerance of 1/16" will be allowable on all physical dimensions except brass hook anchor hole with a 1/32" + only (not less) on risers.

C. Performance Standards

- 1. Small frames (light) must be interchangeable with Ford Meter Box Co., model C3.
- 2. Small frames (heavy) must be interchangeable with Ford Meter Box model C3H.
- 3. Risers furnished under this bid shall work with Ford Meter Box Co. small frames model C3, C3H, Meter Box Covers MC-36, and Bingham and Taylor's BTC-3 and BTC-3H.
- 4. Risers for monitor castings shall work with Ford Meter Box model RR-11.
- 5. Monitor rings must be interchangeable with Ford Meter Box model RR-11.
- 6. A minimum weight load capacity certification shall be provided from an independent engineering testing company (written in English). Materials shall be capable of withstanding a minimum weight load capacity in accordance with AASHTO M306 testing standards. The proof loads shall be 20,000 pounds for heavy frames, monitor castings, and elevator/riser rings and 7,500 pounds for light frames.
- 7. Failure to meet minimum proof loads listed will be cause for immediate rejection.

3. MANUFACTURES

A. The castings shall be from the following manufacturers or approved equal:

- Ford Meter Box
- General Foundries
- Bingham and Taylor
- Vestal Industries

SECTION 33 05 81 ALUMINUM HATCHES

1. PRODUCTS

- A. Hatch shall have an H-20 load capacity to handle vehicular traffic.
- B. Hatch channel frame and door panel must be made of 1/4" aluminum diamond plate.
- C. Hatch channel frame must be 6" in depth to mount flush, top and bottom, when installing a 6" concrete slab top.
- D. Hatch must be equipped with a #304 stainless steel hold open arm and release mechanism to secure the door once it is opened.
- E. Top of hatch door must close flush with the top of the frame.
- F. Hatch door must open at 90° (degrees).
- G. All hinges and fastening hardware shall be #304 stainless steel.
- H. Unit shall lock using a #304 stainless steel slam lock with removable key wrench that will be provided with each hatch.
- I. Hatch shall have a 1 1/2" drain hole located inside the channel frame. Any re-enforcement shall not protrude outside of the exterior rectangular frame.
- J. Hatch shall come equipped with a #304 stainless steel compression spring to counter balance the door weight and resist downward pressure while being closed.
- K. Hatch shall come equipped with a recessed #304 stainless steel or better handle to assist in opening and closing the door. The top of the handle shall be recessed a minimum of 1/2" below the top surface of the hatch.
- L. Louisville Water Company standard frame opening size will be 30" x 36".
- M. Hatch Lid shall have four (4) spaces with 4" diameter clearance from any re-enforcement to allow four (4) holes to be drilled by others, of 4" in diameter at locations determined by the manufacturer. Locations shall not interfere with the loading design capacity.

2. MANUFACTURES

- A. The hatches shall be from the following manufacturers or approved equal:
 - USF Fabrication
 - EJ USA
 - Cierra/Babcock-Davis
 - Halliday

40 05 00 - COMMON WORK RESULTS FOR PROCESS INTERCONNECTIONS
SECTION 40 05 17
COPPER TUBING

1. PRODUCTS

- A. A Purchase Order number must appear on all bills of lading and invoices.
- B. Copper shall be Type K soft, free from defects, pinholes, kinks, and shall be rounded.
- C. The material supplied shall be in conformance with the latest edition of the AWWA C800 Standard, ASTM B88 and B88M.

2. MANUFACTURERS

- A. The prequalified manufactures are as follows or approved equal:
 - 1. Cerro
 - 2. Mueller
 - 3. Weiland
 - 4. Howell
 - 5. Great Lakes

SECTION 40 05 61.23 SWING CHECK VALVES

1. GENERAL

- A. The swing check valves shall have a cast iron or ductile iron body and cover. The cast iron shall equal or exceed the requirements of ASTM A-126, Class B with a tensile strength greater than 31,000 PSI. Ductile iron shall conform to ASTM A-395 or ASTM A-536.

2. PRODUCTS

- A. Swing check valves must be certified for use in drinking water in accordance with NSF/ANSI 61 and are Certified Lead-Free per NSF/ANSI 372. Every valve is to be tested in accordance with and is certified to AWWA C508.
- B. The valve shall have a ductile iron or stainless steel clapper disc certified for use in drinking water in accordance with NSF/ANSI 61 and are Certified Lead-Free per NSF/ANSI 372. The clapper shall open fully to provide a net flow not less than the nominal pipe area. The disc shall bear against a stop in the full open position located to withstand impact or flow pressure which might damage the disc and related parts.
- C. The clapper disc shall have a composition disc seating surface of EPDM rubber or better, conforming to the requirements of AWWA C508.
- D. The hinge pin shall be of stainless steel and provide free rotation of the clapper disc.
- E. The machined seat ring shall screw into the valve body and provide a uniform seating surface for the clapper.
- F. All internal parts shall be readily accessible through the valve cover.
- G. Cover and flange nuts and bolts shall be type #304 stainless steel.
- H. Cover and flange gaskets shall be EPDM or BUNA-N rubber, 1/8 inch thick and of uniform dimensions, conforming to the requirements of AWWA C508.
- I. The ends shall be flanged and shall conform in dimensions and drilling to ANSI B16.1, Class 125.
- J. The valves shall conform to all applicable requirements of AWWA C508, "Standard for Swing Check Valves for Waterworks Service, 2 inch through 24 inch NPS and NSF/ANSI 61 and are Certified Lead-Free per NSF/ANSI 372."
- K. The coating furnished shall be suitable for potable water service and shall conform to AWWA C550, "Protective Internal Coatings for Valves and Hydrants."
- L. All internal and external surfaces except finished or bearing surfaces shall be shop cleaned and coated in accordance with this specification and applicable Steel Structures Painting Council specifications (SSPC).
- M. The surface shall be free of irregularities, burrs and sharp or rough edges prior to the application of the coating.
- N. Surface preparations for fusion bonded epoxy coating system shall conform with SSPC SP10, "White Metal Blast Cleaning." The fusion bonded epoxy coating shall be suitable for ferrous and non-ferrous metals subject to chemical corrosion and/or physical abrasion. Preheat and cure requirements of the manufacturer shall be observed. Dry powder shall be spray applied uniformly to achieve a minimum final dry film thickness of 8 mils.
- O. The selected coating system specifications shall be submitted for approval. A light clear color shall be used to enhance inspection.
- P. All swing check valves shall be guaranteed against defects in materials and workmanship for a period of one (1) year from date of shipment. Parts to replace those in which a defect has developed within such period will be supplied without charge, piece for piece, upon proper proof of defect.
- Q. Swing check valves shall be guaranteed to operate under a working pressure of 150 PSI, without leakage or damage to any parts. Valves shall be factory tested at 350 PSI.

- R. The valve body and cover shall be hydrostatically tested to withstand 350 PSI. No leakage through the body joints shall occur for one (1) minute.
- S. Seat and disc closure shall be hydrostatically tested to withstand 175 PSI differential pressure against the outlet end. Maximum permissible leakage shall be one (1) fluid ounce per hour per inch of nominal valve size.
- T. The valve casting shall have cast markings or a permanently affixed nameplate identifying the manufacturer, valve size, working pressure, flow directions (arrow) and year of manufacture.

**SECTION 40 05 61.24
FLAT FACED FLANGED SPOOL PIECES**

1. GENERAL

- A. All steel pipe and fittings listed in Section 2 Paragraph A1 and Section 3 Paragraph A, below shall conform to the requirements of the latest editions of the following AWWA specifications:

C-800- C200	Steel water pipe 6” and larger
C-207	Steel pipe flanges
C-210	Liquid epoxy coating systems for interior and exterior of steel water pipelines.

2. PRODUCTS

- A. All Spool pieces must have flat faced flanges.
 B. Description – Large Meter By-Pass and Test Spools
 Steel flanged spool with one (1) 2” female Standard Iron Pipe (FIP)) threaded steel outlet. (Weldolets) Outlets will be installed between flanged eyelets to allow suitable clearance so that nuts and bolts may be inserted through the flanges.

Nominal Lengths

Nominal Size	Length
3 Inch	7 Inch
4 Inch	7 Inch
6 Inch	7 ½ Inch
8 Inch	8 Inch

- C. Description- Large Meter By-Pass Spools
 Steel flanged spool with two (2) 2” female Standard Iron Pipe (FIP) threaded Steel outlet. (Weldolets) Outlets will be installed between flanged eyelets to allow suitable clearance so that nuts and bolts may be inserted through the flanges. Outlets shall be spaced 180⁰ apart.

Nominal Lengths

D. Nominal E. Size	Length
F. 3 Inch	7 Inch
G. 4 Inch	7 Inch
H. 6 Inch	7 ½ Inch
I. 8 Inch	8 Inch

D. Pipe

Pipe shall be Schedule 40 black and shall meet or exceed the latest edition of AWWA standards as follows:

AWWA	C-200	Steel Pipe
ASTM	A120	Welded Steel
AWWA	C-800	Service Lines

E. Preparations of the Ends

The ends shall be plain end and fitted with flat faced flanges and shall conform to and tested with the latest edition of AWWA Standard C-200 “Steel Water Pipe”.

Steel Weldolet With Female Standard Iron Pipe Thread (FIP)

Schedule	40
End Preparations	Threaded Female Outlets
Strength Requirements	Conform to latest editions of ANSI B16.9, B16.11, ASTM A-105

F. Flanges

1. Flanges shall be flat faced AWWA Standard steel hub slip-on conforming with the latest edition of AWWA Standard C-207 – “Steel Pipe Flanges For Water Works Service – Sizes 4 inch through 144 inch”.
2. Materials shall conform to the latest edition of AWWA Standard C-207, Section 4.
3. The dimensions and drilling shall conform with the latest edition of AWWA Standard C-207, Table 3, Class D.

G. Coating

1. The coating shall be high solid epoxy coating/Porter coating #7536 or equal and must conform to the latest edition of AWWA C-210 “Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines” and must be EPA approved for potable water linings.
2. The application instructions shall be in strict adherence with manufacturer’s instructions and the latest edition of AWWA Standard C-210.
3. Surface preparations shall be performed and all mill scale shall be removed prior to the application of the coating.
4. Two (2) coats shall be applied and the finished coating shall be free of holidays and pinholes and have a minimal dry film thickness of 10 to 12 mils.
5. Threaded flanges shall be cleaned and with no obstruction to the threads.

H. Attachment of Weldolet

1. The pipe of depth and tap drill size shall be in compliance with the attached sheet Standard Drawing #9004 Weldolet Fitting.
2. The weld fillet shall conform to the latest edition of AWWA Standard C-200, "Steel Water Pipe".

I. Welded Joints

1. The manufacturer shall be responsible for the quality of all work performed by his organization and meet the latest edition of the standard qualification procedure of the American Welding Society and the latest edition of AWWA C-207.

J. Handling

1. Handling and shipping shall be in compliance with the latest edition of AWWA C-200, "Steel Water Pipe".
2. Finished spools shall be stacked on pallets with sufficient spacers or pads to prevent damage to the spool pieces and/or the coatings.
3. Spool pieces showing chips or abrasions will be rejected. The contractor at his expense shall replace or recondition each rejected section.

SECTION 40 05 61.25
MJ RESTRAINED JOINT ADAPTERS

1. GENERAL

- A. A compact, bolt through, Mechanical Joint (MJ) Restrained Adapter designed to connect MJ valves to MJ fittings, or MJ fittings to other MJ fittings at a linear distance not to exceed one and one-half inches shall be provided. The design of the restraint shall be such that it can replace the piece of pipe commonly needed to join an MJ fitting to another MJ fitting or valve. The restraint shall be designed to eliminate the need for MJ glands and rubbers.

2. PRODUCTS

- A. Restrained Adapter shall be an integral casting, i.e. no welds and made of ductile iron conforming to ASTM A80-55-06 and rated at 350 psi
- B. Restrained Adapter shall be supplied with NSF 61, 5-mil fusion bonded epoxy coating conforming to AWWA C116/A21.16-09 as well as the coating, surface preparation and application requirements of ANSI/ AWWA C550.
- C. The same design of Restrained Adapter shall be available in sizes 4" to 20". Restrained Adapter and accessories (MJ gaskets, nuts and bolts) shall be packaged in one (1) box.
- D. Mechanical Joint gasket shall be Styrene Butadine Rubber (SBR) or approved equal.
- E. Bolts shall be weathering steel (Corten). Nuts shall be SAE Grade 2 steel with black oxide coating. For restraint sizes 4" to 8", bolt length shall be 5". For restraint size 12" to 20", bolt length shall be 6".

3. MANUFACTURERS

- A. Restrained Joint Adapters shall be Star Pipe Series 100 MJ, Foster Adapter by In Fact, or approved equal.

**SECTION 40 05 61.26
BELL JOINT CLAMPS**

1. PRODUCTS

- A. The joint clamp must be designed to fit pipe and fittings with a spigot end OD range of 50.3 to 51.98 inches and with a bell face height up to 5.00 inches.
- B. The joint clamp design must fit and function properly on all classes of both the Dennis Long Company and AWWA standard PIT cast iron pipe, as well as American Standard specifications (ASA) for lead joint cast iron pipe and fittings.
- C. Joint clamps shall have a working pressure rating of 150 psi minimum.
- D. Clamps must be ductile iron and shall have asphaltic coating of approximately 1 mil thick. All bolts must be low alloy Cor-ten and all thread.
- E. Rubber gaskets must not require additional fasteners or restraints to remain securely attached to clamps during assembly. Gaskets shall be made from NBR or EPDM.
- F. Each Bell Joint Clamp provided by the manufacturer shall be packaged and contain all the necessary parts and materials required to install the bell joint clamp on the pipe.
- G. Hex head bolts shall be 1 3/4" - 2" wrench size and be able to accommodate standard air/impact tools and sockets for these sizes. Hex head nuts shall be 1 3/4" wrench size and be able to accommodate standard air/impact tools and sockets for this size. In no case shall the head thickness of a bolt or nut compromise LWC's ability to fasten and tighten bolts for the clamps using impact sockets tools.
- H. The joint clamp shall allow reasonable room for impact socket thickness to ensure standard air impact tools can easily access bolts and nuts on clamps, in a manner that allows standard air/impact tools to assemble, disassemble, tighten or loosen bell joints clamps.
- I. The joint clamp shall be NSF 61 certified.
- J. Clamp shall include the following standard items:
 - a. Standard Hook Assembly
 - b. Body Segment
 - c. Shoe
 - d. Gasket

2. MANUFACTURERS

- A. Clamp shall be proportionally designed for 48" pipe and supplied as Romac bell joint leak clamp 416 BJLC or approved equal.

SECTION 40 05 61.27
DUCTILE IRON PIPE RESTRAINED JOINT GASKETS

1. GENERAL

- A. The restrained joint gaskets shall be designed for use on Louisville Water Company ductile iron pipe meeting the specifications herein "33 05 19 Ductile Iron Pipe".

2. PRODUCTS

- A. The gaskets shall be used in pressurized ductile iron to prevent the joints from separating due to thrust forces.
- B. The gaskets shall be pressure rated to the pressure class of the pipe and fittings. Restrained joint gaskets for pipe 4" to 24" shall have a minimum pressure rating of 250 PSI.
- C. The gaskets shall conform to the latest edition of the AWWA/ANSI C111/A21.11.
- D. The rubber shall be made of EPDM or SBR.

SECTION 40 05 61.28
RESTRAINT JOINT CLAMPS

1. GENERAL

- A. Mechanical joint restraint shall include a restraining mechanism which, when actuated, imparts wedging against the entire circumference of the pipe, increasing its resistance as the pressure increases. Mechanical joint restraints utilizing set screws are not approved for sizes 4" to 12".

2. PRODUCTS

- A. Glands shall be manufactured of ductile iron conforming to the latest edition of ASTM A536.
- B. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. They shall have a working pressure of at least 250 PSI with a minimum safety factor of 2:1.
- C. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts, conforming to the latest editions of ANSI/AWWA A21.11 and C153/A21.53.
- D. Restraint joint clamps from 4" to 12" shall fit both PVC and Ductile Iron Pipe.
- E. Restraint joint clamps from 16" or larger shall fit only Ductile Iron pipe.
- F. Mechanical joint restraint shall include a restraining mechanism which, when actuated, imparts wedging against the pipe, increasing its resistance as the pressure increases.

3. MANUFACTURERS

- A. Prequalified manufactures for Restraint Joint Clamps (or approved equal) are:
 - (1) Romac
 - (2) Star
 - (3) Ford grip rings (for Ductile Iron Pipe 4"-24")
 - (4) Ebba Iron
 - (5) Sigma

SECTION 40 05 61.29 DUCTILE IRON FITTINGS

1. GENERAL

A. Submit shop drawings

1. Include all fittings, bends, outlets, restrained joints, tees, special deflection bells, adapters, solid sleeves and specials.
2. Include manufacturer's drawings and specifications providing complete details of all items.
3. All other pertinent information for all items to be furnished; product data to show compliance of all couplings, supports, fittings, coatings and related items.

B. Submit the name of the fitting suppliers.

C. Submit Catalog cuts and installation instructions for boltless restrained joint pipe, and mechanically restrained and flanged connections to valves and fittings.

D. If mechanical coupling system is used, submit piping, fittings, and appurtenant items which will be utilized to meet system requirements.

E. Submit Certification that all bolts to be furnished conform to referenced standards.

F. Submit information on all warranties.

2. PRODUCTS

A. Fittings

1. General

- (1) Pipe fittings shall be ductile iron and meet the requirements of ANSI/AWWA C110/A21.10 or AWWA C153/A21.53.
- (2) Fittings shall have the same pressure rating, as a minimum, of the connecting pipe. Minimum pressure rating is 350psi for 20-inch diameter and smaller.
- (3) Fittings shall be provided with the same joints and couplings that match the pipe restraining method.
 - (a) Push On Joints
 - (i) Mechanical Joint Fittings (and Valves)
 - (ii) 4"-12" Utilize Romac Gripper Glands or Bolt-Through Restraint (e.g. Foster Adapters)
 - (iii) 16"-20" Utilize EBAA Iron MegaLug
 - (b) Boltless Restrained Joints
 - (i) 20" and Smaller: Mechanical Joint Fittings, or Boltless Restrained Fittings (same manufacturer as pipe), or Friction type restrained glands such as Megalug, or Mechanical Joint Coupled End Joint
 - (ii) For >20": Boltless Restrained Fittings (same manufacturer as pipe). The use of friction type restrained joints such as Megalugs shall not be allowed for piping greater than 20-inch diameter. Valves may be either Boltless Restrained or Mechanical Joint Coupled End Joint with 316 stainless steel bolts.
 - (c) Flanged Joints = AWWA Flanged Joint Fittings
- (4) Closures shall be made with restrained mechanical joint ductile iron solid sleeves.

B. Couplings

1. General

- (1) Couplings shall meet and be similar to pipeline restraining system.
- (2) Couplings shall be manufactured for potable water use using standard materials meeting NSF 61 and 372 and AWWA standards.
- (3) Provide restraining tabs, eyelets or the like where necessary.
- (4) Couplings shall be from reputable potable water manufactures such as EBAA Iron, Romac, Smith-Blair, Krausz, Dresser, and Ford Meter Box.

2. Restrained Flange Adapters

- (1) Ductile Iron – ASTM A536, Grade 65-45-12
- (2) Flanged – ASME/ANSI B16.1, Class 125; match pipe system

- (3) Allowable joint deflection of 5-degrees
 - (4) Fully restrained with tie-rods/gussets to limit movement after installation
 - (5) Minimum of six (6) restraining T-bolts and nuts made of high strength low alloy steel, coarse thread meeting AWWA C111.
 - (6) Wedges acceptable; No set-screws allowed
 - (7) Fusion-bonded NSF 61 epoxy coating, interior and exterior
 - (8) Romac Restrained Flanged Coupling Adapter (RFCA), Smith Blair Style 911/912 Flange-Lock Restrained FCA, Dresser Style 127 (restrained), or approved equal
3. Restrained Dismantling Joint
 - (1) Compatible with flanged fittings
 - (2) Adjustable length of at least 2.5 inches
 - (3) Allowable deflection of a minimum of 1.5 degrees
 - (4) Ductile Iron – ASTM A536, Grade 65-45-12
 - (5) Flanged – ASME/ANSI B16.1, Class 125; match pipe system
 - (6) Restrained with tie-rods to limit movement after installation
 - (7) Minimum of four (4) restraining T-bolts and nuts made of high strength low alloy steel, coarse thread meeting AWWA C111.
 - (8) Fusion-bonded NSF 61 epoxy coating, interior and exterior
 - (9) Romac DJ400 or approved equal
 4. Dresser Style Couplings
 - (1) Shall consist of two steel follower rings, two resilient gaskets, one steel middle ring, EPDM rubber wedge, and a set of steel follower trackhead bolts.
 - (2) Steel to Steel – prepare ends per manufacturer’s recommendations
 - (3) Externally restrained / rodded (stainless steel)
 - (4) Romac 501 or approved equivalent
 5. MegaLug
 - (1) MegaLug by EBAA Iron or approved equal
 - (2) Fusion bonded epoxy
 - (3) Domestic Iron
 6. Restrained Transition Couplings – (steel vault to ductile iron water main)
 - (1) Restrained couplings Typically used to join steel pipe (e.g. from vault) to ductile iron pipe water main.
 - (2) Insulating Coupling with separate insulated restraining rods system including rod sleeves, isolation washer/hardware kit.
 - (3) Style shall be from steel pipe size to ductile iron pipe size.
 - (4) Coupling shall have factory fusion-bonded epoxy coating or approved equal.
 - (5) The restraints or double end rods and nuts shall be manufactured of stainless steel nuts and bolts or have a factory-applied corrosion-resistant coating.
 - (6) Coupling shall incorporate dissimilar metals insulating boot and gasket kit including isolation sleeves for tie-rods.
 - (7) The couplings shall be insulating couplings with insulated restraining rods from vault to pipe.

C. CORROSION PROTECTION

1. Interior Coatings
 - (1) Ductile iron fittings shall have a cement mortar lining and seal coat in accordance with AWWA C104/A21.4.
 - (2) Fittings
 - (a) Buried fittings may be either factory fusion-bonded epoxy coated per AWWA C550, or cement mortar lined seal coat in accordance with AWWA C104/A21.4. Lining shall be NSF 61 certified.

D. GASKETS

1. General Materials

- (1) All gasket materials shall comply with Table 5-1 of AWWA M-41 and per AWWA C110, C111, and C115
- (2) Rubber-gasket joints shall conform to AWWA C111
- (3) Gaskets shall have proven performance in the potable water industry for resistance to chlorinated and chloraminated water systems.
- (4) Generally EPDM material shall be used for all pipes, fittings and valves.
- (5) Gaskets shall be supplied by the pipe or fitting manufacturer.
- (6) Comply with applicable joint type and pressure rating of the pipe system.

2. Push-On Joints:

- (1) EPDM material
- (2) Nitrile (NBR) shall be used within 200 feet of any buried underground petroleum storage tank
- (3) "Joint Restraint"
 - (a) Shall be used minimum within 200 feet of any facility such as a tank, pump station or control valve vault (e.g. PRV) or as shown on plans for pipe sizes <16-inches.
 - (b) US Pipe Field-Lok, or American Fast-Grip, or approved equal.

3. Flanged Joints

- (1) Gaskets shall be full face
- (2) Pre-punched holes
- (3) Minimum 1/8" thick
- (4) EPDM or Viton material
- (5) Special pressure rated for 350psi such as US Pipe "Flange-Tyte" or American "Toruseal" or approved equal.

4. Flange Isolation Kits

- (1) Isolating and Sealing Gasket
 - (a) One full faced isolating and sealing gasket, LineBacker Type "E", 1/8" thick, G-10 retainer containing a precision tapered groove to accommodate the controlled compression of a Teflon (or Viton) quad-ring sealing element. Sealing element placement shall accommodate either flat, raised face or RTJ flanges. The quad-ring seal shall be pressure energized. The G-10 retainer shall have a 550 volts/mil dielectric strength and a minimum 50,000 psi compressive strength. The full faced flange isolating gasket shall be 1/8" less in I.D. than the I.D. of the flange in which it is installed.
- (2) Full Length Bolt Isolating Sleeves
 - (a) One full length G-10 sleeve (extending half way into both steel washers) for each flange bolt. The G-10 shall be a 1/32 inch thick tube with a 400 volts/mil dielectric strength and water absorption of 0.10% or less.
- (3) Washers
 - (a) Two, 1/8 inch thick, G-10 isolating washers for each bolt. Their compressive strength shall be 50,000 psi, dielectric strength 550 volts/mil and water absorption of 0.10% or less. Two, 1/8 inch thick zinc plated, hot rolled steel washers for each bolt. The I.D. of all washers shall fit over the isolating sleeve and both the steel and isolating washers shall have a same I.D. and O.D.

**SECTION 40 05 61.30
REPAIR COUPLING AND GASKETS**

1. GENERAL

A. Center Ring, End Ring and Gaskets

1. Standard couplings shall have the ability to be used as a straight coupling as well as a transition coupling.

2. PRODUCT

- A. Couplings shall be ductile iron per ASTM A536 or greater and shall be shop coated for protection during shipment and storage. Ends must have a smooth inside taper for uniform gasket seal. The 4, 6 and 8 inch couplings shall have a center ring length of a minimum of five (5) inches. The 10-12 inch couplings shall have a center ring length of minimum of six (6) inches. The 14-16 inch and larger couplings shall have a center ring length of a minimum of seven (7) inches.
- B. Center rings shall have applicable outside diameter (O.D.) ranges posted on the barrel for easy identification. This may be in the form of stamp or adhered label.
- C. Gaskets shall be sized to fit standard cast and ductile iron pipe and shall be engineered of rubber compound suitable for potable water lines per ASTM D2000. Gaskets must have the size embossed for easy identification.
- D. Transition Rings and Gaskets
 - (a) Transition rings and gaskets must be sized to be used with repair couplings to provide transition in outside diameter (O.D.) ranges from standard pipe to oversized pipe as indicated by outside diameter (O.D.) ranges.
- E. Bolts and Nuts
 - (a) Bolts and Nuts shall be trackhead with a heavy hexagon nut. Bolts and nuts shall be #304 stainless steel with rolled threads and treated to prevent galling.

3. MANUFACTURERS

A. Acceptable Manufacturers (or approved equal):

Ford Meter Box	Powerseal
JCM	Romac
Mueller	SmithBlair

SECTION 40 05 65.23 VALVES AND APPURTENANCES

1. GENERAL

- A. All valves furnished under this specification shall conform to the latest edition of AWWA C509 “Standard for Resilient Seat Gate Valves for Water Systems” or AWWA C515 Standard, “Reduced- Wall, Resilient-Seated Gate Valves for Water Supply”. Protective interior shall be provided meeting all requirements of the latest edition AWWA C550 Standard, “Protective Interior Coating for Valves and Fire Hydrants” (latest edition). Only ductile iron bodies will be accepted.
- B. Catalog data, net weight and certified drawings as per the latest edition of Section 4.1, 4.2, and 4.3 of AWWA C509 and/or AWWA C515 Standards (latest editions) shall be furnished with submittal.

2. PRODUCTS

- A. Resilient-seated gate valves shall conform in all respects to ANSI/AWWA C515-09 with non-rising stems, fully bronze mounted with O-ring seals. Stems shall be made of one piece as per the requirements of AWWA C509 and/or AWWA C515 Standards (Section 4, latest editions). Valves shall be of standard manufacture and of the highest quality both as to materials and workmanship and shall conform to the latest revisions of AWWA Specification C-500. Valves shall have a rated working pressure of 250 psi, and test pressure of 500 psi and shall be opened by turning clockwise only.
- B. All internal components shall be able to withstand without damage or distortion an input torque of 50 ft-lbs. above that listed in the torque test in Section 5 of the AWWA C509 and/or AWWA C515 Standards (latest edition). All test results pertaining to Section 5 of AWWA C509 and/or AWWA C515 Standards (latest edition) shall be furnished upon request.
- C. All bonnet and packing gland nuts and bolts, and operator retainer nuts or pins shall not be less than #304 stainless steel. All bolts and fasteners shall be non-metric. Bonnets for 4” diameter gate valves shall have four (4) bolts. Bonnets for 6” – 12” diameter shall have at least six (6) bolts. Bonnets for 16” diameter and larger shall have bolts per manufacturer recommendation.
- D. All bonnet and packing gland bolts shall be zinc or cadmium electroplated steel; packing gland bolts shall have bronze nuts.
- E. Gate Valves shall be designed for buried service where groundwater may completely submerge the valve and actuator. Gate valves shall be furnished with mechanical joint end connections with stainless steel hardware T-316. The end connections shall be suitable to receive ductile iron pipe. All gate valves 24-inch and larger shall be equipped with mechanical restraint mechanisms to pipe utilizing a positive mechanical restraint such as American’s Coupling Gland Ends, or approved equal, employing stainless steel 316 bolts and nuts. No friction type restraint such as Mega lugs will be acceptable for 24-inch and larger gate valves.
- F. Wheel valves shall have flanged ends rated at 125 lbs. in accordance with AWWA C509 and/or AWWA C515 Standards (latest editions). It shall also conform to the dimensions and drillings of ANSI B16.1, class 125 or ANSI/AWWA C110/A21.10 Standards (latest editions). Wheel valves shall be handwheel operated, left hand open with an arrow symbol (← *LHO*)(left hand open) indicating direction of open. Handwheels shall be ductile iron.
- G. All gate valves supplied shall be MJ x MJ, or Flange x MJ type. The operating nut shall be ductile iron. Gate and tapping valves shall have operating nuts that are right hand open (clockwise) type and labeled for the direction of open with an arrow symbol (→

- RHO)(right hand open). The operating nut locking mechanism shall be visibly centered on the stem.
- H. All valves and appurtenances shall have the name of the manufacturer, year manufactured, valve size, flow-directional arrows, and the working pressure for which they are designed cast in raised letters on some appropriate part of the body.
 - I. The epoxy coating shall be fusion-bonded and shall comply with ANSI/AWWA C550 Standards (latest editions) on all internal and external surfaces of the valve body and bonnet to a minimum thickness of 10 mils.
 - J. The disk shall seat in wedging fashion utilizing two guides, either integral with the body or the wedge. The disk shall be fully encapsulated with EPDM or equivalent rubber.
 - K. Gate valves and tapping valves shall be supplied with a means to lift and handle each valve (i.e. cast-in-place lifting lugs or locking steel collars that attach to the stem directly under the operating nut).
 - L. All valves shall packages shall include MJ Gate accessory packs, bolts and gaskets for tapping and flanged gates as required for installation. The valves shall be protected with end caps, cardboard or plastic, over each outlet to protect the coating on the interior of the valve.
 - M. Contractor shall provide a certificate stating that the valve and all materials used in its construction conform to the requirements of AWWA C509 and/or AWWA C515 Standards (latest editions)..
 - N. Format and location: The gate valves shall be Iron body, Resilient Seat Gate Valve as manufactured by Mueller Co., American Flow Control Series 2500, or an approved equal.
 - O. The valve manufacturer shall supply and integrally mount all valve operators at the factory. The valve and operators shall be shipped as a unit.

SECTION 40 05 67.36
WATER PRESSURE REGULATORS FOR PRV

1. PRODUCT

- A. Regulators must meet requirements of ASSE Standard 1003 – “performance requirements for water pressure reducing valves”.
- B. Regulators must have an integral by-pass check valve.
- C. Regulators must have a built in strainer on regulators 1” and smaller.
- D. Regulators must have bronze bodies with sealed spring cage. Sealed spring cage shall be bronze or corrosion resistant 304 stainless steel or epoxy coated, cast iron with adjusting screw.
- E. Regulators must cover the range of 75-150 PSI and be factory set at 85 - 90 PSI. Bidders must include instructions for adjusting pressure with each regulator.
- F. ¾” Regulators shall be furnished with ¾” male meter thread ends and must meet or exceed a minimum flow capacity of 22 GPM at a 50 PSI drop below set pressure.
- G. 1” Regulators shall be furnished with 1” male meter thread ends and must meet or exceed a minimum flow capacity of 32 GPM at a 50 PSI drop below set pressure.
- H. 1 1/2” Regulators shall be furnished with 1 1/2” NPT threaded female union inlet x NPT female outlet and must meet or exceed a minimum flow capacity of 70 GPM at a 50 PSI drop below set pressure.
- I. 2” Regulators shall be furnished with 2” NPT threaded female union inlet x NPT female outlet and must meet or exceed a minimum flow capacity of 100 GPM at a 50 PSI drop below set pressure.
- J. All nuts and bolts shall be #304 stainless steel.
- K. Elastomers must be EPDM Rubber.

2. MANUFACTURERS

- G. Prequalified models are the following:
 - 1. Watts L25AUB-Z3-HR-Z6
 - 2. Wilkins 600 XL HR-SC-DM

SECTION 40 05 78.11 AIR RELEASE VACUUM VALVE

1. GENERAL

- A. Air release and vacuum valves shall be designed to control the flow of large air volumes both into and out of the pipelines to which they are connected. Valves shall be tight against leakage under a working pressure of 250 psi and shop tested at a pressure of 300 psi.

2. PRODUCTS

- A. The air release vacuum valve shall be comprised of a small orifice assembly and large orifice assembly housed in a single body. The large orifice assembly shall exhaust air from a pipeline during the initial filling of the pipeline. The large orifice assembly shall not blow shut while exhausting air, even while venting air at sonic velocity. When all air has been exhausted from the pipeline, the large orifice float ball shall be buoyed up to seat tightly against a resilient seat ring. The large orifice float ball shall remain tightly closed while the pipeline is under positive pressure. Should the pipeline pressure fall below atmospheric pressure, the large orifice float ball shall fall away from the seat ring and permit air to enter the pipeline.
- B. The small orifice assembly shall automatically release air accumulations from the pipeline while under positive pressure. When the valve body fills with air, the small orifice float ball falls to open the small orifice and exhaust the air to atmosphere. When the air has been exhausted, the small orifice float shall be buoyed up and tightly close the small orifice. There shall be no baffles, deflectors, or stems.
- C. Each valve shall be furnished with a flanged gate valve for isolation purposes.
- D. Referenced Standards:
 - 1. American Society of Mechanical Engineers (ASME): B16.1, Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
 - 2. American Water Works Association (AWWA): C512, Standard for Air-Release, Air Vacuum, and Combination Air Valves for Waterworks Service. C550, Standard for Protective Interior Coatings for Valves and Hydrants.
- E. Air release vacuum valve shall conform to AWWA C512. The exterior of air valves shall be coated in accordance with AWWA C550. The interior of air valves shall be coated in accordance with AWWA C550. Air release vacuum valves shall be factory tested in accordance with AWWA C512. They shall be suitable for operating pressures between 3 and 250 psi for water service. They shall combine operating features of air and vacuum valve, and air release valve. The air and vacuum portion shall automatically exhaust air during filling of system and allow air to re-enter during draining or when vacuum occurs. The air release portion shall automatically exhaust entrained air that accumulates in system. The valve shall be single body or dual body with air/water inlet: NPT and Air Outlet: NPT.

3. MANUFACTURERS

- A. Acceptable manufacturers (or Approved Equal):
 - 1. A.R.I. Flow Control Accessories Ltd.; Model D-040-C, D-040-STST.
 - 2. A.R.I. Flow Control Accessories Ltd.; Models S-050-C, S-050-C-V, S-052
- B. Materials:
 - 1. Body and cover: Reinforced nylon body and stainless steel base or stainless steel body and stainless steel base.
 - 2. Base Reinforced nylon or stainless steel.
 - 3. Clamping stem, plug – Reinforced nylon
 - 4. Float – Foamed polypropylene
 - 5. Flange made of reinforced nylon/cast ductile/ ST 37

6. 2-Inch threaded male connection NPT
 7. Discharge outlet – polypropylene
- C. Design requirements:
1. Size: 2 IN.
 2. Working Pressure: 250 psi
 3. Release 10 cfm at 10 psi differential at 150 psi line pressure.
- D. Contractor shall furnish any accessories required to provide a completely operable valve.
- E. Air release vacuum valve shall be complete shop assemble unit including any interconnecting piping, speed control valves, control isolation valves and electrical components.
- F. Air release vacuum valve shall have internal epoxy coating suitable for potable water for all iron body valves in accordance with AWWA C550.
- G. Air release vacuum valve shall be shop hydrostatically tested to piping system test pressure.
- H. Contractor shall provide one (1) set of any special tools or wrenches required for operation or maintenance for each type valve.

**SECTION 40 05 81.13
FIRE HYDRANTS**

1. PRODUCTS

- A. Fire Hydrants furnished under this bid shall meet or exceed the American Water Works Association (AWWA) latest edition of Standard C502 – “Standard for Dry Barrel Fire Hydrants,” except as otherwise noted in these specifications.
- B. Hydrant inlet shall be 6” DIPS mechanical joint with accessory packs unattached to joint.
- C. Hydrants shall be supplied with black caps and gaskets having 1 ½” pentagon nut and supplied without chains.
- D. All below ground external bolts, studs and nuts (excluding MJ Bolts) shall be 304 stainless steel or approved equal.
- E. Gaskets and other materials shall not contain asbestos.
- F. Manufacturer will provide full detail or chemical composition of all lubrication oil and or grease.
- G. Hydrants shall be furnished in varying depths of bury. Bury depth shall be stenciled on the lower part of the hydrant barrel in a minimum of 3” lettering.

CASTING AND APPEARANCE

- A. Hydrants shall be furnished with (2) two – 4” I.D. outlets at 120°. The hydrants operating nut shall be 1 ½” pentagon and 1” minimum in height.
- B. Hydrants furnished shall have all bronze on bronze moving parts. Hydrants shall be coated with a primer and a second coat of the color “traffic orange” or “chrome yellow” as specified by the Project Manager.
- C. Hydrant stem threads shall be Acme Profile. Hydrant nozzle threads shall be copper alloy National Standard Threads.
- D. Distance from the bury line to center of the breakaway flange shall be between 2 & 4 inches. Distance from the bury line to the center of the nozzle shall be between 18 & 24 inches.
- E. Approved bury depths: 3’6”, 4’, 4’6”, 5’, 5’6”, 6’ and 6’6”

HYDRANTS – OPERATION

- A. Hydrants shall be designed for a minimum working pressure of 200 psi.
- B. Hydrants shall have a minimum main valve openings of 5 ¼”.
- C. All hydrants shall have breakaway stem and barrel. Breakaway stem coupling shall be attached to stem with a coupling pin that protrudes a minimum of 1/2” to facilitate removal. Stem coupling pin must protrude one (1) side only and be secured with a cotter pin. Stem coupling pin material to be 304 stainless steel or approved equal.
- D. The frangible parts (stem coupling and flange) shall break in a manner that prevents damage to other parts of the hydrant.

- E. All hydrants shall have removable valve stem and seat.
- F. Hydrants shall be self-draining.
- G. Hydrant internal drain holes shall comply with the following requirements:
 - i. Minimum of two (2) drain holes per hydrant in the seat ring
 - ii. Minimum drain hole diameter shall be 0.25"
- H. Hydrant external drain ports shall comply with the following requirements:
 - i. Minimum of two (2) drain ports per hydrant
 - ii. Drain ports shall be tapped with NPT
 - iii. Minimum tap size shall be 0.125" NPT
 - iv. Hydrants shall be shipped with drain ports unplugged.
- I. Hydrant valve seat threads shall be copper alloy to copper alloy.
- J. Hydrants shall not exceed a maximum allowable head loss of 13.0 PSI at 1,500gpm.
- K. Hydrant main valve shall close with pressure.
- L. Hydrant lubrication shall be by oil or grease.

2. MANUFACTURERS

- A. Approved manufacturers for fire hydrants are as follows (or approved equal):

American Flow Control	6" B84B
The Mueller Centurion	A 425 5/14
US Pipe Metropolitan	250 M94

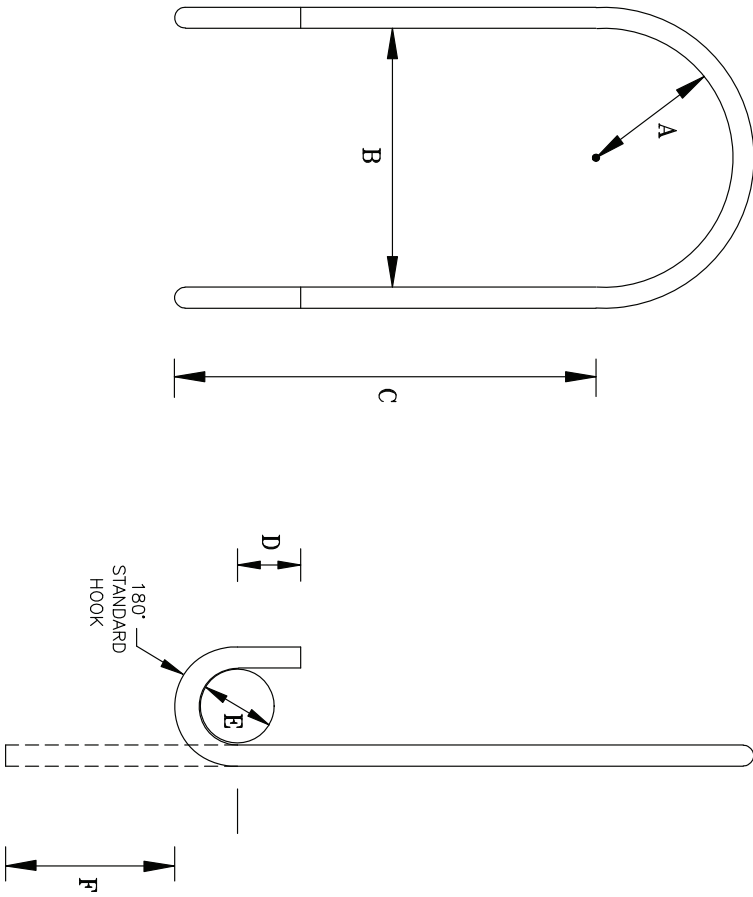
SECTION 40 05 89
KEYTUBE

1. PRODUCTS

- A. Keytube shall be new corrugated polyethylene pipe with appropriate inside diameter, non-perforated and flexible.
- B. Corrugated polyethylene pipe shall be double wall.
- C. Corrugated polyethylene pipe inner wall thickness shall be a minimum 0.5 mm.
- D. Corrugated polyethylene pipe shall be made in accordance to ASTM 2648, ASTM 477, ASTM 3212 and AASHTO M 252
- E. Corrugated polyethylene pipe shall be black in color.
- F. Corrugated polyethylene pipe shall be suited for heavy construction.

2. MANUFACTURERS

- A. Corrugated polyethylene shall be Maxflo AE Pipe as manufactured by Timewell Drainage Products, Incorporated or approved equal.



REINFORCING SCHEDULE

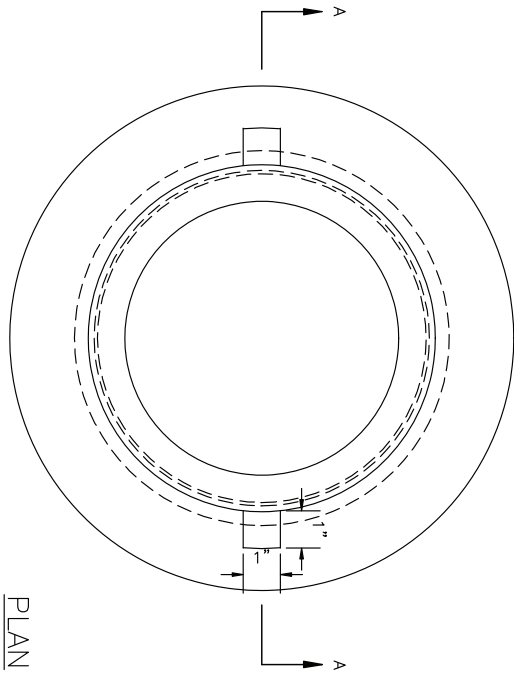
GATE VALVE SIZE	BAR SIZE	TOTAL LENGTH (+/-)	A	B	C	D	E	F
4" DIA.	#4	62"	5"	10"	17"	2.5"	3"	6"
6" DIA.	#4	68"	6"	12"	18"	2.5"	3"	6"
8" DIA.	#4	76"	7.5"	15"	20"	2.5"	3"	6"
12" DIA.	#6	103"	9.5"	19"	28"	3"	4.5"	8"
16" DIA.	#8	155"	12"	24"	47"	4"	6"	11"
20" DIA.	#10	218"	13.5"	27"	70"	5"	10.75"	17"

- NOTES:
1. REINFORCING STEEL SHALL BE DEFORMED GRADE 60 AND EPOXY COATED.
 2. REINFORCING STEEL SHALL BE INSTALLED WITH A MINIMUM DISTANCE OF 3" TO SURROUNDING TRENCH WALLS AND BOTTOM.

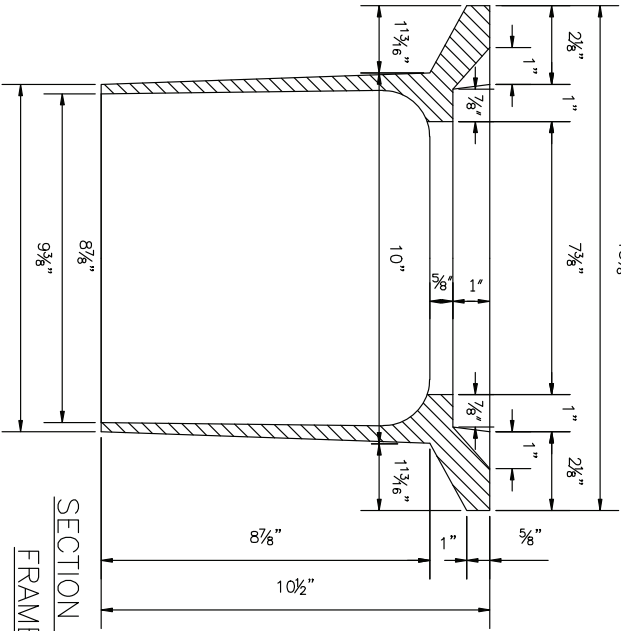
LOUISVILLE WATER COMPANY
505 S. BROADWAY, SUITE 1100, LOUISVILLE, KY 40203
GREGORY C. HERTZMAN, PRESIDENT
JAMES R. BRAMMILL, VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
REINFORCING STEEL FOR
ANCHORING GATE VALVES

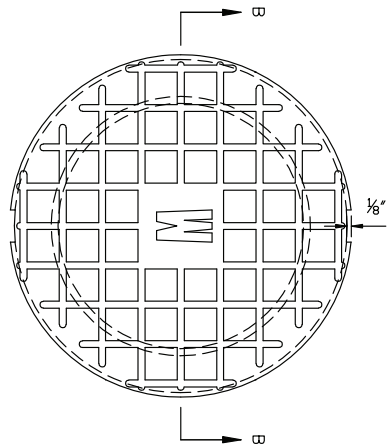
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REVISION NO.	5006	1 of 1



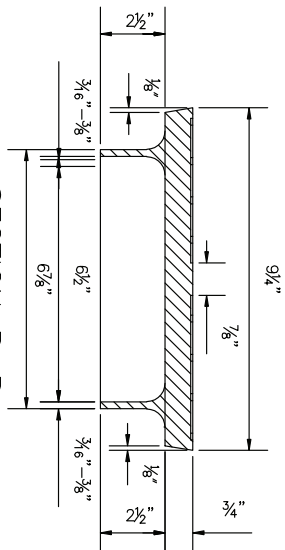
PLAN



SECTION A-A
FRAME



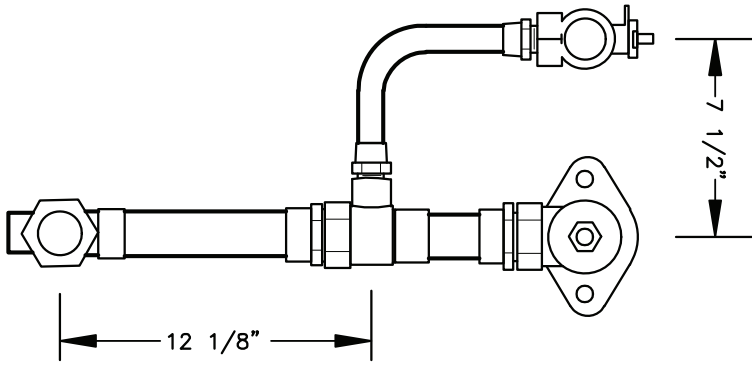
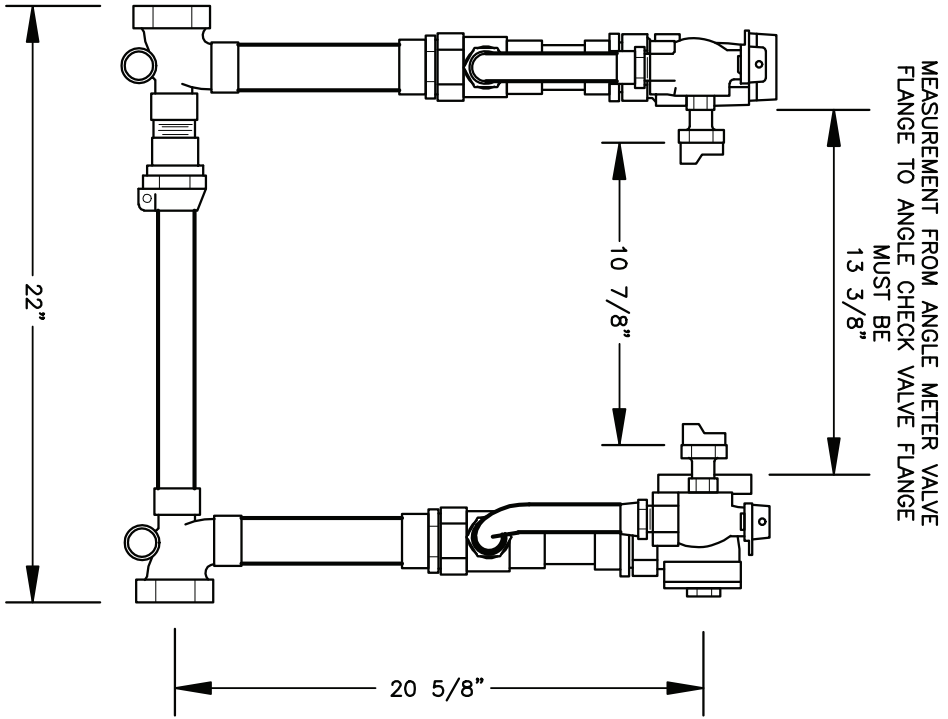
PLAN



SECTION B-B
LID

NOTE
LID HAS WAFFLE DESIGN OF 7/8" SQUARES WITH
5/16" DEEP x 3/16" WIDE VALLEYS BETWEEN SQUARES
WITH A BLOCK TYPE LETTER "W" IN CENTER
1/2" TALL x 1/2" WIDE WITH 1/4" WIDE BARS
AROUND WHICH A SQUARE BACKGROUND
2 3/8" x 2 3/8" x 5/16" DEEP HAS BEEN CAST
THE WAFFLE DESIGN IS OPTIONAL
CASTING DIMENSIONS SHOWN ARE MINIMAL
THICKNESSES
CASTING TOLERANCES ARE + 5/16" FOR VALVE BOX
FRAME AND - 1/16" FOR LID
SHOP DRAWINGS MUST BE SUBMITTED TO THE
ENGINEER FOR APPROVAL.

<p>LOUISVILLE WATER COMPANY 500 W. MARKET STREET, SUITE 2000 LOUISVILLE, KY 40202 JAMES H. BRANNAN, VICE PRESIDENT/CHIEF ENGINEER</p>			
<p>STANDARD DRAWING VALVE BOX & LID</p>			
DATE	MARCH 2008	SCALE	NONE
REVISION NO.	5000	SHEET	1 OF 1

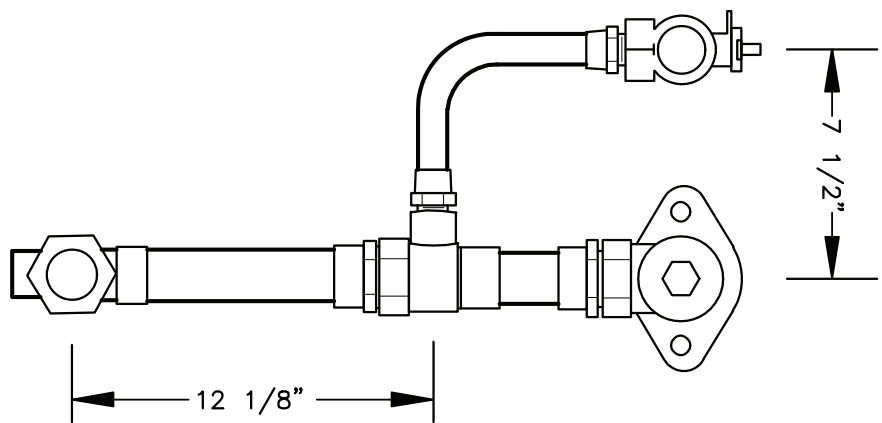
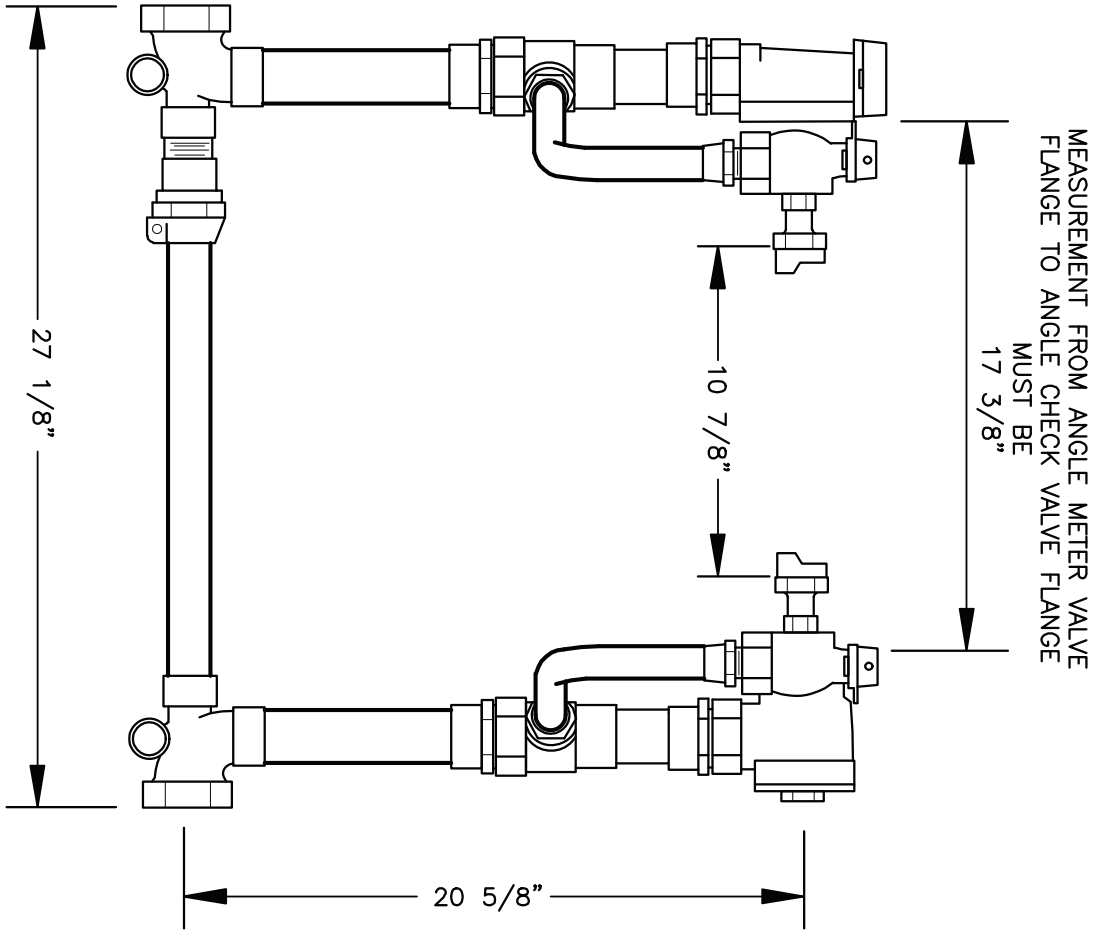


LOUISVILLE WATER COMPANY
 560 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 560-3600
 GREGORY C. HEITZMAN – PRESIDENT
 JAMES H. BRAMMELL – VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING

1 1/2" METER SETTER
 WITH 1" BY-PASS

DATE	JUNE 2008	SCALE	NONE
DRAWING NO.	3204	SHEET	1 OF 1

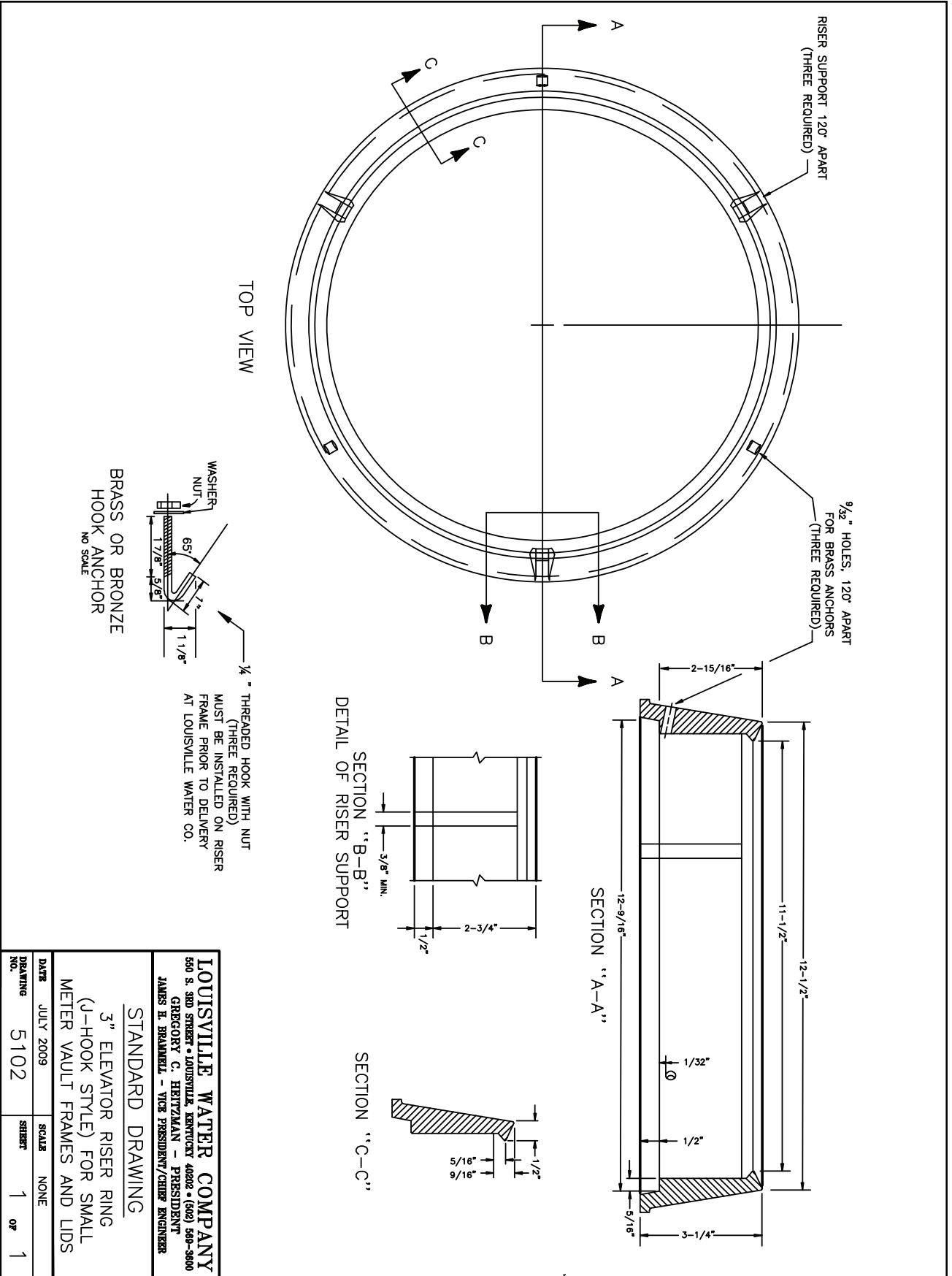


LOUISVILLE WATER COMPANY
560 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRAMBILLA - VICE PRESIDENT/CHIEF ENGINEER

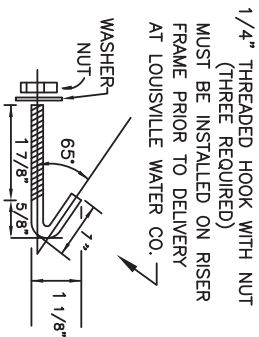
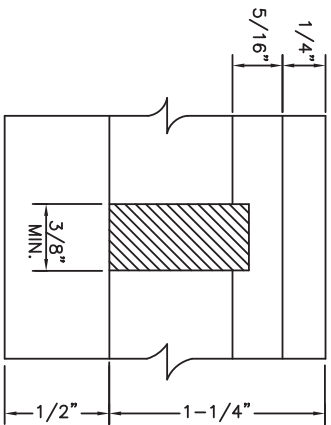
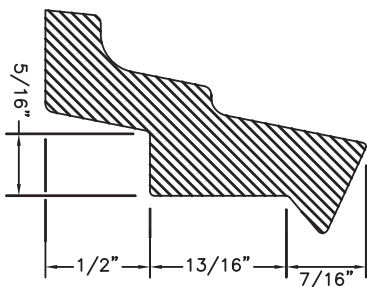
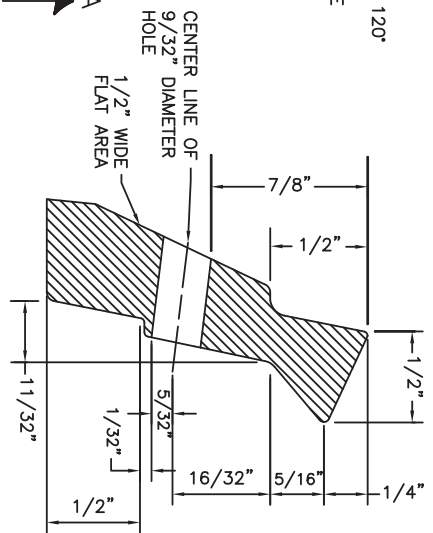
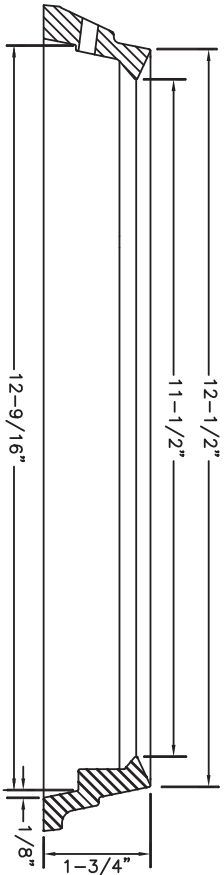
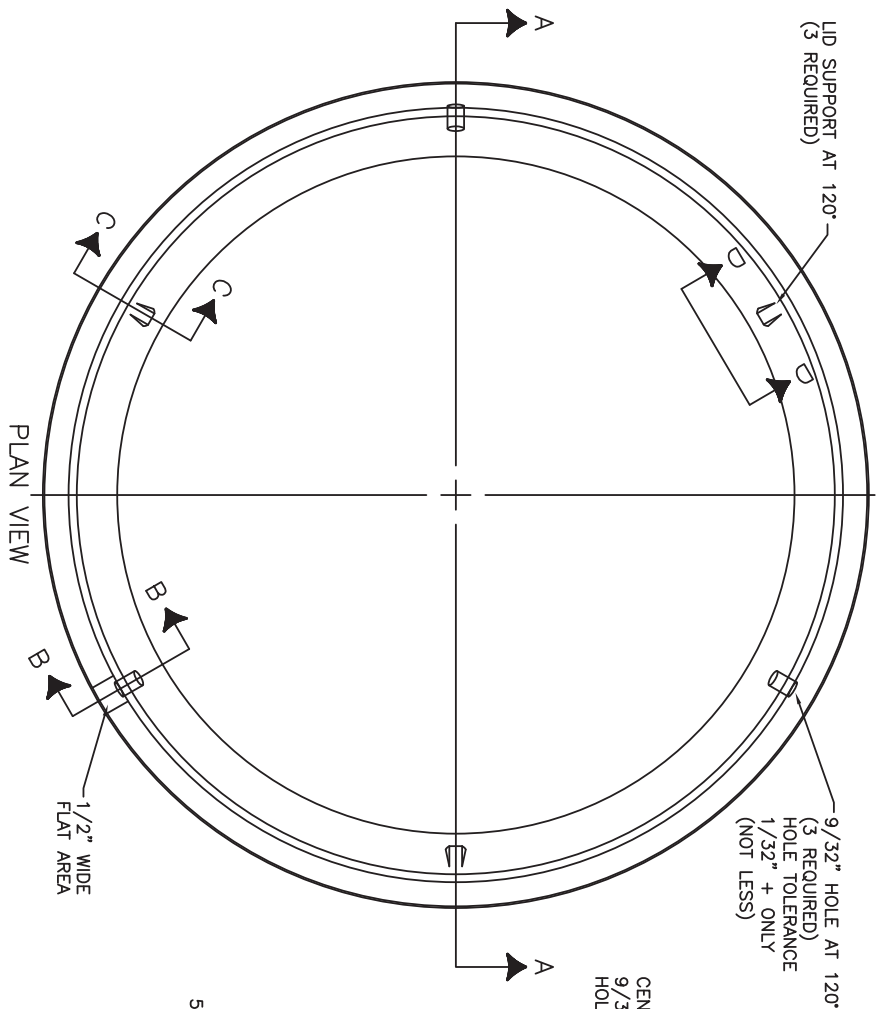
STANDARD DRAWING

2" METER SETTER
WITH 1" BY-PASS

DATE	JUNE 2008	SCALE	NONE
DRAWING NO.	3205	SHEET	1 OF 1



LOUISVILLE WATER COMPANY			
550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 568-8000			
GREGORY C. HERTZMAN - PRESIDENT			
JAMES H. BRANDELL - VICE PRESIDENT/CHIEF ENGINEER			
STANDARD DRAWING			
3" ELEVATOR RISER RING (J-HOOK STYLE) FOR SMALL METER VAULT FRAMES AND LIDS			
DATE	JULY 2009	SCALE	NONE
DRAWING NO.	5102	SHEET	1 OF 1



SECTION "D-D"
DETAIL OF RISER SUPPORT

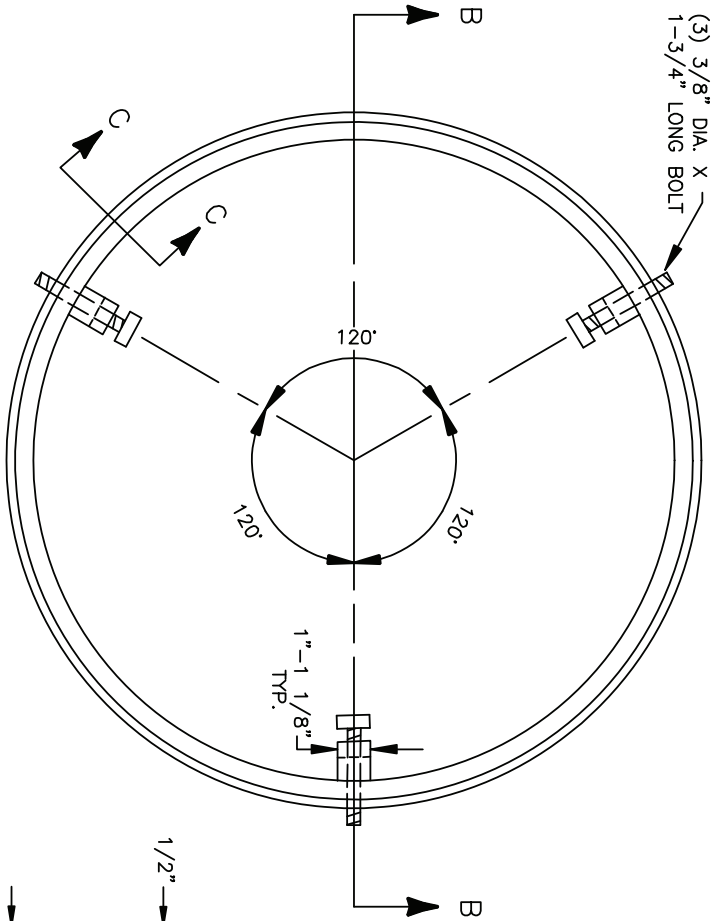
BRASS OR BRONZE
HOOK ANCHOR
NO SCALE

LOUISVILLE WATER COMPANY
550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRAMMEL - VICE PRESIDENT/CHIEF ENGINEER

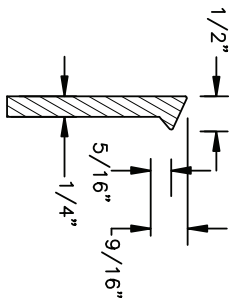
STANDARD DRAWING

1-1/2" ELEVATOR RISER RING
(J-HOOK) FOR SMALL METER
VAULT FRAMES AND LIDS

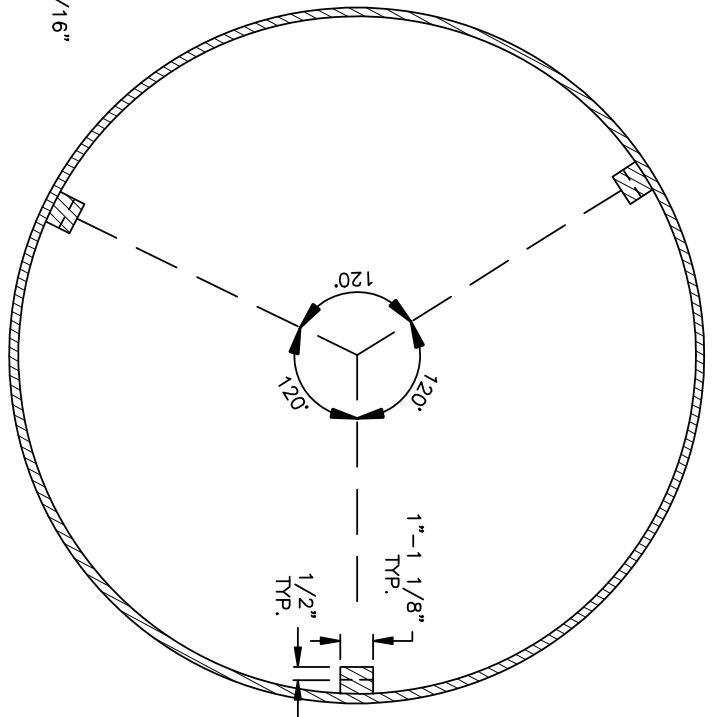
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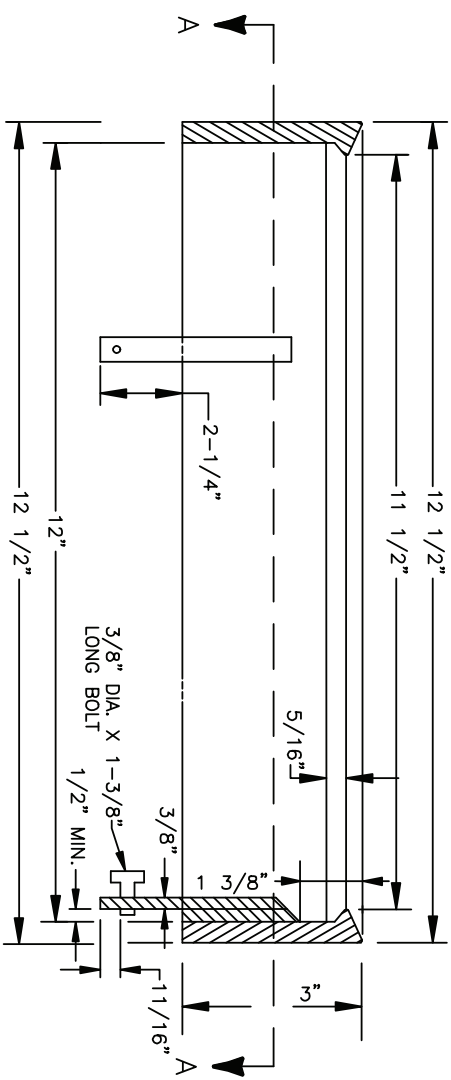
PLAN



SECTION "C-C"

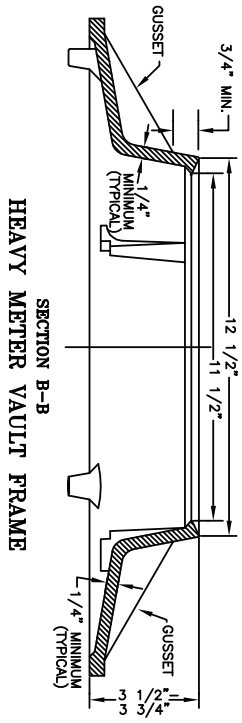
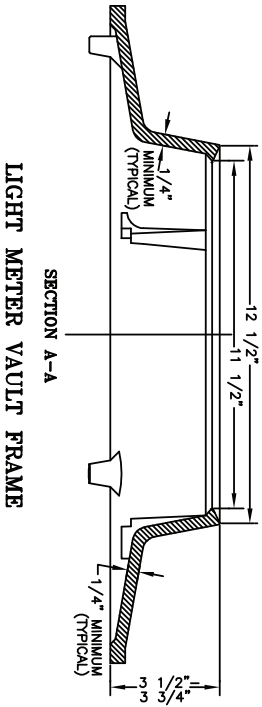
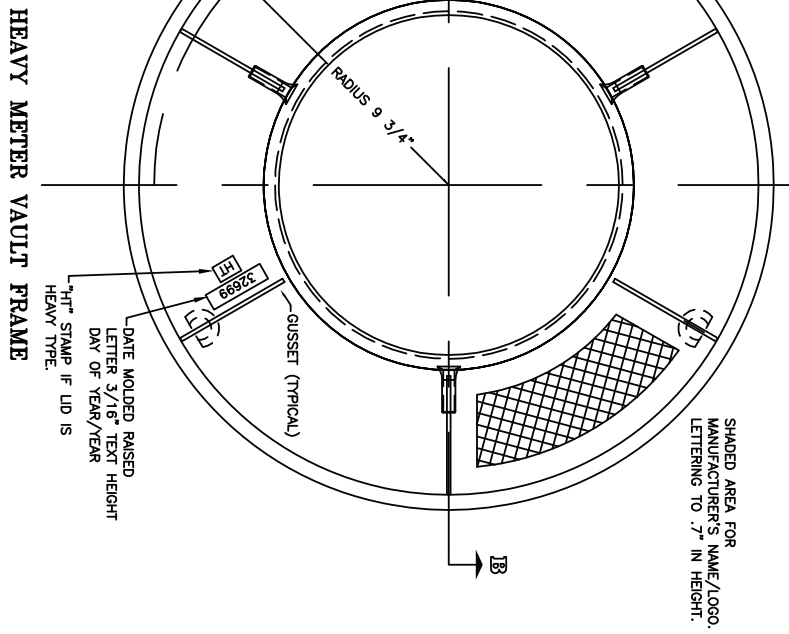
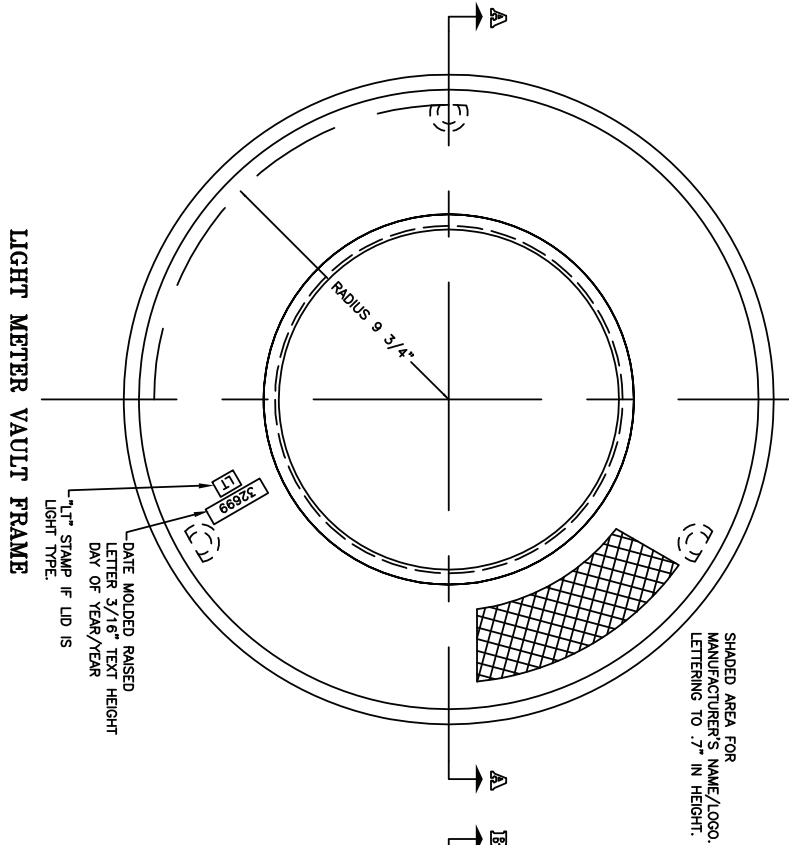


SECTION "A-A"



SECTION "B-B"

LOUISVILLE WATER COMPANY	
650 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 589-8800	
GREGORY C. HEITZMAN - PRESIDENT	
JAMES H. BRAMMEL - VICE PRESIDENT/CHIEF ENGINEER	
STANDARD DRAWING	
3" RISER (HEX HEAD BOLT)	
FOR SMALL METER VAULT COVERS	
DATE	DEC 2010
DRAWING NO.	5103B
SCALE	NONE
SHEET	1 OF 1



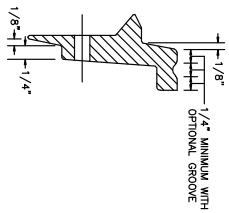
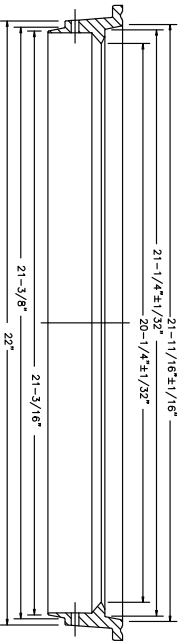
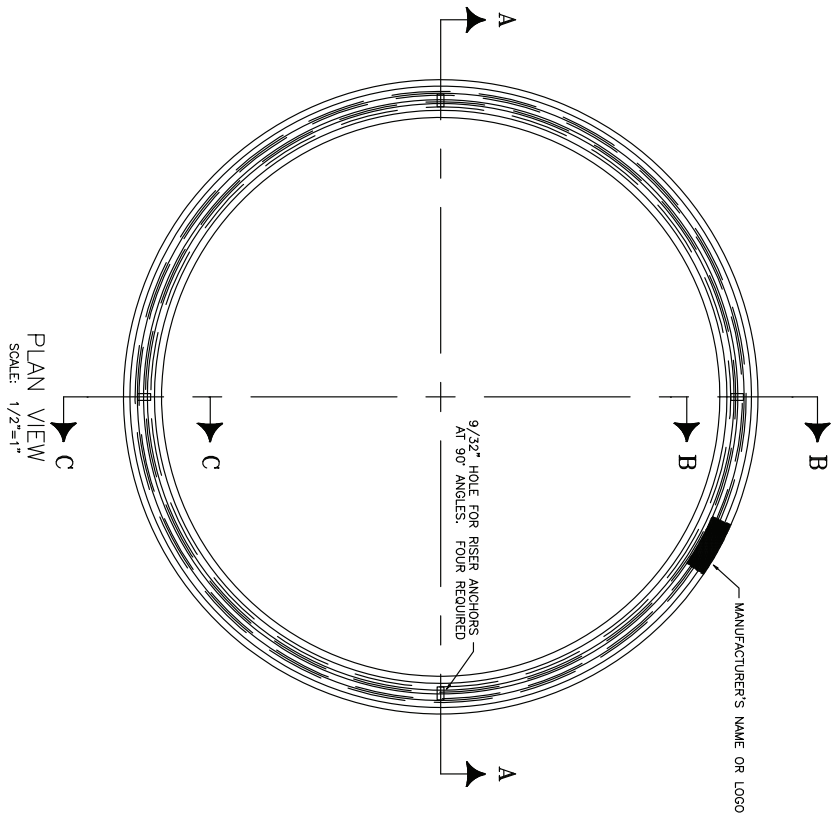
SECTION A-A
LIGHT METER VAULT FRAME

SECTION B-B
HEAVY METER VAULT FRAME

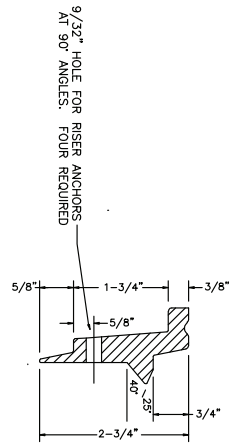
LOUISVILLE WATER COMPANY
550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 569-3600
SPENCER W. BRUCE, P.E. • PRESIDENT
TIMOTHY KRAUS, P.E. • VICE PRESIDENT / CHIEF ENGINEER

STANDARD DRAWING

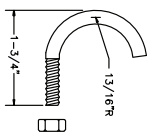
DATE	SEPTEMBER 2019	SCALE	NONE
DRAWING NO.	5104	SHEET	1 OF 1



SECTION "C-C"
SCALE: FULL SCALE



SECTION "B-B"
SCALE: FULL SCALE



1/4" BRASS ANCHOR
SCALE: NONE

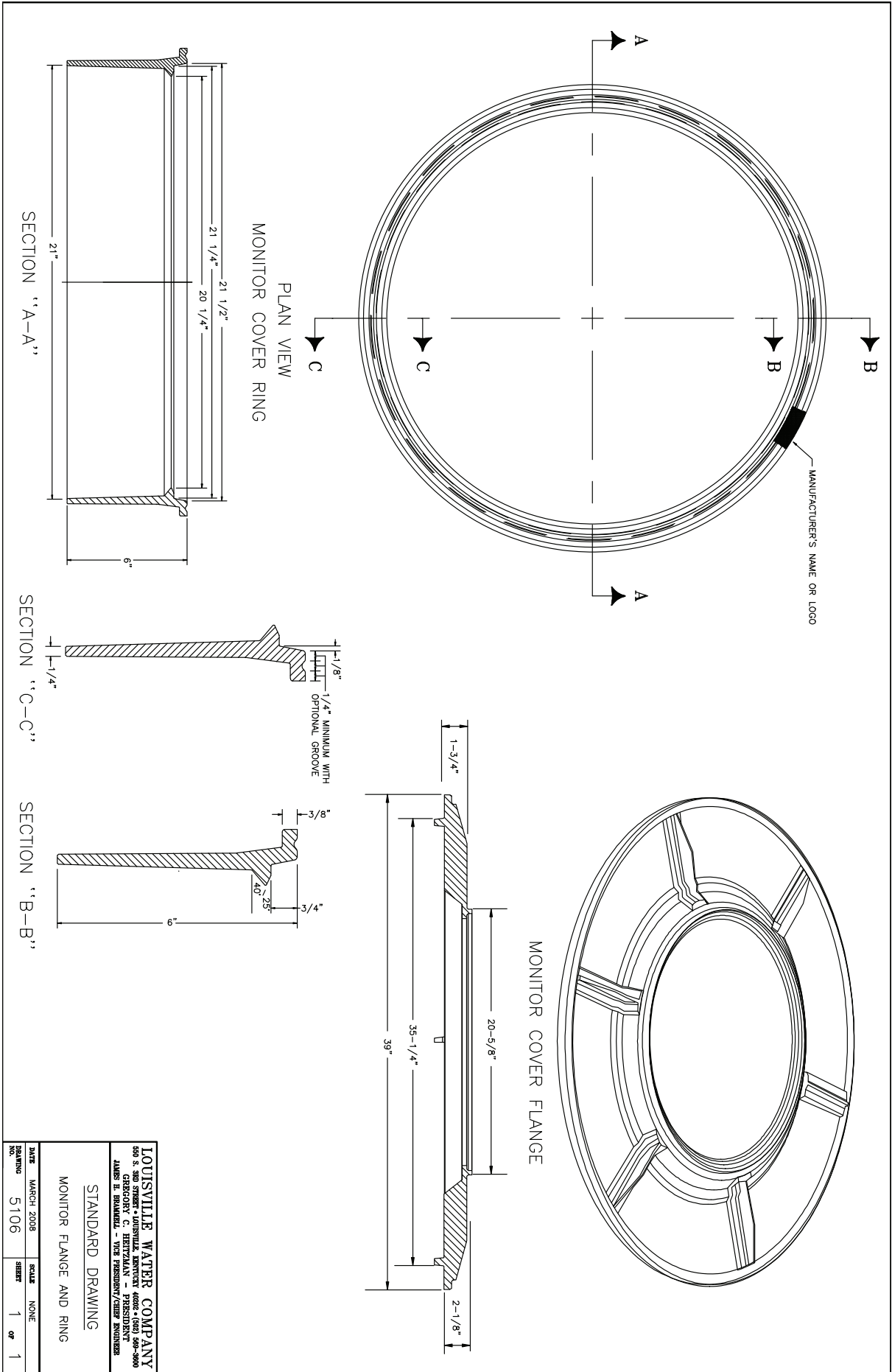
REVISED: 3-31/08 RC

LOUISVILLE WATER COMPANY
450 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 586-3800
GREGORY C. HEITZMANN - PRESIDENT
JAMES B. BRAMMILL - VICE PRESIDENT/CREW ENGINEER

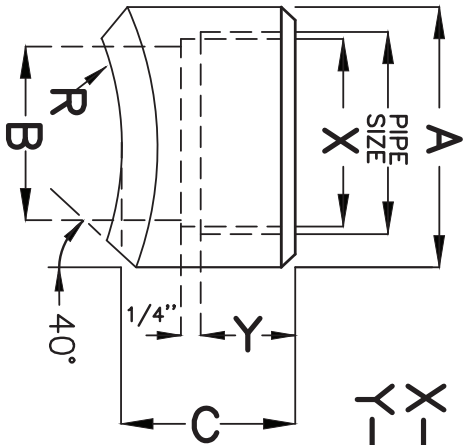
STANDARD DRAWING

MONITOR LID RISER RING

DATE	SCALE	BY	CHK
MARCH 2008	NONE	5105	1
5105	1	1	1



LOUISVILLE WATER COMPANY			
509 S. GREGORY C. HERTZMAN - PRESIDENT			
JAMES B. BRAMMEL - VICE PRESIDENT/CHIEF ENGINEER			
STANDARD DRAWING			
MONITOR FLANGE AND RING			
DATE	MARCH 2008	SCALE	NONE
DRAWING NO.	5106	SHEET	1 OF 1



**X-NPT TAP DRILL SIZE
Y-PIPE DEPTH MIN.**

PIPE SIZE	A	B	C	Y	R
1/2	1.125	.687	1.000	.781	0.420
3/4	1.375	.875	1.125	.793	0.525
1	1.625	1.125	1.375	.984	0.657
1 1/4	2.062	1.437	1.500	1.008	0.830
1 1/2	2.250	1.687	1.500	1.025	0.950
2	2.875	2.218	1.750	1.058	1.187
2 1/2	3.375	2.500	2.000	1.571	1.437
3	4.000	3.125	2.500	1.633	1.750

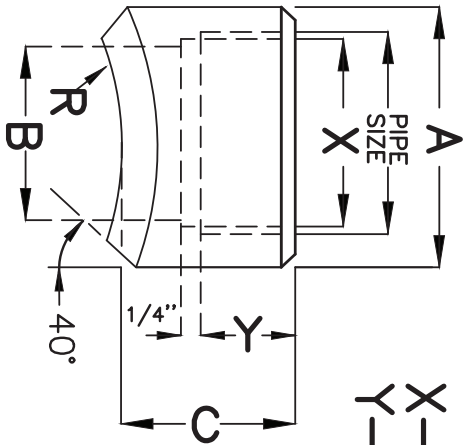
ALL DIMENSIONS ARE INCHES.
(ENGLISH UNITS)

**NOTE:
FOR TAKE OFF DIM'S
ADD "C" DIM, PLUS
HALF THE HEADER SIZE.**

LOUISVILLE WATER COMPANY
550 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 566-3800
GREGORY C. HERTZMAN - PRESIDENT
JAMES E. BRAMMEL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
WELDOLET
FITTING

DATE	FEBRUARY 2012	SCALE	NONE
DRAWING NO.	9004	SHEET	1 OF 1



**X-NPT TAP DRILL SIZE
Y-PIPE DEPTH MIN.**

PIPE SIZE	A	B	C	Y	R
1/2	1.125	.687	1.000	.781	0.420
3/4	1.375	.875	1.125	.793	0.525
1	1.625	1.125	1.375	.984	0.657
1 1/4	2.062	1.437	1.500	1.008	0.830
1 1/2	2.250	1.687	1.500	1.025	0.950
2	2.875	2.218	1.750	1.058	1.187
2 1/2	3.375	2.500	2.000	1.571	1.437
3	4.000	3.125	2.500	1.633	1.750

ALL DIMENSIONS ARE INCHES.
(ENGLISH UNITS)

**NOTE:
FOR TAKE OFF DIM'S
ADD "C" DIM, PLUS
HALF THE HEADER SIZE.**

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STANDARD DRAWING
WELDOLET
FITTING

DATE	FEBRUARY 2012	SCALE	NONE
DRAWING NO.	9004	SHEET	1 OF 1

KyTC BMP Plan for Project PCN 5-9016.00



Kentucky Transportation Cabinet

Highway District 5

And

_____ (2), Construction

Kentucky Pollutant Discharge Elimination System

Permit KYR10

Best Management Practices (BMP) plan

Groundwater protection plan

For Highway Construction Activities

For

Fegenbush Lane at Fenwick Drive Left Turn Lane

Project: PCN 5-9016.00

KyTC BMP Plan for Project PCN 5–9016.00

Project information

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

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

Phone number: (2)
Contact: (2)
Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number (2)
5. Route (Address): Fegenbush Lane, Louisville, KY 40228
6. Latitude/Longitude (project mid-point): 38/9/18, 85/38/11
7. County (project mid-point): Jefferson
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KyTC BMP Plan for Project PCN 5–9016.00

A. Site description:

1. Nature of Construction Activity (from letting project description): Grade, Drain & Asphalt Resurfacing
2. Order of major soil disturbing activities (2) and (3)
3. Projected volume of material to be moved: 258 CY
4. Estimate of total project area (acres): 1.35 Ac
5. Estimate of area to be disturbed (acres): 0.92 Ac
6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information.
7. Data describing existing soil condition: No Data Reported & (2)
8. Data describing existing discharge water quality (if any): None & (2)
9. Receiving water name: Tributary to Fern Creek
10. TMDLs and Pollutants of Concern in Receiving Waters: None (DEA)
11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.
12. Potential sources of pollutants:

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

KyTC BMP Plan for Project PCN 5–9016.00

B. Sediment and Erosion Control Measures:

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

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

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as “Do Not Disturb” until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP’s shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. All DDA’s will have adequate BMP’s in place before being disturbed.
3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:
 - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.
 - At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.

KyTC BMP Plan for Project PCN 5–9016.00

- Clearing and Grubbing – The following BMP's will be considered and used where appropriate.
 - Leaving areas undisturbed when possible.
 - Silt basins to provide silt volume for large areas.
 - Silt Traps Type A for small areas.
 - Silt Traps Type C in front of existing and drop inlets which are to be saved
 - Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
 - Brush and/or other barriers to slow and/or divert runoff.
 - Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
 - Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
 - Non-standard or innovative methods.
- Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
 - Silt Traps Type B in ditches and/or drainways as they are completed
 - Silt Traps Type C in front of pipes after they are placed
 - Channel Lining
 - Erosion Control Blanket
 - Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
 - Non-standard or innovative methods
- Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
 - Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
 - Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
 - Additional Channel Lining and/or Erosion Control Blanket.
 - Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
 - Special BMP's such as Karst Policy
- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:
 - Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.

KyTC BMP Plan for Project PCN 5–9016.00

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

C. Other Control Measures

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

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

3. Hazardous Waste

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

4. Spill Prevention

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

- **Good Housekeeping:**

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

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

➤ **Hazardous Products:**

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

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

The following product-specific practices will be followed onsite:

➤ **Petroleum Products:**

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

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

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

➤ **Fertilizers:**

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

➤ **Paints:**

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

➤ **Concrete Truck Washout:**

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

➤ **Spill Control Practices**

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

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

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- 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. *There are other local (MS4) requirements that are being added to this project.*

E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.
- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.
 - Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. *There are no such BMP's.*

F. Inspections

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

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- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by individuals that have received KyTC Grade Level II training or other qualification as prescribed by the cabinet that includes instruction concerning sediment and erosion control.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 70 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

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

- Water from water line flushings.
- Water from cleaning concrete trucks and equipment.

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- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater and rain water (from dewatering during excavation).

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

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

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

KyTC BMP Plan for Project PCN 5-9016.00

_____ 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.)

MATERIAL SUMMARY

CONTRACT ID: 224309

056GR22T006-HSIP

0505610652201

OUTER LOOP (KY 1065) IMPROVEMENTS AT THE INTERSECTION OF OUTER LOOP & GRADE LANE JPC PAVEMENT WITH GRADE & DRAIN, A DISTANCE OF .2 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0530	00001	DGA BASE	71.00	TON
0535	00100	ASPHALT SEAL AGGREGATE	5.00	TON
0540	00103	ASPHALT SEAL COAT	1.00	TON
0545	02084	JPC PAVEMENT-8 IN	205.00	SQYD
0550	20550ND	SAWCUT PAVEMENT	300.00	LF
0555	01845	ISLAND INTEGRAL CURB	129.00	LF
0560	02200	ROADWAY EXCAVATION	77.00	CUYD
0565	02562	TEMPORARY SIGNS	300.00	SQFT
0570	02650	MAINTAIN & CONTROL TRAFFIC - (KY 1065 @ GRADE LANE)	1.00	LS
0575	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0580	02726	STAKING - (KY 1065 @ GRADE LANE)	1.00	LS
0585	02775	ARROW PANEL	1.00	EACH
0590	06556	PAVE STRIPING-DUR TY 1-6 IN W	283.00	LF
0595	06557	PAVE STRIPING-DUR TY 1-6 IN Y	84.00	LF
0600	21373ND	REMOVE SIGN	1.00	EACH
0605	23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	21.00	LF
0610	23270ES717	PAVE MARK TY 1 TAPE-CURV ARROW	2.00	EACH
0615	24768EC	LANE SEPARATOR CURB - (PEXCO FG300)	152.00	LF
0620	00520	STORM SEWER PIPE-12 IN	8.00	LF
0625	01310	REMOVE PIPE	8.00	LF
0630	01559	DROP BOX INLET TYPE 13G	1.00	EACH
0635	21819NN	FITTINGS - (12 INCH TO PROPOSED 12 INCH STORM SEWER)	2.00	EACH
0640	02569	DEMOBILIZATION	1.00	LS

CONTRACT ID: 224309

056GR22T006-HSIP

0505617472201

HURSTBOURNE PARKWAY (KY 1747) IMPROVEMENTS AT THE INTERSECTION OF HURSTBOURNE PARKWAY & THE I-64 WB OFF RAMP AT EXIT 15 GRADE & DRAIN, A DISTANCE OF .49 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00001	DGA BASE	20.00	TON
0010	01811	STANDARD CURB AND GUTTER MOD - (10 INCH)	94.00	LF
0015	20550ND	SAWCUT PAVEMENT	163.00	LF
0020	02159	TEMP DITCH	65.00	LF
0025	02160	CLEAN TEMP DITCH	33.00	LF
0030	02200	ROADWAY EXCAVATION	79.00	CUYD
0035	02237	DITCHING	20.00	LF
0040	02483	CHANNEL LINING CLASS II	26.00	TON

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0045	02562	TEMPORARY SIGNS	300.00	SQFT
0050	02650	MAINTAIN & CONTROL TRAFFIC - (KY 1747 @ I-64 RAMPS)	1.00	LS
0055	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0060	02701	TEMP SILT FENCE	65.00	LF
0065	02726	STAKING - (KY 1747 @ I-64 RAMPS)	1.00	LS
0070	02775	ARROW PANEL	1.00	EACH
0075	05952	TEMP MULCH	289.00	SQYD
0080	05953	TEMP SEEDING AND PROTECTION	217.00	SQYD
0085	05963	INITIAL FERTILIZER	.01	TON
0090	05964	MAINTENANCE FERTILIZER	.02	TON
0095	05985	SEEDING AND PROTECTION	200.00	SQYD
0100	05990	SODDING	184.00	SQYD
0105	05992	AGRICULTURAL LIMESTONE	.24	TON
0110	06542	PAVE STRIPING-THERMO-6 IN W	11,575.00	LF
0115	06543	PAVE STRIPING-THERMO-6 IN Y	4,409.00	LF
0120	06546	PAVE STRIPING-THERMO-12 IN W	1,510.00	LF
0125	06547	PAVE STRIPING-THERMO-12 IN Y	65.00	LF
0130	06565	PAVE MARKING-THERMO X-WALK-6 IN	282.00	LF
0135	06568	PAVE MARKING-THERMO STOP BAR-24IN	363.00	LF
0140	06569	PAVE MARKING-THERMO CROSS-HATCH	127.00	SQFT
0145	06574	PAVE MARKING-THERMO CURV ARROW	40.00	EACH
0150	06576	PAVE MARKING-THERMO ONLY	18.00	EACH
0155	06578	PAVE MARKING-THERMO MERGE ARROW	3.00	EACH
0160	06598	PAVEMENT MARKING REMOVAL	340.00	SQFT
0165	22664EN	WATER BLASTING EXISTING STRIPE	500.00	LF
0170	22692NS714	PAVEMENT MARKING-THERMO LETTERS	28.00	EACH
0175	24899EC	PAVE MARKING-THERMO ELONG ROUTE SHIELD	7.00	EACH
0180	01689	FLUME INLET TYPE 1 MOD	2.00	EACH
0185	06405	SBM ALUMINUM PANEL SIGNS	714.00	SQFT
0190	06407	SBM ALUM SHEET SIGNS .125 IN	38.25	SQFT
0195	06410	STEEL POST TYPE 1	74.00	LF
0200	06448	SIGN BRIDGE ATTACHMENT BRACKET	1.00	EACH
0205	06490	CLASS A CONCRETE FOR SIGNS	.50	CUYD
0210	20418ED	REMOVE & RELOCATE SIGNS	1.00	EACH
0215	20419ND	ROADWAY CROSS SECTION	1.00	EACH
0220	21373ND	REMOVE SIGN	1.00	EACH
0225	21596ND	GMSS TYPE D	2.00	EACH
0230	21596ND	GMSS TYPE D - (SURFACE MOUNT)	2.00	EACH
0235	23639ED	REM SIGN BRIDGE MOUNT ATTACHMENT	1.00	EACH
0240	24601EC	INSTALL - (PANEL SIGN ON EXISTING TRUSS)	2.00	EACH
0245	24631EC	BARCODE SIGN INVENTORY	5.00	EACH
0250	24894EC	REMOVE - (EXISTING PANEL SIGN FROM EXISTING TRUSS)	2.00	EACH
0255	04792	CONDUIT-1 IN - (RIGID STEEL)	20.00	LF
0260	04820	TRENCHING AND BACKFILLING	20.00	LF
0265	04830	LOOP WIRE	394.00	LF
0270	04895	LOOP SAW SLOT AND FILL	152.00	LF
0275	24963ED	LOOP TEST	4.00	EACH
0280	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 224309

056GR22T006-HSIP

0505618652201

TAYLOR BLVD (KY 1865) IMPROVEMENTS AT THE INTERSECTION OF TAYLOR BLVD & THE I-264 EB OFF RAMP AT EXIT 9 JPC PAVEMENT WITH GRADE & DRAIN, A DISTANCE OF .31 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0645	00001	DGA BASE	239.00	TON
0650	00100	ASPHALT SEAL AGGREGATE	5.00	TON
0655	00103	ASPHALT SEAL COAT	1.00	TON
0660	01810	STANDARD CURB AND GUTTER	96.00	LF
0665	01812	REMOVE CURB AND GUTTER	175.00	LF
0670	01830	STANDARD INTEGRAL CURB	108.00	LF
0675	02071	JPC PAVEMENT-11 IN	672.00	SQYD
0680	02720	SIDEWALK-4 IN CONCRETE	54.00	SQYD
0685	02721	REMOVE CONCRETE SIDEWALK	41.00	SQYD
0690	23158ES505	DETECTABLE WARNINGS	48.00	SQFT
0695	02159	TEMP DITCH	211.00	LF
0700	02160	CLEAN TEMP DITCH	105.00	LF
0705	02200	ROADWAY EXCAVATION	371.00	CUYD
0710	02562	TEMPORARY SIGNS	300.00	SQFT
0715	02650	MAINTAIN & CONTROL TRAFFIC - (KY 1865 @ I-264 RAMPS)	1.00	LS
0720	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0725	02701	TEMP SILT FENCE	211.00	LF
0730	02726	STAKING - (KY 1865 @ I-264 RAMPS)	1.00	LS
0735	02775	ARROW PANEL	1.00	EACH
0740	05950	EROSION CONTROL BLANKET	25.00	SQYD
0745	05952	TEMP MULCH	1,100.00	SQYD
0750	05953	TEMP SEEDING AND PROTECTION	825.00	SQYD
0755	05963	INITIAL FERTILIZER	.03	TON
0760	05964	MAINTENANCE FERTILIZER	.05	TON
0765	05985	SEEDING AND PROTECTION	900.00	SQYD
0770	05992	AGRICULTURAL LIMESTONE	.57	TON
0775	06556	PAVE STRIPING-DUR TY 1-6 IN W	1,424.00	LF
0780	06557	PAVE STRIPING-DUR TY 1-6 IN Y	1,752.00	LF
0785	06561	PAVE STRIPING-DUR TY 1-12 IN Y	10.00	LF
0790	06598	PAVEMENT MARKING REMOVAL	92.00	SQFT
0795	20550ND	SAWCUT PAVEMENT	547.00	LF
0800	26165ES717	PAVE MARK TY 1 TAPE YIELD BAR-36 IN	16.00	LF
0805	22664EN	WATER BLASTING EXISTING STRIPE	614.00	LF
0810	22692NS714	PAVEMENT MARKING-THERMO LETTERS - (TYPE 1 TAPE)	2.00	EACH
0815	23251ES717	PAVE MARK TY 1 TAPE X-WALK-6 IN	274.00	LF
0820	23254ES717	PAVE MARK TY 1 TAPE DOTTED LANE EXT	35.00	LF
0825	23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	29.00	LF
0830	23269ES717	PAVE MARK TY 1 TAPE-COMBO ARROW	4.00	EACH
0835	23270ES717	PAVE MARK TY 1 TAPE-CURV ARROW	14.00	EACH
0840	24894EC	REMOVE - (PAVEMENT MARKER LENS ONLY)	7.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0845	24899EC	PAVE MARKING-THERMO ELONG ROUTE SHIELD - (TYPE 1 TAPE)	1.00	EACH
0850	00522	STORM SEWER PIPE-18 IN	8.00	LF
0855	01310	REMOVE PIPE	8.00	LF
0860	01490	DROP BOX INLET TYPE 1	1.00	EACH
0865	01689	FLUME INLET TYPE 1 MOD	1.00	EACH
0870	01705	REMOVE CURB & GUTTER BOX INLET	1.00	EACH
0875	21819NN	FITTINGS - (18 INCH TO PROPOSED 18 INCH STORM SEWER PIPE)	2.00	EACH
0880	06406	SBM ALUM SHEET SIGNS .080 IN	47.56	SQFT
0885	06407	SBM ALUM SHEET SIGNS .125 IN	7.50	SQFT
0890	06410	STEEL POST TYPE 1	152.00	LF
0895	20418ED	REMOVE & RELOCATE SIGNS	3.00	EACH
0900	21373ND	REMOVE SIGN	2.00	EACH
0905	21596ND	GMSS TYPE D - (SURFACE MOUNT)	1.00	EACH
0910	24631EC	BARCODE SIGN INVENTORY	23.00	EACH
0915	04792	CONDUIT-1 IN - (RIGID STEEL)	20.00	LF
0920	04811	ELECTRICAL JUNCTION BOX TYPE B	1.00	EACH
0925	04820	TRENCHING AND BACKFILLING	480.00	LF
0930	04830	LOOP WIRE	567.00	LF
0935	04845	CABLE-NO. 14/7C	500.00	LF
0940	04850	CABLE-NO. 14/1 PAIR	450.00	LF
0945	04895	LOOP SAW SLOT AND FILL	239.00	LF
0950	20093NS835	INSTALL PEDESTRIAN HEAD-LED	2.00	EACH
0955	21743NN	INSTALL PEDESTRIAN DETECTOR	2.00	EACH
0960	23222EC	INSTALL SIGNAL PEDESTAL	1.00	EACH
0965	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	50.00	LF
0970	24955ED	REMOVE SIGNAL EQUIPMENT - (KY 1865 @ I-264 RAMPS)	1.00	EACH
0975	24963ED	LOOP TEST	2.00	EACH
0980	04740	POLE BASE	3.00	EACH
0985	04750	TRANSFORMER BASE	3.00	EACH
0990	04780	FUSED CONNECTOR KIT	13.00	EACH
0995	04793	CONDUIT-1 1/4 IN	410.00	LF
1000	04832	WIRE-NO. 12	378.00	LF
1005	04834	WIRE-NO. 6	820.00	LF
1010	04940	REMOVE LIGHTING - (KY 1865 @ I-264 RAMPS)	1.00	LS
1015	04942	REMOVE STORE & REINSTALL POLE	3.00	EACH
1020	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	2.00	EACH
1025	20410ED	MAINTAIN LIGHTING - (KY 1865 @ I-264 RAMPS)	1.00	LS
1030	23778EC	WIRE-NO. 10	410.00	LF
1035	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	3.00	EACH
1040	02351	GUARDRAIL-STEEL W BEAM-S FACE	275.00	LF
1045	02369	GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH
1050	02381	REMOVE GUARDRAIL	243.00	LF
1055	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

FEGENBUSH LANE (KY 864) CONSTRUCT LEFT TURN LANE AT FENWICK DRIVE AND FEGENBUSH LANE GRADE & DRAIN WITH ASPHALT SURFACE, A DISTANCE OF .16 MILES.

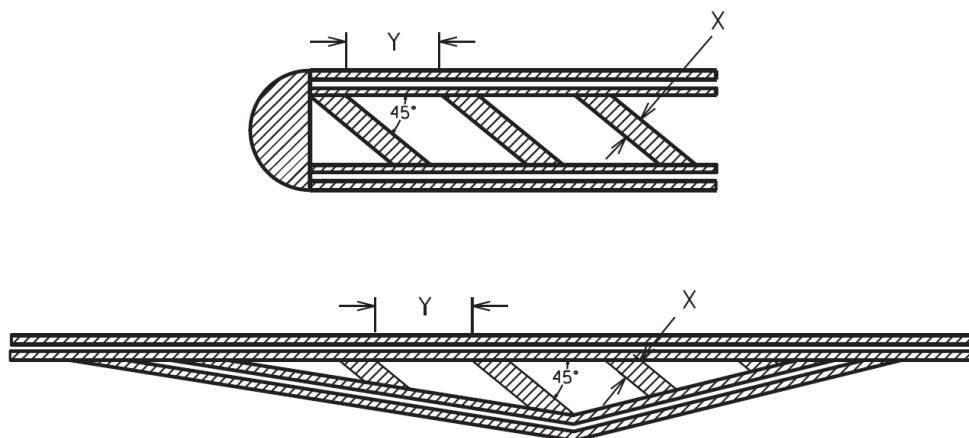
Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0285	00001	DGA BASE	212.00	TON
0290	00071	CRUSHED AGGREGATE SIZE NO 57	10.00	TON
0295	00190	LEVELING & WEDGING PG64-22	143.00	TON
0300	00214	CL3 ASPH BASE 1.00D PG64-22	420.00	TON
0305	22906ES403	CL3 ASPH SURF 0.38A PG64-22	247.00	TON
0310	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	2.05	TON
0315	02014	BARRICADE-TYPE III	4.00	EACH
0320	02200	ROADWAY EXCAVATION	258.00	CUYD
0325	02545	CLEARING AND GRUBBING - (APPROX 0.92 ACRES)	1.00	LS
0330	02562	TEMPORARY SIGNS	132.00	SQFT
0335	02585	EDGE KEY	121.00	LF
0340	02603	FABRIC-GEOTEXTILE CLASS 2	898.00	SQYD
0345	02650	MAINTAIN & CONTROL TRAFFIC - (KY 864 @ FENWICK DRIVE)	1.00	LS
0350	02671	PORTABLE CHANGEABLE MESSAGE SIGN	3.00	EACH
0355	02676	MOBILIZATION FOR MILL & TEXT - (KY 864 @ FENWICK DRIVE)	1.00	LS
0360	02677	ASPHALT PAVE MILLING & TEXTURING	167.00	TON
0365	02701	TEMP SILT FENCE	1,430.00	LF
0370	02703	SILT TRAP TYPE A	1.00	EACH
0375	02704	SILT TRAP TYPE B	4.00	EACH
0380	02705	SILT TRAP TYPE C	1.00	EACH
0385	02706	CLEAN SILT TRAP TYPE A	1.00	EACH
0390	02707	CLEAN SILT TRAP TYPE B	4.00	EACH
0395	02708	CLEAN SILT TRAP TYPE C	1.00	EACH
0400	02726	STAKING - (KY 864 @ FENWICK DRIVE)	1.00	LS
0405	03271	TREE TRIMMING	200.00	LF
0410	05950	EROSION CONTROL BLANKET	100.00	SQYD
0415	05963	INITIAL FERTILIZER	.01	TON
0420	05964	MAINTENANCE FERTILIZER	.04	TON
0425	05985	SEEDING AND PROTECTION	818.00	SQYD
0430	05992	AGRICULTURAL LIMESTONE	.51	TON
0435	06511	PAVE STRIPING-TEMP PAINT-6 IN	4,350.00	LF
0440	06542	PAVE STRIPING-THERMO-6 IN W	1,646.00	LF
0445	06543	PAVE STRIPING-THERMO-6 IN Y	2,880.00	LF
0450	06545	PAVE STRIPING-THERMO-8 IN Y	67.00	LF
0455	06574	PAVE MARKING-THERMO CURV ARROW	2.00	EACH
0460	20550ND	SAWCUT PAVEMENT	849.00	LF
0465	21289ED	LONGITUDINAL EDGE KEY	849.00	LF
0470	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN	145.00	LF
0475	21813NN	REMOVE AND RELOCATE SHEET SIGNS	6.00	EACH
0480	22400NN	REMOVE AND RELOCATE SIGN ASSEMBLY	6.00	EACH
0485	14037	W PIPE DUCTILE IRON 08 INCH	8.00	LF
0490	14039	W PIPE DUCTILE IRON 12 INCH	570.00	LF
0495	14074	W PLUG EXISTING MAIN	3.00	EACH
0500	14080	W SERV PE/PLST LONG SIDE 3/4 IN	5.00	EACH
0505	14095	W TIE-IN 08 INCH	1.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0510	14097	W TIE-IN 12 INCH	2.00	EACH
0515	14106	W VALVE 08 INCH	1.00	EACH
0520	14108	W VALVE 12 INCH	2.00	EACH
0525	02569	DEMOBILIZATION	1.00	LS

CROSS-HATCH PAVEMENT MARKINGS DETAIL

TYPICAL CROSS-HATCH MARKINGS



The cross-hatch pavement marking width (X) and spacing (Y) will usually be specified in the plans. The width to spacing values usually have a ratio of 1:10. If the plans do not specify the width (X) and spacing (Y) the Engineer will provide the contractor with the X and Y values for each cross-hatch installation. If necessary, the Engineer may obtain guidance from the District Traffic Engineer and/or the Division of Traffic Operations.

NOTE: Adjust the width and spacing of the cross-hatch pavement markings as necessary so that a minimum of three (3) cross-hatch markings are placed within the area being marked. The 1:10 ratio between width and spacing values should be maintained as much as possible.

Refer to Section 717 of the Standard Specifications for Road and Bridge Construction, current edition, for more information concerning Material and Construction specifications.

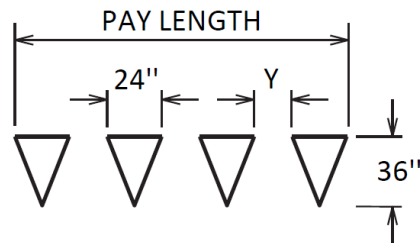
The Department will measure the finished in-place area of Cross-Hatch Pavement Markings in Square Feet. The Department will NOT measure overlaps or the void space between cross-hatching. See Section 717.04 for additional measurement information.

When listed in the bid items, the Department will make payment for the completed and accepted quantities of Cross-Hatch Pavement Markings under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
06569	Pave Marking-Thermo Cross-Hatch	Square Foot
23253ES717	Pave Mark TY 1 Tape Cross Hatch	Square Foot

YIELD BAR PAVEMENT MARKING DETAIL

YIELD BAR DETAILS



NOTE: SPACING (Y) BETWEEN TRIANGLES SHOULD BE 3" - 12"

Triangles should be evenly spaced. The spacing (Y) between triangles will depend on the width of the lane the yield bar is for. Unless otherwise directed by the Engineer, space the triangles according to the lane width as follows:

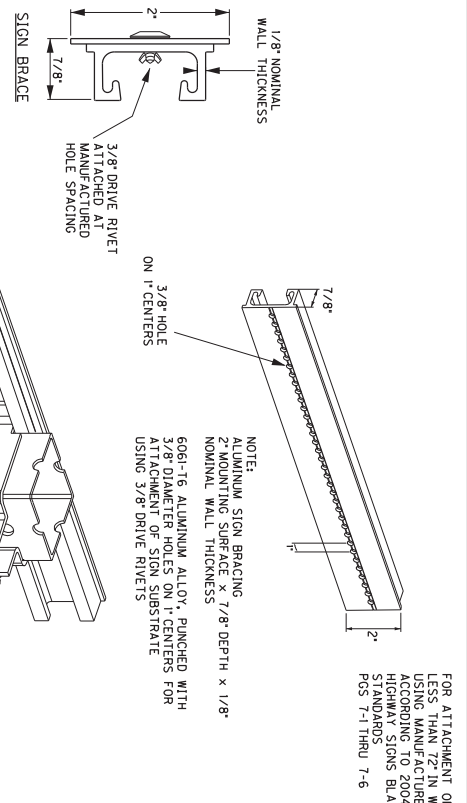
<u>Lane Width</u>	<u># of Triangles</u>	<u>Spacing (Y)</u>
9'	4	4"
10'	4	8"
11'	5	3"
12'	5	6"
13'	5	9"
14'	6	4"
15'	6	7"
16'	7	4"

Refer to Section 717 of the Standard Specifications for Road and Bridge Construction, current edition, for more information concerning Material and Construction specifications.

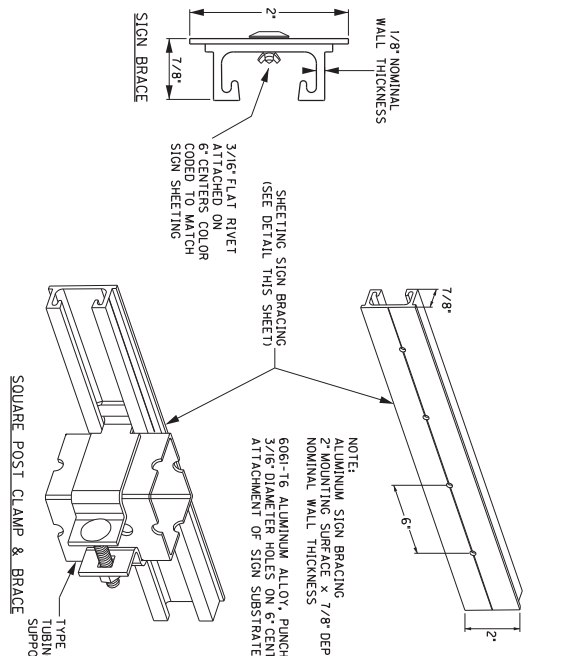
The Department will measure Yield Bars in Linear Feet. The measurement will include the void space between triangles. See Section 717.04 for additional measurement information.

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

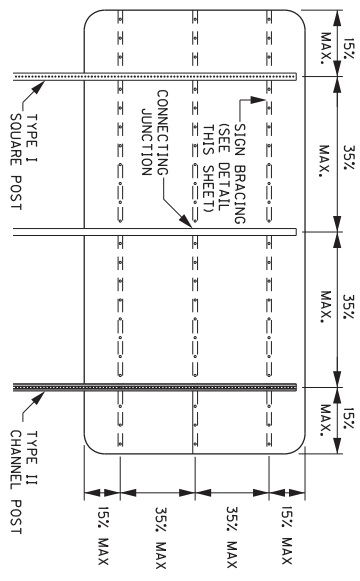
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
22520EN	Pave Marking-Thermo Yield Bar-36 Inch	Linear Foot
26165ES717	Pave Mark TY 1 Tape Yield Bar-36 Inch	Linear Foot



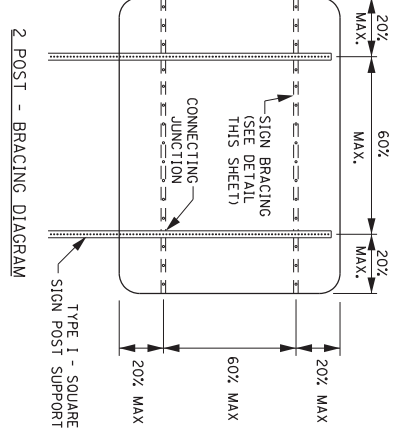
FOR ATTACHMENT OF SIGNS LESS THAN 72" IN WIDTH USING MANUFACTURED 3/8" HOLES ACCORDING TO 2004 STANDARD HIGHWAY SIGNS BLANK STANDARDS POST 7-1 THRU 7-6



FOR ATTACHMENT OF SIGNS GREATER THAN, OR EQUAL TO, 72" IN WIDTH, RIVETS SHALL BE COLOR CODED TO MATCH SHEETING IN ORDER TO MINIMIZE GLARE FROM RIVETS



3 POST - BRACING DIAGRAM
NOTE:
1. MAXIMUM AREA PER CONNECTING JUNCTION = 16 SQ. FT.
2. BRACING SHOULD NOT BE SPLICED WITHIN 6' OF A BRACE TO POST JUNCTION.



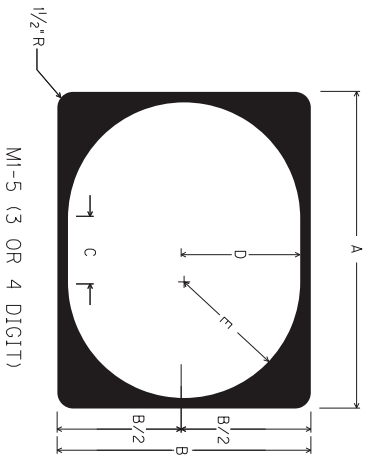
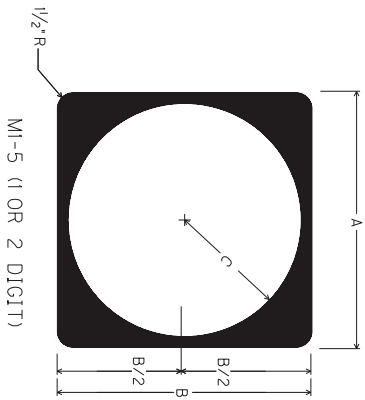
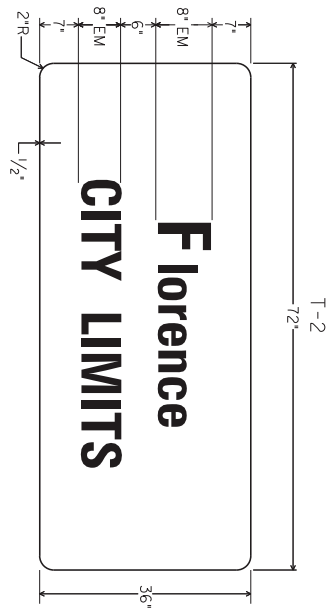
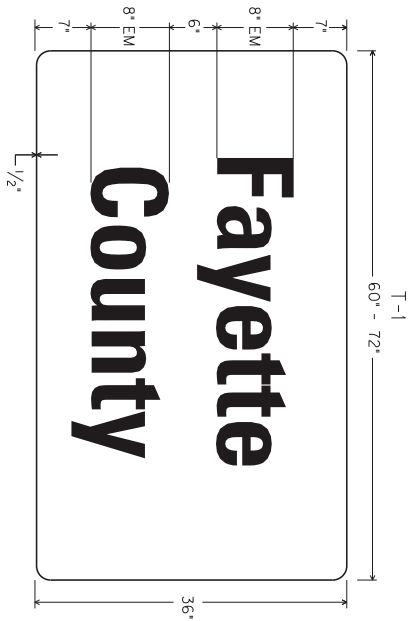
2 POST - BRACING DIAGRAM
NOTE:
2. BRACING SHOULD NOT BE SPLICED WITHIN 6' OF A BRACE TO POST JUNCTION.

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

NOT TO SCALE
SHEETING SIGN DETAIL
SHEET 2 OF 2

COUNTY OF	ITEM NO.	SHEET NO.

COUNTY OF	ITEM NO.	SHEET NO.

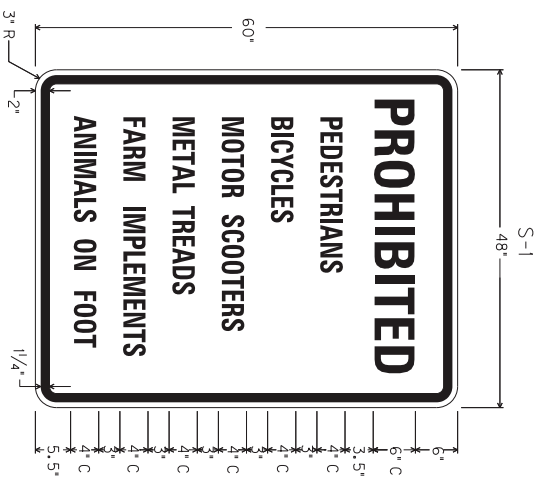


	A	B	C	FONT
CONVENTIONAL	24"	24"	11"	12D
EXPRESSWAY/ FREEWAY	36"	36"	17"	18D

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

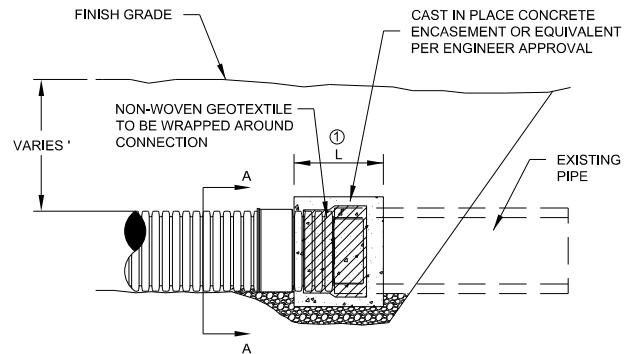
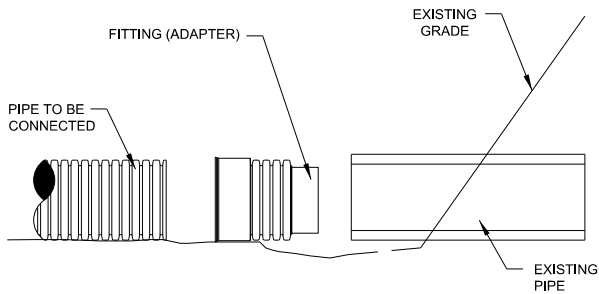
NOTE: FOR ROUTE MARKERS, IF NECESSARY, ADJUSTMENTS TO THE DIGIT LAYOUT AND/OR FONT TYPE MAY BE MADE TO ENSURE VISUAL ACUITY

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



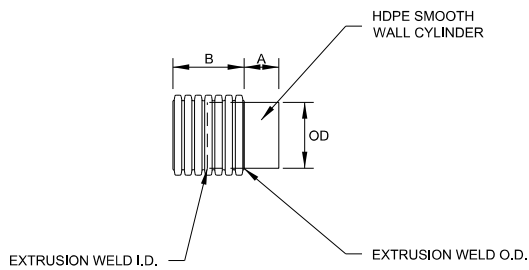
NOT TO SCALE
TYPICAL SIGNS

PIPE EXTENSION DUAL WALL ADAPTER FITTING DETAILS ADAPTER TO DISSIMILAR MATERIAL



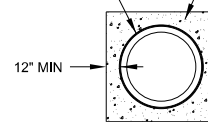
PIPE	L
15"	24"
18"	24.8"
24"	29.6"
36"	49.4"

DUAL WALL ADAPTER FITTING



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

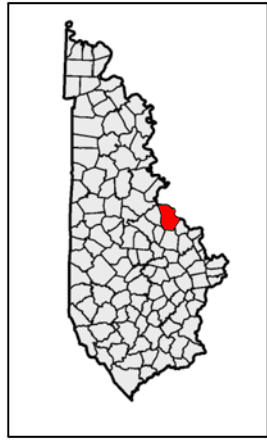
NON-WOVEN GEOTEXTILE TO BE WRAPPED AROUND CONNECTION



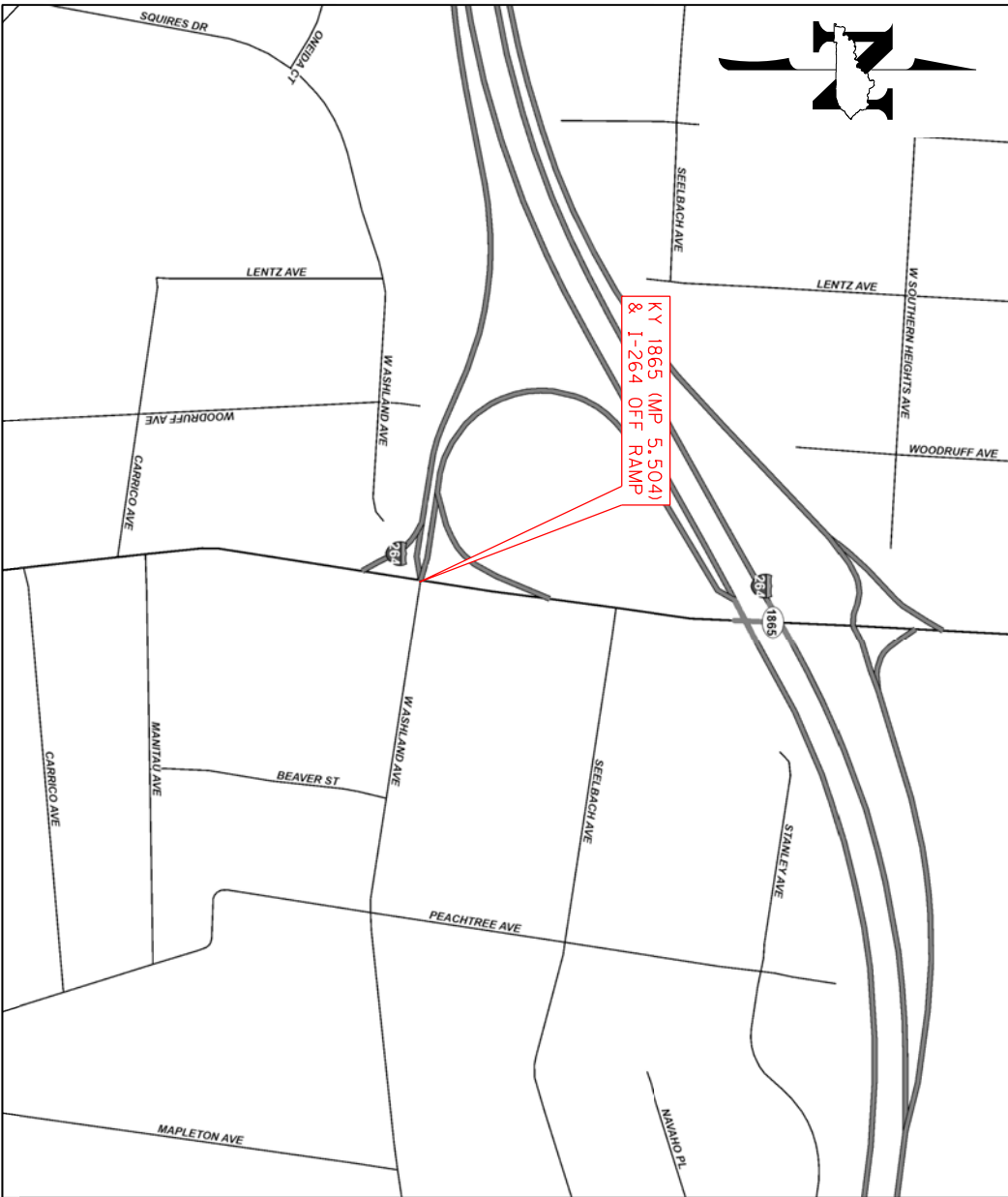
SECTION "A-A"

*CONCRETE ENCASEMENT OR EQUIVALENT IS INCIDENTAL TO BID ITEM FITTINGS (21819NN)

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



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
PLANS OF
PROPOSED PROJECT
JEFFERSON COUNTY
KY 1865



COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

JEFFERSON COUNTY KY 1865 (TAYLOR BLVD) @ EB I-264 RAMPS / W ASHLAND AVE ITEM NO. 5-9019.10 GENERAL SUMMARY (PAGE 1 of 2)			
ITEM NUMBER	ITEM	UNIT	QUANTITY
1	DGA BASE (1)	TON	239
100	ASPHALT SEAL AGGREGATE (1)	TON	5
103	ASPHALT SEAL COAT (1)	TON	1
522	STORM SEWER PIPE-18 IN (2)	LF	8
1310	REMOVE PIPE (2)	LF	8
1490	DROP BOX INLET TYPE 1 (2)	EACH	1
1689	FLUME INLET TYPE 1 MOD (2)	EACH	1
1705	REMOVE CURB & GUTTER BOX INLET (2)	EACH	1
1810	STANDARD CURB AND GUTTER (1)	LF	96
1812	REMOVE CURB AND GUTTER (1)	LF	175
1830	STANDARD INTEGRAL CURB (1)	LF	108
1982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	EACH	3
2071	JPC PAVEMENT-11 IN (1)	SQYD	672
2159	TEMPORARY DITCH	LF	211
2160	CLEAN TEMPORARY DITCH	LF	105
2200	ROADWAY EXCAVATION (1) (A)	CUYD	371
2351	GUARDRAIL-STEEL W BEAM-S FACE	LF	275
2369	GUARDRAIL END TREATMENT TYPE 2A	EACH	1
2381	REMOVE GUARDRAIL	LF	243
2562	TEMPORARY SIGNS	SQFT	300
2569	DEMOBILIZATION	LS	1
2650	MAINTAIN & CONTROL TRAFFIC (KY 1865 @ I-264 RAMPS)	LS	1
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	3
2701	TEMPORARY SILT FENCE	LF	211
2720	SIDEWALK-4 IN CONCRETE (1)	SQYD	54
2721	REMOVE CONCRETE SIDEWALK (1)	SQYD	41
2726	STAKING (KY 1865 @ I-264 RAMPS)	LS	1
4740	POLE BASE (3)	EACH	3
4750	TRANSFORMER BASE (3)	EACH	3
4780	FUSED CONNECTOR KIT (3) (4)	EACH	13
4792	CONDUIT 1 INCH (RIGID STEEL) (4)	LF	20
4793	CONDUIT-1 1/4 IN (3)	LF	410
4811	ELECTRICAL JUNCTION BOX TYPE B (4)	EACH	1
4820	TRENCHING AND BACKFILLING (3) (4)	LF	480
4830	LOOP WIRE (4)	LF	567
4832	WIRE-NO. 12 (3)	LF	378
4834	WIRE-NO. 6 (3)	LF	820
4845	CABLE-NO. 14/7C (4)	LF	500
4850	CABLE-NO. 14/1 PAIR (4)	LF	450
4895	LOOP SAW SLOT AND FILL (4)	LF	239
(1) CARRIED OVER FROM THE PAVING SUMMARY (2) CARRIED OVER FROM THE DRAINAGE SUMMARY (3) CARRIED OVER FROM THE LIGHTING SUMMARY (4) CARRIED OVER FROM THE SIGNAL SUMMARY (A) TOTAL PROJECT EARTHWORK SUMMARY: EXC. = 371 CUYD, EMB. = 210 CUYD			

JEFFERSON COUNTY KY 1865 (TAYLOR BLVD) @ EB I-264 RAMPS / W ASHLAND AVE ITEM NO. 5-9019.10 GENERAL SUMMARY (PAGE 2 of 2)			
ITEM NUMBER	ITEM	UNIT	QUANTITY
4940	REMOVE LIGHTING (3)	LS	1
4942	REMOVE STORE & REINSTALL POLE (3)	EACH	3
5950	EROSION CONTROL BLANKET	SQYD	25
5952	TEMPORARY MULCH	SQYD	1,100
5953	TEMP SEEDING AND PROTECTION	SQYD	825
5963	INITIAL FERTILIZER	TON	0.03
5964	MAINTENANCE FERTILIZER	TON	0.05
5985	SEEDING AND PROTECTION	SQYD	900
5992	AGRICULTURAL LIMESTONE	TON	0.57
6406	SBM ALUM SHEET SIGNS .080 IN (5)	SQFT	47.56
6407	SBM ALUM SHEET SIGNS .125 IN (5)	SQFT	7.50
6410	STEEL POST TYPE 1 (5)	LF	152
6556	PAVE STRIPING-DUR TY 1-6 IN W (6)	LF	1,424
6557	PAVE STRIPING-DUR TY 1-6 IN Y (6)	LF	1,752
6561	PAVE STRIPING-DUR TY 1-12 IN Y (6)	LF	10
6598	PAVEMENT MARKING REMOVAL (6)	SQFT	92
20093NS835	INSTALL PEDESTRIAN HEAD LED (4)	EACH	2
20391NS835	ELECTRICAL JUNCTION BOX TYPE A (3)	LF	2
20410ED	MAINTAIN LIGHTING (3)	LS	1
20418ED	REMOVE & RELOCATE SIGNS (5)	EACH	3
20550ND	SAWCUT PAVEMENT (1)	LF	547
21373ND	REMOVE SIGN (5)	EACH	2
21596ND	GMSS TYPE D (SURFACE MOUNT) (5)	EACH	1
21743NN	INSTALL PEDESTRIAN DETECTOR (4)	EACH	2
21819NN	FITTINGS (18" TO PROPOSED 18" SS PIPE) (2)	EACH	2
26165ES717	PAVE MARK TY 1 TAPE YIELD BAR-36 IN (6)	LF	16
22664EN	WATER BLASTING EXISTING STRIPE (6)	LF	614
22692NS714	PAVEMENT MARKING-THERMO LETTERS (TAPE) (6)	EACH	2
23158ES505	DETECTABLE WARNINGS (1)	SQFT	48
23222EC	INSTALL SIGNAL PEDESTAL (4)	EACH	1
23251ES717	PAVE MARK TY 1 TAPE X-WALK-6 IN (6)	LF	274
23254ES717	PAVE MARK TY 1 TAPE DOTTED LANE EXT (6)	LF	35
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN (6)	LF	29
23269ES717	PAVE MARK TY 1 TAPE-COMBO ARROW (6)	EACH	4
23270ES717	PAVE MARK TY 1 TAPE-CURV ARROW (6)	EACH	14
23778EC	WIRE-NO. 10 (3)	LF	410
24631EC	BARCODE SIGN INVENTORY (5)	EACH	23
24894EC	REMOVE (PAVEMENT MARKER LENS) (6)	EACH	7
24899EC	PAVE MARKING-THERMO ELONG ROUTE SHIELD (TAPE) (6)	EACH	1
24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80 (4)	LF	50
24955ED	REMOVE SIGNAL EQUIPMENT (4)	EACH	1
24963ED	LOOP TEST (4)	EACH	2
(1) CARRIED OVER FROM THE PAVING SUMMARY (2) CARRIED OVER FROM THE DRAINAGE SUMMARY (3) CARRIED OVER FROM THE LIGHTING SUMMARY (4) CARRIED OVER FROM THE SIGNAL SUMMARY (5) CARRIED OVER FROM THE SIGNING SUMMARY (6) CARRIED OVER FROM THE STRIPING / PAVEMENT MARKING SUMMARY			

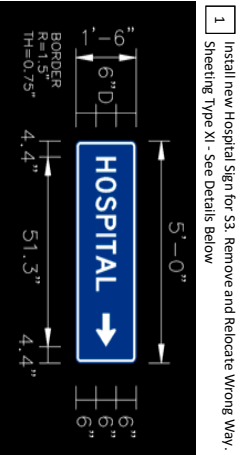
JEFFERSON COUNTY			
KY 1865 (TAYLOR BLVD) & I-264 EB RAMPS / W ASHLAND AVE			
ITEM NO. 5-9019.10			
PAVING SUMMARY			
PAVING AREAS		PAVING QUANTITIES	
ITEM	TOTAL	ITEM	TOTAL
FULL DEPTH CONCRETE PAVEMENT			
	SQYD		TON
11" JPC PAVEMENT	672		
6" DGA BASE	672	DGA BASE	232
ASPHALT SEAL AGGREGATE	185	ASPHALT SEAL AGGREGATE	5
ASPHALT SEAL COAT	185	ASPHALT SEAL COAT	1
	LF		
SAWCUT PAVEMENT	547		
	CUYD		
ROADWAY EXCAVATION	362		
CURB AND GUTTER			
	LF		
STANDARD CURB AND GUTTER	96		
STANDARD INTEGRAL CURB	108		
REMOVE CURB AND GUTTER	175		
SIDEWALK			
	SQYD		TON
SIDEWALK-4 IN CONCRETE	54		
2" DGA BASE	54	DGA BASE	7
REMOVE CONCRETE SIDEWALK	41		
	SQFT		
DETECTABLE WARNINGS	48		
	CUYD		
ROADWAY EXCAVATION	9		
PAVING SUMMARY			
CODE	ITEM	UNITS	PROJECT TOTAL
1	DGA BASE	TON	239
100	ASPHALT SEAL AGGREGATE	TON	5
103	ASPHALT SEAL COAT	TON	1
1810	STANDARD CURB AND GUTTER	LF	96
1812	REMOVE CURB AND GUTTER	LF	175
1830	STANDARD INTEGRAL CURB	LF	108
2071	JPC PAVEMENT-11 IN	SQYD	672
2200	ROADWAY EXCAVATION	CUYD	371
2720	SIDEWALK-4 IN CONCRETE	SQYD	54
2721	REMOVE CONCRETE SIDEWALK	SQYD	41
20550ND	SAWCUT PAVEMENT	LF	547
23158ES505	DETECTABLE WARNINGS	SQFT	48
NOTES:			
DGA Base estimated at 115 lbs. per SQ. YD. per inch of depth			
Seal Coat: First course estimated at 3.2 lbs. per SQ. YD. Second course estimated at 2.8 lbs. per SQ. YD.			
Seal Aggregate: First course estimated at 30 lbs. per SQ. YD. Second course estimated at 20 lbs. per SQ. YD.			

JEFFERSON COUNTY - KY 1865 (TAYLOR BLVD) @ EB 1-264 RAMPS / W ASHLAND AVE MILEPOST 5.504 ITEM NO. 5-9019.10 DRAINAGE SUMMARY						
STATION	STORM SEWER PIPE ①		MISCELLANEOUS ①			
	STORM SEWER PIPE-18 IN	REMOVE PIPE	DROP BOX INLET TYPE 1	FLUME INLET TYPE 1 MOD	REMOVE CURB & GUTTER BOX INLET	FITTINGS ②
ITEM CODE	522	1310	1490	1689	1705	21819NN
UNIT TO BID	LF		EACH		EACH	
16+20	8	8	1		1	2
16+30				1		
PROJECT TOTALS	8	8	1	1	1	2
NOTES:						
① THE CONTRACTOR SHALL FIELD VERIFY TYPES AND DIMENSIONS PRIOR TO ORDERING.						
② FITTINGS HAVE BEEN INCLUDED FOR ALL PIPE CONNECTIONS. SEE THE GENERAL SUMMARY FOR FITTINGS LISTED BY SIZE.						

SIGN LOCATION				Sign Summary				Jefferson County				KY 1865 @ 1-264 EB Off Ramp									
Assembly ID	Side of Road	Approx Station	Road	Facing Traffic Traveling	MUTCD Code	Sign Text / Remarks	Sign Dimensions (in x in)	Text/ Symbol Color	Background Color	Sheeting Type	SBW Alum Sheet Signs 0.080 INCH (SQ FT)	SBW Alum Sheet Signs 0.125 INCH (SQ FT)	Installation Type	Bracing Req'd	# of Sign Posts	Estimated Length of 2" Post (ft)	Estimated Length of 2-1/2" Post (ft)	2-1/4" Stiffener Req'd (Inch/ft to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)	
S1	RT	12+85	RAMMP	EB		DO NOT DISTURB							Strnd w/ Soil Plate	Yes	2	15				30	2
S2	RT	14+80	RAMMP	EB		Remove & Relocate						7.50	Strnd w/ Soil Plate	Yes	2	13				26	2
S3	RT	15+80	RAMMP	EB		Remove & Relocate							Strnd w/ Soil Plate	Yes	2	15				30	4
S4	RT	16+40	RAMMP	EB		Remove & Relocate							Strnd w/ Soil Plate	Yes	2	15				30	4
S5	RT	4+50	KY 1865	NB									Strnd w/ Soil Plate		1	14				14	1
S5	RT	4+50	KY 1865	NB	M3-2	East	24 x 12	White	Blue	XI	2.00		Strnd w/ Soil Plate		1	14				14	1
					M1-1a	Interstate Route Sign (3-digit)	30 x 24	White	Blue & Red	XI	5.00	Strnd w/ Soil Plate		1	14				14	1	
					M5-4	Left Lane West	24 x 18	White	Blue	XI	3.00	Strnd w/ Soil Plate		1	14				14	1	
					M3-4	West	24 x 12	White	Blue	XI	2.00	Strnd w/ Soil Plate		1	14				14	1	
					M1-1a	Interstate Route Sign (3-digit)	30 x 24	White	Blue & Red	XI	5.00	Strnd w/ Soil Plate		1	14				14	1	
S6	RT	5+50	KY 1865	NB	M5-5	Center Lane East	24 x 18	White	Blue	XI	3.00		Strnd w/ Soil Plate		1	14				14	1
					M3-2	East	24 x 12	White	Blue	XI	2.00	Strnd w/ Soil Plate		1	14				14	1	
					M1-1a	Interstate Route Sign (3-digit)	30 x 24	White	Blue & Red	XI	5.00	Strnd w/ Soil Plate		1	14				14	1	
					M5-1L	Advance Left Turn Arrow West	24 x 15	White	Blue	XI	2.19	Strnd w/ Soil Plate		1	14				14	1	
					M3-4	West	24 x 12	White	Blue	XI	2.00	Strnd w/ Soil Plate		1	14				14	1	
S7	MED LT	10+75	KY 1865	NB	M6-3	Straight Arrow East	21 x 15	White	Blue	XI	2.19		Strnd w/ Soil Plate		1	14				14	1
					M3-2	East	24 x 12	White	Blue	XI	2.00	Strnd w/ Soil Plate		1	14				14	1	
					M1-1a	Interstate Route Sign (3-digit)	30 x 24	White	Blue & Red	XI	5.00	Strnd w/ Soil Plate		1	14				14	1	
					M6-2aL	Downward Left Diagonal Arrow	21 x 15	White	Blue	XI	2.19	Strnd w/ Soil Plate		1	14				14	1	

Summary of Items			
SBW Alum Sheet Signs 0.080 INCH	47.56	SQ FT	
SBW Alum Sheet Signs 0.125 INCH	7.50	SQ FT	
Barcode Sign Inventory	23	EACH	
Remove & Relocate Signs	3	EACH	

Summary of Items			
Steel Post - Type 1	152	LF	
GMSS Type D (Surface Mount)	1	EACH	
Remove Sign	2	EACH	



JEFFERSON COUNTY KY 1865 (TAYLOR BLVD) & I-264 EB RAMPS / W ASHLAND AVE ITEM NO. 5-9019.10 STRIPING / PAVEMENT MARKING SUMMARY PAGE 1 OF 3					
PROPOSED STRIPING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
KY 1865 NORTHBOUND					
6" Double Solid Yellow Line (PAVE STRIPING-DUR TY 1-6 IN Y)					
4+17	4' LEFT	9+96	6.5' LEFT	580	1160
4+17	3' RIGHT	5+17	6.5' LEFT	100	200
12" Single Solid Yellow Line (PAVE STRIPING-DUR TY 1-12 IN Y)					
4+17	4' LEFT	4+17	3' RIGHT	10	10
6" Single Solid White Line (PAVE STRIPING-DUR TY 1-6 IN W)					
5+17	6.5' RIGHT	9+96	6.5' RIGHT	479	479
6" Single Dotted Lane Line Extension (PAVE MARK TY 1 TAPE DOTTED LANE EXT) - YELLOW					
9+96	6.5' LEFT	10+50	53' LEFT	79	35
KY 1865 SOUTHBOUND					
6" Single Solid White Line (PAVE STRIPING-DUR TY 1-6 IN W)					
12+14	31' LEFT	14+33	31' LEFT	219	219
6" Dotted Extension White Line (PAVE STRIPING-DUR TY 1-6 IN W)					
14+33	31' LEFT	16+22	31' LEFT	188	47
EB I-264 OFF RAMP					
6" Single Solid Yellow Line (PAVE STRIPING-DUR TY 1-6 IN Y)					
12+49	14' LEFT	16+41	14' LEFT	392	392
6" Single Solid White Line (PAVE STRIPING-DUR TY 1-6 IN W)					
12+49	0'	16+51	19' RIGHT	407	407
13+69	2' LEFT	16+41	2' LEFT	272	272
WATER BLASTING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
KY 1865 NORTHBOUND					
Existing Double Solid Yellow Line (WATER BLASTING EXISTING STRIPE)					
4+17	3' RIGHT	5+55	6.5' RIGHT	138	276
Existing Single Solid and Single Dashed Yellow Line (WATER BLASTING EXISTING STRIPE)					
5+55	6.5' RIGHT	8+25	6.5' RIGHT	270	338
PAVEMENT MARKING REMOVAL					
STATION	OFFSET	DESCRIPTION		SF	
KY 1865 NORTHBOUND					
10+15 - 10+20	30' LEFT - 38' RIGHT	EXISTING CROSS WALK (68 LF)		34	
10+23 - 10+28	30' LEFT - 36' RIGHT	EXISTING CROSS WALK (66 LF)		33	
EB I-264 OFF RAMP					
16+50	16' LEFT - 40' LEFT	EXISTING CROSS WALK (25 LF)		12.5	
16+57	16' LEFT - 40' LEFT	EXISTING CROSS WALK (25 LF)		12.5	
REMOVE (PAVEMENT MARKER LENS)					
STATION	OFFSET	DESCRIPTION		EACH	
KY 1865 NORTHBOUND					
4+17 TO 5+55	3' RT TO 6.5' RT	REMOVE EXISTING PAVEMENT MARKER LENS		7	

JEFFERSON COUNTY KY 1865 (TAYLOR BLVD) & I-264 EB RAMPS / W ASHLAND AVE ITEM NO. 5-9019.10 STRIPING / PAVEMENT MARKING SUMMARY PAGE 2 OF 3				
PAVEMENT MARKING - TY 1 TAPE STOP BAR - 24 IN				
STATION	OFFSET	DESCRIPTION	LF	
EB I-264 OFF RAMP				
16+42	14' LEFT - 16' RIGHT	24" STOP BAR	29	
PAVEMENT MARKING TYPE 1 TAPE YIELD BAR - 36 IN				
STATION	OFFSET	DESCRIPTION	LF	
EB I-264 ON RAMP				
15+29 - 15+37	55' LEFT - 42' LEFT	36" YIELD BAR	16	
PAVEMENT MARKING - TY 1 TAPE ARROWS				
STATION	OFFSET	DESCRIPTION	EACH	
KY 1865				
5+18 TO 9+56	0'	KY 1865 NB LEFT TURN LANE ONTO I-264	LEFT ARROW	7
12+52 TO 14+12	36.5' LEFT	KY 1865 SB RIGHT TURN LANE ONTO I-264	RIGHT ARROW	3
EB I-264 OFF RAMP				
13+70 TO 16+04	8' LEFT	I-264 OFF RAMP THRU/LEFT TURN LANE ONTO NB KY 1865	COMBO ARROW	4
13+70 TO 16+04	4' RIGHT	I-264 OFF RAMP RIGHT TURN LANE ONTO SB KY 1865	RIGHT ARROW	4
CROSSWALK - PAVE MARKING TY 1 TAPE X-WALK-6 IN				
STATION	OFFSET	DESCRIPTION	LF	
KY 1865				
10+20	41' LEFT TO 38' RT	6" TAPE CROSS WALK AT 10' SPACING BETWEEN RAILS	79	
10+30	41' LEFT TO 35' RT	6" TAPE CROSS WALK AT 10' SPACING BETWEEN RAILS	76	
I-265 EB OFF RAMP				
16+49	20' RT TO 40' LT	6" TAPE CROSS WALK AT 10' SPACING BETWEEN RAILS	60	
16+59	18' RT TO 41' LT	6" TAPE CROSS WALK AT 10' SPACING BETWEEN RAILS	59	
PAVEMENT TATTOO				
PAVE MARKING-THERMO ELONG ROUTE SHIELD (TY 1 TAPE)				
PAVE MARKING-THERMO LETTERS (TAPE)				
STATION	OFFSET	DESCRIPTION	EACH	
KY 1865 NORTHBOUND				
3+25	6' RIGHT	"I-264" PAVEMENT TATTOO SHIELD (TAPE)	1	
3+25	6' RIGHT	"TO" PAVEMENT TATTOO LETTERS (TAPE)	2	

**JEFFERSON COUNTY
KY 1865 (TAYLOR BLVD) & I-264 EB RAMPS / W ASHLAND AVE
ITEM NO. 5-9019.10
STRIPING / PAVEMENT MARKING SUMMARY PAGE 3 OF 3**

STRIPING / PAVEMENT MARKING SUMMARY			
BID ITEM	DESCRIPTION	UNIT	QUANTITY
6556	PAVE STRIPING-DUR TY 1-6 IN W	LF	1,424
6557	PAVE STRIPING-DUR TY 1-6 IN Y	LF	1,752
6561	PAVE STRIPING-DUR TY 1-12 IN Y	LF	10
6598	PAVEMENT MARKING REMOVAL	SQFT	92
26165ES717	PAVE MARK TY 1 TAPE YIELD BAR-36 IN	LF	16
22664EN	WATER BLASTING EXISTING STRIPE	LF	614
22692NS714	PAVEMENT MARKING-THERMO LETTERS (TAPE)	EACH	2
23251ES717	PAVE MARK TY 1 TAPE X-WALK-6 IN	LF	274
23254ES717	PAVE MARK TY 1 TAPE DOTTED LANE EXT	LF	35
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	LF	29
23269ES717	PAVE MARK TY 1 TAPE-COMBO ARROW	EACH	4
23270ES717	PAVE MARK TY 1 TAPE-CURV ARROW	EACH	14
24894EC	REMOVE (PAVEMENT MARKER LENS)	EACH	7
24899EC	PAVE MARKING-THERMO ELONG ROUTE SHIELD (TAPE)	EACH	1

**JEFFERSON COUNTY
LIGHTING SUMMARY
ITEM NO. 5-9019.10
SUMMARY FOR LIGHTING RELOCATION AT I-264 EB RAMP**

INTERSECTION	POLE BASE	TRANSFORMER BASE	FUSED CONNECTOR KIT	CONDUIT- 1 1/4 IN LF	TRENCHING AND BACKFILLING LF	WIRE- NO. 12 LF	WIRE- NO. 6 LF	REMOVE LIGHTING LS	REMOVE STORE & REINSTALL POLE EACH	ELECTRICAL JUNCTION BOX TYPE A EACH	MAINTAIN LIGHTING LS	WIRE- NO. 10 LF
KY 1865 @ I-264 EB OFF RAMP	3	3	6	410	410	378	820	1	3	2	1	410
Total	3	3	6	410	410	378	820	1	3	2	1	410

1. Quantities are for estimating purposes only. The Contractor shall field measure and inspect items to verify quantities.

POLE BASE EACH	TRANSFORMER BASE EACH	FUSED CONNECTOR KIT EACH	CONDUIT- 1 1/4 IN LF	TRENCHING AND BACKFILLING LF	WIRE- NO. 12 LF	WIRE- NO. 6 LF	REMOVE LIGHTING LS	REMOVE STORE & REINSTALL POLE EACH	ELECTRICAL JUNCTION BOX TYPE A EACH	MAINTAIN LIGHTING LS	WIRE- NO. 10 LF
4740	4730	4730	410	410	4832	820	4940	4942	20391NS835	20410ED	23778EC
Grand Total	3	3	410	410	378	820	1	3	2	1	410

LUMINAIRES	STATION	OFFSET	ALIGNMENT
1-EX-12	13+09	13 RT	I-264 RAMP
2-A-12	14+07	20 RT	I-264 RAMP
3-A-12	15+00	20 RT	I-264 RAMP
4-A-12	15+91	20 RT	I-264 RAMP
5-EX-12	9+18	43 RT	KY 1865

* PROPOSED LOCATION TO RE-USE EXISTING POLE, EXISTING BRACKET ARM, AND EXISTING LED LUMINAIRE. SEE BID ITEM REMOVE, STORE, AND REINSTALL POLE.

FROM	TO	WIRE SIZE
JBA1	2-A-12	WIRE - NO. 6
2-A-12	3-A-12	WIRE - NO. 6
3-A-12	4-A-12	WIRE - NO. 6
4-A-12	JBA2	WIRE - NO. 6

**JEFFERSON COUNTY
TRAFFIC SIGNAL SUMMARY
ITEM NO. 5-9019.10
SUMMARY FOR LOOPS AND PEDESTRIAN PEDESTAL / DETECTORS AT I-264 EB RAMP**

INTERSECTION	SAW, SLOT AND FILL	LOOP WIRE	CONDUIT 1 INCH	PVC		CABLE NO 14/7C	CABLE NO. 14	JUNCTION TYPE B	Trenching and Backfilling	Loop Test	NOTES
				CONDUIT 1 1/4 INCH	CONDUIT 1 INCH						
KY 1865 @ I-264 EB RAMP	239	567	20	35	15	500	450	1	55	2	2 - 6X30 STOP BAR LOOP
	LF	LF	LF	LF	LF	LF	LF	EA	LF	EA	
I-264 RAMP (PHASE 8)											
PED DETECTOR 1											
Total	239	567	20	50	15	500	450	1	70	2	

1. Quantities are for estimating purposes only. The Contractor shall field measure and inspect items to verify quantities.

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	PVC		CABLE NO 14/7C	CABLE NO. 14	JUNCTION TYPE B	Trenching and Backfilling	Loop Test	
				CONDUIT 1 1/4 INCH	CONDUIT 1 INCH						
4780	FUSED CONNECTOR KIT	EACH	7								
20093NS835	INSTALL PEDESTRIAN HEAD LED	EACH	2								
21743NN	INSTALL PEDESTRIAN DETECTOR	EACH	2								
23222EC	INSTALL SIGNAL PEDESTAL	EACH	1								
24955ED	REMOVE SIGNAL EQUIPMENT	EACH	1								
Grand Total			239	567	20	50	500	450	1	70	2

PEDESTRIAN PEDESTAL AND PEDESTRIAN DETECTOR ADDITIONAL QUANTITIES											
ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	SAW, SLOT AND FILL	LOOP WIRE	CONDUIT 1 INCH	CONDUIT 1 1/4 INCH	CABLE NO 14/7C	CABLE NO. 14	JUNCTION TYPE B	Loop Test
4780	FUSED CONNECTOR KIT	EACH	7								
20093NS835	INSTALL PEDESTRIAN HEAD LED	EACH	2								
21743NN	INSTALL PEDESTRIAN DETECTOR	EACH	2								
23222EC	INSTALL SIGNAL PEDESTAL	EACH	1								
24955ED	REMOVE SIGNAL EQUIPMENT	EACH	1								

JEFFERSON COUNTY
056GR22T006-HSIP
Tim Tharpe - Director
Phone (502) 564-3020
FAX (502) 564-7759

DIVISION OF TRAFFIC OPERATIONS

PROJECT MATERIALS RELEASE FORM
FOR SIGNAL AND LIGHTING

Note: Email form with signatures to KYTC's warehouse (kim.stamper@ky.gov) at least two (2) days prior to arrival for pickup. Ensure Contractor's delivery driver has a copy of form with signatures. Failure to do either may result in long delays or refusal to distribute materials upon arrival.

Item Number: 5-9019.10
 County: Jefferson
 Description: Pedestrian Pedestal: KY 1865 @ I-264 Ramps

Signals		
2	T-02-0090	Pedestrian signal housing
2	T-02-0365	LED Countdown Pedestrian Module

Special items		
1	T-02-0660	Pedstl.top mntg.bkt Two-way
1	T-02-0670	Pedestal
2	T-06-0710	Ped Detector Pole Mount FSA Box
2	T-06-0730	Ped Button w/o Plunger
2	T-17-0015	9 X 15 Countdown Ped Sign DBL Sided

REQUIRED

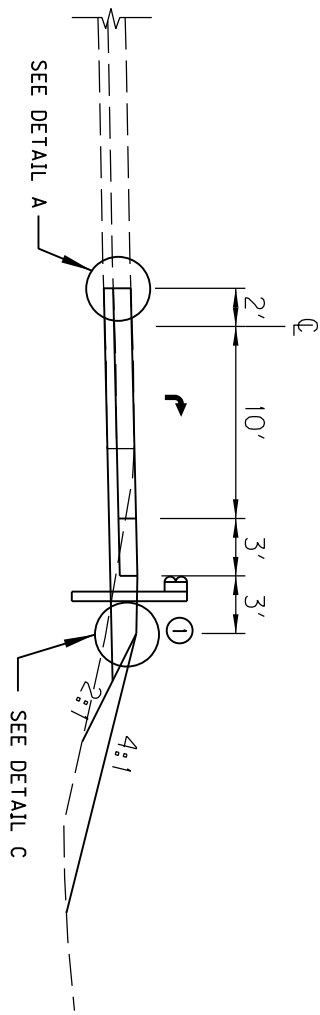
Electrical Contractor Name _____
 Electrical Contractor Supervisor _____ Contact number for Supervisor _____
 Project Engineer _____ Contact number for Project Engineer _____
 Project Engineer attests that the mentioned contractor is the actual electrical contractor on this project
 Signature of Project Engineer or Designee _____

TYPICAL SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

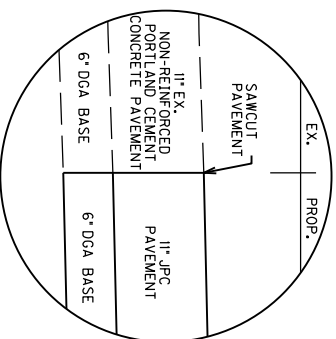
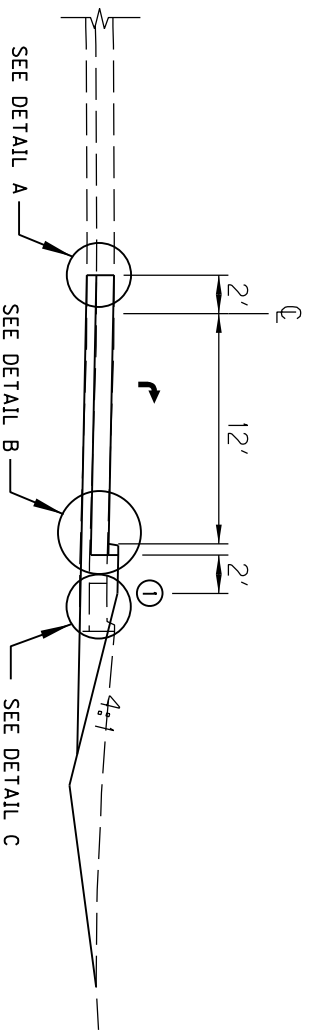
RIGHT TURN LANE

EB I-264 OFF RAMP
P.O.B. TO STA. 15+45

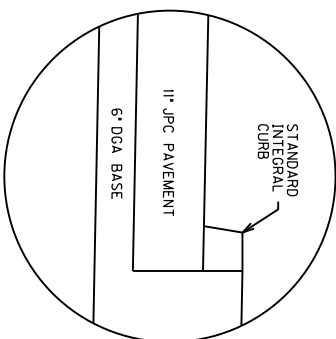


RIGHT TURN LANE

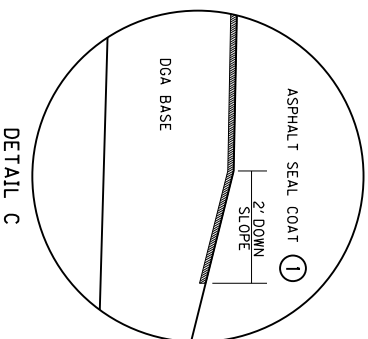
EB I-264 OFF RAMP
STA. 15+45 TO P.O.E.



DETAIL A



DETAIL B



DETAIL C

① ASPHALT SEAL COAT (APPLICATIONS) (SEE SPECIAL NOTE)

FIRST COURSE:
ASPHALT CURRING SEAL (APPLY AT A RATE OF 3.2 LBS/SQ. YD)
ASPHALT SEAL AGGREGATE (APPLY AT A RATE OF 30 LBS/SQ. YD)

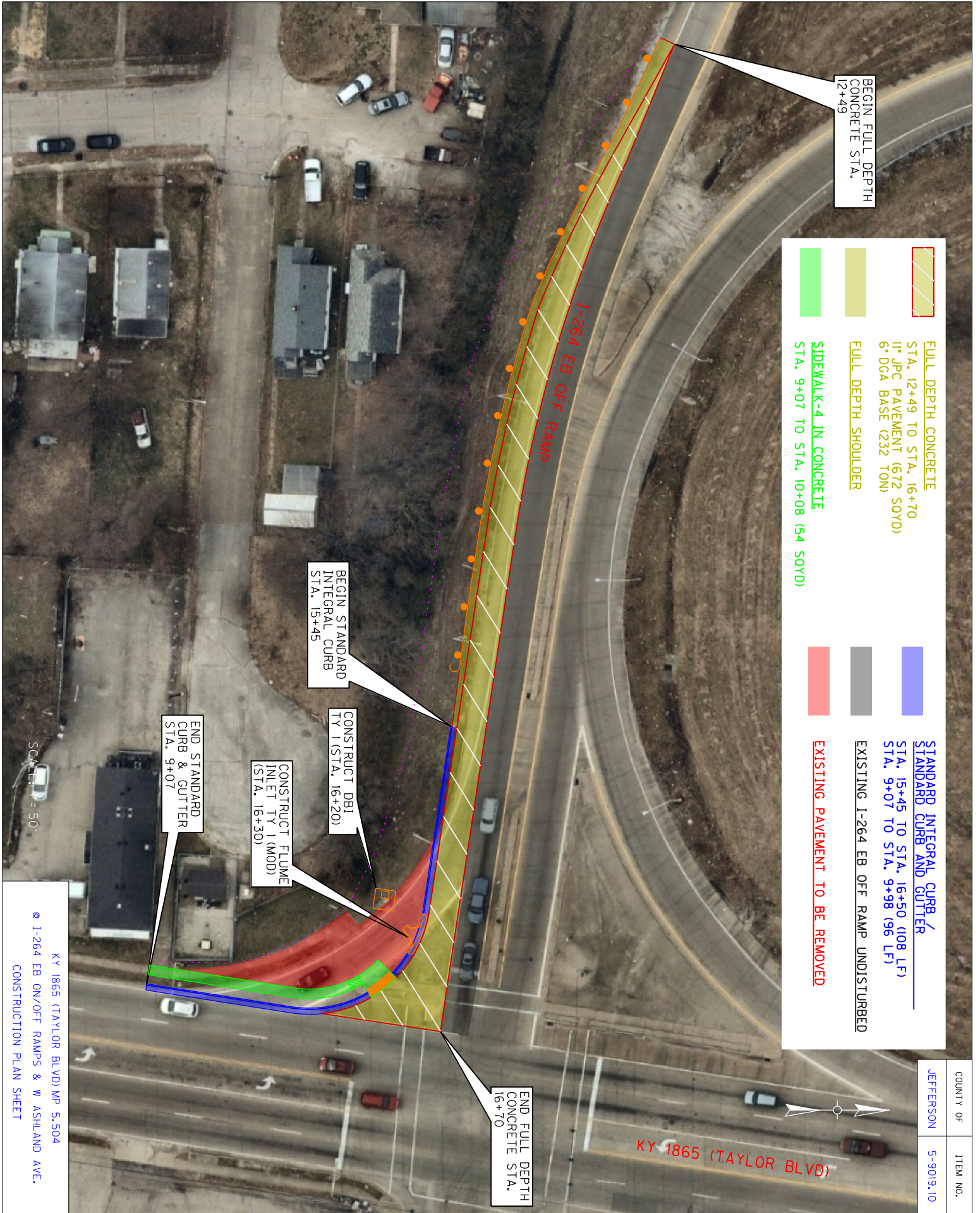
SECOND COURSE:
ASPHALT CURRING SEAL (APPLY AT A RATE OF 2.8 LBS/SQ. YD)
ASPHALT SEAL AGGREGATE (APPLY AT A RATE OF 20 LBS/SQ. YD)

EB I-264 OFF RAMP - RIGHT TURN LANE AND SHOULDER







- 11" SURF — 11" JPC PAVEMENT
- 6" BASE — 6" DGA BASE

SCALE: NTS

KY 1865 (TAYLOR BLVD) MP 5.504
© EB I-264 RAMPS & W ASHLAND AVE
TYPICALS



BEGIN FULL DEPTH CONCRETE STA. 12+49

	FULL DEPTH CONCRETE STA. 12+49 TO STA. 16+70 11" JPC PAVEMENT (672 SOYD) 6" DGA BASE (232 TON)		STANDARD INTEGRAL CURB / STANDARD CURB AND GUTTER STA. 15+45 TO STA. 16+50 (108 LF) STA. 9+07 TO STA. 9+98 (96 LF)
	FULL DEPTH SHOULDER		EXISTING I-264 EB OFF RAMP UNDISTURBED
	SIDEWALK-4 IN CONCRETE STA. 9+07 TO STA. 10+08 (54 SOYD)		EXISTING PAVEMENT TO BE REMOVED

I-264 EB OFF RAMP

BEGIN STANDARD INTEGRAL CURB STA. 15+45

CONSTRUCT DBI TY 1 (STA. 16+20)

CONSTRUCT FLUME INLET TY 1 (MOD) (STA. 16+30)

END STANDARD CURB & GUTTER STA. 9+07

END FULL DEPTH CONCRETE STA. 16+70



SCALE: 1" = 50'

JEFFERSON COUNTY
COUNTY OF
5-9019.10

ITEM NO.

KY 1865 (TAYLOR BLVD) MP 5.504
I-264 EB ON/OFF RAMPS & W ASHLAND AVE.
CONSTRUCTION PLAN SHEET

KY 1865 (TAYLOR BLVD)



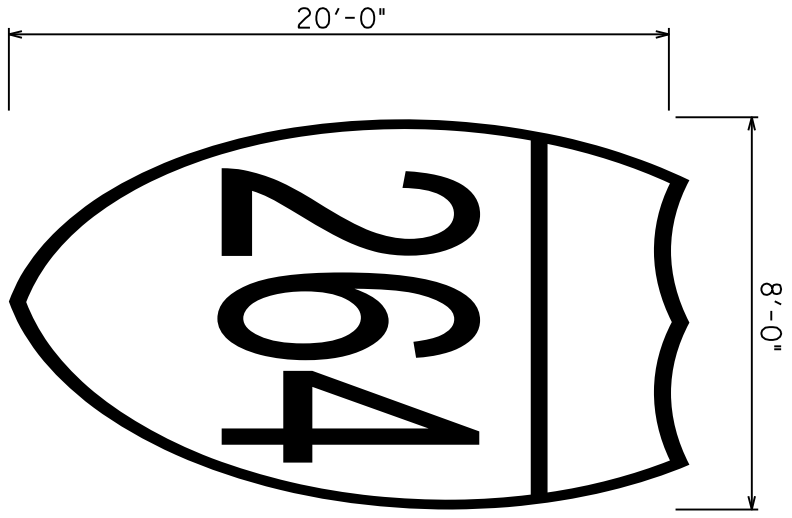
COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

KY 1865 (TAYLOR BLVD)
I-264 EB RAMP & WEST ASHLAND
STRIPING & SIGNING PLAN SHEET (2 OF 2)

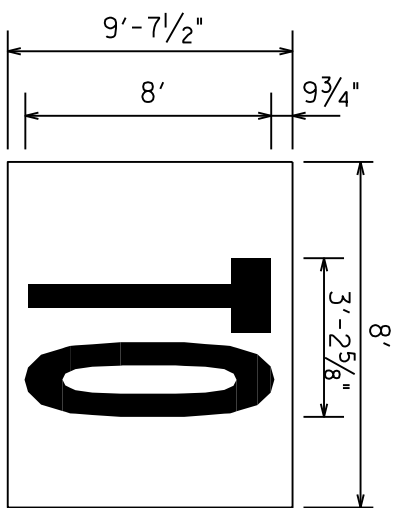
SCALE: 1"=100'

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

**ELONGATED TAPE ROUTE
SHIELD PAVEMENT MARKINGS**



**ELONGATED TAPE "TO"
PAVEMENT MARKINGS**

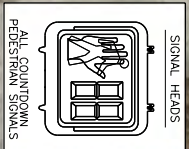


NOTES:
ALL LETTERS AND NUMBERS SHALL BE WHITE.
THE INTERSTATE SHIELD SHALL HAVE A BLUE BACKGROUND BEHIND "264" AND A RED BACKGROUND IN THE AREA ABOVE "264".
THE "TO" PAVEMENT MARKING SHALL HAVE A BLUE BACKGROUND BEHIND THE WHITE LETTERS.

JEFFERSON COUNTY
KY 1865
& I-264 RAMPS
ELONGATED TAPE ROUTE SHIELD DETAIL

WIRING SCHEDULE			
CABLE	ORIGIN	ENDING	CONNECTING
2-#14/7C	CONTROLLER	PED 1	PH 4A, PH 6A & PED DET

- REMOVE EX. PEDESTAL (STA. 10+10, 52' LT.)
- INSTALL PEDESTAL 1 (STA. 9+96, 54' LT.)
- INSTALL 2 PEDESTRIAN HEADS AT PEDESTAL 1
- INSTALL 2 PEDESTRIAN DETECTOR BUTTONS AT PEDESTAL 1
- INSTALL 1 1/4" SCHEDULE 80 PVC CONDUIT FROM PEDESTAL 1 TO JUNCTION BOX BI
- INSTALL JUNCTION BOX BI
- INSTALL 1-1/2" RIGID STEEL CONDUIT FOR TRANSITION OF PROPOSED LOOP IN THE PAVEMENT TO JUNCTION BOX BI, PER LOOP DETAILS.
- INSTALL 1 1/4" SCHEDULE 80 PVC CONDUIT FROM EXISTING POLE B TO JUNCTION BOX BI.
- SPLICE LOOP WIRE TO 1-PAIR LOOP LEAD-IN INSIDE JUNCTION BOX BI



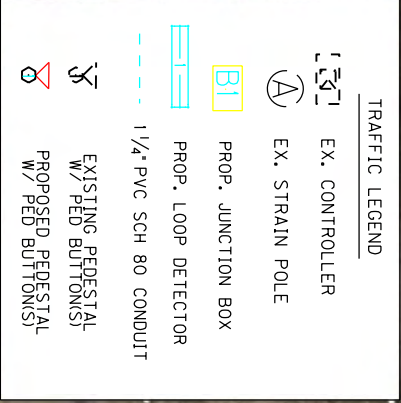
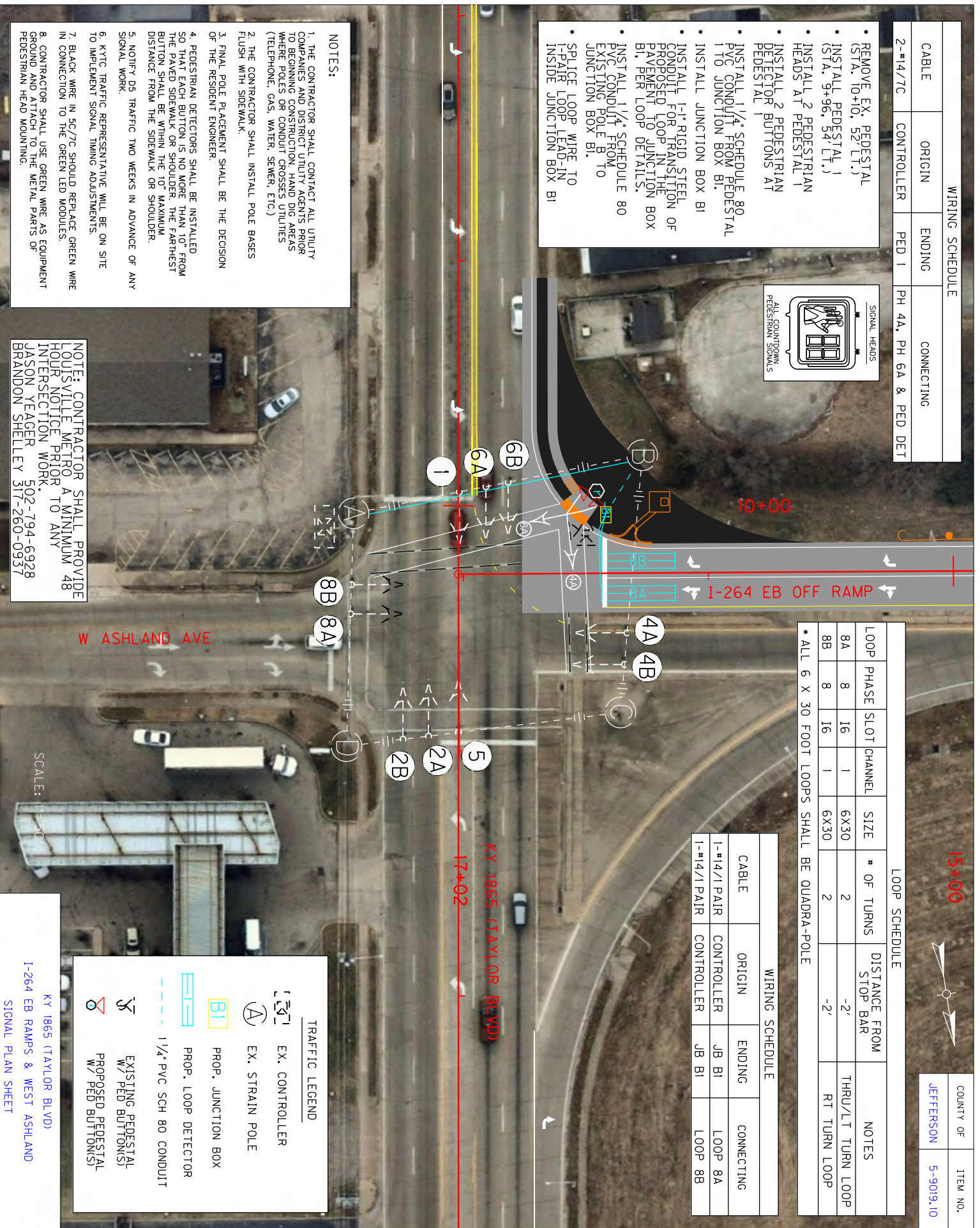
LOOP SCHEDULE							
LOOP	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DISTANCE FROM STOP BAR	NOTES
8A	8	16	1	6X30	2	-2'	THRU/LT TURN LOOP
8B	8	16	1	6X30	2	-2'	RT TURN LOOP

* ALL 6 X 30 FOOT LOOPS SHALL BE QUADRA-POLE

WIRING SCHEDULE			
CABLE	ORIGIN	ENDING	CONNECTING
1-#14/1 PAIR	CONTROLLER	JB BI	LOOP 8A
1-#14/1 PAIR	CONTROLLER	JB BI	LOOP 8B

- NOTES:
1. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND DISTRICT UTILITY AGENTS PRIOR TO BEGINNING CONSTRUCTION. HAND OFFICERS WHERE POLES OR CONDUIT CROSSES UTILITIES (TELEPHONE, GAS, WATER, SEWER, ETC.)
 2. THE CONTRACTOR SHALL INSTALL POLE BASES FLUSH WITH SIDEWALK.
 3. FINAL POLE PLACEMENT SHALL BE THE DECISION OF THE RESIDENT ENGINEER.
 4. PEDESTRIAN DETECTORS SHALL BE INSTALLED SO THAT EACH BUTTON IS NO MORE THAN 10" FROM THE PAVED SIDEWALK OR SHOULDER. THE FARTHEST BUTTON SHALL BE WITHIN THE 10" MAXIMUM DISTANCE FROM THE SIDEWALK OR SHOULDER.
 5. NOTIFY D5 TRAFFIC TWO WEEKS IN ADVANCE OF ANY SIGNAL WORK.
 6. KYTC TRAFFIC REPRESENTATIVE WILL BE ON SITE TO IMPLEMENT SIGNAL TIMING ADJUSTMENTS.
 7. BLACK WIRE IN 5C/7C SHOULD REPLACE GREEN WIRE IN CONNECTION TO THE GREEN LED MODULES.
 8. CONTRACTOR SHALL USE GREEN WIRE AS EQUIPMENT GROUND AND ATTACH TO THE METAL PARTS OF PEDESTRIAN HEAD MOUNTING.

NOTE: CONTRACTOR SHALL PROVIDE LOUISVILLE METRO A MINIMUM 48 HOUR NOTICE PRIOR TO ANY INTERSECTION WORK.
JASON YEAGER 502-794-6928
BRANDON SHELLEY 317-260-0937



SCALE: 1"=30'

KY 1865 (TAYLOR BLVD)
I-264 EB RAMPS & WEST ASHLAND
SIGNAL PLAN SHEET

PIPE DRAINAGE SHEET 2 of 2

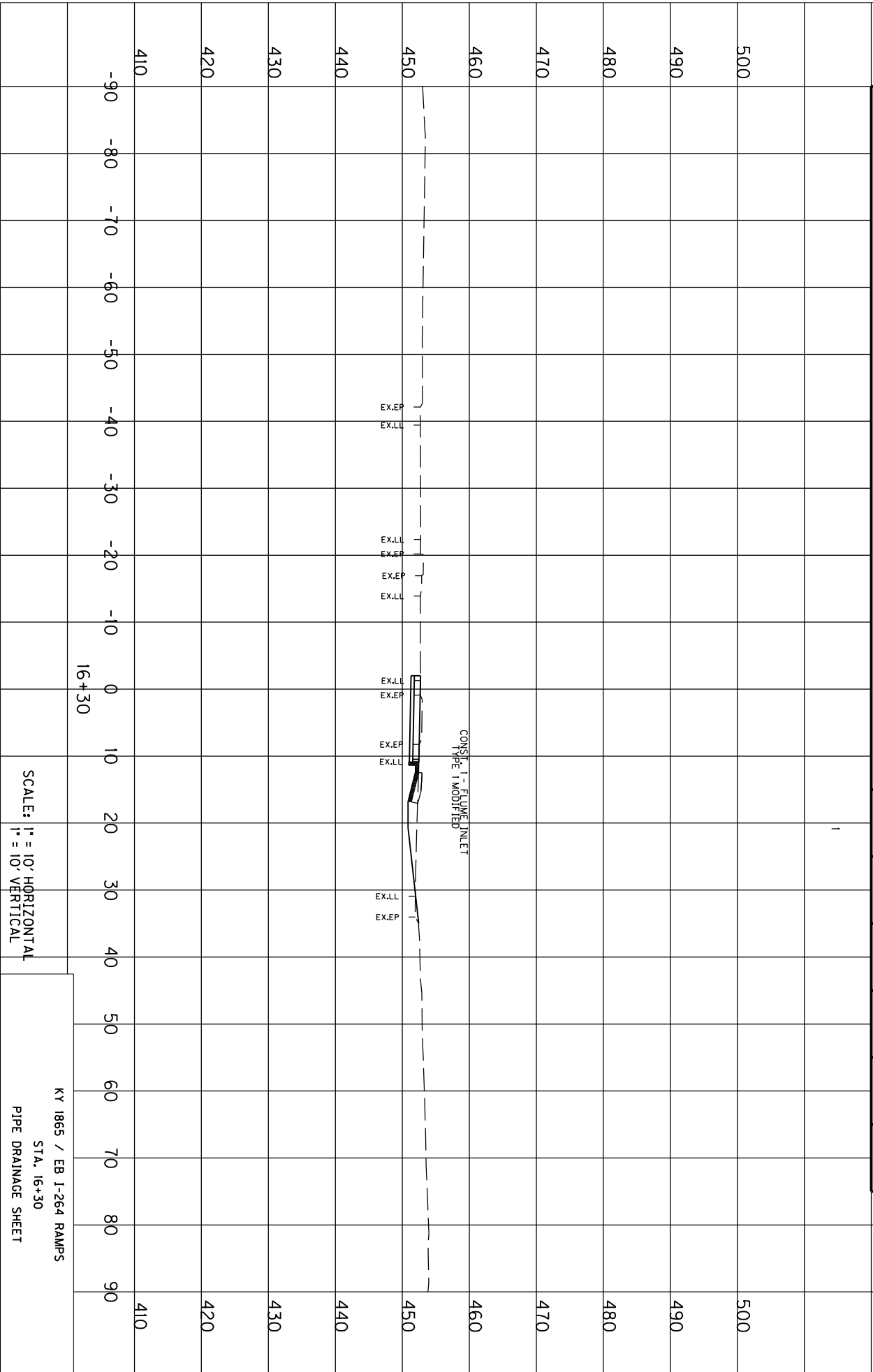
COUNTY OF JEFFERSON
ITEM NO. 5-9019.10

STORM SEWER PIPE

L I N E A R F E E T

FLUME INLET
TYPE 1 MOD
EACH

1

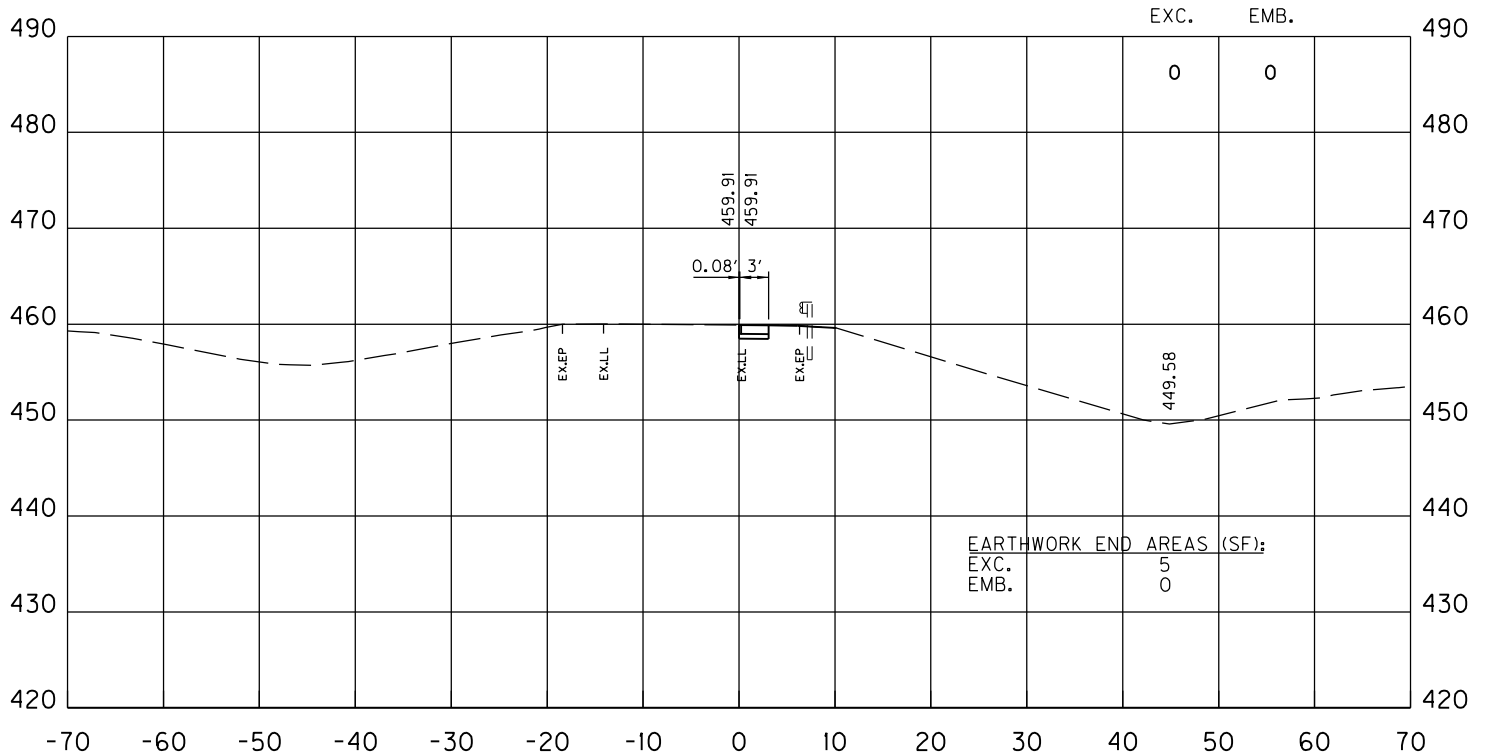


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

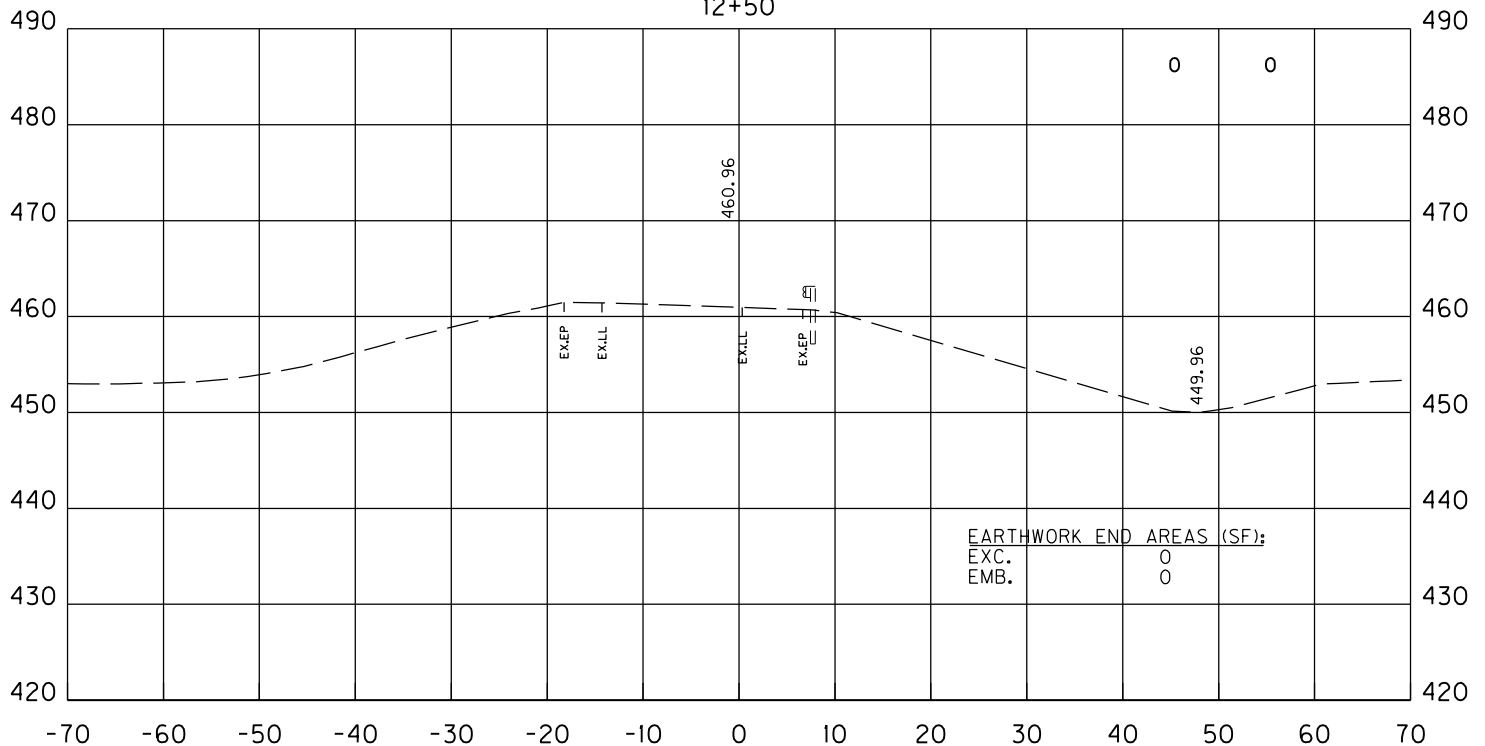
KY 1865 / EB 1-264 RAMPS
STA. 16+30
PIPE DRAINAGE SHEET

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

EARTHWORK VOLUMES (CY):



12+50



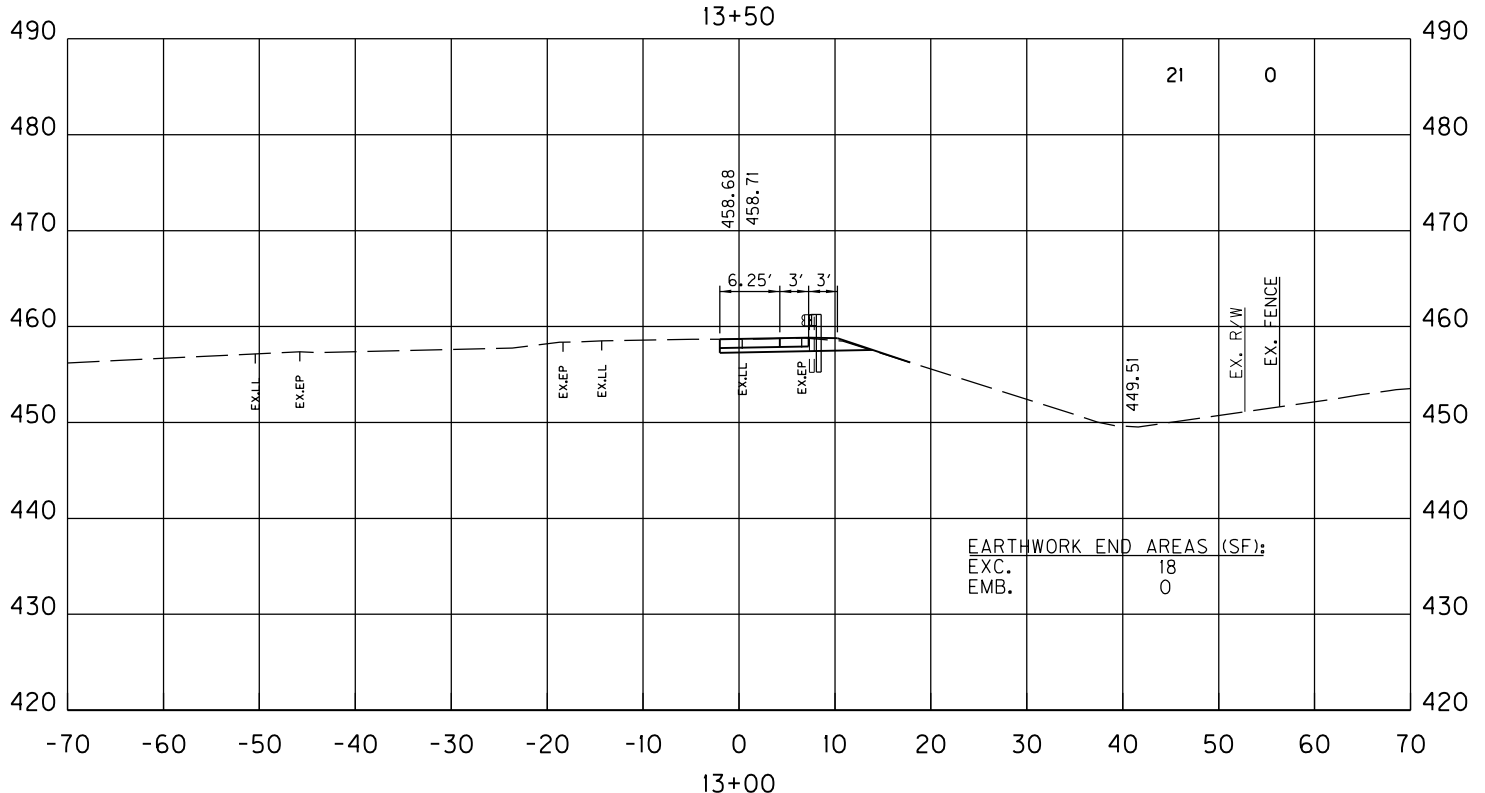
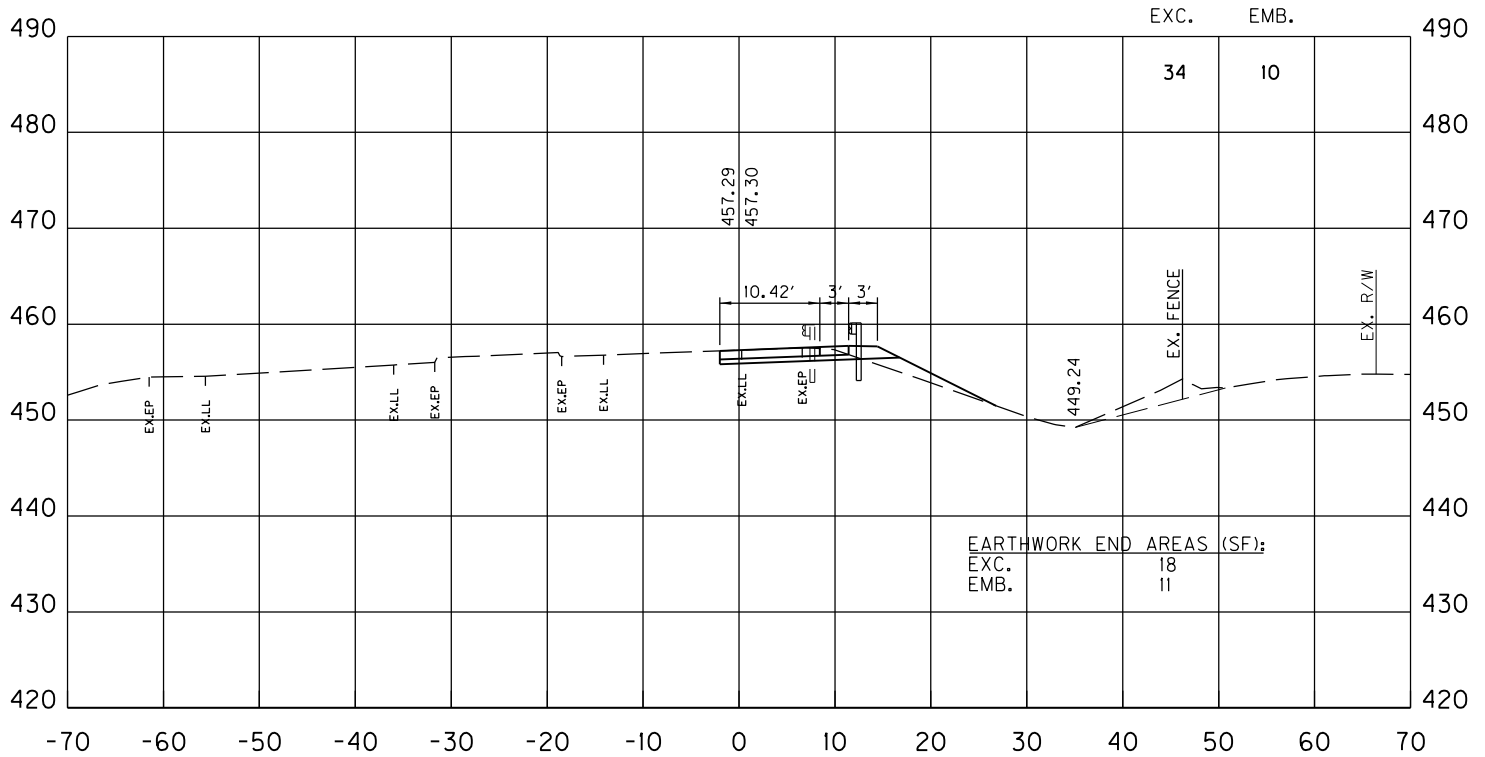
12+00

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

I-264 EB OFF RAMP
STA. 12+00 TO STA. 12+50
CROSS SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

EARTHWORK VOLUMES (CY):

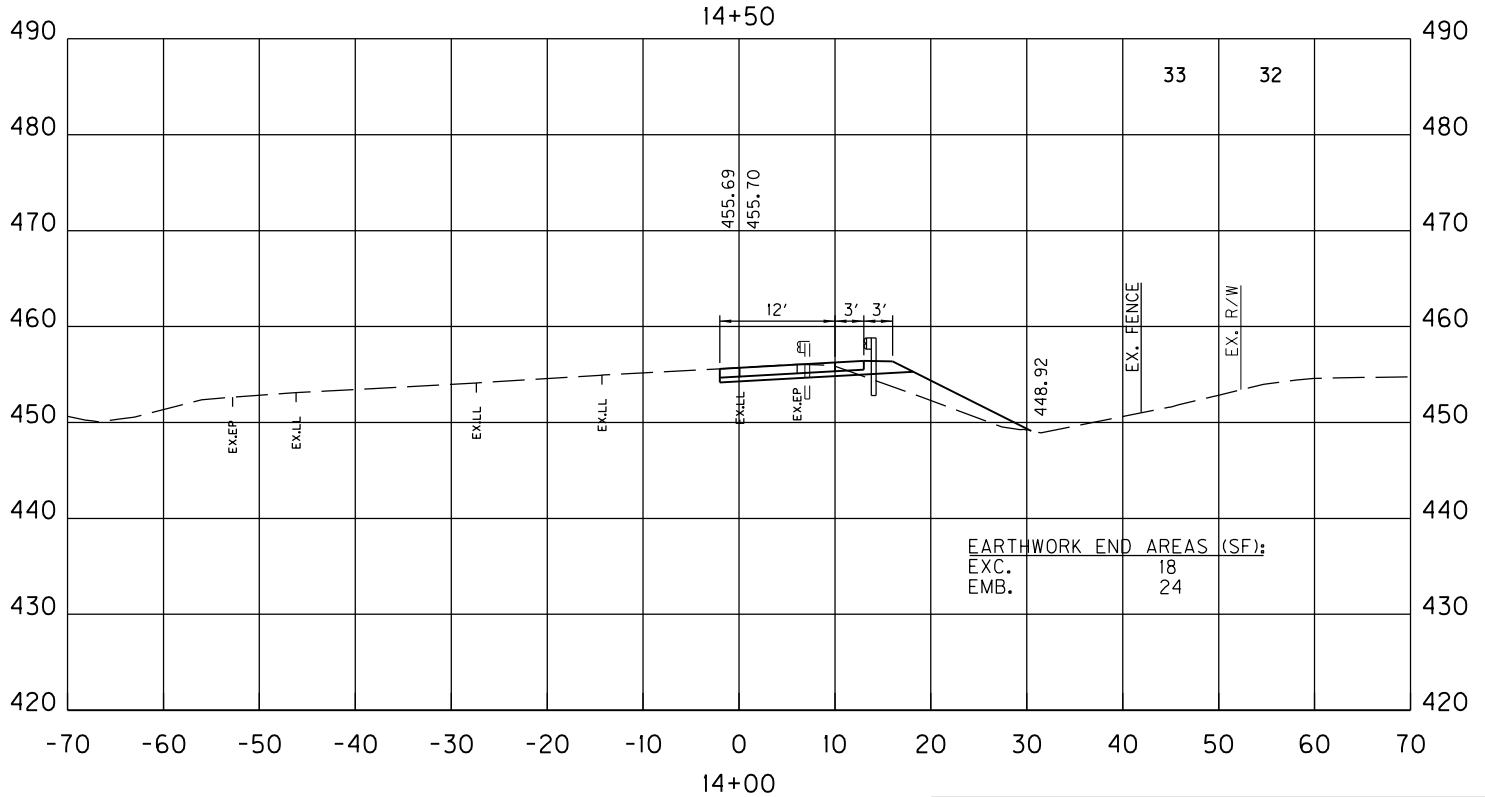
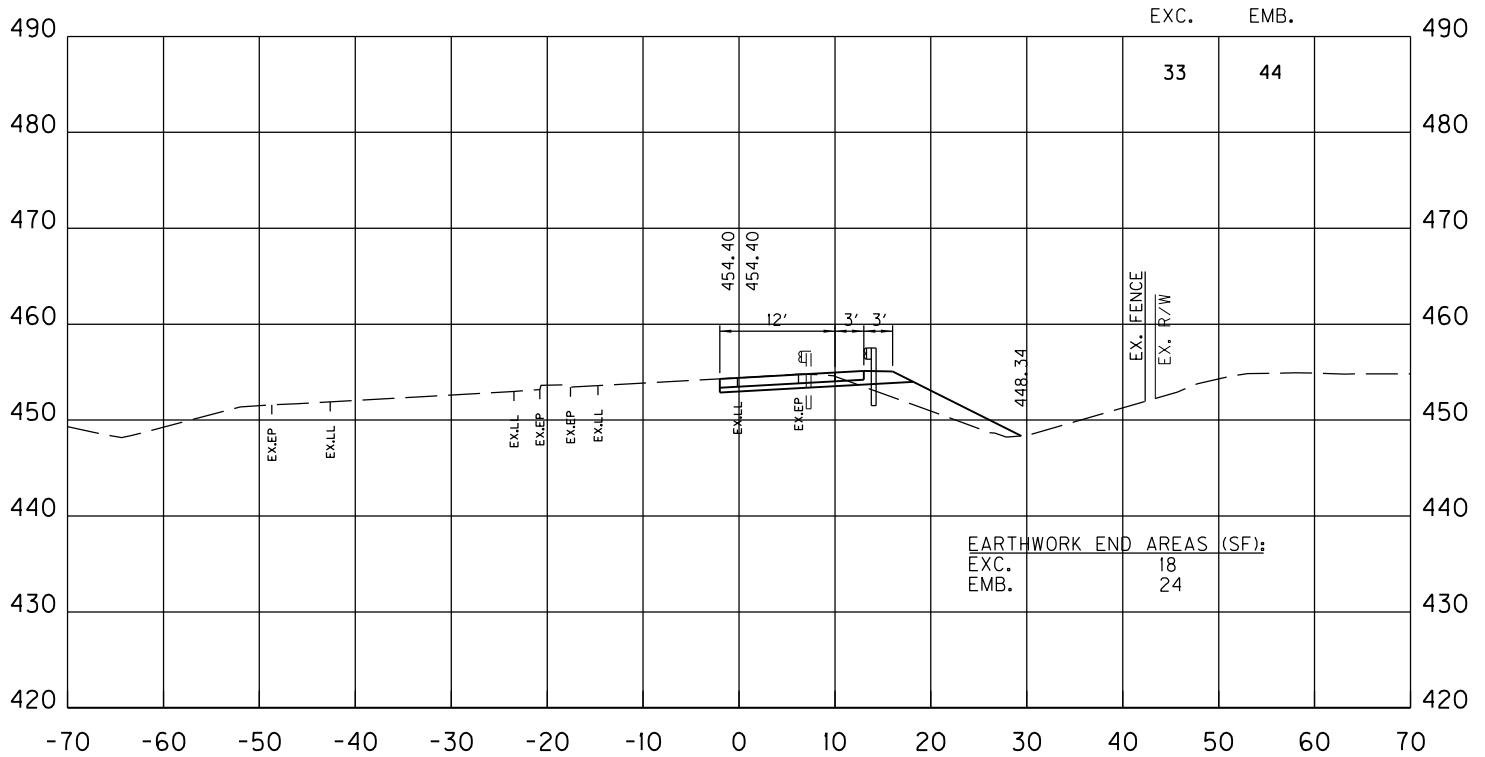


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

I-264 EB OFF RAMP
STA. 13+00 TO STA. 13+50
CROSS SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

EARTHWORK VOLUMES (CY):

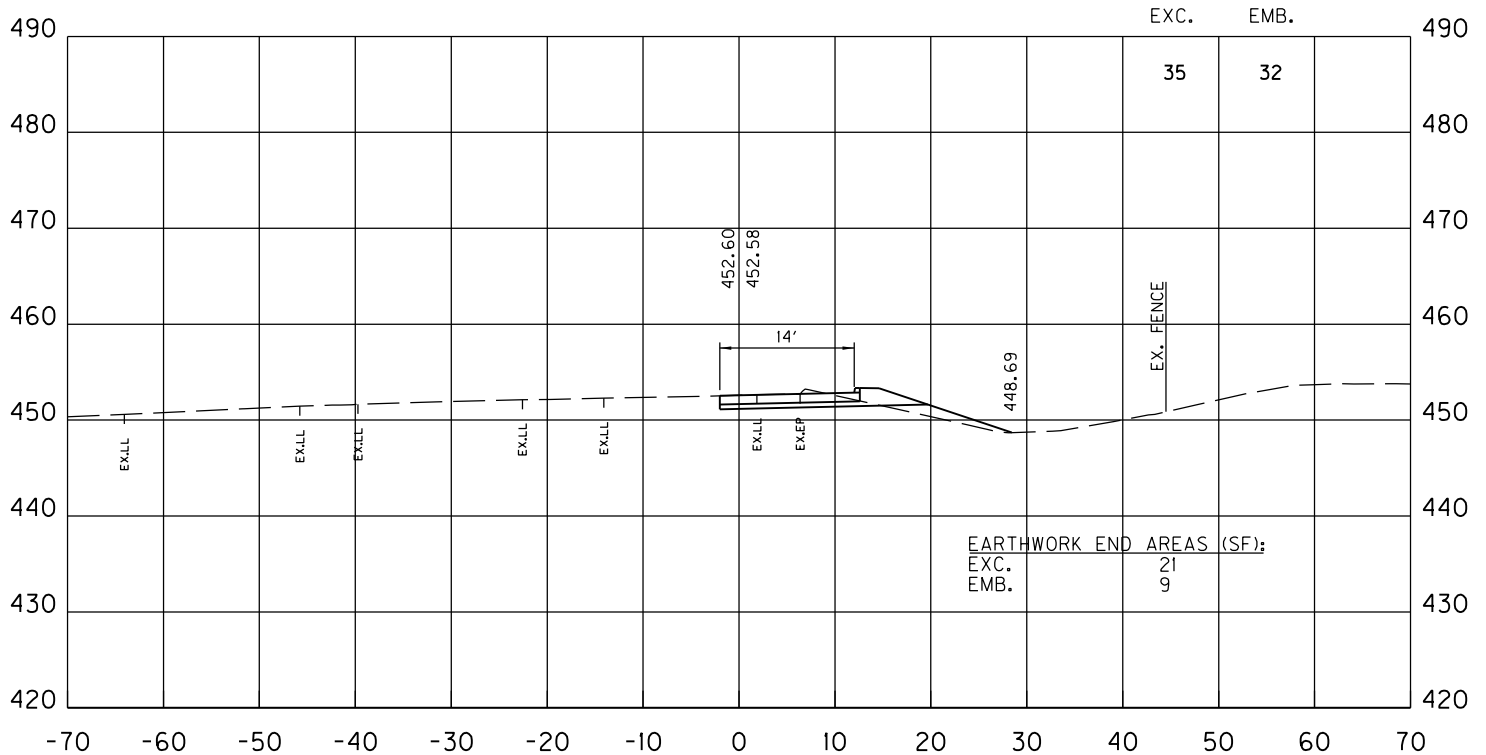


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

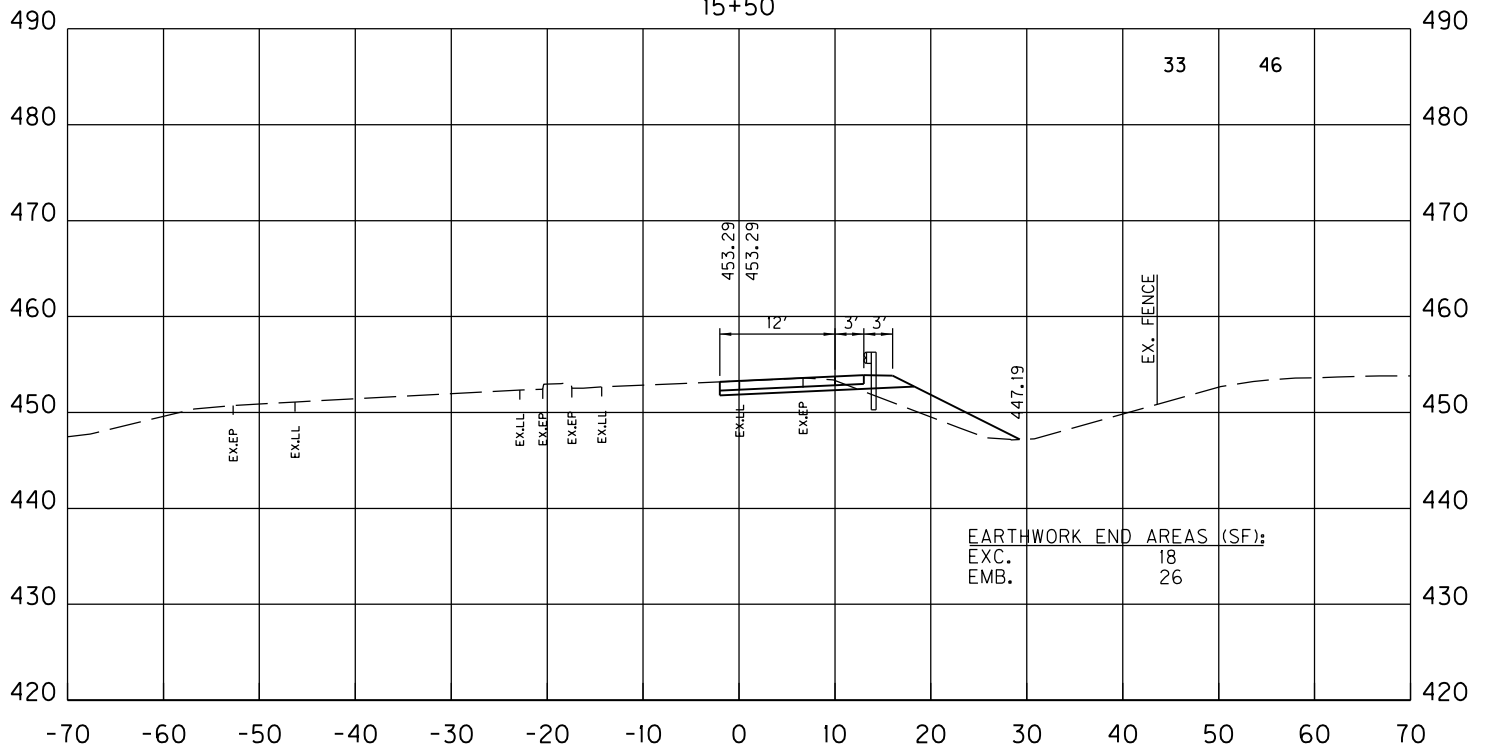
I-264 EB OFF RAMP
STA. 14+00 TO STA. 14+50
CROSS SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

EARTHWORK VOLUMES (CY):



EARTHWORK END AREAS (SF):
EXC. 21
EMB. 9



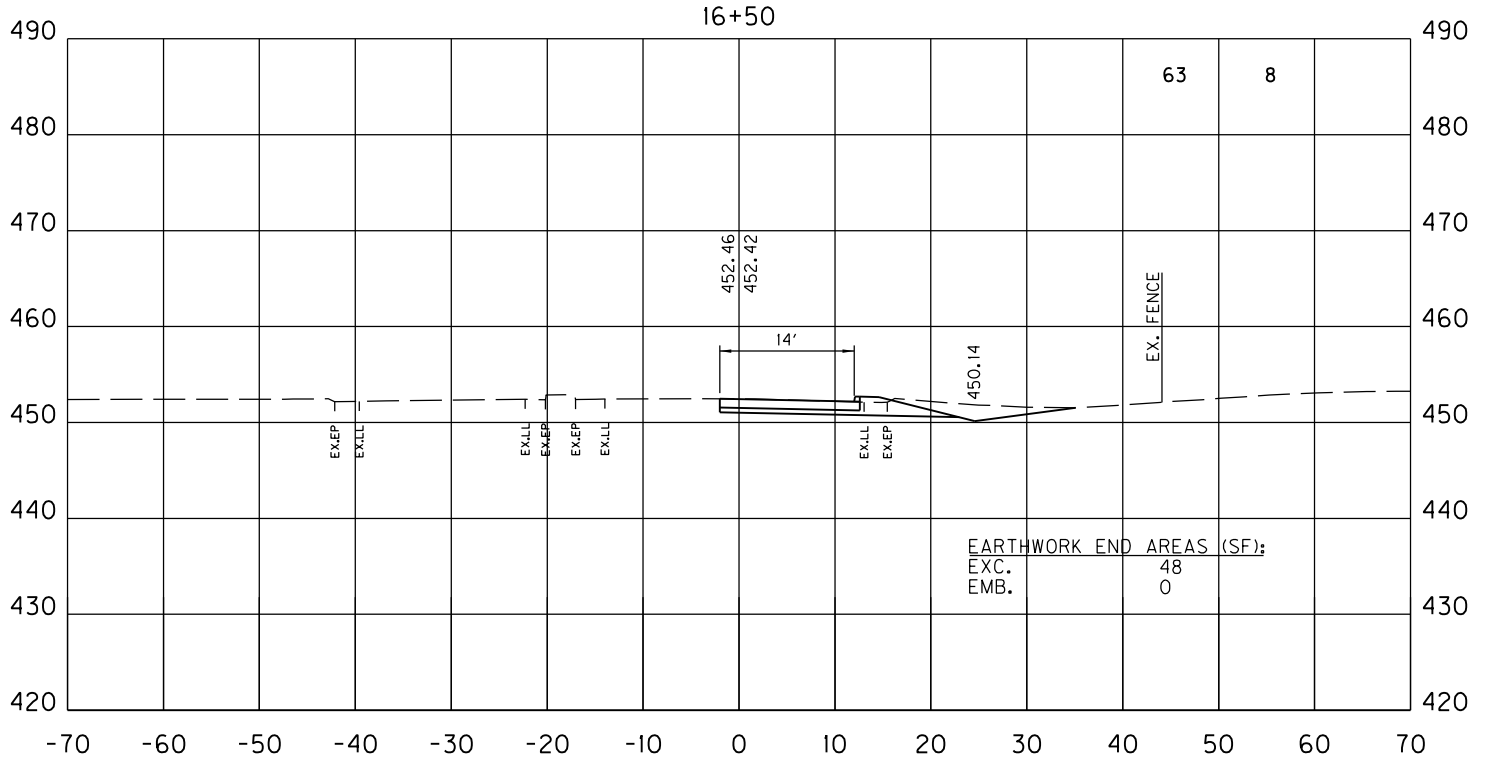
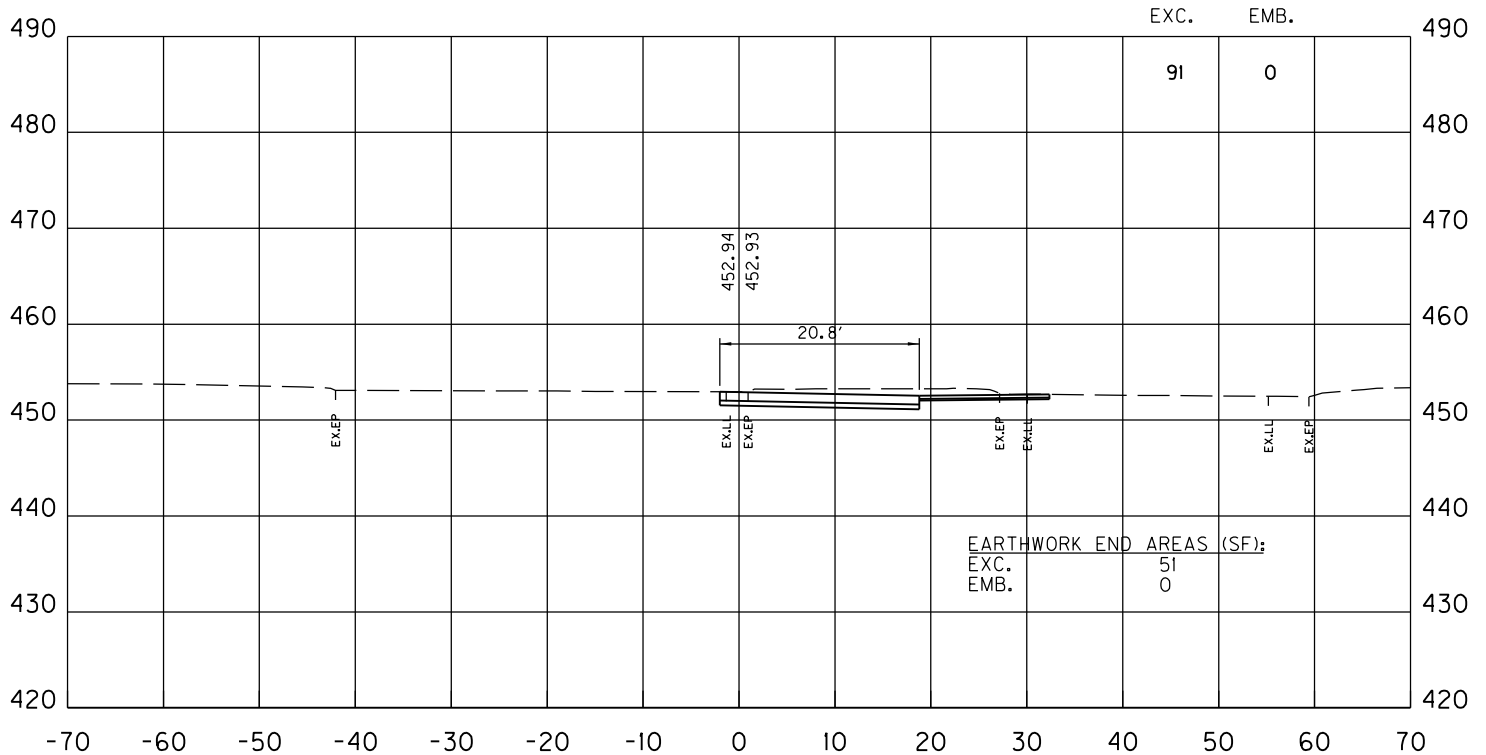
EARTHWORK END AREAS (SF):
EXC. 18
EMB. 26

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

I-264 EB OFF RAMP
STA. 15+00 TO STA. 15+50
CROSS SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

EARTHWORK VOLUMES (CY):



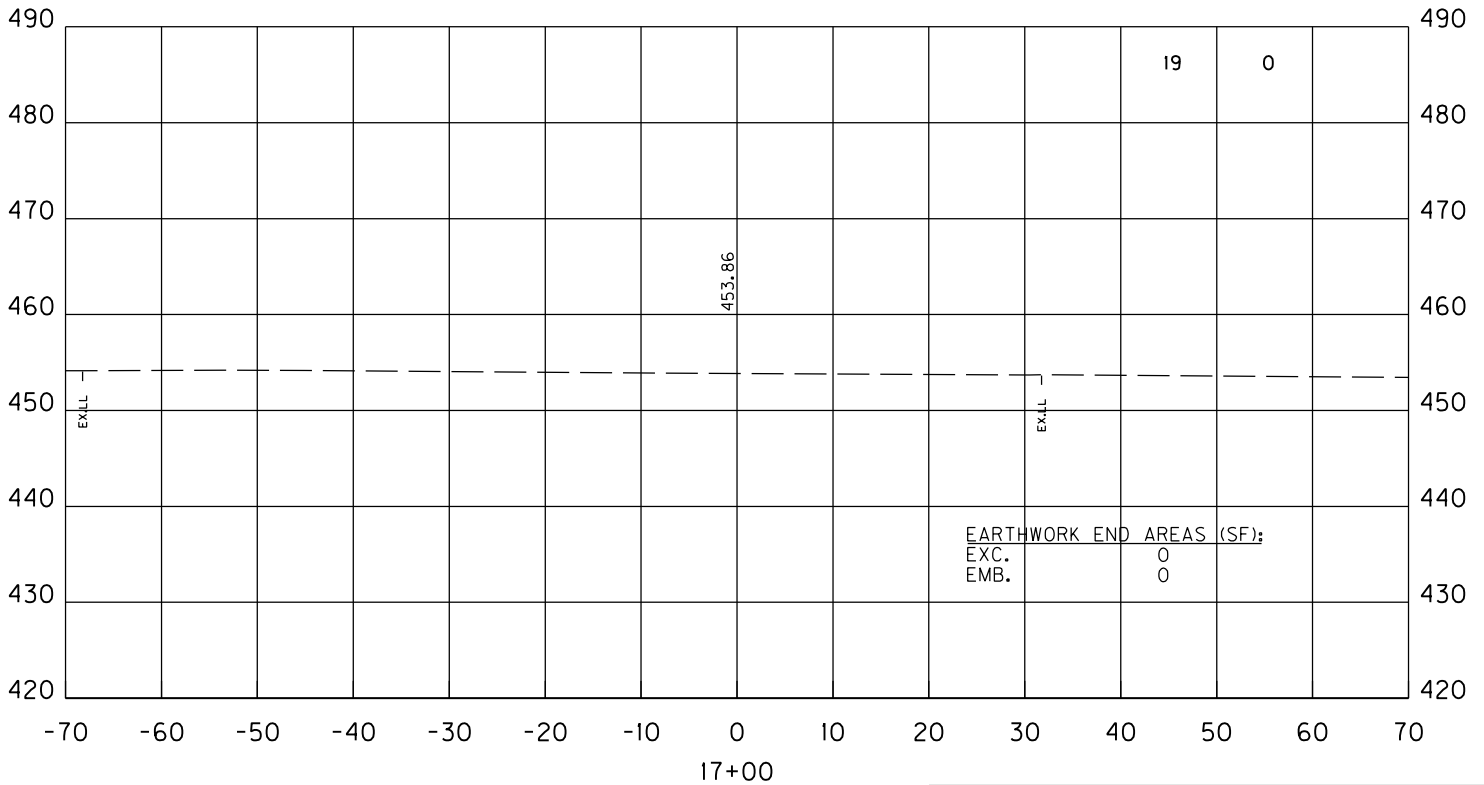
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

I-264 EB OFF RAMP
STA. 15+00 TO STA. 15+50
CROSS SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

EARTHWORK VOLUMES (CY):

	EXC.	EMB.
PROJECT TOTALS:	371	210
I-264 EB OFF RAMP TOTALS:	362	172

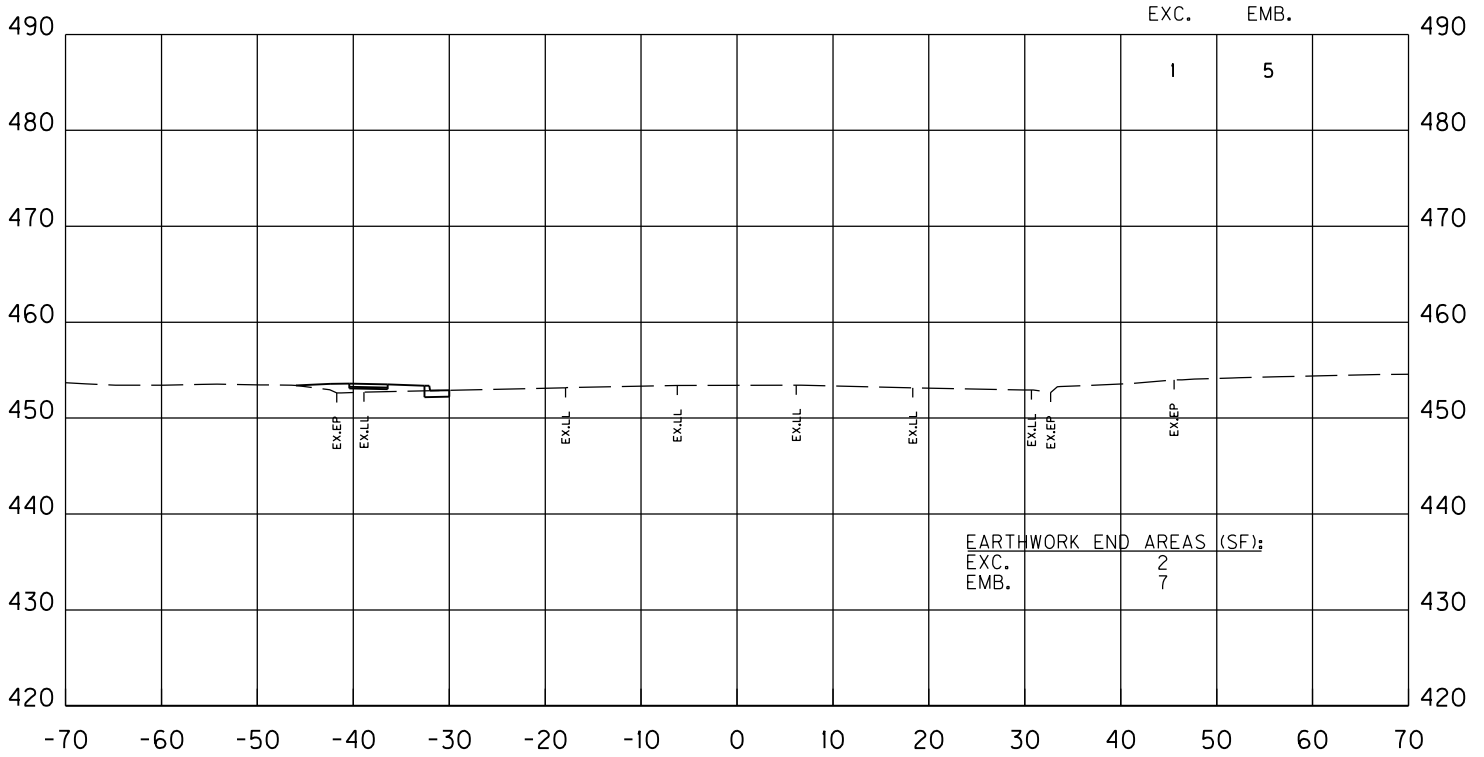


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

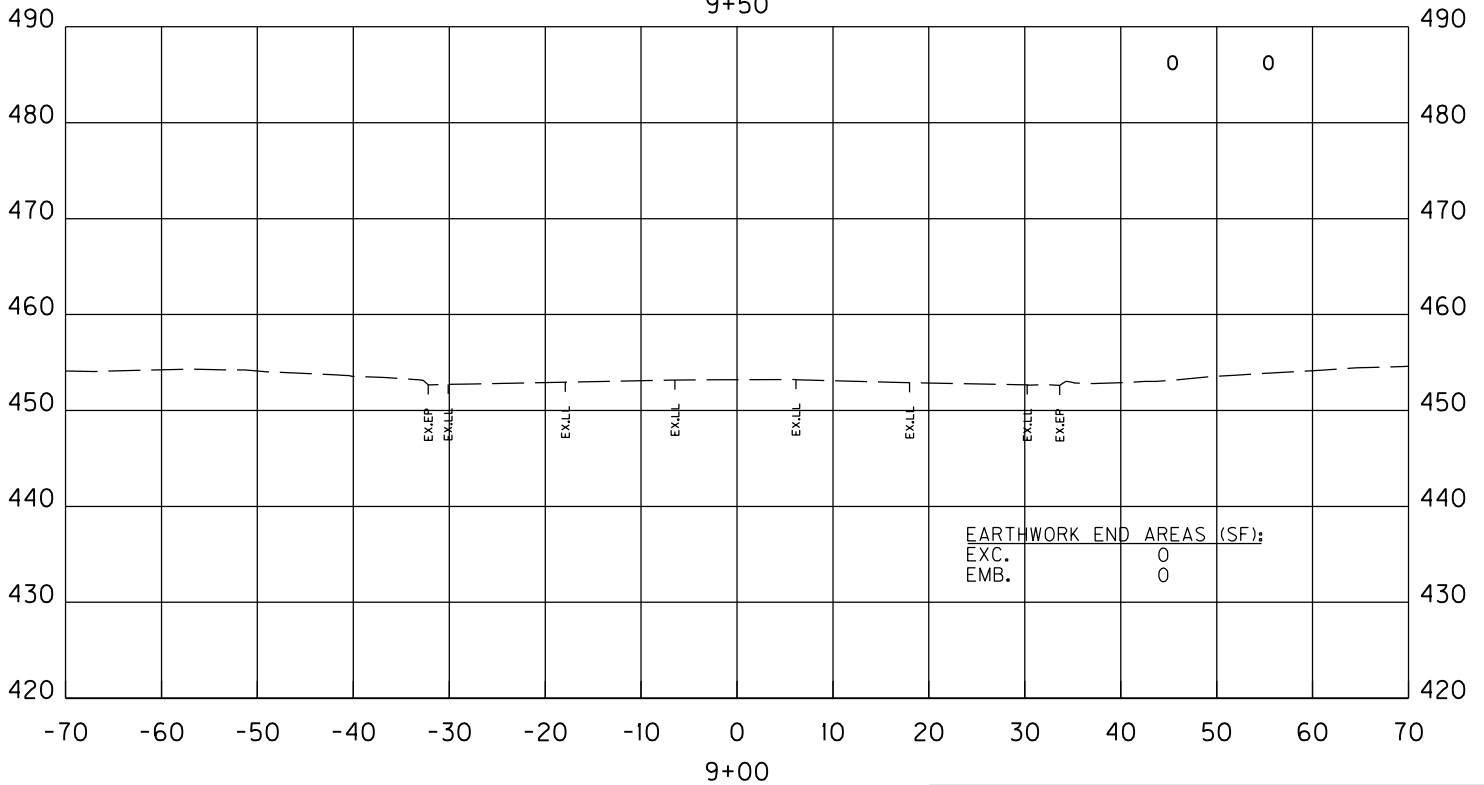
I-264 EB OFF RAMP
STA. 17+00
CROSS SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

EARTHWORK VOLUMES (CY):



EARTHWORK END AREAS (SF):
EXC. 2
EMB. 7



EARTHWORK END AREAS (SF):
EXC. 0
EMB. 0

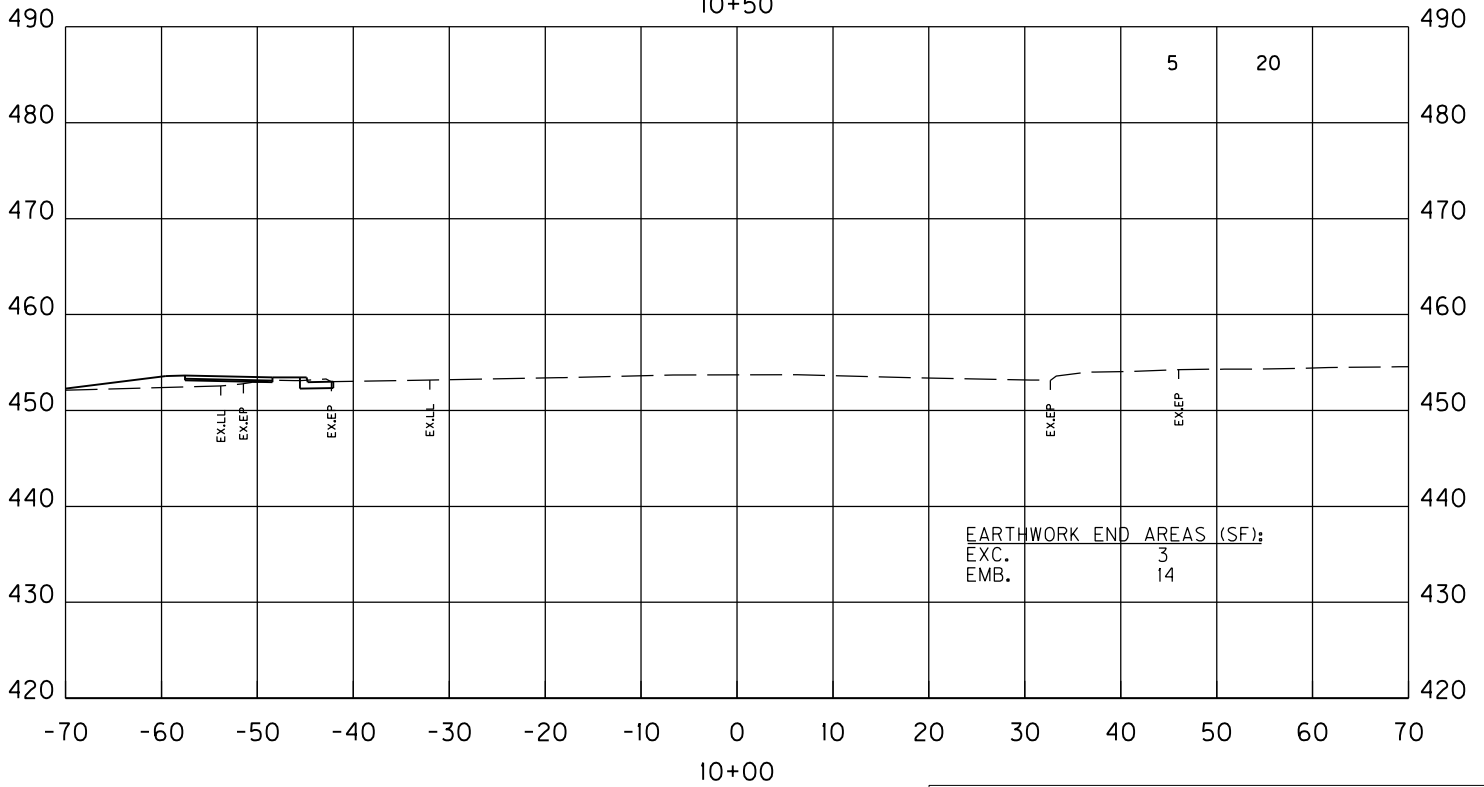
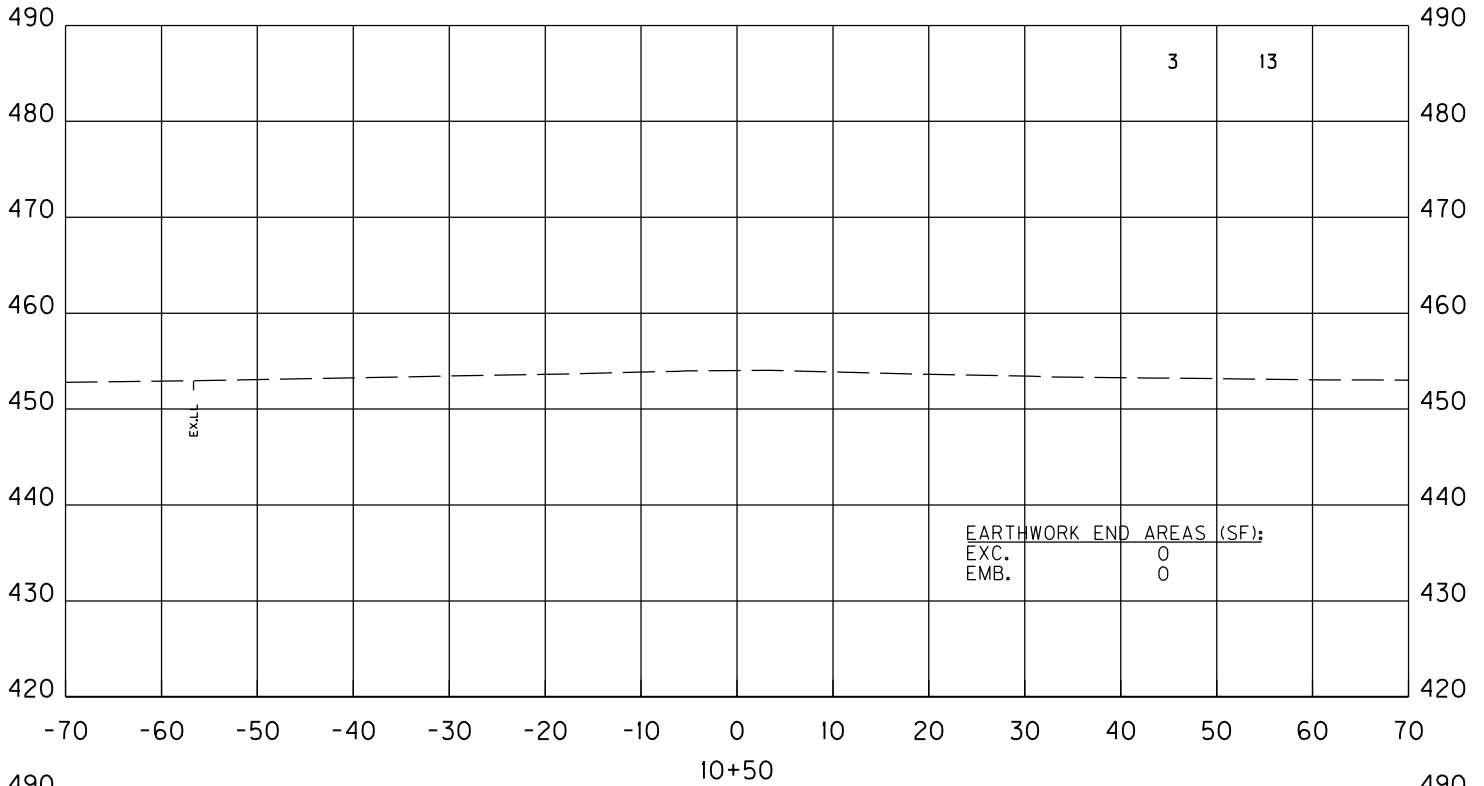
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 1865
STA. 9+00 TO STA. 9+50
CROSS SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.10

EARTHWORK VOLUMES (CY):

	EXC.	EMB.
PROJECT TOTALS:	371	210
KY 1865 TOTALS:	9	38

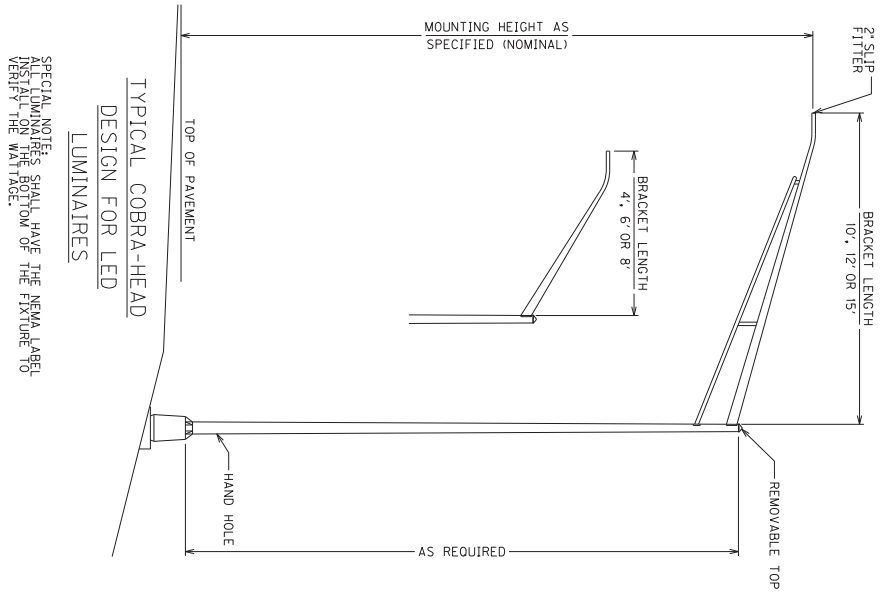


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 1865
STA. 10+00 TO STA. 10+50
CROSS SECTIONS

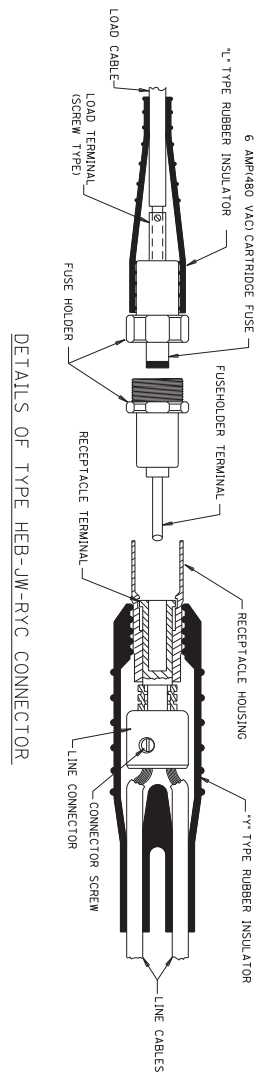
Power inRoads v8.11.9.397 E-SHEET NAME: USER: Ryan-s DATE PLOTTED: December 14, 2021 FILE NAME: C:\PW\WORK\JEFFERSON\SD0129485\100200CL.DGN

4-24-2017



SPECIAL NOTES:
2. INSTALLATION OF THE BOTTOM OF THE FIXTURE TO VERIFY THE WATTAGE.

BREAKAWAY FUSE CONNECTOR KIT



DETAILS OF TYPE HEB-JW-RYC CONNECTOR

TYPE HEB-JW-RYC CONNECTOR SHOWN

NOTE:
ALL TYPE 4-LED LUMINAIRES SHALL BE NO MORE THAN 63 WATTS. USE TYPE 11, GROUND MOUNTED AT 30 NOMINAL ON A 12-FOOT ARM, EXISTING POLE, BRACKET ARM, AND LUMINAIRE SHALL BE USED.
ALL TYPE 7-LED LUMINAIRES SHALL BE EXISTING LUMINAIRES ON EXISTING POLE BASE, POLE, BRACKET ARM, ETC.

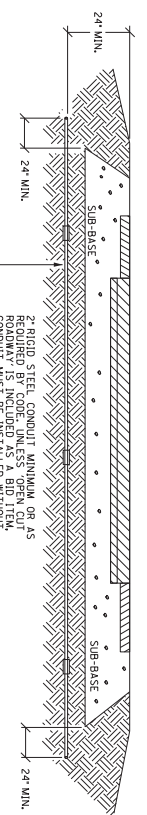
LUMINAIRE DESIGNATION EXAMPLE

2 - A - 12
MAST ARM LENGTH (SEE NOTE BELOW)
LUMINAIRE EQUIVALENT
LUMINAIRE NUMBER IN CIRCUIT

COBRA-HEAD LUMINAIRE/FUSE CONNECTOR DETAILS

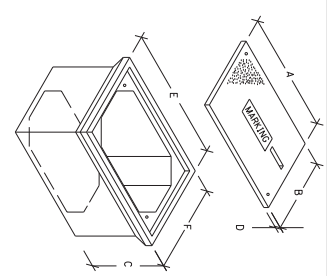
COUNT OF	ITEM NO.	SHEET NO.
JEFFERSON	5-9019.10	12

Power inRoads v8.11.9.397 E-SHEET NAME: USER: Ryan-s DATE PLOTTED: March 20, 2017 FILE NAME: C:\P\WORK\DIR\RYAN-S\00129485\100300.B.DGN



CONDUIT INSTALLATION UNDER EXISTING PAVEMENT DETAIL

DEPTH SHOWN FOR CONDUIT AND DUCTED CABLE ARE MINIMUMS. CONTRACTOR SHALL RAISE AND REPAIR SURFACE TO ORIGINAL FINISH LIFTS AND RETORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER.

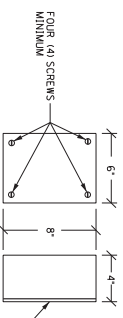


JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D	E	F
TYPE A	23"	14"	27"	2"	25"	15"
TYPE B	18"	11"	12"	1/2"	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

NOTE: STACKABLE BOXES ARE PERMITTED

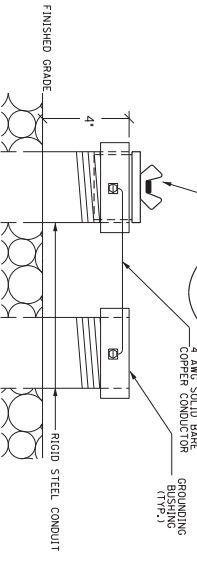
CONDUIT, DUCTED CABLE, AND WARNING TAPE TRENCH

ABOVE GROUND BOX SHALL BE FABRICATED FROM GALVANIZED STEEL AND SHALL BE 18" WIDE AND 18" DEEP. BOXES SHALL HAVE NO PROTRUDING PARTS. SHALL BE PAINTED WITH A WEATHER RESISTANT GASKET AND A MINIMUM OF 1/2" THICK PLATE COVER TO THE BOX. THE PLATE COVER TO THE BOX SHALL BE 1/2" THICK AND SHALL BE GALVANIZED STEEL AND SHALL BE 18" WIDE AND 18" DEEP.



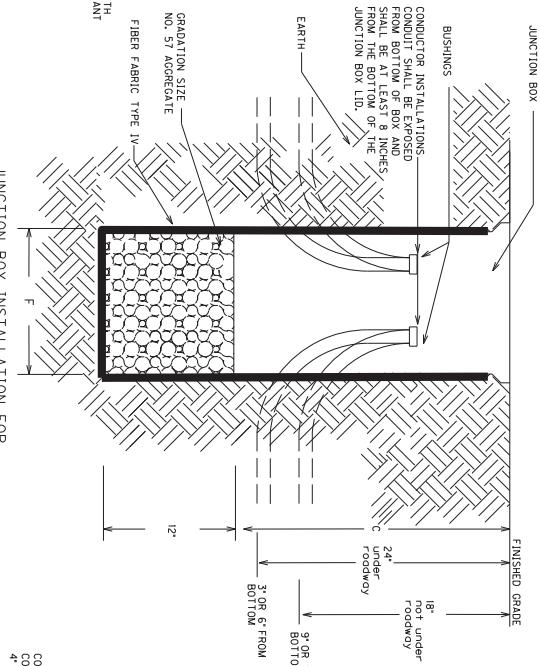
ABOVE GROUND BOX

TEST PIPE PLUG FOR SPARE CONDUITS CAPED ON BOTH ENDS



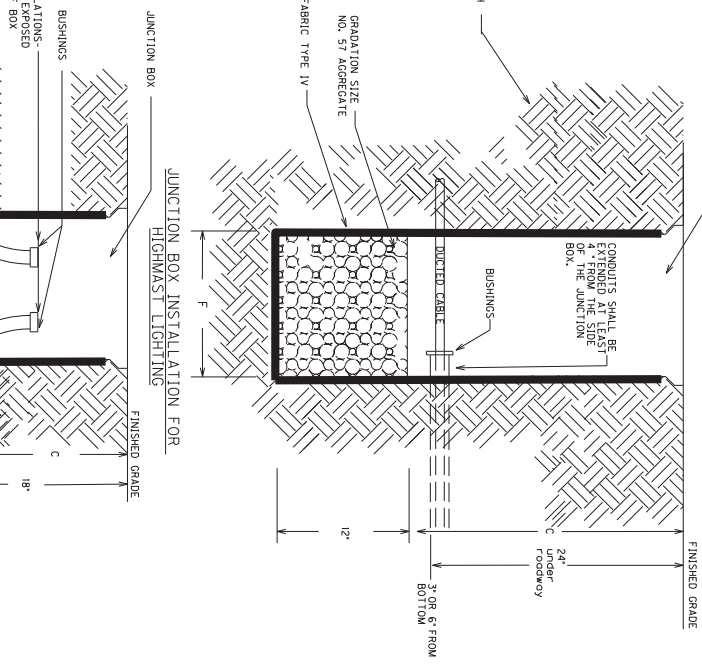
TEST PIPE PLUG (FOR SPARE CONDUITS) AND GROUNDING DETAIL CONCRETE CABLE MARKERS

3/13/2017

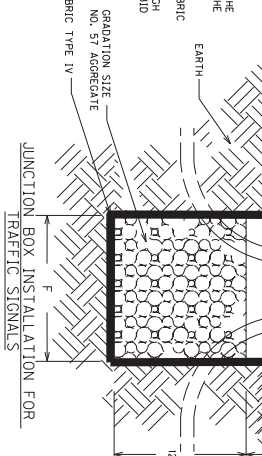


JUNCTION BOX INSTALLATION FOR CONVENTIONAL LIGHTING

BEFORE THE INSTALLATION OF THE #57 AGGREGATE AND JUNCTION BOX, THE CONTRACTOR SHALL INSTALL GEOTEXTILE FILTER FABRIC TYPE IV IN THE HOLE. THE FABRIC SHALL EXTEND TO JUST BELOW THE TOP OF THE CONDUIT AND SHALL BE ADHESIVE APPLIED TO THE EXTERIOR OF THE BOX WITH ADHESIVE. ANY LOCATIONS WHERE CONDUITS ENTER THE BOX, THE FABRIC SHALL BE CUT ONLY AS MUCH AS NECESSARY TO ALLOW THE CONDUIT TO ENTER THE BOX. THE FABRIC SHALL BE ADHESIVE APPLIED TO THE EXTERIOR OF THE BOX. THE FABRIC SHALL BE IDENTICAL TO BID ITEMS 481, 2039NS85, OR 2039NS85.



JUNCTION BOX INSTALLATION FOR HIGHMAST LIGHTING

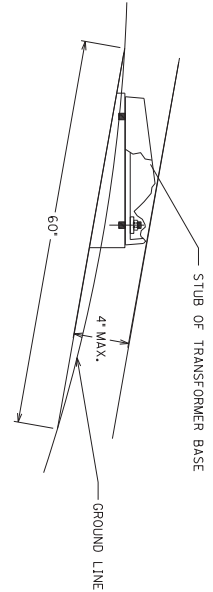


JUNCTION BOX INSTALLATION FOR TRAFFIC SIGNALS

TRAFFIC SIGNAL AND CONDUIT MARKING DETAILS

COUNT OF	ITEM NO.	SHEET NO.
JEFFERSON	5-9019.10	13

Power InRoads v6.11.9.397 E-SHEET NAME: USER: ryan-4 DATE PLOTTED: January 30, 2020 FILE NAME: C:\PW_WORK\DRY\AN-SID\0129485T00400CL.DGN

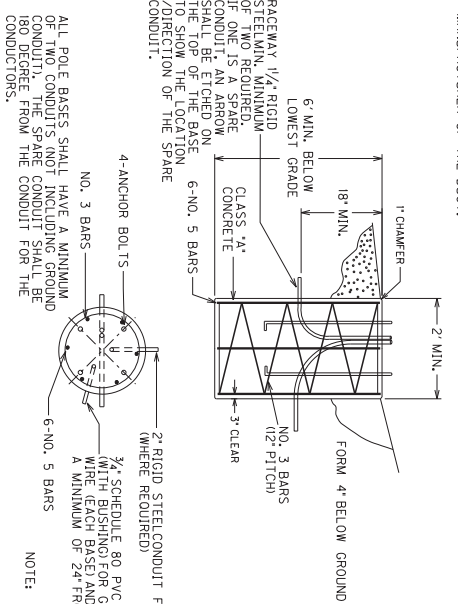


THE ANCHOR BOLTS AND CONDUITS SHALL NOT BE PROJECTED MORE THAN 4 INCHES ABOVE A GROUND LINE BETWEEN THE STRADDLING WHEELS OF A VEHICLE.

BREAKAWAY SUPPORT STUB HEIGHT MEASUREMENT

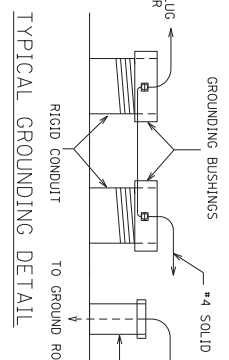
IF DUCTED CABLE INSTALLED BETWEEN POLE BASES:
 INSTALL RIGID STEEL/DUCTED CABLE ON APPROVED CONDUIT CONNECT THE RIGID STEEL TO DUCTED CABLE. RACEWAYS SHALL BE THE SAME SIZE AS THE DUCTED CABLE WHICH ATTACHES TO THE RIGID STEEL CONDUIT. ALTERNATELY IF DUCTED CABLE IS USED TO ATTACH TO THE RIGID STEEL RIGID STEEL CONDUIT TWO TIMES THE SIZE OF THE DUCT AND RUN THE DUCT INSIDE THIS CONDUIT. THE SWEEP FOR THE CONDUIT SHALL BE INCREASED TO ADHERE TO THE BENDING RADIUS RECOMMENDED BY THE MANUFACTURER OF THE DUCT.

DUCTED CABLE INSTALLED THROUGH 3" CONDUIT CROSSINGS TO LUMINAIRE POLE BASE: INSTALL DUCTED CABLE INTO THE POLE BASE. THE DUCT SHOULD BE EXTENDED 1" ABOVE THE CONDUIT. THE CONDUIT SWEEP SHOULD BE AS SHOWN. THE CONDUIT SHOULD BE SLOTTED TO ALLOW THE DUCTED CABLE TO PREVENT THE DUCTED CABLE FROM GRAMPING.



FOUNDATION DETAIL

1/30/2020

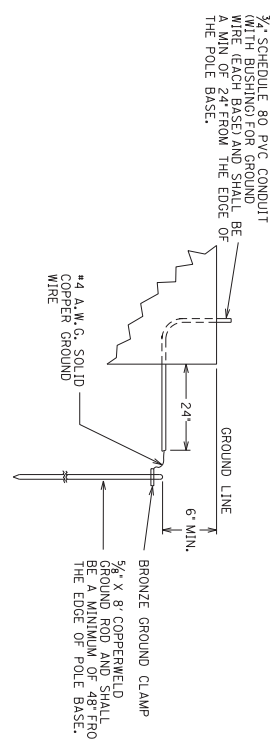


TYPICAL GROUNDING DETAIL

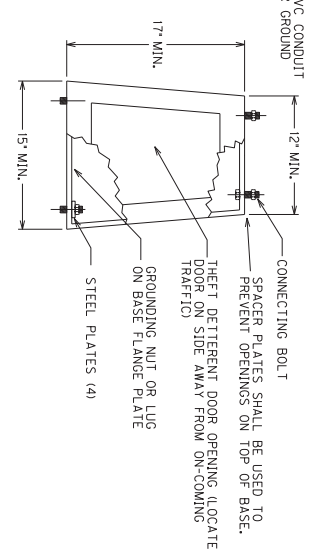
GROUNDING REQUIREMENTS:
 CONTRACTOR SHALL PROVIDE A MINIMUM OF 6 INCHES OF GROUND WIRE FOR TESTING PRIOR TO CONNECTING THE WIRE TO TRANSFORMER BASE.

POLE/TRANSFORMER BASE GROUND - GROUND WIRE SHALL COME FROM THE GROUND ROD THROUGH THE PVC CONDUIT, CONNECTING TO THE TRANSFORMER BASE/POLE AND THEN TO EACH RIGID STEEL GROUNDING BUSHING.

NOTES:
 ALL CONDUITS USED FOR THE GROUNDING, SPARES AND CONDUCTORS THAT ARE INSTALLED IN THE POLE BASE ARE INCLUDED TO BID ITEM #4740'. THIS INCLUDES PROVIDING A MINIMUM OF 24 INCHES OF CONDUIT PAST THE EDGE OF THE POLE BASE.



GROUNDING DETAIL



TYPICAL

CAST ALUMINUM TRANSFORMER BASE

NOTE: TRANSFORMER BASE DOOR SHALL HAVE A 4" BY 6" ARC FLASH WARNING STICKER INSTALLED 3" FROM THE TOP OF THE DOOR. THE STICKER SHALL BE METAL CRAFT PLOTTED FROM STICKER LABEL WITH POLYCARBONATE MATERIAL, AND WITH MCS3FL PRESSURE SENSITIVE ADHESIVE OR APPROVAL EQUAL. THIS SHALL BE INCIDENTAL TO PROJECT.

SPECIAL NOTE FOR TRANSFORMER BASES:
 SPARKS AN ARC FLASH AND SHOCK HAZARD FROM THE FOLLOWING INFORMATION:
 VOLTAGE (480 VOLT)
 CLASS APPROX. RATING 42 IN.
 RESTRICTED APPROX. RATING 42 IN.
 MINIMUM CLOTHING ARC RATING CAT 2
 SEE WPA FOR ADDITIONAL PPE REQUIRED

TRANSFORMER BASE DETAIL

SCALE: 1"=

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-8019.10	T4

Power inRoads v8.11.9.197 E-SHEET NAME: T01700CL USER: ryan-s DATE PLOTTED: June 5, 2017 FILE NAME: C:\PW\WORK\RYAN-S\00129485\100500CL.DGN

DESIGN CRITERIA

OVERALL RAMP CRITERIA: ILLUMINANCE:
AVERAGE: NOT LESS THAN 0.80 FOOTCANDLES
MINIMUM: NOT LESS THAN 0.20 FOOTCANDLES
AVG./MIN: NOT MORE THAN 4.0:1

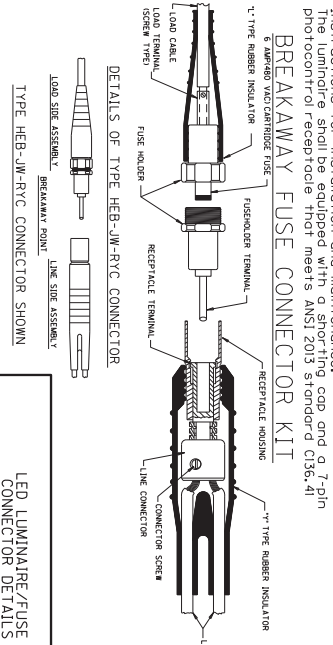
LUMINAIRE DESIGN:

DRIVER: NOT TO EXCEED 980 mA
TYPE: II DISTRIBUTION
CCT: 4000K
LAMP WATTAGE: 52W

LED Luminaire Specifications

1. The Luminaire shall be listed by a National Recognized Testing Laboratory (NRTL) as approved for use in wet locations. The luminaire shall be tested and listed by OSHA in its scope of recognition. A list of recognized testing labs for products sold in the United States may be found on the U.S. Department of Labor's web site: <http://www.osha.gov>
2. The luminaire shall be listed by a NRTL or CSA as being in compliance with ANSI C136.3 and applicable UL listings.
3. Key components including LED drivers, LED light sources, and surge protection devices shall be RoHS compliant.
4. The housing shall have an Interational Electrotechnical Commission (IEC) 629 ingress protection (IP) rating of IP 65 or greater.
5. The luminaire shall have an International Electrotechnical Commission (IEC) class defined by FCC 47 Sub Part 15: CISPR15, CISPR22 Class A (IC20vmin), EN61000-3-2, -3, -3, -4-4, -4-5.
6. Shall be tested according to the most current version of Illuminating Engineering Society of North America (IESNA) LM-79.
7. Shall have lumen maintenance measured in accordance with the most current version of Illuminating Engineering Society of North America (IESNA) LM-80.
8. Shall have long term lumen maintenance documented according to the most current version of Illuminating Engineering Society of North America (IESNA) LM-21.
9. The fixture shall have a diecast aluminum housing.
10. The luminaire shall have a minimum thickness. Finish shall pass per ASTM D1654 after 3000 hours of testing per ASTM B117.
11. All hardware on the exterior of the housing including cover and latch shall be stainless steel, zinc or steel with zinc alloy electroplate and chromate top coat.
12. The luminaire shall be easy to open when properly mounted and shall have readily accessible internal ports. Access to all internal parts requiring replacement shall not require tools (i.e. "tool-less entry").
13. The luminaire shall have a vibration rating of 3G per the American National Standard (ANSI) IEEE C136.3, Table 2, Roadway Lighting Equipment - Luminaire.
14. The luminaire shall be designed to allow for water shedding.
15. The luminaire shall have a passive cooling method shall be employed to manage thermal output of LED light engine and power supply.
16. The luminaire shall have a label per ANSI C136.22 that states operating voltage and current range. The label must be clearly visible on the inside of the luminaire.
17. The luminaire shall fully operate in a temperature range of -40 degrees C up to 40 degrees C (-40 degrees F to 104 degrees F).
18. In retrofit applications, the LED luminaire shall not be more wattage than the original HPS fixture if you are replacing one for one. For the optimized proposal, we will allow the wattage to be greater than the original proposed luminaire.
19. The luminaire shall have an integral power supply (electronic driver). The power supply shall not have a manual, field-adjustable setting for current output.
20. The luminaire shall have a power supply (electronic driver) that will operate in a temperature range of -40 degrees C to 40 degrees C.
21. The luminaire shall have a power supply (electronic driver) that has a power factor of .90 or greater at full load.
22. The luminaire shall have a power supply (electronic driver) that has total harmonic distortion of 20% or less at full load.
23. The luminaire shall have power supply (electronic driver) output ripple of less than 10%.
24. The luminaire shall have power supply (electronic driver) with a rated life of 100,000 hours with a luminaire operated at an ambient temperature of 25°C (77°F).
25. The luminaire shall have an isolated power supply (electronic driver)
26. The luminaire shall have a power supply (electronic driver) that has thermal overload protection.
27. The luminaire shall have a power supply (electronic driver) that is self-vented short circuit protected and over load protected.
28. The luminaire shall not use any active thermal cutback, such as in order to change the luminaire's thermal characteristics.
29. The luminaire shall have a power supply (electronic driver) that is terminated with quick disconnect wire harnesses for easy maintenance. Wire nut termination is not acceptable.
30. The luminaire shall have a terminal block for terminating wiring to the luminaire. The terminal block shall be UL listed and have a terminal board that will accommodate 16 thru 18 AWG pole wire (ULV/5KA per ANSI/JEDEC2-41).
31. Fixture shall have a surge protection that meets 10kV/5KA per ANSI/JEDEC2-41.
32. The luminaire shall have life rating on all electrical components of 100,000 hours or greater when operated at full lumen output of 25 degrees C.
33. The luminaire shall have a rated life of 100,000 hours when operated in a luminaire of 25 degrees C (77 degrees F) or greater.
34. Electrical components shall be protected per ANSI/IEEE standard C62.41, for Class C applications.
35. The LED shall fully operate in a temperature range -40 degrees C to 40 degrees C.
36. The LED shall have a lumen maintenance of more than 95% optical intensity of initial delivered lumens due to thermal loading when operated at 25°C (77°F).
37. The LED shall deliver an average 80% of initial delivered lumens after 10,000 hours of operation when operated at 25°C (77°F).
38. The luminaire shall have a rated life of 100,000 hours when operated at 40 °C.
39. The luminaire shall have a minimum lumen output of 4000K with a variance of 250K, while that conforms to LM-79. The Correlated Color Temperature (CCT) shall be 5000K with a variance of 250K, while that conforms to LM-19 (HfH MAST ONLY).
40. The minimum color-rendering index (CRI) shall not be less than 70.
41. The luminaire shall have an integrated color sensor (ICCS) with a resolution of 10nm.
42. The optical system shall have a (LED) IP rating of 66 or greater.
43. The luminaire shall have an Illuminating Engineering Society of North America (IESNA) Backlight, Uplight and Glare (BUG) rating as follows:
a. Backlight rating shall not exceed 3:1 (maximum fixture backlight rating shall not exceed 3:1);
b. Uplight rating shall not exceed 3:1;
c. Glare rating shall not exceed 3/4
44. The Light Loss Factor (LLF) shall be calculated for each fixture as follows:
LLF = LLD x LDD
LLF = Lumen Depreciation Factor (LDF) shall be the specified percentage of LED lumen maintenance of 70,000 hours of 25°C (77°F) from the LM-21 report. This LLD should be according to LM -80 and LM -21 reports. This report shall be submitted for verification.
45. Luminaire's report shall show the drive current used for the submitted luminaire. The report can show a larger drive current to represent a worst case scenario.
46. The Lumen Maintenance Life L_e from the LM-21 report must not be below 80% of 10,000 hours at 25°C (77°F).
47. The luminaire shall have a certified test report for IES photometrics which verify light levels. Product submitted shall be accompanied by IES LM-21 compliant test reports from a CALIPER qualified or NALAP accredited testing laboratory for the specific model being submitted.
48. WARRANTY: The Manufacturer shall ensure that the LED luminaires have a minimum standard warranty of 10 years for all parts, and finishes, paint finish, warranty shall begin upon the date the luminaire is received. The warranty shall be transferable.
49. The warranty shall cover all failures, including:
a. Workmanship
b. LED
c. Power supply
d. Housing, wiring, connections, and drivers.
e. Luminaire components
f. The luminaire shall be tested and listed by OSHA in its scope of recognition. A list of recognized testing labs for products sold in the United States may be found on the U.S. Department of Labor's web site: <http://www.osha.gov>
50. The luminaire shall have a power supply (electronic driver) that will operate in a temperature range of -40 degrees C to 40 degrees C.

COUNT OF	ITEM NO.	SHEET NO.
JEFFERSON	5-9019.10	15



LEGEND

	LUMINAIRE POLE
	JUNCTION BOXES - TYPES A & C (AS DESIGNATED)
	EXISTING LIGHT POLE (REMOVED)
	CONCRETE MARKER
	1/4" CONDUIT

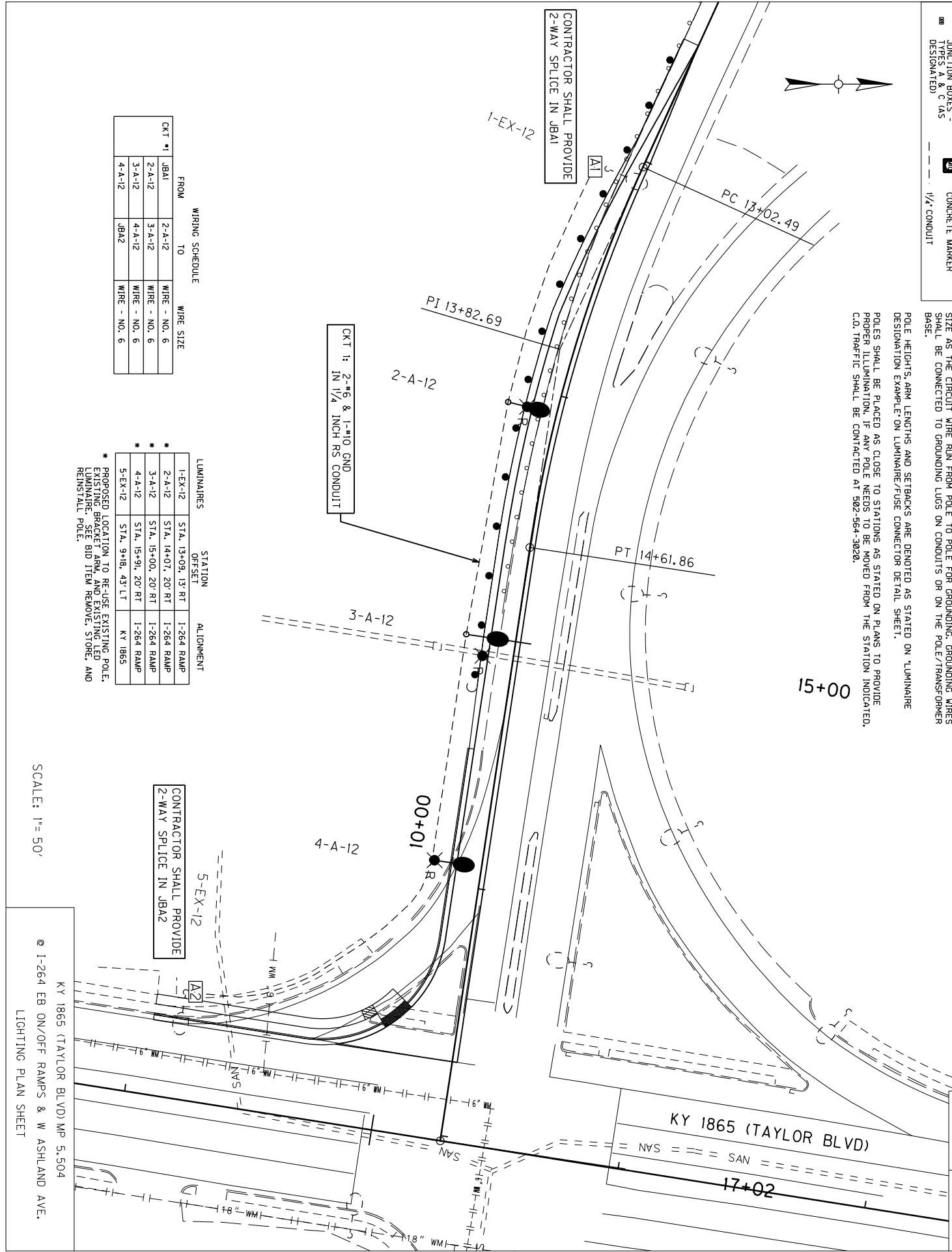
CONVENTIONAL LIGHTING:

ALL POLES SHALL HAVE A #12 AWG GREEN GROUND WIRE RUN FROM BOTTOM OF POLE TO THE LUMINAIRE FOR GROUNDING. ALL POLES SHALL HAVE A GREEN WIRE THE SAME SIZE AS THE CIRCUIT WIRE RUN FROM POLE TO POLE FOR GROUNDING. GROUNDING WIRES SHALL BE CONNECTED TO GROUNDING LUGS ON CONDUITS OR ON THE POLE/TRANSFORMER BASE.

POLE HEIGHTS, ARM LENGTHS AND SETBACKS ARE DENOTED AS STATED ON LUMINAIRE DESIGNATION EXAMPLE ON LUMINAIRE/FUSE CONNECTOR DETAIL SHEET.

POLES SHALL BE PLACED AS CLOSE TO STATIONS AS STATED ON PLANS TO PROVIDE PROPER ILLUMINATION. IF ANY POLE NEEDS TO BE MOVED FROM THE STATION INDICATED, C.O. TRAFFIC SHALL BE CONTACTED AT 502-564-3020.

COUNTY OF	JEFFERSON
ITEM NO.	5-9019.10



WIRING SCHEDULE

CKT #	FROM	TO	WIRE - NO.	WIRE SIZE
1	JBA1	2-A-12	WIRE - NO. 6	
2	2-A-12	3-A-12	WIRE - NO. 6	
3	3-A-12	4-A-12	WIRE - NO. 6	
4	4-A-12	JBA2	WIRE - NO. 6	

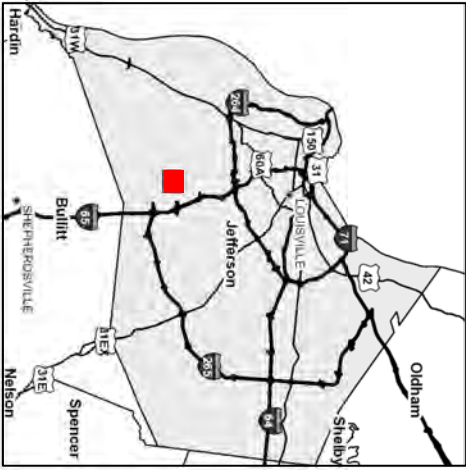
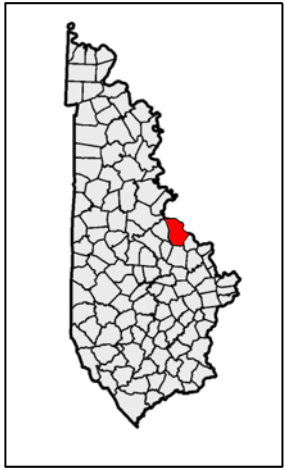
LUMINAIRES

LUMINAIRES	STATION OFFSET	ALIGNMENT
1-EX-12	STA. 13+09, 13 RT	I-264 RAMP
2-A-12	STA. 14+07, 20 RT	I-264 RAMP
3-A-12	STA. 15+00, 20 RT	I-264 RAMP
4-A-12	STA. 15+91, 20 RT	I-264 RAMP
5-EX-12	STA. 9+18, 43 LT	KY 1865

* PROPOSED LOCATION TO RE-USE EXISTING POLE, EXISTING BRACKET ARM, AND EXISTING LED REMAIN. POLE ITEM REMOVE, STORE, AND REINSTALL.

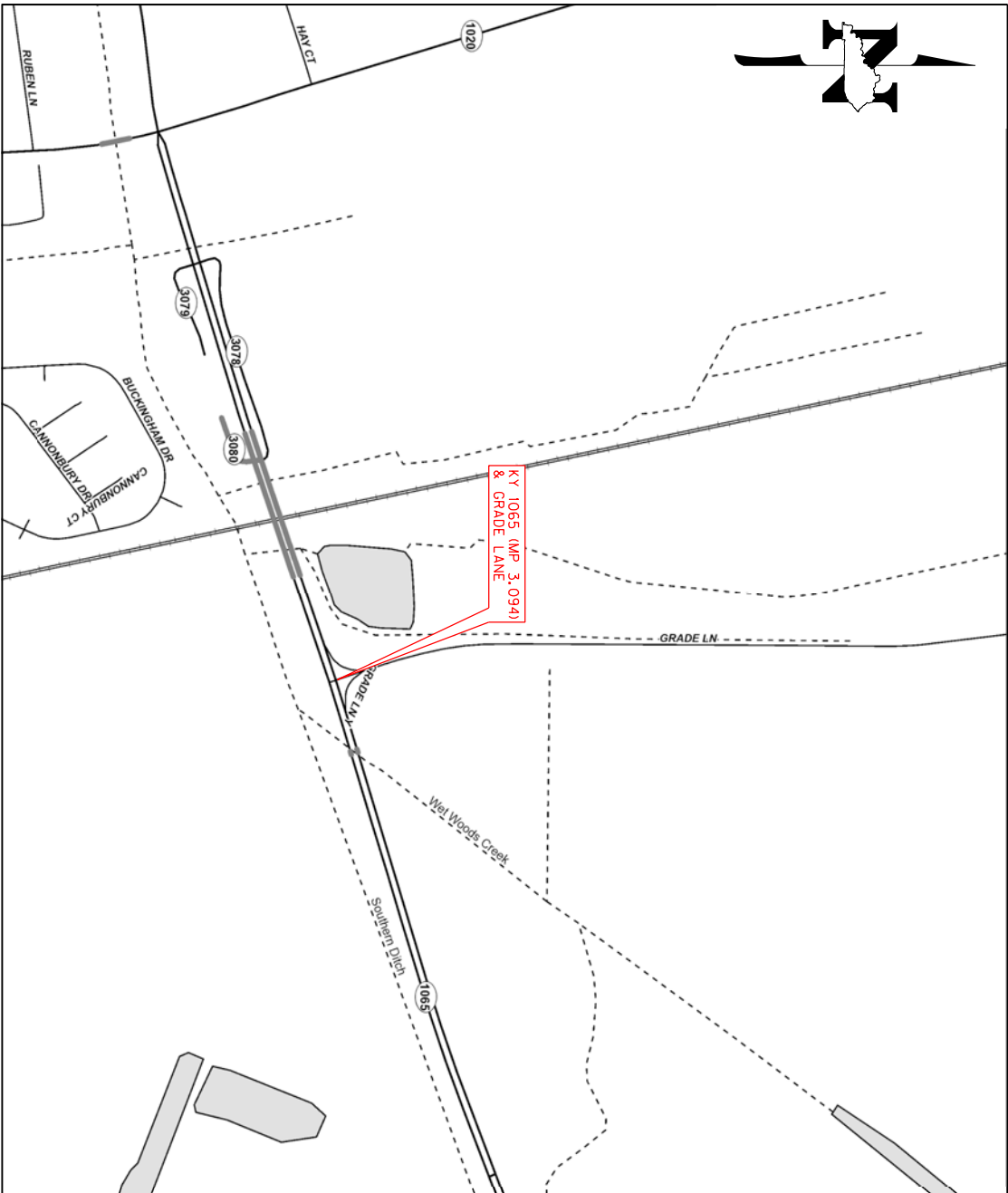
SCALE: 1" = 50'

KY 1865 (TAYLOR BLVD) MP 5.504
@ I-264 EB ON/OFF RAMP & W ASHLAND AVE.
LIGHTING PLAN SHEET



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

PLANS OF
PROPOSED PROJECT
JEFFERSON COUNTY
KY 1065



COUNTY OF	ITEM NO.
JEFFERSON	5-9019.30

JEFFERSON COUNTY
KY 1065 (OUTER LOOP) @ GRADE LANE
MILEPOST 3.194
ITEM NO. 5-9019.30
GENERAL SUMMARY

ITEM NUMBER	ITEM	UNIT	QUANTITY
1	DGA BASE (1)	TON	71
100	ASPHALT SEAL AGGREGATE (1)	TON	5
103	ASPHALT SEAL COAT (1)	TON	1
520	STORM SEWER PIPE-12 IN (2)	LF	8
1310	REMOVE PIPE (2)	LF	8
1559	DROP BOX INLET TYPE 13G (2)	EACH	1
1845	ISLAND INTEGRAL CURB (1)	LF	129
2084	JPC PAVEMENT-8 IN (1)	SQYD	205
2200	ROADWAY EXCAVATION (1)	CUYD	77
2562	TEMPORARY SIGNS	SQFT	300
2569	DEMOBILIZATION	LS	1
2650	MAINTAIN & CONTROL TRAFFIC (KY 1065 @ GRADE LANE)	LS	1
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	3
2726	STAKING (KY 1065 @ GRADE LANE)	LS	1
6556	PAVE STRIPING-DUR TY 1-6 IN W (3)	LF	283
6557	PAVE STRIPING-DUR TY 1-6 IN Y (3)	LF	84
20550ND	SAWCUT PAVEMENT (1)	LF	300
21373ND	REMOVE SIGN	EACH	1
21819NN	FITTINGS (12" TO PROPOSED 12" SS PIPE) (2)	EACH	2
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN (3)	LF	21
23270ES717	PAVE MARK TY 1 TAPE-CURV ARROW (3)	EACH	2
24768EC	LANE SEPARATOR CURB (Pexco FG 300)	LF	152

- (1) CARRIED OVER FROM THE PAVING SUMMARY
- (2) CARRIED OVER FROM THE DRAINAGE SUMMARY
- (3) CARRIED OVER FROM THE STRIPING / PAVEMENT MARKING SUMMARY

JEFFERSON COUNTY KY 1065 (OUTER LOOP) & GRADE LANE ITEM NO. 5-9019.30 PAVING SUMMARY			
PAVING AREAS		PAVING QUANTITIES	
ITEM	TOTAL	ITEM	TOTAL
FULL DEPTH CONCRETE PAVEMENT			
	SQYD		TON
8" JPC PAVEMENT	205		
6" DGA BASE	205	DGA BASE	71
ASPHALT SEAL AGGREGATE	185	ASPHALT SEAL AGGREGATE	5
ASPHALT SEAL COAT	185	ASPHALT SEAL COAT	1
	LF		
SAWCUT PAVEMENT	300		
	CUYD		
ROADWAY EXCAVATION	77		
CURB AND GUTTER			
	LF		
ISLAND INTEGRAL CURB	129		
PAVING SUMMARY			
CODE	ITEM	UNITS	PROJECT TOTAL
1	DGA BASE	TON	71
100	ASPHALT SEAL AGGREGATE	TON	5
103	ASPHALT SEAL COAT	TON	1
1845	ISLAND INTEGRAL CURB	LF	129
2084	JPC PAVEMENT-8 IN	SQYD	205
2200	ROADWAY EXCAVATION	CUYD	77
20550ND	SAWCUT PAVEMENT	LF	300
NOTES:			
DGA Base estimated at 115 lbs. per SQ. YD. per inch of depth			
Seal Coat: First course estimated at 3.2 lbs. per SQ. YD. Second course estimated at 2.8 lbs. per SQ. YD.			
Seal Aggregate: First course estimated at 30 lbs. per SQ. YD. Second course estimated at 20 lbs. per SQ. YD.			

JEFFERSON COUNTY - KY 1065 (OUTER LOOP) @ GRADE LANE MILEPOST 3.194 ITEM NO. 5-9019.30 DRAINAGE SUMMARY				
STATION	STORM SEWER PIPE ①		MISCELLANEOUS ①	
	STORM SEWER PIPE-12 IN	REMOVE PIPE	DROP BOX INLET TYPE 13G	FITTINGS ②
ITEM CODE	520	1310	1559	21819NN
UNIT TO BID	LF		EACH	EACH
111+28	8	8	1	2
PROJECT TOTALS	8	8	1	2
NOTES:				
① THE CONTRACTOR SHALL FIELD VERIFY TYPES AND DIMENSIONS PRIOR TO ORDERING.				
② FITTINGS HAVE BEEN INCLUDED FOR ALL PIPES. SEE THE GENERAL SUMMARY FOR FITTINGS LISTED BY SIZE.				

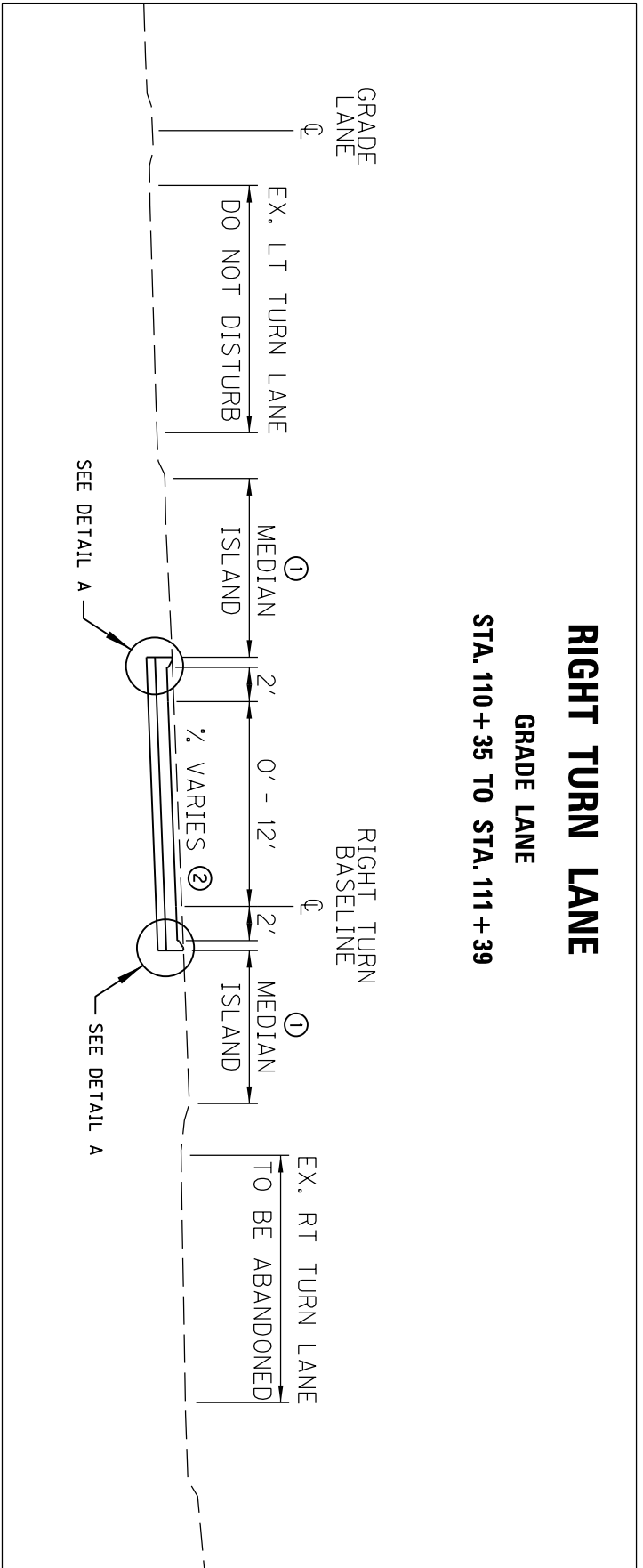
JEFFERSON COUNTY KY 1065 (OUTER LOOP) & GRADE LANE ITEM NO. 5-9019.30 STRIPING / PAVEMENT MARKING SUMMARY					
PROPOSED STRIPING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
6" Single Solid White Line (PAVE STRIPING-DUR TY 1-6 IN W)					
109+67	16' RIGHT	110+59	26.3' RIGHT	93	93
109+67	28' RIGHT	111+39	76' RIGHT	190	190
6" Single Solid Yellow Line (PAVE STRIPING-DUR TY 1-6 IN Y)					
110+59	26.3' RIGHT	111+39	36' RIGHT	84	84
PAVEMENT MARKING - TY 1 TAPE STOP BAR - 24 IN					
STATION	OFFSET	DESCRIPTION		LF	
111+32	39' RIGHT - 60' RIGHT	24" STOP BAR		21	
PAVEMENT MARKING - TY 1 TAPE ARROWS					
STATION	OFFSET	DESCRIPTION		EACH	
110+14	25' RT	RIGHT TURN ARROW		1	
110+94	38' RT	RIGHT TURN ARROW		1	

STRIPING / PAVEMENT MARKING SUMMARY			
BID ITEM	DESCRIPTION	UNIT	QUANTITY
6556	PAVE STRIPING-DUR TY 1-6 IN W	LF	283
6557	PAVE STRIPING-DUR TY 1-6 IN Y	LF	84
23265ES717	PAVE MARK TY 1 TAPE STOP BAR-24 IN	LF	21
23270ES717	PAVE MARK TY 1 TAPE-CURV ARROW	EACH	2

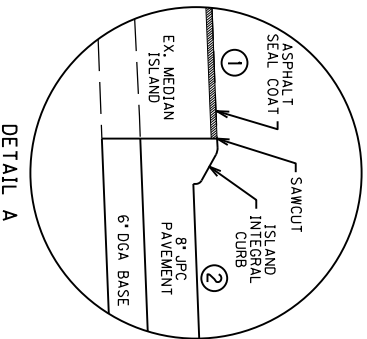
TYPICAL SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019, 30

RIGHT TURN LANE GRADE LANE STA. 110+35 TO STA. 111+39



GRADE LANE - RIGHT TURN LANE
 8" SURF — 8" JPC PAVEMENT
 6" BASE — 6" DGA BASE



① ASPHALT SEAL COAT (2 APPLICATIONS)
(SEE SPECIAL NOTE)

FIRST COURSE:

ASPHALT CURING SEAL
(APPLY AT A RATE OF 3.2 LBS/SQ. YD)
 ASPHALT SEAL AGGREGATE
(APPLY AT A RATE OF 30 LBS/SQ. YD)

SECOND COURSE:

ASPHALT CURING SEAL
(APPLY AT A RATE OF 2.8 LBS/SQ. YD)
 ASPHALT SEAL AGGREGATE
(APPLY AT A RATE OF 20 LBS/SQ. YD)

② SUPERELEVATION VARIES. SEE PAVEMENT ELEVATION DETAIL SHEET FOR MORE INFORMATION.

SCALE: NTS

KY 1065 (OUTER LOOP) MP 3.194
 GRADE LANE
 TYPICALS

COORDINATE CONTROL POINTS				
POINT	DESCRIPTION	State Plane Coordinates		STATION, OFFSET
		NORTH(Y)	EAST(X)	
C.P. #1	MAG NAIL	3935057.807	4924916.083	462.69
C.P. #2	MAG NAIL	3935662.383	4924791.823	455.42
				111+07.71 (GRADE LN), 26.08 RIGHT 104+90.63 (GRADE LN), 22.64 LEFT



SAWCUT EXISTING PAVEMENT
STA. 110+35 TO STA. 111+39 - LEFT EDGE (138 LF)
STA. 110+35 TO STA. 111+39 - RIGHT EDGE (162 LF)

CONSTRUCT FULL DEPTH CONCRETE
STA. 110+35 TO STA. 111+39
8" JPC PAVEMENT (205 SOYD)
6" DGA BASE (71 TON)

CONSTRUCT ISLAND, INTEGRAL CURB
STA. 110+63 TO STA. 111+29 (74 LF)
STA. 110+82 TO STA. 111+29 (55 LF)

CONSTRUCT LANE SEPARATOR CURB
(PEXCO, FC, 300)
STA. 110+00 TO STA. 110+81.82 (LF)
STA. 111+26 TO STA. 111+29 (70 LF)

CONSTRUCT DROP BOX INLET TYPE 136
RT STA. 111+28

COORDINATE SYSTEM

Coordinates for horizontal control were obtained from GPS methods and adjusted to the National NAD83/87BN System. Coordinates are based on State Plane Coordinate System, Kentucky Single Zone and in U.S. Survey Feet.

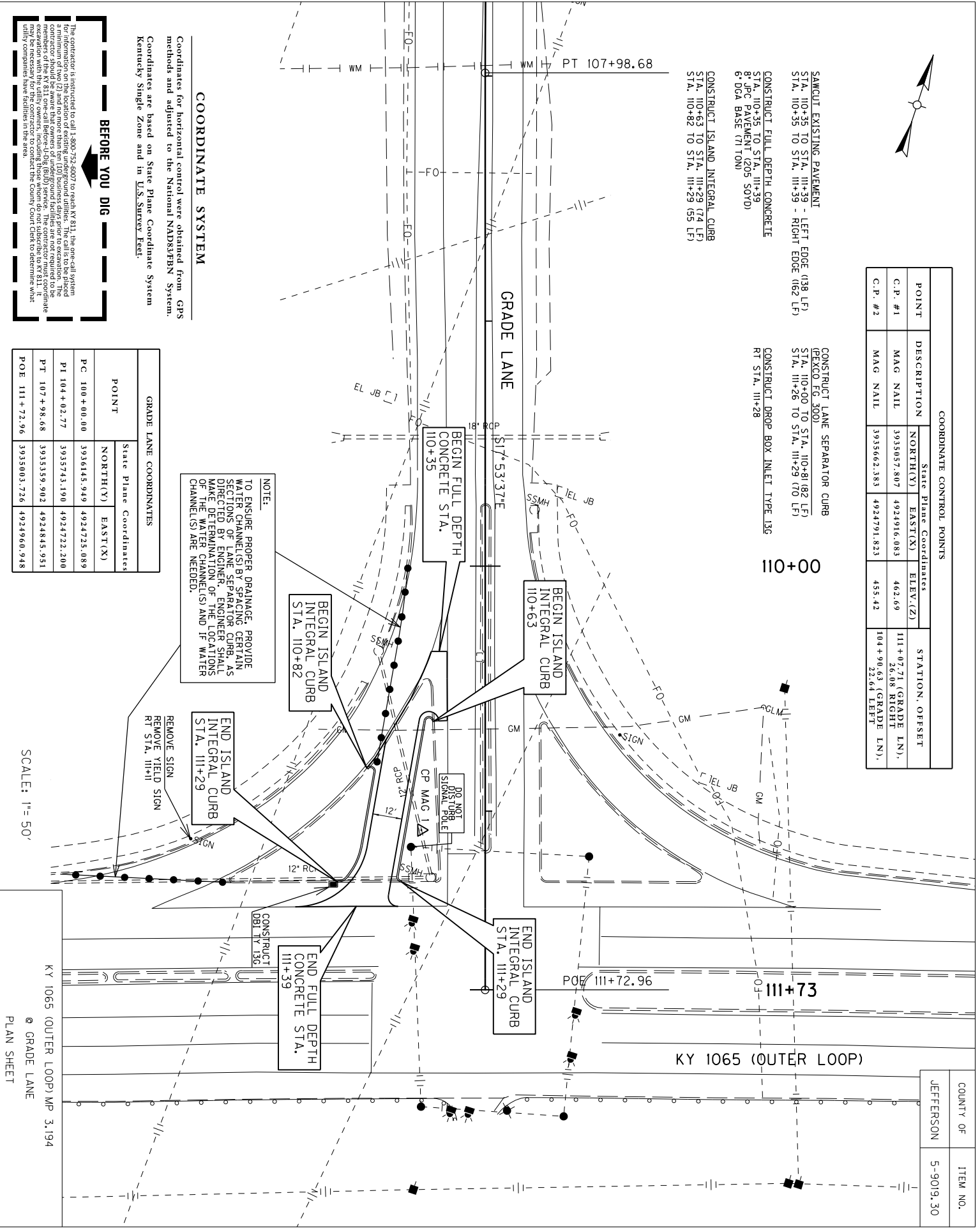
BEFORE YOU DIG

The contractor is instructed to call 1-800-552-6007 to reach KY 811, the one-call system. A minimum of two (2) days and no more than ten (10) business days prior to excavation, the contractor should be aware that owners of underground facilities are not required to be excavated. The contractor should be aware that the utility owners, including those who do not subscribe to KY 811, may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

GRADE LANE COORDINATES		
POINT	State Plane Coordinates	
	NORTH(Y)	EAST(X)
PC 100+00.00	3936145.949	4924725.089
PI 104+02.77	3935743.190	4924722.200
PT 107+98.68	3935359.902	4924845.951
POE 111+72.96	3935003.726	4924960.948

NOTE:
TO ENSURE PROPER DRAINAGE, PROVIDE WATER CHANNEL(S) BE SPACING CERTAIN DISTANCES AND SLOPE. ENGINEERS SHALL MAKE DETERMINATION OF THE LOCATIONS OF THE WATER CHANNEL(S) AND IF WATER CHANNEL(S) ARE NEEDED.

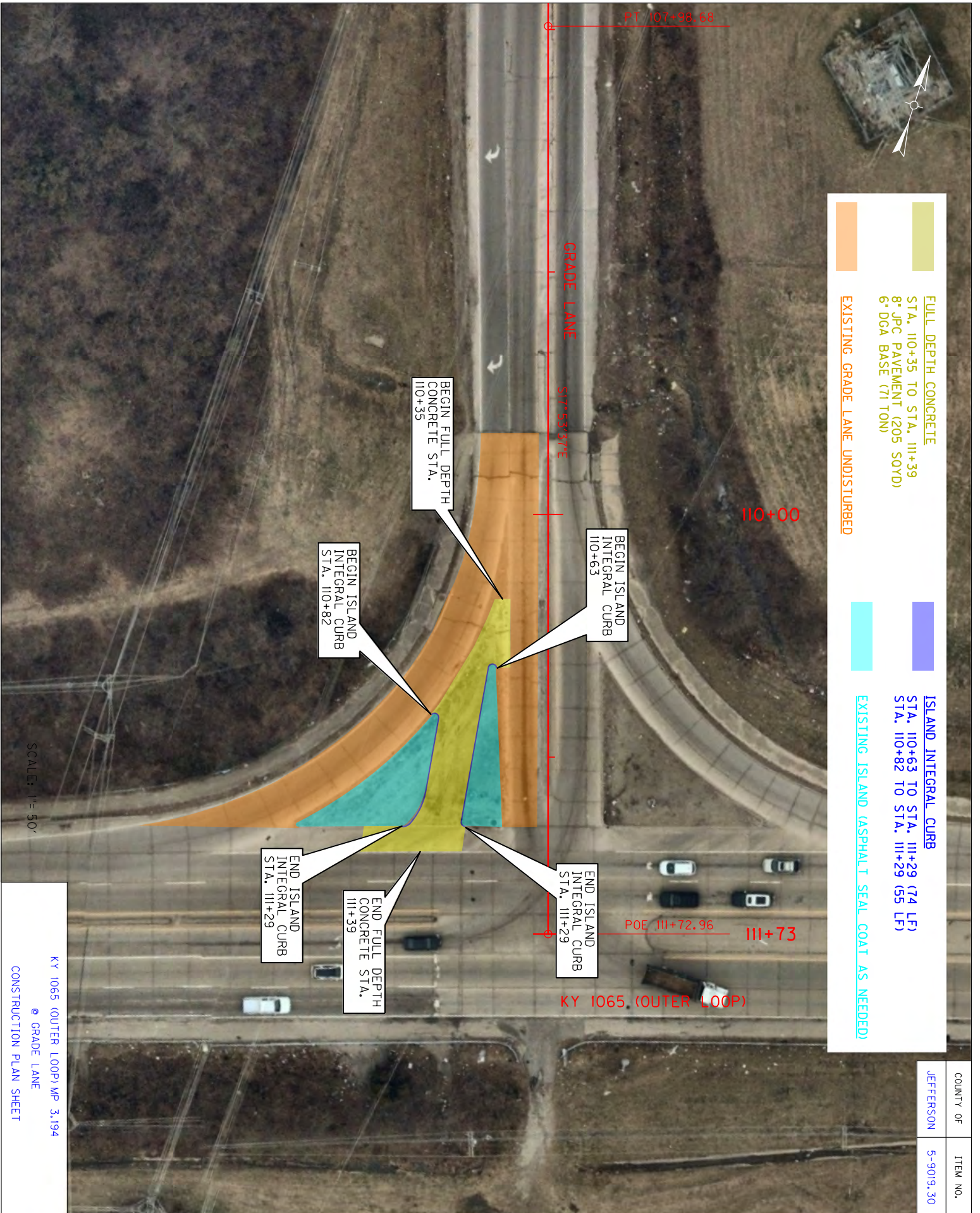
REMOVE SIGN
REMOVE YIELD SIGN
RT STA. 111+11



SCALE: 1" = 50'

KY 1065 (OUTER LOOP) MP 3.194
GRADE LANE
PLAN SHEET

COUNTY OF	JEFFERSON
ITEM NO.	5-9019, 30

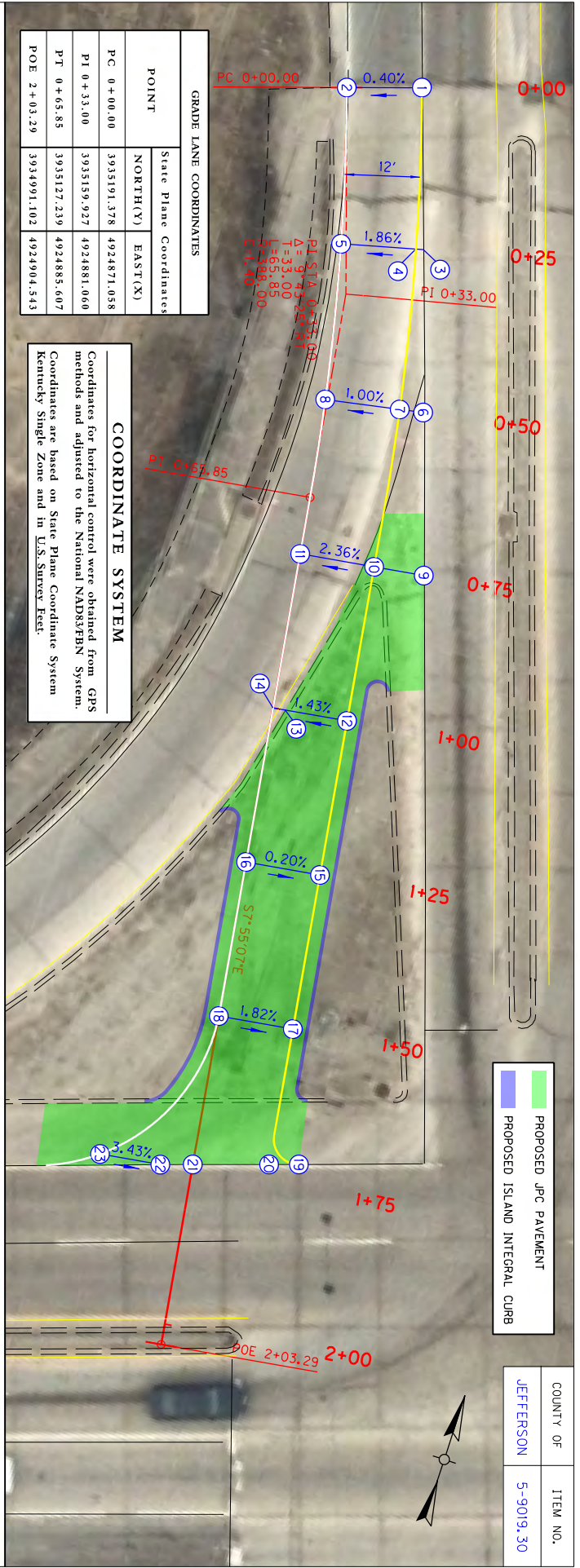


	FULL DEPTH CONCRETE STA. 110+35 TO STA. 111+39 8" JPC PAVEMENT (205 SOYD) 6" DGA BASE (71 TON)
	EXISTING GRADE LANE UNDISTURBED
	ISLAND INTEGRAL CURB STA. 110+63 TO STA. 111+29 (74 LF) STA. 110+82 TO STA. 111+29 (55 LF)
	EXISTING ISLAND (ASPHALT SEAL COAT AS NEEDED)

COUNTY OF	JEFFERSON
ITEM NO.	5-9019.30

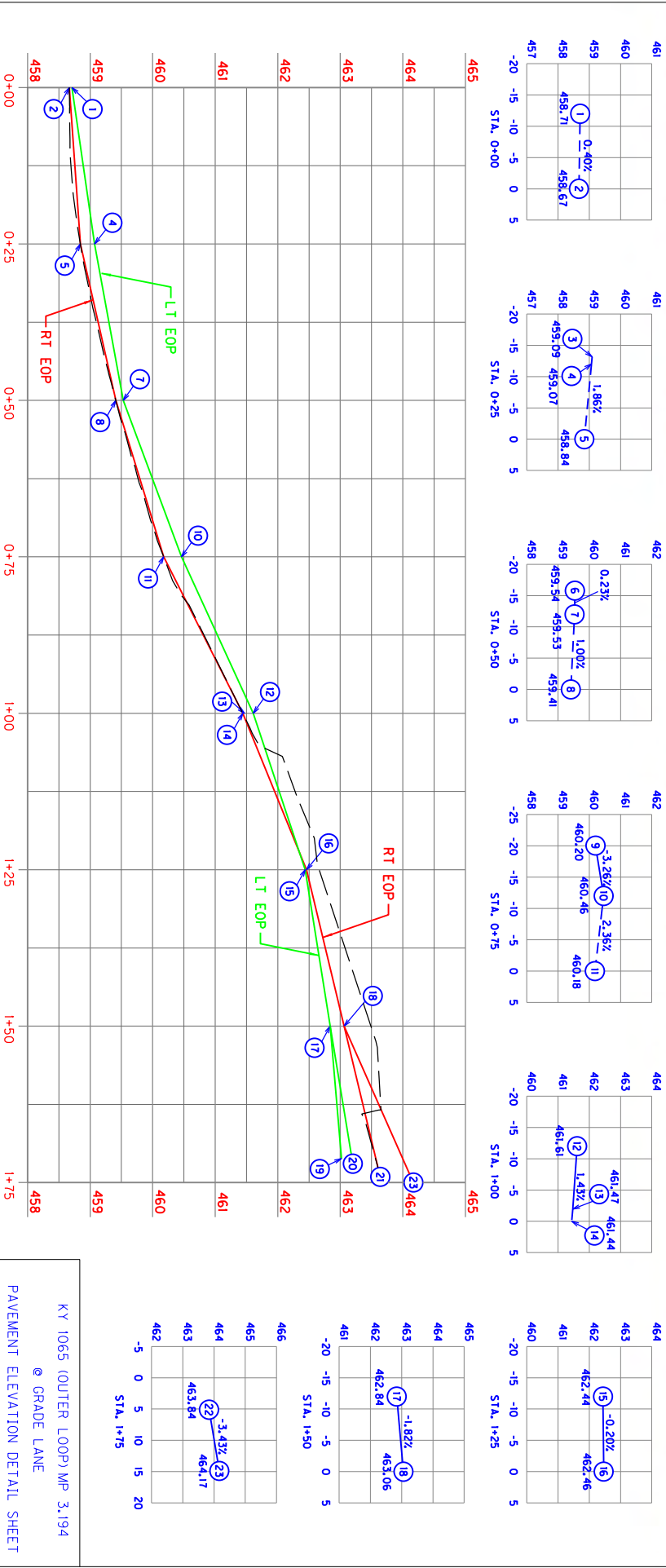
SCALE: 1" = 50'

KY 1065 (OUTER LOOP) MP 3.194
● GRADE LANE
CONSTRUCTION PLAN SHEET

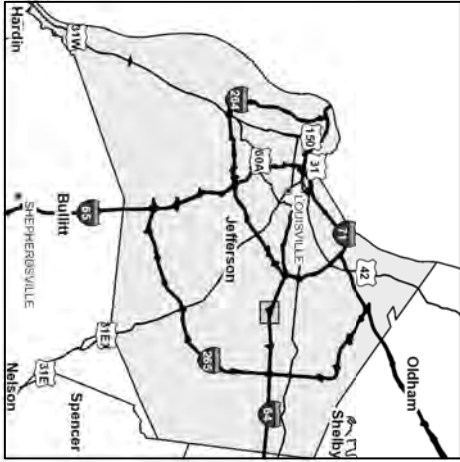
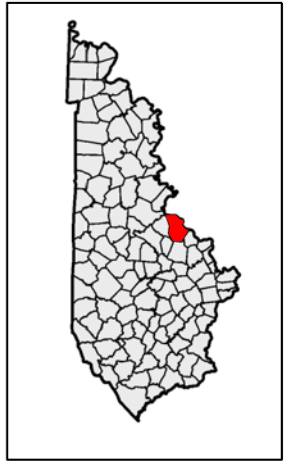


POINT	GRADE LANE COORDINATES	
	State Plane Coordinates NORTH(Y)	EAST(X)
PC 0+00.00	3935191.378	4924871.038
PT 0+33.00	3935159.927	4924881.060
PT 0+65.85	3935127.239	4924885.607
POE 2+03.29	3934991.102	4924904.513

COORDINATE SYSTEM
Coordinates for horizontal control were obtained from GPS methods and adjusted to the National NAD83/FBN System. Coordinates are based on State Plane Coordinate System Kentucky Single Zone and in U.S. Survey Feet.

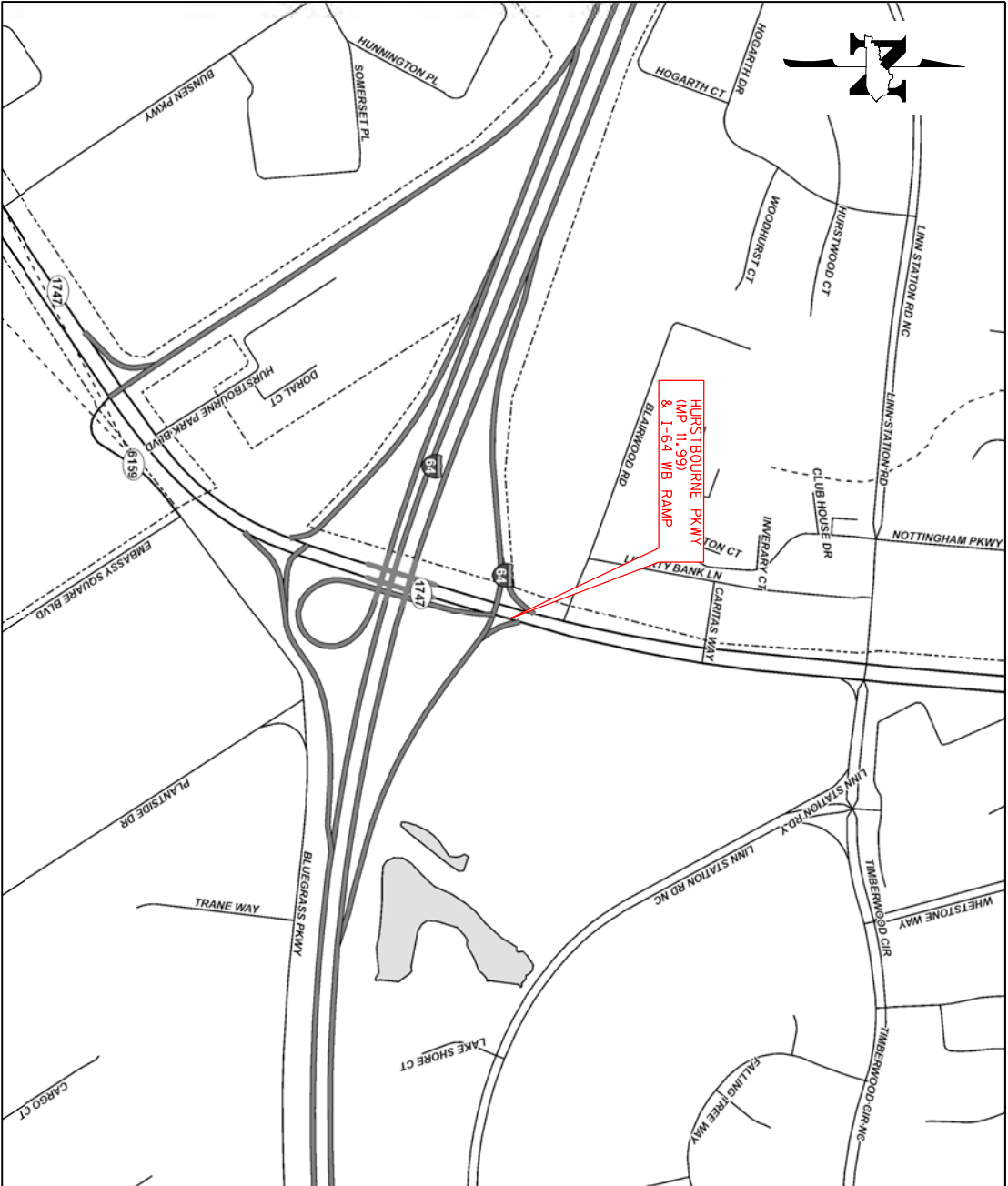


PAVEMENT ELEVATION DETAIL SHEET
KY 1065 (OUTER LOOP) WP 3.194
@ GRADE LANE



**Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS**

PLANS OF
PROPOSED PROJECT
JEFFERSON COUNTY
HURSTBOURNE PKWY



COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65

JEFFERSON COUNTY
KY 1747 (HURSTBOURNE PKWY) & I-64 WB RAMPS
ITEM NO. 5-9019.65
GENERAL SUMMARY (PAGE 1 of 2)

ITEM NUMBER	ITEM	UNIT	QUANTITY
1	DGA BASE (1)	TON	20
1689	FLUME INLET TYPE 1 MOD (2)	EACH	2
1811	STANDARD CURB AND GUTTER MOD (10 INCH) (1)	LF	94
2159	TEMPORARY DITCH	LF	65
2160	CLEAN TEMPORARY DITCH	LF	33
2200	ROADWAY EXCAVATION (1) (A)	CUYD	79
2237	DITCHING (2)	LF	20
2483	CHANNEL LINING CLASS II (2)	TON	26
2562	TEMPORARY SIGNS	SQFT	300
2569	DEMOBILIZATION	LS	1
2650	MAINTAIN & CONTROL TRAFFIC (KY 1747 @ I-64 WB RAMPS)	LS	1
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	2
2701	TEMPORARY SILT FENCE	LF	65
2726	STAKING (KY 1747 @ I-64 WB RAMPS)	LS	1
4792	CONDUIT 1 INCH (RIGID STEEL) (5)	LF	20
4820	TRENCHING AND BACKFILLING (5)	LF	20
4830	LOOP WIRE (5)	LF	394
4895	LOOP SAW SLOT AND FILL (5)	LF	152
5952	TEMPORARY MULCH	SQYD	289
5953	TEMP SEEDING AND PROTECTION	SQYD	217
5963	INITIAL FERTILIZER	TON	0.01
5964	MAINTENANCE FERTILIZER	TON	0.02
5985	SEEDING AND PROTECTION	SQYD	200
5990	SODDING	SQYD	184
5992	AGRICULTURAL LIMESTONE	TON	0.24
6405	SBM ALUMINUM PANEL SIGNS (3)	SQFT	714
6407	SBM ALUM SHEET SIGNS .125 IN (3)	SQFT	38.25
6410	STEEL POST TYPE 1 (3)	LF	74
6448	SIGN BRIDGE ATTACHMENT BRACKET (3)	EACH	1
6490	CLASS A CONCRETE FOR SIGNS (3)	CUYD	0.50

- (1) CARRIED OVER FROM THE PAVING SUMMARY
- (2) CARRIED OVER FROM THE DRAINAGE SUMMARY
- (3) CARRIED OVER FROM THE SIGNING SUMMARY
- (4) CARRIED OVER FROM THE STRIPING / PAVEMENT MARKING SUMMARY
- (5) CARRIED OVER FROM THE SIGNAL SUMMARY
- (A) TOTAL PROJECT EARTHWORK SUMMARY: EXC. = 79 CUYD, EMB. = 45 CUYD

JEFFERSON COUNTY
KY 1747 (HURSTBOURNE PKWY) & I-64 WB RAMPS
ITEM NO. 5-9019.65
GENERAL SUMMARY (PAGE 2 of 2)

ITEM NUMBER	ITEM	UNIT	QUANTITY
6542	PAVE STRIPING-THERMO-6 IN W (4)	LF	11,575
6543	PAVE STRIPING-THERMO-6 IN Y (4)	LF	4,409
6546	PAVE STRIPING-THERMO-12 IN W (4)	LF	1,510
6547	PAVE STRIPING-THERMO-12 IN Y (4)	LF	65
6565	PAVE MARKING-THERMO X-WALK-6IN (4)	LF	282
6568	PAVE MARKING-THERMO STOP BAR-24IN (4)	LF	363
6569	PAVE MARKING-THERMO CROSS-HATCH (4)	SQFT	127
6574	PAVE MARKING-THERMO CURV ARROW (4)	EACH	40
6576	PAVE MARKING-THERMO ONLY (4)	EACH	18
6578	PAVE MARKING-THERMO MERGE ARROW (4)	EACH	3
6598	PAVEMENT MARKING REMOVAL (4)	SQFT	340
20418ED	REMOVE & RELOCATE SIGNS (3)	EACH	1
20419ND	ROADWAY CROSS SECTION (3)	EACH	1
20550ND	SAWCUT PAVEMENT (1)	LF	163
21373ND	REMOVE SIGN (3)	EACH	1
21596ND	GMSS TYPE D (3)	EACH	2
21596ND	GMSS TYPE D (SURFACE MOUNT) (3)	EACH	2
22664EN	WATER BLASTING EXISTING STRIPE (4)	LF	500
22692NS714	PAVE MARKING-THERMO LETTERS (4)	EACH	28
23639ED	REM SIGN BRIDGE MOUNT ATTACHMENT (3)	EACH	1
24601EC	INSTALL (PANEL SIGN ON EXISTING TRUSS) (3)	EACH	2
24631EC	BARCODE SIGN INVENTORY (3)	EACH	5
24894EC	REMOVE (EXISTING PANEL SIGN ON TRUSS) (3)	EACH	2
24899EC	PAVE MARKING-THERMO ELONG ROUTE SHIELD (4)	EACH	7
24963ED	LOOP TEST (5)	EACH	4

- (1) CARRIED OVER FROM THE PAVING SUMMARY
- (2) CARRIED OVER FROM THE DRAINAGE SUMMARY
- (3) CARRIED OVER FROM THE SIGNING SUMMARY
- (4) CARRIED OVER FROM THE STRIPING / PAVEMENT MARKING SUMMARY
- (5) CARRIED OVER FROM THE SIGNAL SUMMARY

JEFFERSON COUNTY
KY 1747 (HURSTBOURNE PKWY) & I-64 WB RAMPS
ITEM NO. 5-9019.65
PAVING SUMMARY

PAVING AREAS		PAVING QUANTITIES	
ITEM	TOTAL	ITEM	TOTAL
ROADWAY EXCAVATION - REMOVE PAVEMENT			
	SQYD		CUYD
19" EXISTING PAVEMENT DEPTH & CURB	127	ROADWAY EXCAVATION	70
	LF	NOTE: THE REMOVED PAVEMENT OUTSIDE OF THE PROPOSED CURB AND GUTTER LIMITS SHALL BE BACK FILLED WITH EMBANKMENT	
SAWCUT PAVEMENT	163		

CURB AND GUTTER			
		LF	
STANDARD CURB AND GUTTER MOD (10")		94	
		SQYD	TON
9" DGA BASE		37	20
			CUYD
ADDITIONAL EXCAVATION TO TIE CURB INTO EX. SURFACE			9

PAVING SUMMARY			
CODE	ITEM	UNITS	PROJECT TOTAL
1	DGA BASE	TON	20
1811	STANDARD CURB AND GUTTER MOD (10 INCH)	LF	94
2200	ROADWAY EXCAVATION	CUYD	79
20550ND	SAWCUT PAVEMENT	LF	163

NOTES:
DGA Base estimated at 115 lbs. per SQ. YD. per inch of depth

JEFFERSON COUNTY KY 1747 (HURSTBOURNE PKWY) & I-64 WB RAMPS ITEM NO. 5-9019.65 DRAINAGE SUMMARY			
STATION	MISCELLANEOUS ①		
	FLUME INLET TYPE 1 MOD (10 INCH) ②	DITCHING	CHANNEL LINING CLASS II
ITEM CODE	1689	2237	2483
UNIT TO BID	EACH	LF	TON
0+40 to 0+59	1	10	13
1+10 to 1+39	1	10	13
PROJECT TOTALS	2	20	26
NOTES:			
① THE CONTRACTOR SHALL FIELD VERIFY TYPES AND DIMENSIONS PRIOR TO ORDERING			
② THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE TO THE PROPOSED FLUMES AND FROM THE FLUMES TO EXISTING DITCH			

JEFFERSON COUNTY KY 1747 & I-64 WESTBOUND RAMPS ITEM NO. 6-9019.65 STRIPING / PAVEMENT MARKING SUMMARY PAGE 1 OF 5					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
KY 1747 NORTHBOUND APPROACH					
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
REFRESH EXISTING STRIPING					
81+24	45' RIGHT	88+40	43' RIGHT	716	716
84+10	12' RIGHT	88+40	7.5' RIGHT	430	430
87+88	31.5' RIGHT	88+40	19.5' RIGHT	52	52
89+35	53' RIGHT	91+71	41.5' RIGHT	236	236
92+51	41' RIGHT	93+01	41' RIGHT	50	50
93+55	41.5' RIGHT	93+78	42' RIGHT	23	23
94+24	42' RIGHT	97+74	74.5' RIGHT	358	358
95+65	44.5' RIGHT	96+46	50.5' RIGHT	81	81
95+65	44.5' RIGHT	98+18	48.5' RIGHT	253	253
95+83	2.5' LEFT	97+54	2.5' LEFT	171	171
95+83	8.5' RIGHT	98+30	17.5' LEFT	260	260
98+66	50' RIGHT	104+31	86.5' RIGHT	573	573
100+36	55.5' RIGHT	104+40	57' RIGHT	404	404
103+96	57' RIGHT	104+36	73.5' RIGHT	45	45
101+10	9' RIGHT	104+18	10' RIGHT	308	308
101+10	20' RIGHT	104+18	22' RIGHT	308	308
103+68	34' RIGHT	104+18	34' RIGHT	50	50
103+68	46' RIGHT	104+18	46' RIGHT	50	50
PROPOSED STRIPING					
84+00	70' RIGHT	88+98	54' RIGHT	498	498
12" Dotted Lane Line Extensions (PAVE STRIPING-THERMO-12 IN W)					
PROPOSED STRIPING					
81+24	21' RIGHT	82+69	20' RIGHT	145	64
12" Single Solid White Line (PAVE STRIPING-THERMO-12 IN W)					
PROPOSED STRIPING					
82+69	20' RIGHT	88+40	19.5' RIGHT	571	571
6" Dotted Lane Line Extensions (PAVE STRIPING-THERMO-6 IN W)					
REFRESH EXISTING STRIPING					
88+40	7.5' RIGHT	89+22	81.5' LEFT	142	62
94+87	8' RIGHT	95+83	8.5' RIGHT	96	42
97+54	2.5' LEFT	98+25	66' LEFT	109	48
100+36	17.5' RIGHT	101+10	20' RIGHT	74	33
6" Single Dashed White Line (PAVE STRIPING-THERMO-6 IN W)					
81+24	33' RIGHT	87+88	31.5' RIGHT	664	166
89+35	28.5' RIGHT	103+68	34' RIGHT	1433	358.25
89+35	40.5' RIGHT	103+68	46' RIGHT	1433	358.25
6" Single Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
81+24	9' RIGHT	88+46	3' LEFT	722	722
84+00	52' RIGHT	88+40	45' RIGHT	440	440
89+35	18' RIGHT	93+84	7' RIGHT	449	449
94+38	7' RIGHT	97+57	13' LEFT	319	319
96+46	50.5' RIGHT	97+92	64.5' RIGHT	150	150
97+90	11.5' RIGHT	104+23	6.5' LEFT	644	644
I-64 OFF RAMPS APPROACH					
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
0+78	15.5' LEFT	1+45	12' LEFT	67	67
0+84	0	1+45	0	61	61
0+38	42' LEFT	1+45	12' RIGHT	120	120
6" Single Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
0+72	39' LEFT	1+45	24' LEFT	76	76

JEFFERSON COUNTY KY 1747 & I-64 WESTBOUND RAMPS ITEM NO. 6-9019.65 STRIPING / PAVEMENT MARKING SUMMARY PAGE 2 OF 5					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
KY 1747 SOUTHBOUND APPROACH					
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
REFRESH EXISTING STRIPING					
80+81	43' LEFT	88+96	44' LEFT	815	815
81+24	9' LEFT	83+25	9' LEFT	201	201
89+86	50.5' RIGHT	91+71	41.5' RIGHT	185	185
92+56	58' LEFT	97+74	51.5' LEFT	518	518
94+38	16.5' LEFT	95+20	17.5' LEFT	82	82
98+72	61.5' LEFT	104+39	58' LEFT	567	567
PROPOSED STRIPING					
89+46	32' LEFT	89+97	32' LEFT	51	51
89+46	21' LEFT	89+97	21' LEFT	51	51
98+72	50.5' LEFT	99+22	50' LEFT	50	50
98+72	39.5' LEFT	99+22	39' LEFT	50	50
98+72	28.5' LEFT	99+22	28' LEFT	50	50
6" Dotted Lane Line Extensions (PAVE STRIPING-THERMO-6 IN W)					
REFRESH EXISTING STRIPING					
80+81	9.5' RIGHT	81+24	9' LEFT	47	21
6" Single Dashed White Line (PAVE STRIPING-THERMO-6 IN W)					
80+81	32.5' LEFT	88+46	33' LEFT	765	191.25
89+97	32' LEFT	97+57	41' LEFT	760	190
99+22	50' LEFT	104+00	47' LEFT	478	119.5
99+22	39' LEFT	104+00	36' LEFT	478	119.5
100+34	27' LEFT	104+00	25' LEFT	366	91.5
6" Single Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
81+24	3' RIGHT	88+46	9' LEFT	550	550
94+45	4.5' LEFT	97+58	18' LEFT	313	313
98+30	17.5' LEFT	104+23	6.5' LEFT	601	601
12" Dotted Lane Line Extensions (PAVE STRIPING-THERMO-12 IN W)					
PROPOSED STRIPING					
86+43	21' LEFT	88+46	21.5' LEFT	203	89
89+97	21' RIGHT	97+58	30' LEFT	761	335
95+12	50' LEFT	97+58	51' LEFT	246	108
99+22	21' RIGHT	100+34	27' LEFT	112	49
12" Single Solid White Line (PAVE STRIPING-THERMO-12 IN W)					
PROPOSED STRIPING					
80+55	10' RIGHT	81+10	21' LEFT	63	63
80+55	19' LEFT	88+96	12' LEFT	841	841
89+87	70' LEFT	95+12	50' LEFT	525	525
I-64 WESTBOUND ON RAMPS APPROACH					
REFRESH EXISTING STRIPING					
6" Single Solid White Line (PAVE STRIPING-THERMO-6 IN W)					
89+00	198' LEFT	89+44	97' LEFT	320	320
6" Single Solid Yellow Line (PAVE STRIPING-THERMO-6 IN Y)					
89+00	181' LEFT	88+96	44' LEFT	145	145
6" Single Dashed White Line (PAVE STRIPING-THERMO-6 IN W)					
89+00	185' LEFT	89+22	81.5' LEFT	109	27.25
89+00	191.5' LEFT	89+87	70' LEFT	149	37.25
PROPOSED STRIPING					
12" Single Solid White Line (PAVE STRIPING-THERMO-12 IN W)					
89+00	189' LEFT	89+35	43' LEFT	152	152
89+19	137' LEFT	89+44	97' LEFT	45	45
89+35	43' LEFT	90+11	43.5' LEFT	76	76
89+91	70' LEFT	90+11	43.5' LEFT	21	21
12" Single Solid Yellow Line (PAVE STRIPING-THERMO-12 IN Y)					
89+44	97' LEFT	89+87	70' LEFT	65	65

JEFFERSON COUNTY KY 1747 & I-64 WESTBOUND RAMPS ITEM NO. 6-9019.65 STRIPING / PAVEMENT MARKING SUMMARY PAGE 3 OF 5				
REFRESH EXISTING STOP BARS (THERMO STOP BAR - 24 IN) - WHITE				
STATION	OFFSET	DESCRIPTION	LF	
88+39	3' LEFT TO 56' RIGHT	KY 1747 NORTHBOUND APPROACH @ I-64 EB RAMPS	58	
97+53	13' LEFT TO 19' RIGHT	KY 1747 NORTHBOUND APPROACH @ BLAIRWOOD RD	23	
97+74	74' RIGHT TO 64' RIGHT	KY 1747 NORTHBOUND ENTRANCE TO SHOPPING CENTER	20	
98+12	56' LEFT TO 62' LEFT	SHOPPING CENTER EXIT TO KY 1747 NORTHBOUND	34	
0+83	30' LEFT TO 2' LEFT	I-64 OFF RAMPS APPROACH	28	
89+46	43' LEFT TO 10' LEFT	KY 1747 SOUTHBOUND APPROACH @ I-64 EB RAMPS	32	
81+22	20' LEFT TO 3' LEFT	KY 1747 SOUTHBOUND TO I-64 WB	17	
92+21	70' LEFT TO 75' LEFT	BLAIRWOOD ACCESS WAY	15	
97+82	79' LEFT TO 79' LEFT	BLAIRWOOD ROAD	20	
98+72	61' LEFT TO 17' LEFT	KY 1747 SOUTHBOUND APPROACH @ BLAIRWOOD ROAD	44	
104+17	2' LEFT TO 57' RIGHT	KY 1747 NORTHBOUND APPROACH @ LINN STATION RD	59	
PAVEMENT MARKING - THERMO STOP BAR - 24 IN				
STATION	OFFSET	DESCRIPTION	LF	
I-64 EASTBOUND OFF RAMP				
0+60	4.5' RIGHT to 17.5' RIGHT	24" STOP BAR	13	
PAVEMENT MARKINGS - CROSS WALK				
STATION	OFFSET	DESCRIPTION	LENGTH	LF
88+95 - 89+39 (ACROSS I-64 WB ON RAMP APPROACH)	VARIES 49' LEFT - 56' LEFT 6' WIDE	THERMO X-WALK 6 INCH	45	90
89+75 - 89+90 (ACROSS I-64 WB ON RAMP APPROACH)	VARIES 65' LEFT - 85' LEFT 6' WIDE	THERMO X-WALK 6 INCH	30	60
97+82 - 98+58 (BLAIRWOOD ROAD)	VARIES 66' LEFT - 73' LEFT 6' WIDE	THERMO X-WALK 6 INCH	66	132
RIGHT-IN AND RIGHT-OUT ISLAND STRIPING				
PAVE STRIPING THERMO-12 IN YELLOW (ISLAND OUTLINE)				
STATION	OFFSET	DESCRIPTION	LF	
92+22	126' LEFT	BLAIRWOOD ACCESS WAY	140	
PAVE STRIPING THERMO-12 IN WHITE (ISLAND OUTLINE)				
STATION	OFFSET	DESCRIPTION	LF	
92+06 - 92+37	57' LEFT	BLAIRWOOD ACCESS WAY	30	
0+52 - 0+84	6' LEFT TO 8.5' RIGHT	I-64 WESTBOUND OFF RAMP	75	
PAVE MARKING - THERMO CROSS HATCH (ISLAND CROSS HATCH) (X = 1' , Y = 10')				
STATION	OFFSET	DESCRIPTION	SQFT	
92+21	126' LEFT	BLAIRWOOD ACCESS WAY	67	
0+85	12' RIGHT	I-64 WESTBOUND OFF RAMP (TRUCK TURNING PAVEMENT)	60	

JEFFERSON COUNTY KY 1747 & I-64 WESTBOUND RAMPS ITEM NO. 6-9019.65 STRIPING / PAVEMENT MARKING SUMMARY PAGE 4 OF 5	
PAVEMENT MARKINGS - ARROWS and Pavement Tattoos	
DESCRIPTION	EACH
KY 1747 NORTHBOUND APPROACH @ I-64 WB Ramp	
Thermoplastic Curve Arrow	8
Thermoplastic "ONLY"	8
Pavement Tattoo - I-64 West Shield (THERMO ELONG ROUTE SHIELD (2) AND THERMO LETTERS(8))	2
KY 1747 NORTHBOUND APPROACH @ I-64 WB Ramp	
Pavement Tattoo - I-64 East Shield (THERMO ELONG ROUTE SHIELD (1) AND THERMO LETTERS(4))	1
I-64 WESTBOUND OFF RAMP APPROACH	
Thermoplastic Curve Arrow	3
KY 1747 SOUTHBOUND APPROACH @ I-64 WB RAMP	
Thermoplastic Curve Arrow	4
Thermoplastic Combo Arrow	3
Pavement Tattoo - I-64 West Shield (THERMO ELONG ROUTE SHIELD (2) AND THERMO LETTERS(8))	2
Pavement Tattoo - I-64 East Shield (THERMO ELONG ROUTE SHIELD (2) AND THERMO LETTERS(8))	2
Thermoplastic "ONLY"	2
KY 1747 SOUTHBOUND APPROACH @ I-64 EB RAMP	
Thermoplastic Curve Arrow	6
Thermoplastic "ONLY"	4
KY 1747 SOUTHBOUND @ SHOPPING CENTER ENTRANCE	
Thermoplastic Curve Arrow	1
BLAIRWOOD ACCESS WAY	
Thermoplastic Curve Arrow	1
KY 1747 NORTHBOUND APPROACH @ SHOPPING CENTER ENTRANCE	
Thermoplastic Curve Arrow	2
KY 1747 NORTHBOUND APPROACH @ BLAIRWOOD ROAD	
Thermoplastic Curve Arrow	4
Thermoplastic "ONLY"	2
SHOPPING CENTER EXIT TO KY 1747 NORTHBOUND	
Thermoplastic Curve Arrow	1
KY 1747 NORTHBOUND APPROACH @ LINN STATION RD	
Thermoplastic Curve Arrow	11
Thermoplastic "ONLY"	4

JEFFERSON COUNTY KY 1747 & I-64 WESTBOUND RAMPS ITEM NO. 6-9019.65 STRIPING / PAVEMENT MARKING SUMMARY PAGE 5 OF 5					
WATER BLASTING					
BEGIN		END		LENGTH	LF
STATION	OFFSET	STATION	OFFSET		
I-64 WESTBOUND OFF RAMP (RIGHT TURN EDGE LINE)					
4" Single Solid White Line (WATER BLASTING EXISTING STRIPE)					
84+00	70' RT	88+98	54' RT	500	500
PAVEMENT MARKING REMOVAL					
STATION	OFFSET	DESCRIPTION		SF	
KY 1747 NORTHBOUND APPROACH					
88+39 (ACROSS I-64 EB OFF RAMP APPROACH)	55' RIGHT TO 58' RIGHT	24 INCH STOP BAR		6	
93+48	53' RIGHT	"ONLY"		20.8	
I-64 OFF RAMP APPROACH					
0+65 - 0+68 (ACROSS RIGHT TURN LANE)	17' RIGHT TO 22' RIGHT	24 INCH STOP BAR		6	
1+14 (THERMO ISLAND)	VARIES 0 TO 41' RIGHT	THERMO ISLAND OUTLINE - 12 INCH		160	
1+14 (THERMO ISLAND)	VARIES 0 TO 41' RIGHT	THERMO ISLAND CHEVRON HATCH - 12 INCH		65	
1+14	5' RIGHT	RIGHT TURN ARROW		15.5	
BLAIRWOOD ACCESS WAY					
92+21	126	ISLAND CROSS HATCHING - 12"		67	

STRIPING / PAVEMENT MARKING SUMMARY			
BID ITEM	DESCRIPTION	UNIT	QUANTITY
6542	PAVE STRIPING-THERMO-6 IN W	LF	11,575
6543	PAVE STRIPING-THERMO-6 IN Y	LF	4,409
6546	PAVE STRIPING-THERMO-12 IN W	LF	1,510
6547	PAVE STRIPING-THERMO-12 IN Y	LF	65
6565	PAVE MARKING-THERMO X-WALK-6 IN	LF	282
6568	PAVE MARKING-THERMO STOP BAR-24 IN	LF	363
6569	PAVE MARKING-THERMO CROSS-HATCH	SQFT	127
6574	PAVE MARKING-THERMO CURV ARROW	EACH	40
6576	PAVE MARKING-THERMO ONLY	EACH	18
6578	PAVE MARKING-THERMO MERGE ARROW	EACH	3
6598	PAVEMENT MARKING REMOVAL	SQFT	340
22664EN	WATER BLASTING EXISTING STRIPE	LF	500
22692NS714	PAVE MARKING-THERMO LETTERS	EACH	28
24899EC	PAVE MARKING-THERMO ELONG ROUTE SHIELD	EACH	7

Sign Summary										JEFFERSON County		KY 1747 @ I-64 RAMPS									
Assembly ID	Side of Road	Approx Offset (ft)	Approx Station	Approx Mile Point	Facing Traffic	MUTCD Code	Sign Description	Sign Text / Remarks	Sign Dimensions (in x in)	SHEETINGS		SBW Alum Sheet Signs (SQ FT)	SBM Alum Panel Signs (SQ FT)	Installation Type	Reaching Req'd	# of Sign Posts	Estimated Length of 2-1/2" Post (ft)	Estimated Length of 2-1/4" Stiffener Req'd (Inch) (to post)	TOTAL Estimated Sign Post Length (LF)	Barcode Sign Inv. (EACH)	
										Text/ Symbol Color	Background Color										Sheeting Type
P-1	LT	14	95+82	1.635	SB	---	I-64 East - Lexington Advance Left Turn Arrow	SEE DETAIL SHEETS	180 x 132	White, Blue & Red	Green	XI	165.00	Remove Existing Sign and Bridge Attachment Brackets. Install Proposed Sign on new Sign Bridge Attachment Brackets.							
P-2	LT	19	90+83	1.720	SB	---	I-64 East - Lexington Down Arrow	SEE DETAIL SHEETS	180 x 132	White, Blue & Red	Green	XI	165.00	Remove Existing Panel Sign on Existing Truss. Install on Existing Truss. See Detail Sheets for More Information.							
P-3	LT	40	90+83	1.720	SB	---	Overhead Arrow Per Lane	SEE DETAIL SHEETS	384 x 144	White, Blue & Red	Green	XI	384.00	Remove Existing Panel Sign on Existing Truss. Install on Existing Truss. See Detail Sheets for More Information.							
S-1	LT	9	100+22	1.898	SB	---	East I-64 KEEP LEFT	SEE DETAIL SHEETS	48 x 54	White, Blue & Red	Green	XI	18.00	Type D Surface Mount	Yes	2	11.5		23.0	1	
S-2	LT	74	100+22	1.898	SB	---	West I-64 KEEP RIGHT	SEE DETAIL SHEETS REMOVE EX SIGN	54 x 54	White, Blue & Red	Green	XI	20.25	Type D	Yes	2	11.5		23.0	1	
S-3	LT	24	0+70		RAMPP	WB	---	R5-1: DO NOT ENTER (1 SIGN) R6-1: ONE WAY (2 SIGNS)	EX x EX	White, Red, Black	Black, White	XI		Strd w/ Soil Plate	Yes	2	14.0		28.0	3	

Remove Sign	
Assembly ID	Number of Sign Assemblies
S2	1
Total	1

Summary of Items		
SBW Alum Sheet Signs 0.125 INCH	38.25	SQ FT
SBM Alum Panel Signs	714.00	SQ FT
Barcode Sign Inventory	5	EACH
Remove Existing Panel Sign on Truss	2	EACH
Install (panel sign on Existing Truss)	2	EACH
Remove Sign Bridge Attachment	1	EACH
Sign Bridge Attachment Bracket	1	EACH

Summary of Items		
Steel Post - Type 1	74	LF
GMSS Type D	2	EACH
GMSS Type D Surface Mount	2	EACH
Class A Concrete for Signs	0.5	CU YD
Remove Sign	1	EACH
Remove and Relocate Sign	1	EACH
Roadway Cross Section	1	EACH

**JEFFERSON COUNTY
TRAFFIC LOOP SUMMARY
ITEM NO. 5-9019.65
LOOP SUMMARY FOR RIGHT TURN LANE**

INTERSECTION	SAW, SLOT AND FILL LF	LOOP WIRE LF	CONDUIT 1 INCH LF	Trenching and Backfilling LF	Loop Test EA	NOTES
I-64 WB Off Ramp						
Right Turn Lane (PHASE 4)	152	394	20	20	4	1 - 6X30 STOP BAR LOOP (LOOP 4C)
Total	152	394	20	20	4	

1. Quantities are for estimating purposes only. The Contractor shall field measure and inspect items to verify quantities.

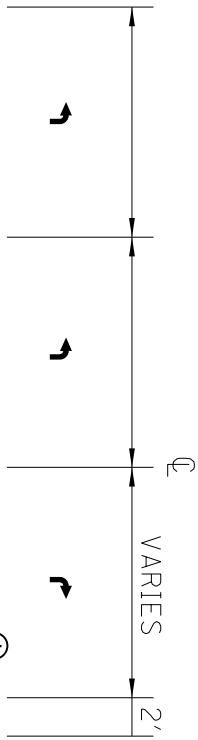
SAW, SLOT AND FILL LF	LOOP WIRE LF	CONDUIT 1 INCH LF	Trenching and Backfilling LF	Loop Test EA	DO NOT DISTURB LOOPS 4A AND 4B, AS WELL AS THE PHASE 4 SETBACK LOOPS (4D). LOOP TEST 4A, 4B, AND SETBACK LOOPS 4D FOLLOWING INSTALL OF LOOP 4C. IF LOOP TEST FAILS, THE CONTRACTOR SHALL REPAIR LOOPS AT NO ADDITIONAL COST TO THE DEPARTMENT.
Grand Total	152	394	20	20	4

TYPICAL SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65

REMOVE PAVEMENT CONSTRUCT CURB AND GUTTER

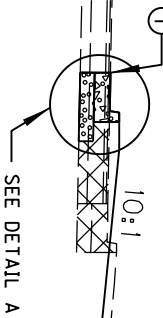
I-64 WB OFF RAMP



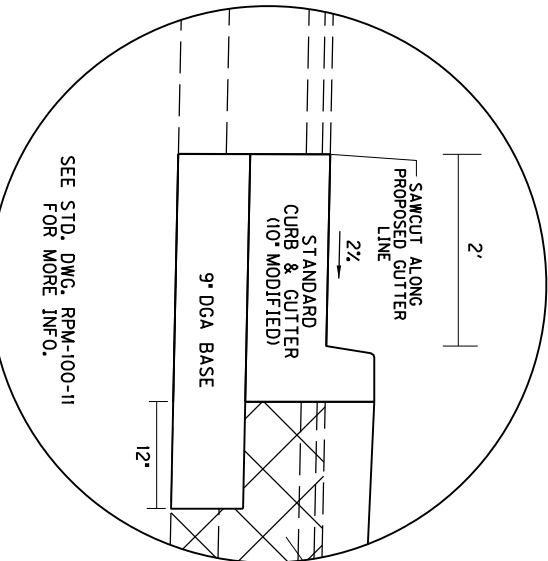
STA. 0+21 TO STA. 0+40
STA. 0+59 TO STA. 1+10
STA. 1+39 TO STA. 1+46

① SAWCUT ALONG PROPOSED GUTTERLINE
GUTTERLINE OFFSET VARIES:

BEGIN - TIE INTO EX. CURB AND GUTTER ON KY 1747 I-64 RAMP STA. 0+21 (81.7' LT) = KY 1747 STA. 90+29 (48.7' RT)		
152' RADIUS	I-64 RAMP KY 1747	STA. 0+21 (81.7' LT) TO STA. 0+64 (25.9' LT) STA. 90+29 (48.7' RT) TO STA. 89+62 (68.9' RT)
62' RADIUS	I-64 RAMP	STA. 0+64 (25.9' LT) TO STA. 1+03 (12' LT)
TANGENT	I-64 RAMP	STA. 1+03 (12' LT) TO STA. 1+46 (12.7' LT)
END	I-64 RAMP	STA. 1+46 (12.7' LT)



- PROPOSED CURB & GUTTER
- 10" STD CURB & GUTTER (MOD)
 - 9" DGA BASE
- EXISTING OFF RAMP PAVEMENT
- 1" ASPH SURFACE
 - 2" ASPHALT BASE
 - 10" JPC PAVEMENT
 - 6" DGA BASE



SEE STD. DWG. RPM-100-11
FOR MORE INFO.

DETAIL A

SCALE: NTS

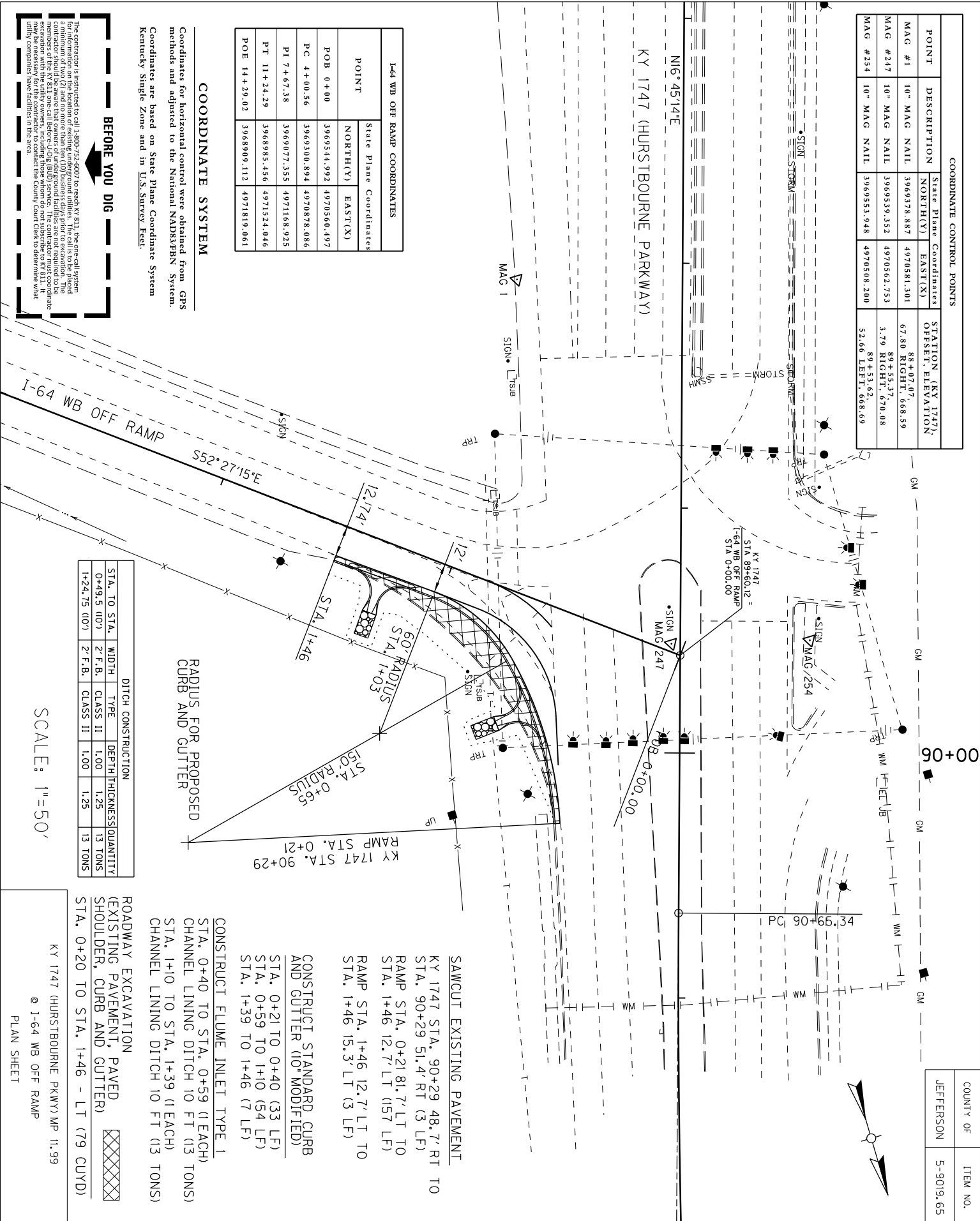
KY 1747 (HURSTBOURNE PKWY) MP 11.99
① I-64 WB OFF RAMP
TYPICALS

COORDINATE CONTROL POINTS					
POINT	DESCRIPTION	State Plane Coordinates NORTH (Y)	EAST (X)	STATION (KY 1747) OFFSET, ELEVATION	
MAG #1	10" MAG NAIL	3969378.887	4970581.301	88 + 07.07' 67.80 RIGHT, 668.59	
MAG #247	10" MAG NAIL	3969339.352	4970562.753	89 + 53.37' 3.79 RIGHT, 670.08	
MAG #254	10" MAG NAIL	3969533.948	4970508.200	89 + 53.62' 52.66 LEFT, 668.69	

I-64 WB OFF RAMP COORDINATES			
POINT	State Plane Coordinates		
	NORTH (Y)	EAST (X)	
POB 0+00	3969544.992	4970560.497	
PC 4+00.56	3969300.894	4970878.086	
PI 7+67.38	3969077.355	4971168.925	
PT 11+24.29	3968985.456	4971524.046	
POE 14+29.02	3968909.112	4971819.061	

COORDINATE SYSTEM
Coordinates for horizontal control were obtained from GPS methods and adjusted to the National NAD83/FPN System. Coordinates are based on State Plane Coordinate System Kentucky Single Zone and in U.S. Survey Feet.

BEFORE YOU DIG
The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed before any excavation is started. The contractor shall be responsible for the placement of the KY 811 one-call before digging (BUD) device. The contractor must coordinate with the KY 811 one-call service to determine the location of existing underground utilities. It may be necessary for the contractor to contact the County Clerk to determine what utility companies have facilities in the area.



DITCH CONSTRUCTION					
STA. TO STA.	WIDTH	TYPE	DEPTH	THICKNESS	QUANTITY
0+49.5 (00')	2' F.B.	CLASS II	1.00	1.25	13 TONS
1+24.75 (00')	2' F.B.	CLASS II	1.00	1.25	13 TONS

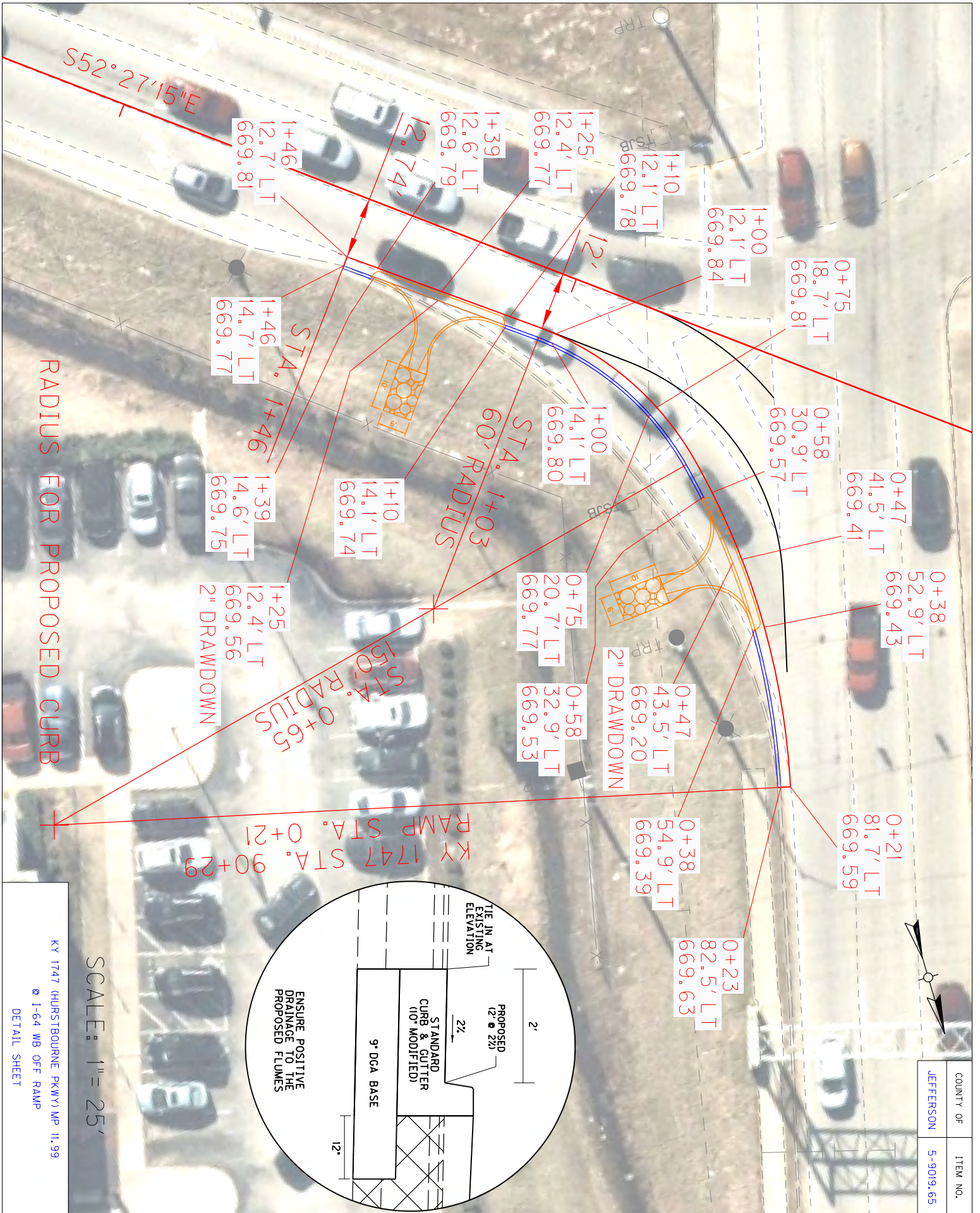
RADIUS FOR PROPOSED CURB AND GUTTER

SCALE: 1" = 50'

- CONSTRUCT FLUME INLET TYPE 1
- STA. 0+40 TO STA. 0+59 (1 EACH) CHANNEL LINING DITCH 10 FT (13 TONS)
- STA. 1+10 TO STA. 1+39 (1 EACH) CHANNEL LINING DITCH 10 FT (13 TONS)
- ROADWAY EXCAVATION
- EXISTING PAVEMENT, PAVED SHOULDERS, CURB AND GUTTER
- STA. 0+20 TO STA. 1+46 - LT (79 CUYD)
- SAWCUT EXISTING PAVEMENT
- KY 1747 STA. 90+29 48.7' RT TO STA. 90+29 51.4' RT (3 LF)
- RAMP STA. 0+21 81.7' LT TO STA. 1+46 12.7' LT (157 LF)
- RAMP STA. 1+46 12.7' LT TO STA. 1+46 15.3' LT (3 LF)
- CONSTRUCT STANDARD CURB AND GUTTER (10" MODIFIED)
- STA. 0+21 TO 0+40 (33 LF)
- STA. 0+59 TO 1+10 (54 LF)
- STA. 1+39 TO 1+46 (7 LF)

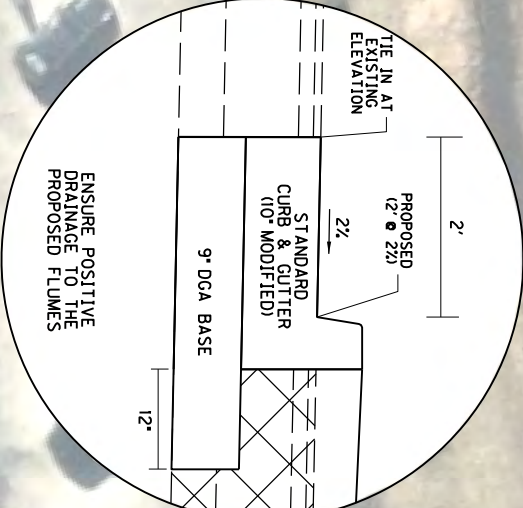
COUNTY OF	JEFFERSON	ITEM NO.	5-9019.65
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KY 1747 (HURSTBOURNE PKWY) MP 11.99
I-64 WB OFF RAMP
PLAN SHEET



RADIUS FOR PROPOSED CURB

KY 1747 STA. 90+29
RAMP STA. 0+21



SCALE: 1" = 25'

KY 1747 (HURSTBOURNE PKWY) MP 11.99
1-64 WB OFF RAMP
DETAIL SHEET

COUNTY OF	JEFFERSON
ITEM NO.	5-9019.65

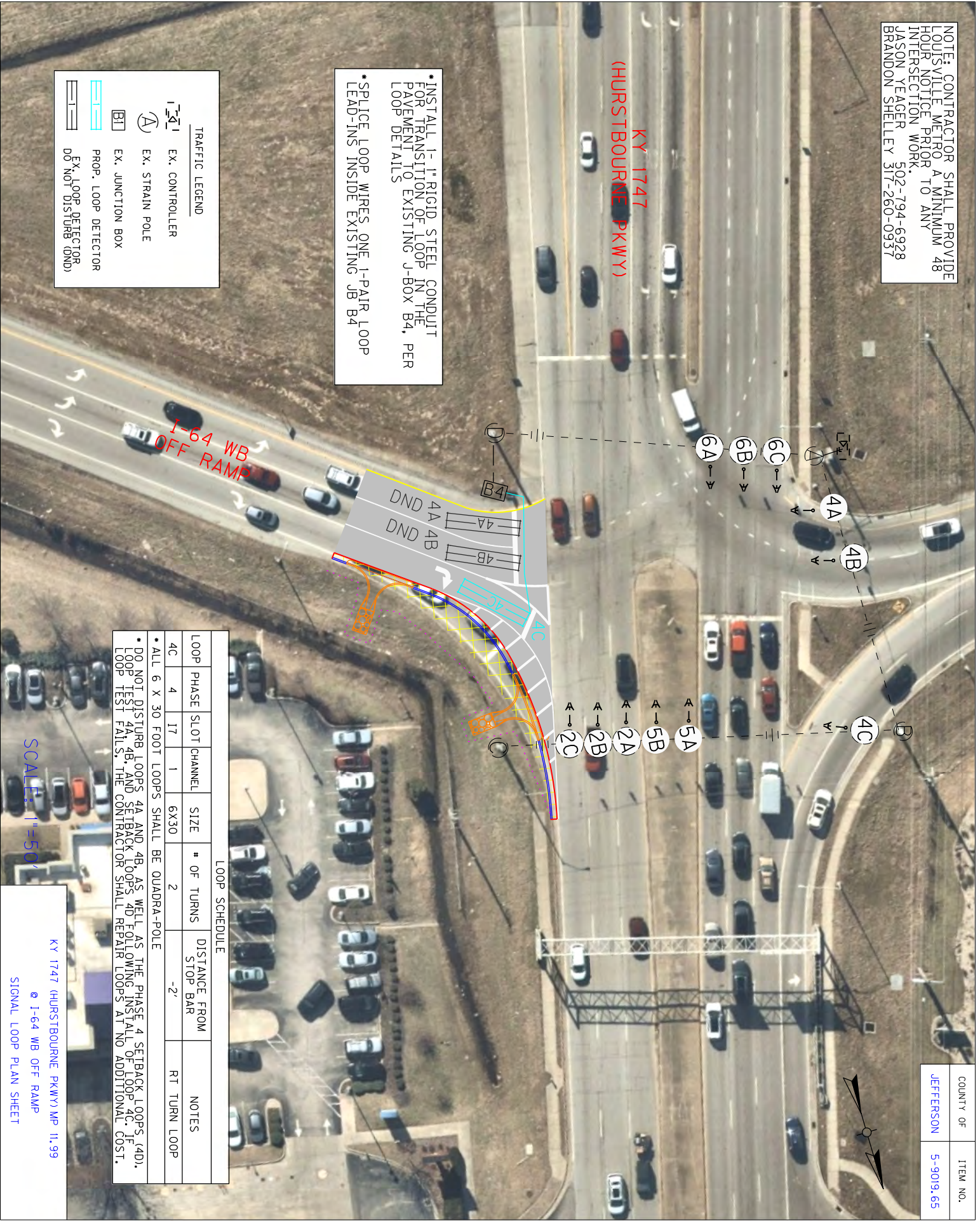
NOTE: CONTRACTOR SHALL PROVIDE
LOUISVILLE METRO A MINIMUM 48
HOURS NOTICE PRIOR TO ANY
INTERSECTION WORK.
JASON YEAGER 502-794-6928
BRANDON SHELLEY 317-260-0937

KY 1747
(HURSTBOURNE PKWY)

* INSTALL 1-1" RIGID STEEL CONDUIT
FOR TRANSITION OF LOOP IN THE
PAVEMENT TO EXISTING J-BOX B4, PER
LOOP DETAILS
* SPLICE LOOP WIRES ONE 1-PAIR LOOP
LEAD-INS INSIDE EXISTING JB B4

TRAFFIC LEGEND

	EX. CONTROLLER
	EX. STRAIN POLE
	EX. JUNCTION BOX
	PROP. LOOP DETECTOR
	EX. LOOP DETECTOR
	DO NOT DISTURB (DND)



LOOP SCHEDULE

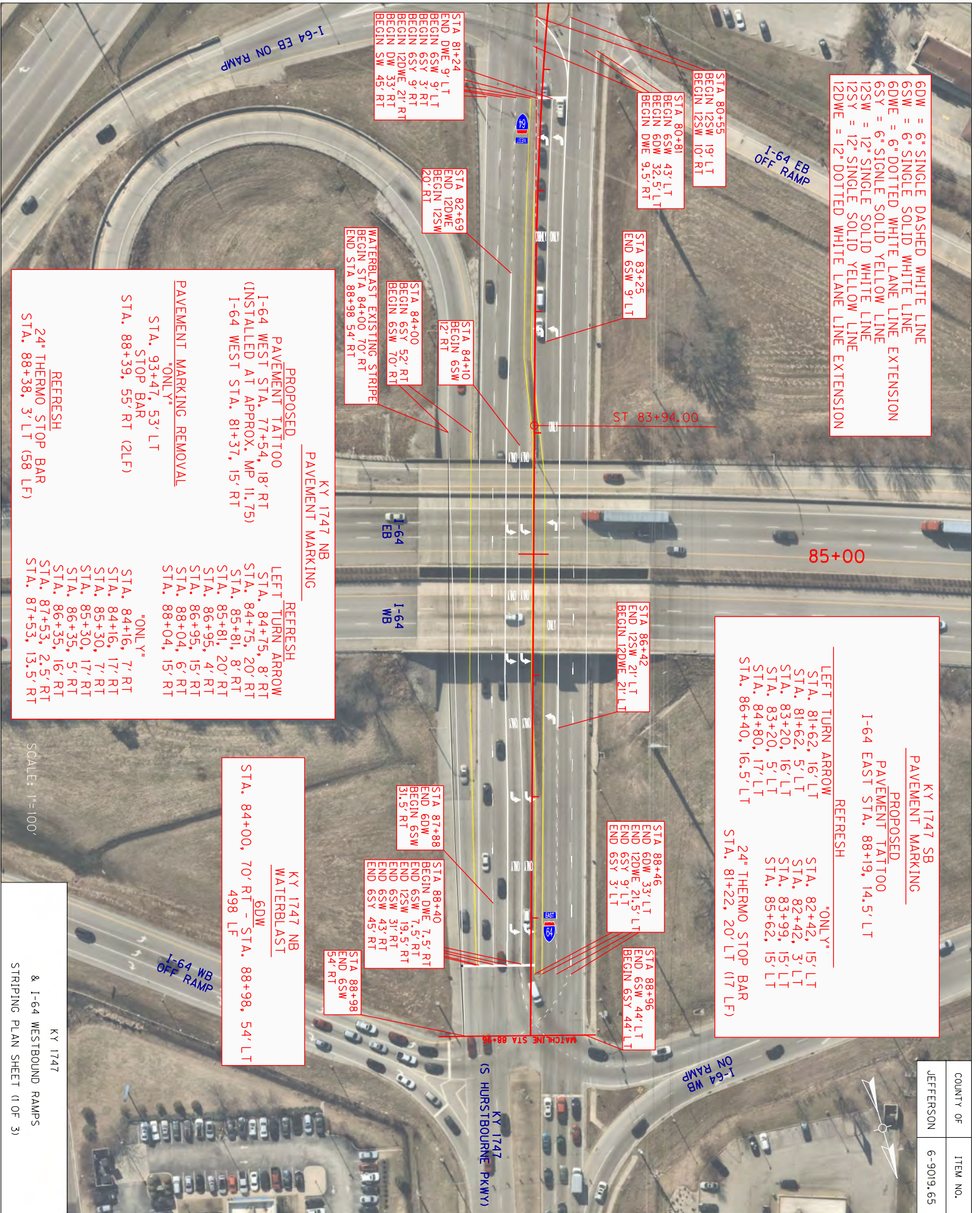
LOOP	PHASE	SLOT	CHANNEL	SIZE	# OF TURNS	DISTANCE FROM STOP BAR	NOTES
4C	4	17	1	6X30	2	-2'	RT TURN LOOP

* ALL 6 X 30 FOOT LOOPS SHALL BE QUADRA-POLE
* DO NOT DISTURB LOOPS 4A AND 4B, AS WELL AS THE PHASE 4 SETBACK LOOPS (4D), LOOP TEST 4A, 4B, AND SETBACK LOOPS 4D FOLLOWING INSTALL OF LOOP 4C. IF LOOP TEST FAILS, THE CONTRACTOR SHALL REPAIR LOOPS AT NO ADDITIONAL COST.

SCALE: 1"=50'

KY 1747 (HURSTBOURNE PKWY) MP 11.99
I-64 WB OFF RAMP
SIGNAL LOOP PLAN SHEET

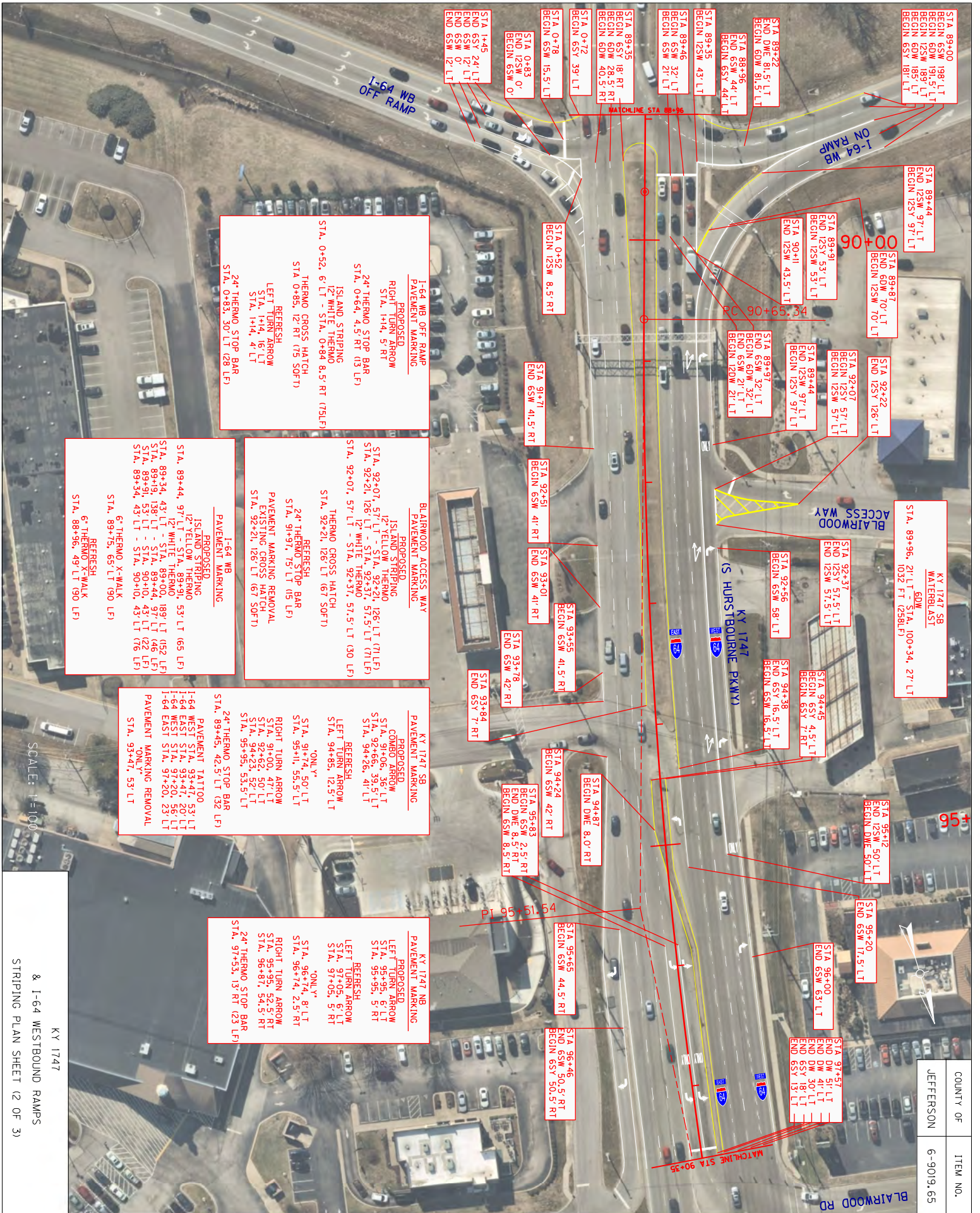
COUNTY OF	JEFFERSON
ITEM NO.	5-9019.65



COUNTY OF	JEFFERSON
ITEM NO.	6-9019.65

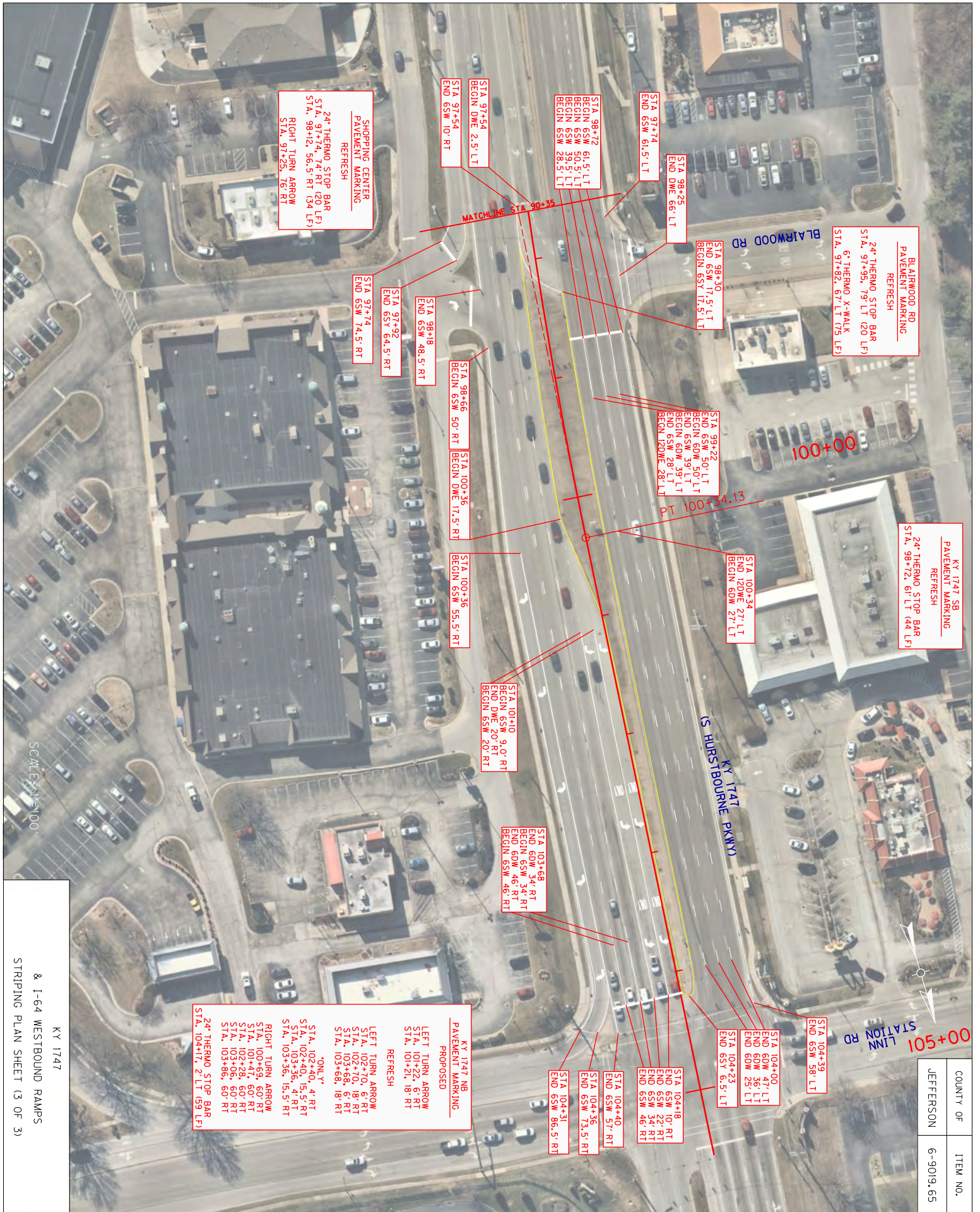
KY 1747
& I-64 WESTBOUND RAMPS
STRIPING PLAN SHEET (1 OF 3)

SCALE: 1"=100'



COUNTY OF	ITEM NO.
JEFFERSON	6-9019.65

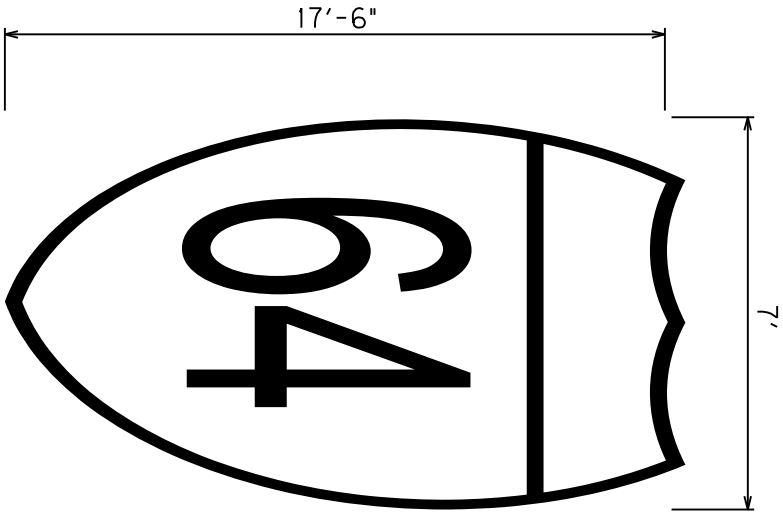
SCALE: 1"=100'
KY 1747
& I-64 WESTBOUND RAMPS
STRIPING PLAN SHEET (2 OF 3)



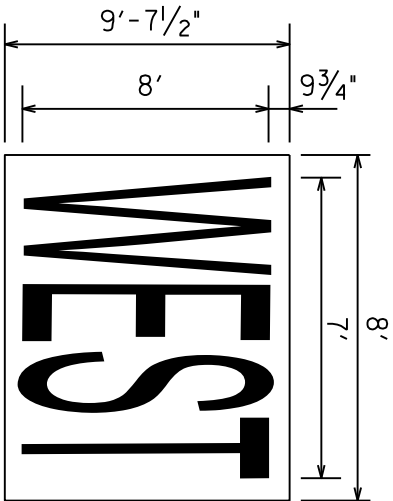
COUNTY OF	ITEM NO.
JEFFERSON	6-9019.65

SCALE=1"=100'
KY 1747
& I-64 WESTBOUND RAMP
STRIPING PLAN SHEET (3 OF 3)

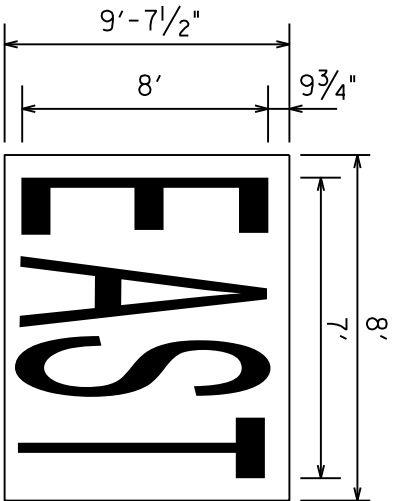
**ELONGATED THERMO ROUTE
SHIELD PAVEMENT MARKINGS**



**ELONGATED THERMO "WEST"
PAVEMENT MARKINGS**



**ELONGATED THERMO "EAST"
PAVEMENT MARKINGS**



NOTES:

ALL LETTERS AND NUMBERS SHALL BE WHITE.

THE INTERSTATE SHIELD SHALL HAVE A BLUE BACKGROUND BEHIND "64" AND A RED BACKGROUND IN THE AREA ABOVE "64".

THE "WEST" AND "EAST" PAVEMENT MARKINGS SHALL HAVE A BLUE BACKGROUND BEHIND THE WHITE LETTERS.

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65



P1: REMOVE EXISTING SIGN BRIDGE MOUNT I ATTACHMENT BRACKETS AND SIGN. INSTALL NEW SIGN BRIDGE ATTACHMENT BRACKETS AND PROPOSED SIGN.

P2 AND P3: REMOVE EXISTING PANEL SIGNS ON EXISTING TRUSS. INSTALL PROPOSED PANEL SIGNS ON EXISTING TRUSS. REFER TO SIGN DETAIL SHEETS FOR MORE INFORMATION.

S3: REMOVE AND RELOCATE 2' MINIMUM FROM PROPOSED CURB

S2: INSTALL S2 ON TWO (2) TYPE D POSTS.

SI: REMOVE EX. SIGN. INSTALL SI ON TWO (2) TYPE D SURFACE MOUNT POSTS.

64 EAST
Lexington
EXIT ONLY

64 EAST
Lexington
EXIT ONLY

1747 SOUTH
Hurstbourne Pkwy
EXIT ONLY

WEST
64
KEEP RIGHT

EAST
64
KEEP LEFT

I-64 WB
OFF RAMP

I-64 WB
ON RAMP

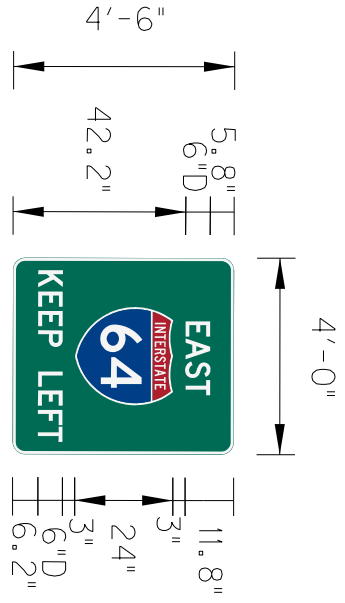
KY-1747
(S HURSTBOURNE PKWY)

SCALE: 1"=50'

KY 1747
& I-64 RAMPS
SIGNING PLAN SHEET

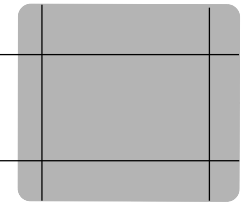
COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65



BORDER
R=3"
TH=0.75"
3.05" 41.9" 3.05"

SIGN INFORMATION		SIGN LOCATION / SUPPORT	
SIGN NUMBER	S2	ROAD & MILE POINT	KY 1747
QUANTITY	1	TRAFFIC DIRECTION	SOUTH
WIDTH	4'-6"	SIDE OF ROAD	RT
HEIGHT	4'-6"	MOUNTING STYLE	TYPE D POSTS
AREA (Sq. Ft.)	20.25 SQ. FT.	BEAM MATERIAL	
BORDER WIDTH	0.75"	BEAM SIZE	
BORDER RADIUS	3"	BEAM/POST LENGTH	1. = 11.5
PANEL COLOR	GREEN	BEAM/POST LENGTH	2. = 11.5
LEGEND/BORDER COLOR	WHITE	BEAM/POST LENGTH	3. =
STATIONS(S)	100+22	BEAM/POST LENGTH	4. =
PANEL MATERIAL	REFLECTIVE	CONC. "a" =	1'-6"
LEGEND MATERIAL	REFLECTIVE	CONC. "b" =	3'-6"

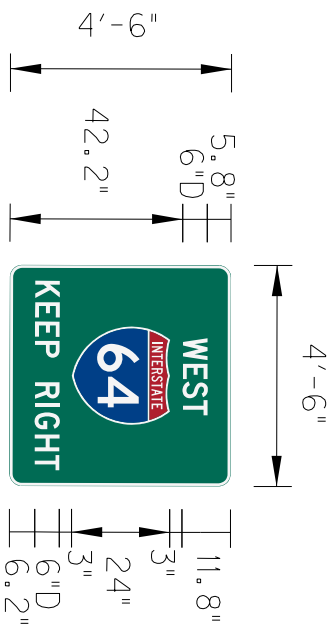


S1, S2

S1
INSTALL ON TYPE D
SURFACE MOUNT
SUPPORT BRACING
EXAMPLE SHOWN.

S2
INSTALL ON TYPE D
SURFACE MOUNT
SUPPORT BRACING
EXAMPLE SHOWN.

SIGN INFORMATION		SIGN LOCATION / SUPPORT	
SIGN NUMBER	S1	ROAD & MILE POINT	KY 1747
QUANTITY	1	TRAFFIC DIRECTION	SOUTH
WIDTH	4'-0"	SIDE OF ROAD	LT
HEIGHT	4'-6"	MOUNTING STYLE	TYPE D SURFACE MOUNT
AREA (Sq. Ft.)	18 SQ. FT.	BEAM MATERIAL	
BORDER WIDTH	0.75"	BEAM SIZE	
BORDER RADIUS	3"	BEAM/POST LENGTH	1. = 11.5
PANEL COLOR	GREEN	BEAM/POST LENGTH	2. = 11.5
LEGEND/BORDER COLOR	WHITE	BEAM/POST LENGTH	3. =
STATIONS(S)	100+22	BEAM/POST LENGTH	4. =
PANEL MATERIAL	REFLECTIVE	CONC. "a" =	1'-6"
LEGEND MATERIAL	REFLECTIVE	CONC. "b" =	3'-6"



BORDER
R=3"
TH=0.75"
3.9" 46.3" 3.9"

GENERAL SIGN INFORMATION	
SIGN NUMBER	P3
QUANTITY	1
WIDTH	32'-0"
HEIGHT	12'-0"
AREA (Sq. Ft.)	384.0 SQ. FT.
BORDER WIDTH	2.0"
BORDER RADIUS	12"
PANEL COLOR	GREEN
LEGEND/BORDER COLOR	WHITE
STATIONS(S)	90+83
PANEL MATERIAL	REFLECTIVE
LEGEND MATERIAL	REFLECTIVE

SYMBOL(S)	X	Y	WIDTH	HEIGHT
KY_4	36.2	98	45	36
M_1	237.5	98	36	36
thru	13.1	7.1	21	55.9
thru turn	164.4	7.1	55.9	56
turn	291.2	7.1	36.3	40.8

LETTER SPACING / INFORMATION

SYMBOL(S)	X	Y	WIDTH	HEIGHT
COPY	S	O	U	T
SPACE	96.2	110.6	123.4	135.2
COPY	W	E	S	T
SPACE	288.5	306.5	317.2	328.3
COPY	H	U	R	S
SPACE	24.3	40.5	55.3	64.7
COPY	L	O	U	I
SPACE	235.6	247.5	263.1	277.7
COPY	P	K	W	Y
SPACE	68.2	82.7	94.7	113
COPY	E	X	I	T
SPACE	255.2	263.9	274.1	277.8
COPY	O	N	L	Y
SPACE	321	332.2	343.2	351.4



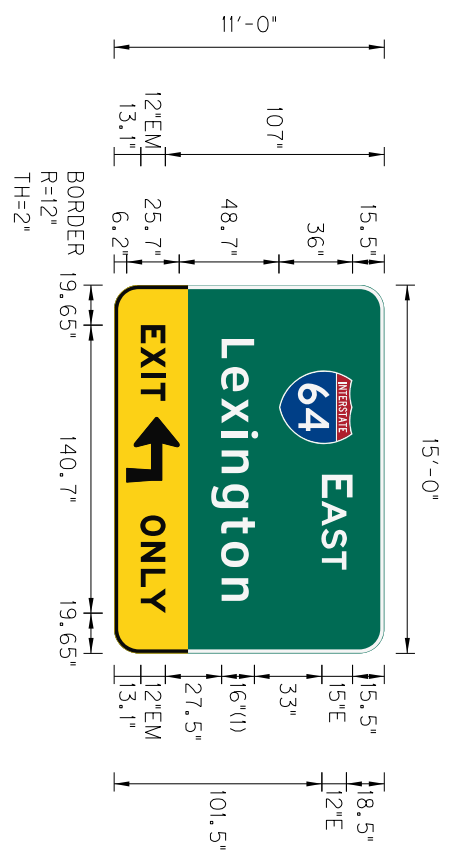
FONT:
(1) ClearviewHwy-5-W

COUNTY OF	JEFFERSON
ITEM NO.	5-9019.65

SIGN LOCATION & MOUNTING INFORMATION			
SIDE OF ROAD	TRAFFIC DIRECTION	ON ROAD	MILE POINT
OVERHEAD	SOUTH	KY 1747	12.02
MOUNTING STYLE	EXISTING TRUSS		
BEAM MATERIAL			
BEAM SIZE			
BEAM/POST 1 LENGTH =	HORIZONTAL CLEARANCE		
BEAM/POST 2 LENGTH =			
BEAM/POST 3 LENGTH =	' LT.	' RT.	
TYPE "A" FIXED	TYPE "B" BREAK-A-WAY		
CONCRETE BASE DIMENSIONS			
a =	DIA.	b =	Cu. Yds.

KY 1747
& I-64 RAMPS
SIGNING PLAN DETAIL (2 OF 4)

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65



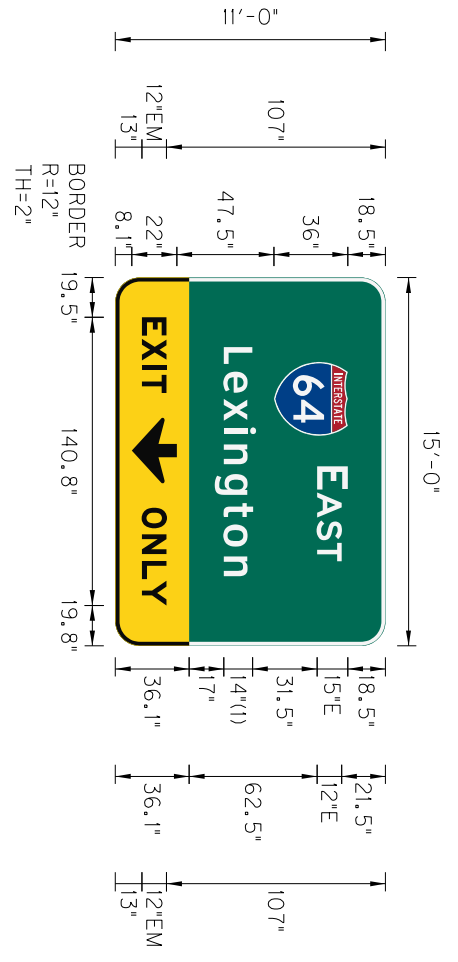
FONT:
(1) Clear view Hwy-5-W

SEE BRIDGE MOUNT BRACKETS STANDARD DETAIL SHEETS FOR MORE INFORMATION.

SIGN INFORMATION	
SIGN NUMBER	P1
QUANTITY	1
WIDTH	15' 0"
HEIGHT	11' 0"
AREA (Sq. Ft.)	165 SQ. FT.
BORDER WIDTH	2.0"
BORDER RADIUS	12"
PANEL COLOR	GREEN/YELLOW
LEGEND/BORDER COLOR	WHITE/BLACK
STATION(S)	85+82
PANEL MATERIAL	REFLECTIVE
LEGEND MATERIAL	REFLECTIVE

SIGN LOCATION / SUPPORT	
ROAD & MILE POINT	KY 1747
TRAFFIC DIRECTION	SOUTH
SIDE OF ROAD	OVERHEAD
MOUNTING STYLE	BRIDGE MOUNT
BEAM MATERIAL	
BEAM SIZE	
BEAM/POST LENGTH	1. =
BEAM/POST LENGTH	2. =
BEAM/POST LENGTH	3. =
BEAM/POST LENGTH	4. =
CONC. "a" =	
CONC. "b" =	

REMOVE SIGN BRIDGE MOUNT ATTACHMENT (INCLUDES REMOVAL OF EXISTING PANEL SIGN)
SIGN BRIDGE ATTACHMENT BRACKET (INCLUDES INSTALL OF PROPOSED PANEL SIGN)



FONT:
(1) Clear view Hwy-5-W

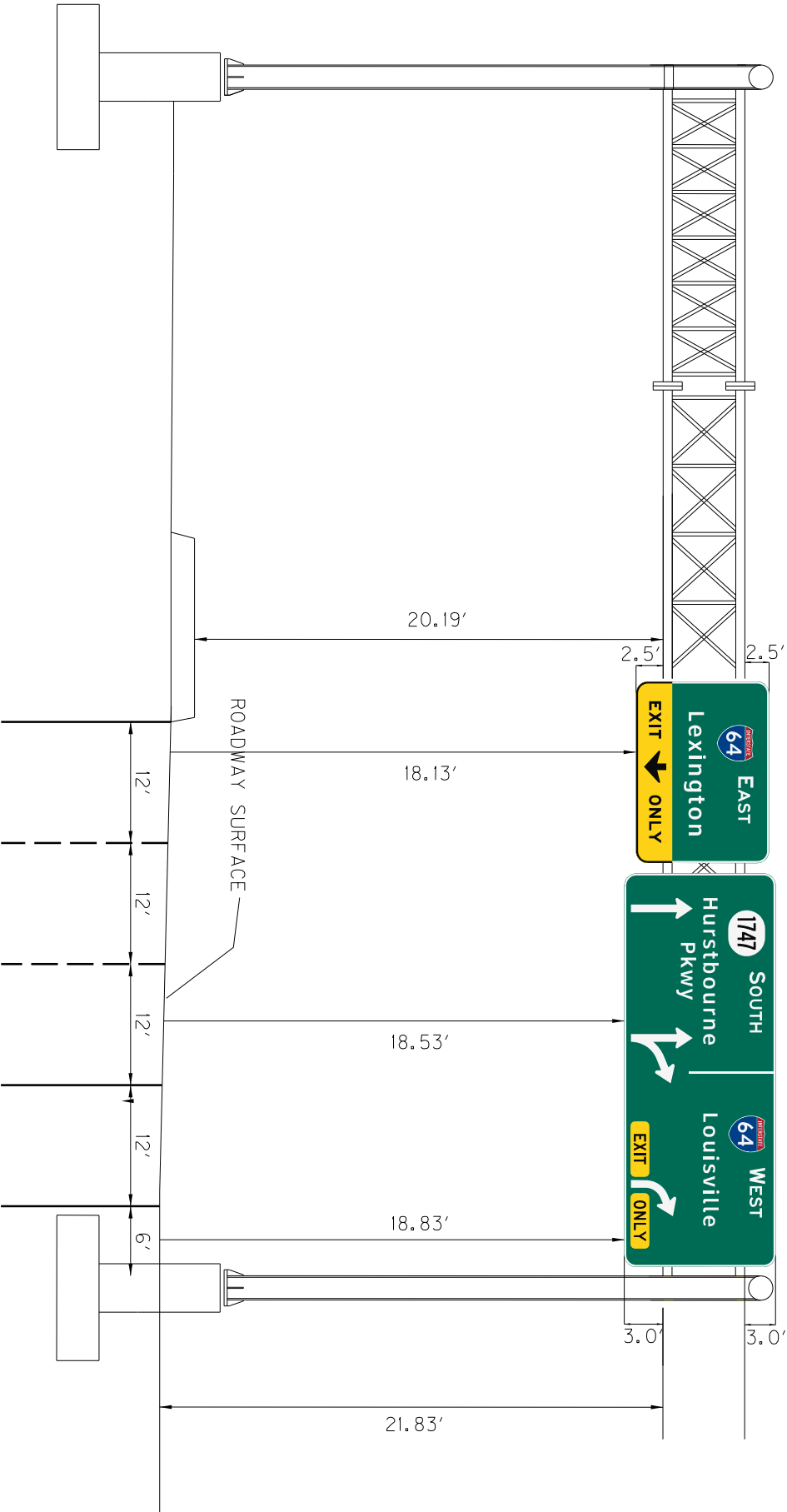
SIGN INFORMATION	
SIGN NUMBER	P2
QUANTITY	1
WIDTH	15' 0"
HEIGHT	11' 0"
AREA (Sq. Ft.)	165 SQ. FT.
BORDER WIDTH	2.0"
BORDER RADIUS	12"
PANEL COLOR	GREEN/YELLOW
LEGEND/BORDER COLOR	WHITE/BLACK
STATION(S)	90+83
PANEL MATERIAL	REFLECTIVE
LEGEND MATERIAL	REFLECTIVE

SIGN LOCATION / SUPPORT	
ROAD & MILE POINT	KY 1747
TRAFFIC DIRECTION	SOUTH
SIDE OF ROAD	OVERHEAD
MOUNTING STYLE	EXISTING TRUSS
BEAM MATERIAL	
BEAM SIZE	
BEAM/POST LENGTH	1. =
BEAM/POST LENGTH	2. =
BEAM/POST LENGTH	3. =
BEAM/POST LENGTH	4. =
CONC. "a" =	
CONC. "b" =	

REMOVE (EXISTING PANEL ON TRUSS)
INSTALL (PANEL SIGN ON EXISTING TRUSS)

REFER TO THE 110'-140' OVERHEAD SIGN SUPPORT STANDARD DETAIL SHEETS FOR MORE INFORMATION.

NOTES:
INSTALL OVERHEAD ARROWS PER LANE OVER THE APPROXIMATE CENTER OF CORRESPONDING DRIVING LANE.
CONTRACTOR SHALL MAINTAIN 18' MINIMUM VERTICAL CLEARANCE BETWEEN THE ROADWAY DRIVING LANE SURFACE AND THE BOTTOM OF THE PANEL SIGNS. SUBMIT ROADWAY CROSS SECTION TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING ANY SIGN COMPONENT.



COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65

SCALE: 1/8" = 1'-0"

KY 1747
& I-64 RAMPS
SIGNING PLAN DETAIL (4 OF 4)

S1

MicroStation v8.11.7.180 E-SHEET NAME: USER: PEC andrew-b DATE PLOTTED: 12/14/2021 FILE NAME: Bridge_mount_sign_support (1).dgn

OVERHEAD ROAD

ROAD UNDER BRIDGE	STATION OF ROAD UNDER	SIGN NO.	SIGN LENGTH L.	SIGN LENGTH H.	DIRECTION OF TRAFFIC SIGN	LANE THAT SIDE OF	DRAWING NUMBER OF BRIDGE	DIMENSION A	BEAM WEB	TYPE	SKEW	ANGLE	HEIGHT
KY 1747	85+82	P-1	15'-0"	11'-0"	SOUTH	LEFT	15638 15639 21433	TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.					

ELEVATION OF BRIDGE AND SIGN

Vertical Clearance Max. 18'-0"
(See General Note)

1'-0" where vertical clearance of bridge is less than 17'-0"

Top of sign shall be level

Face of sign shall be plumb

The entire sign support may be moved so as to clear handrail posts and no bracket shall be within 6" of open joints in concrete plinth or barrier.

Left skew as shown
Right skew opposite hand

PLAN

18'-0" Max.

Face of Web
Inside fascia of Plinth or Barrier
Outside fascia of Plinth or Barrier
angle B

Sign Length	Number of Brackets
0'-0" thru 4'-0"	2
4'-0" thru 8'-0"	3
8'-0" thru 12'-0"	4
12'-0" thru 16'-0"	5
16'-0" thru 20'-0"	6
20'-0" thru 24'-0"	7
24'-0" thru 28'-0"	7

Sign brackets shall be placed on 4'-0" max. centers with 2'-0" max. sign overhang. The following is the required number for each side.

GENERAL NOTES

SPECIFICATIONS: The Kentucky Department of Highways Standard Specification for Road and Bridge Construction, current edition shall apply to this project.

DESIGN LOAD: Designed for 30 MPH wind in accordance with the specifications for the design and construction of structural steel supports for highway signs published by AASHTO, 1988.

ELEVATION OF SIGN: After establishing the horizontal location of the sign, vertical elevation shall be established as follows: The top of the sign shall be equal to the bridge vertical clearance plus 1'-0" with a maximum of 18'-0". This 18'-0" may be exceeded where top of the sign would be less than 0'-6" above the plinth or barrier.

FABRICATION: All metal components of the bracket shall be hot-dip galvanized or all fabrication has been completed. The galvanized material shall be protected from corrosion by painting the galvanized surfaces. All unpainted surfaces shall be primed and painted with two coats of zinc oxide zinc dust paint. The paint shall be applied to the entire surface of the sign. The zinc dust paint is to be properly compounded in a suitable vehicle in the ratio of one part zinc oxide to four parts zinc dust by weight. All repairs are to be as directed by the engineer.

MILL TEST REPORTS: Notarized test reports in triplicate shall be furnished to the Department of Highways, stating that the material used conform to the specifications.

WELDING: All welding and welding materials shall conform to the specifications for welded highway and railroad bridges of The American Welding Society, current edition.

NON-SHRINKING GROUT: Specifications for non-shrinking grout shall be in accordance with the product manufactured as Embed, Forok or approved equivalent.

MATERIALS: All structural steel furnished shall conform to ASTM Specification for Structural Steel, current edition. All pipes furnished shall conform to ASTM Specification A53, current edition.

NOTE TO ENGINEER: A registered professional engineer, licensed to practice in the Commonwealth of Kentucky shall fill out the chart below based on the information on the bridge mount and the instructions herein. The engineer's name is to appear in the "Checked by" box (***). The original plans and including the engineer's name shall be submitted to the Division of Structural Design for the bridge and available from the Division of Structural Design.

DATE	REVISION	CHECKED BY	DATE

DESIGNED BY: Standard Sheet 48B
DEPARTMENT OF HIGHWAYS
JEFFERSON COUNTY
KY 1747

BRIDGE MOUNT BRACKETS

ROUTE F-44
DRAWING NO. 15638
SHEET NO. 1
DESIGNED BY

ITEM NUMBER 5-9019.65

MicroStation v8.11.7.180 E-SHEET NAME: USER: PEC andrew-b DATE PLOTTED: 12/14/2021 FILE NAME: Bridge_mount_sign_support (1).dgn **S3**

ELEVATION A-A OF BRACKET

(Concrete Beam Vertical Fascia)

Use when distance between sign and outside fascia of plinth measured along center line of bracket is less than or equal to 1'-6".

ELEVATION B-B OF BRACKET

(Concrete Beam Vertical Fascia)

Use when distance between sign and outside fascia of plinth measured along center line of bracket is less than or equal to 1'-6". Detail is to be used for bridges with skew greater than 0°.

DETAILS FOR PLATE X

DETAILS FOR ANGLE Z

See Sheet 2 for Section C-C, and Section H-H and Section I-I.

DATE	REVISION	CHECKED BY	DATE

DESIGNED BY: Standard Sheet
DETAILED BY: ...
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
JEFFERSON COUNTY
 KY 1747

ITEM NUMBER	5-9019.65
BRIDGE MOUNT BRACKETS	
PREPARED BY	
SHEET NO.	3
DRAWING NO.	

GENERAL NOTES 110-140' ALUMINUM OVERHEAD SIGN SUPPORT

SPECIFICATIONS: All References to the Standard Specifications are to the Current Edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. All References to the ASHTO Specifications are to the 2002 Edition of the ASHTO Standard Specifications for Highway Bridges.

DESIGN: Designed in accordance with the ASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals published by ASHTO, 2000 with wind velocity to 80 MPH.

SUPERELEVATION OF ROADWAY: The Contractor shall allow for differences in elevations across the full shoulder width as shown on the Roadway Plans in maintaining the required 18 foot minimum vertical clearance to the bottom of the lowest part of the sign or support. Sign shall to be centered over the lane or lanes to which it applies unless shown otherwise.

CONCRETE: Class 'A' Concrete is to be used throughout.

BEVELED EDGES: All exposed concrete edges are to be beveled $\frac{3}{4}$ " unless otherwise shown.

REINFORCEMENT: Dimensions from face of concrete to bars are clear except as otherwise shown. Dimensions for bar spacings are distances center to center of bars.

SHOP DRAWINGS: The contractor shall submit detailed Shop Drawings to the Designer for review and approval. The Shop Drawings shall include all specifications for the Roadway, Cross Section developed by the contractor is to accompany the Shop Drawings. The Shop Drawings and Roadway Cross Section will also be forwarded to the engineer for review.

FABRICATION: The aluminum sign support shall be fabricated in accordance with ASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

MILL TEST REPORTS: Notarized test reports in triplicate shall be furnished to the Department of Highways stating that the materials used conform to the specifications.

FOOTINGS: All footings shall be poured against undisturbed earth and are to transfer no more than 1/2 tons per square foot Bearing Pressure to the soil under any design loading conditions.

VERTICAL DIMENSIONS: Vertical Dimensions HR and HL shall not exceed 27 feet and the combined dimensions (HR + FR) or (HL + FL) shall not exceed 36 feet.

MATERIAL SPECIFICATIONS: The following ASTM designations shall govern all materials used.

ASTM	MATERIAL
B221-08	Extruded Tube, Aluminum Alloy 6061-T6511
B241-02	Pipe, Aluminum 6061-T6
B308-02	Structural Shapes, Aluminum Alloy 6061-T6
B221-08	Extruded Bar, Rod and Shapes, Aluminum Alloy 6061-T6511
B209-07	Sheet and Plate, Aluminum Alloy 6061-T651
A320-08	Stainless Steel Hardware, NUTS, BOLTS, Washers and Screws
B160-86	Class 12, Cadmium Coating for ASTM A36 Anchor Bolts, NUTS and Washers
B26-02	Sand Mold Casting, Aluminum Alloy 356.0 T6
B109-08	Permanent Mold Casting, Aluminum Alloy 356.0-T6

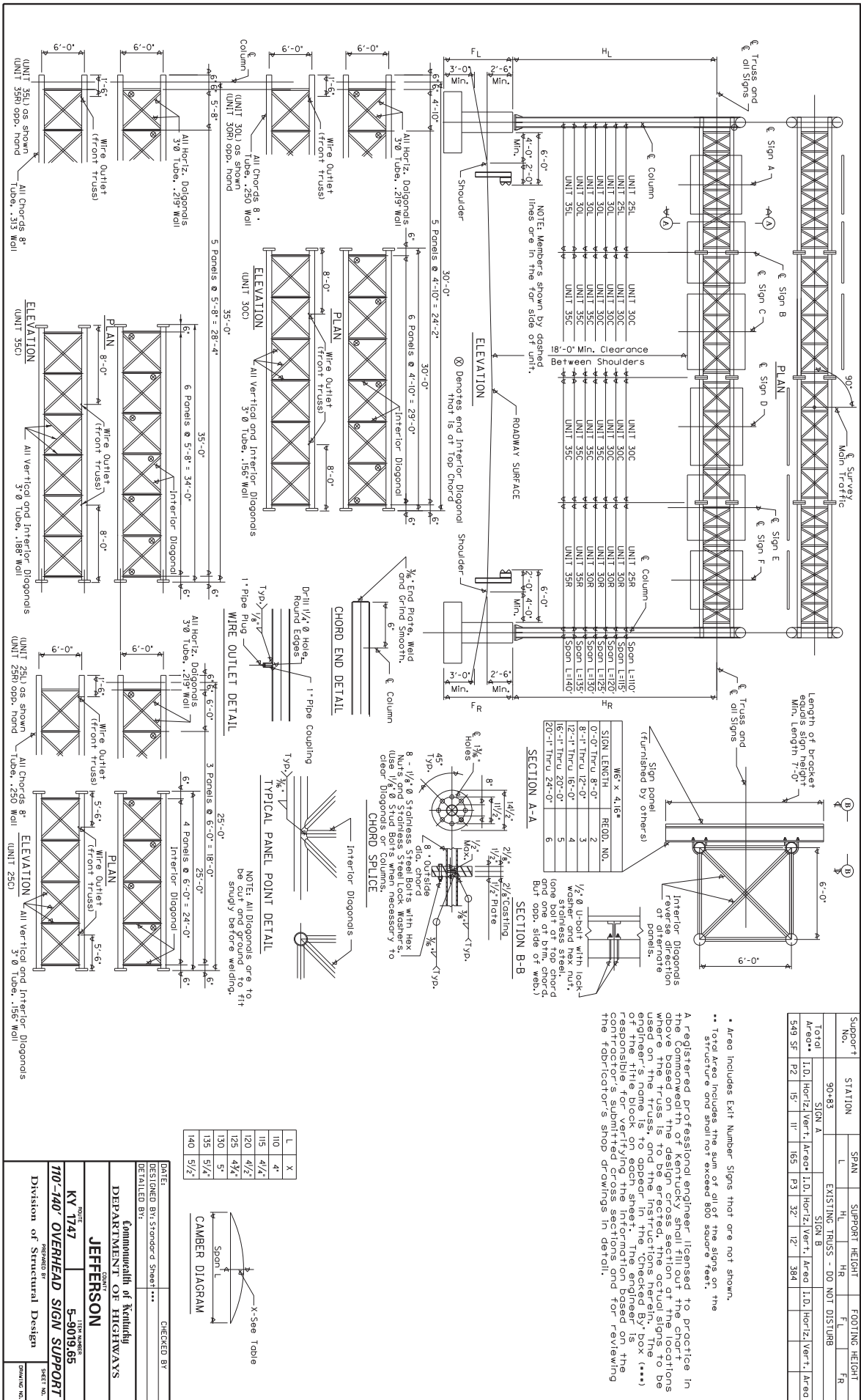
ROADWAY CROSS SECTION: The Contractor shall take field measurements at each sign location and develop a cross section showing the Sign Footing Heights and elevations, Sign Clearance above the Roadway and Column Heights. These cross sections shall be submitted to the Engineer for approval before ordering any sign components. This cost is included in the unit price bid for "Roadway Cross Section". A copy of these cross sections shall also accompany the Shop Drawings.

MAXIMUM SIGN AREA: Designed for a sign area of 800 sq. ft.

FABRICATOR CERTIFICATION: The fabricator shall be AISC Certified for SBR Certified Bridge Fabricator - Simple).

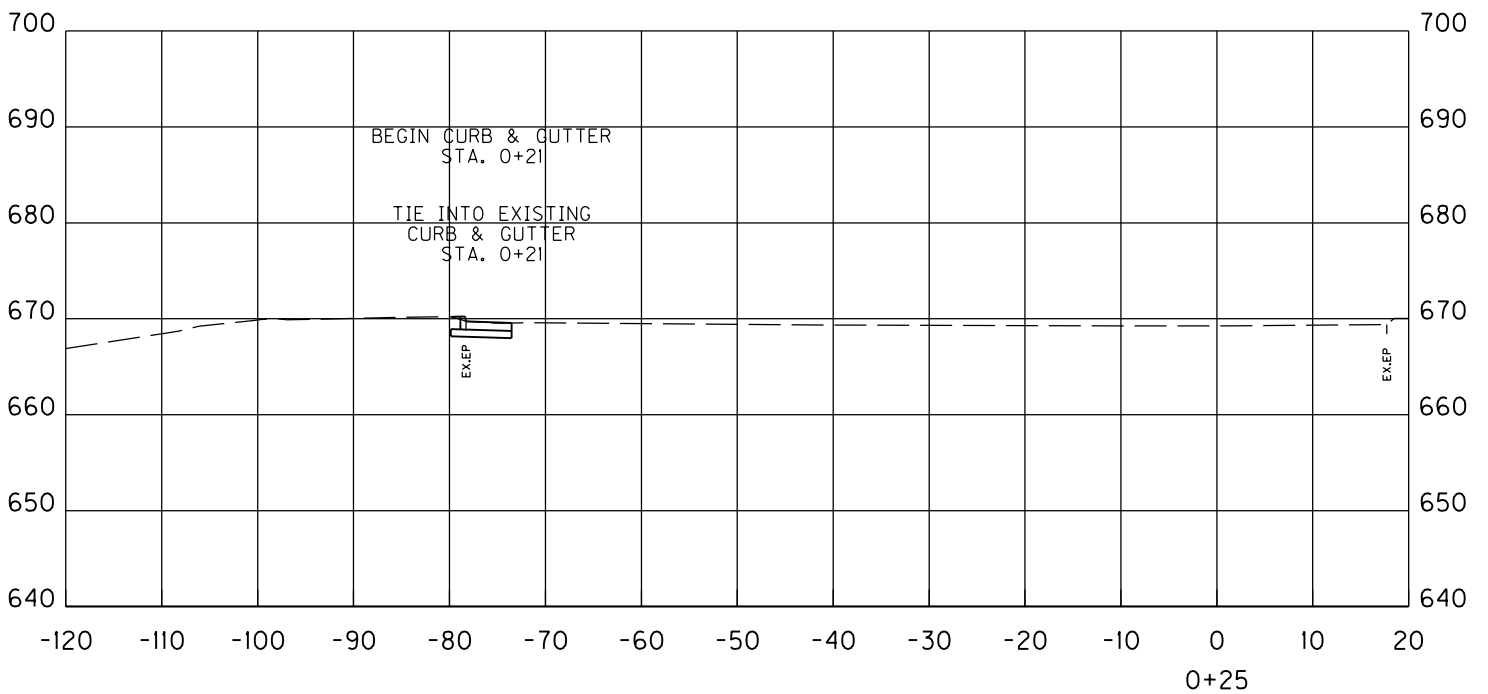
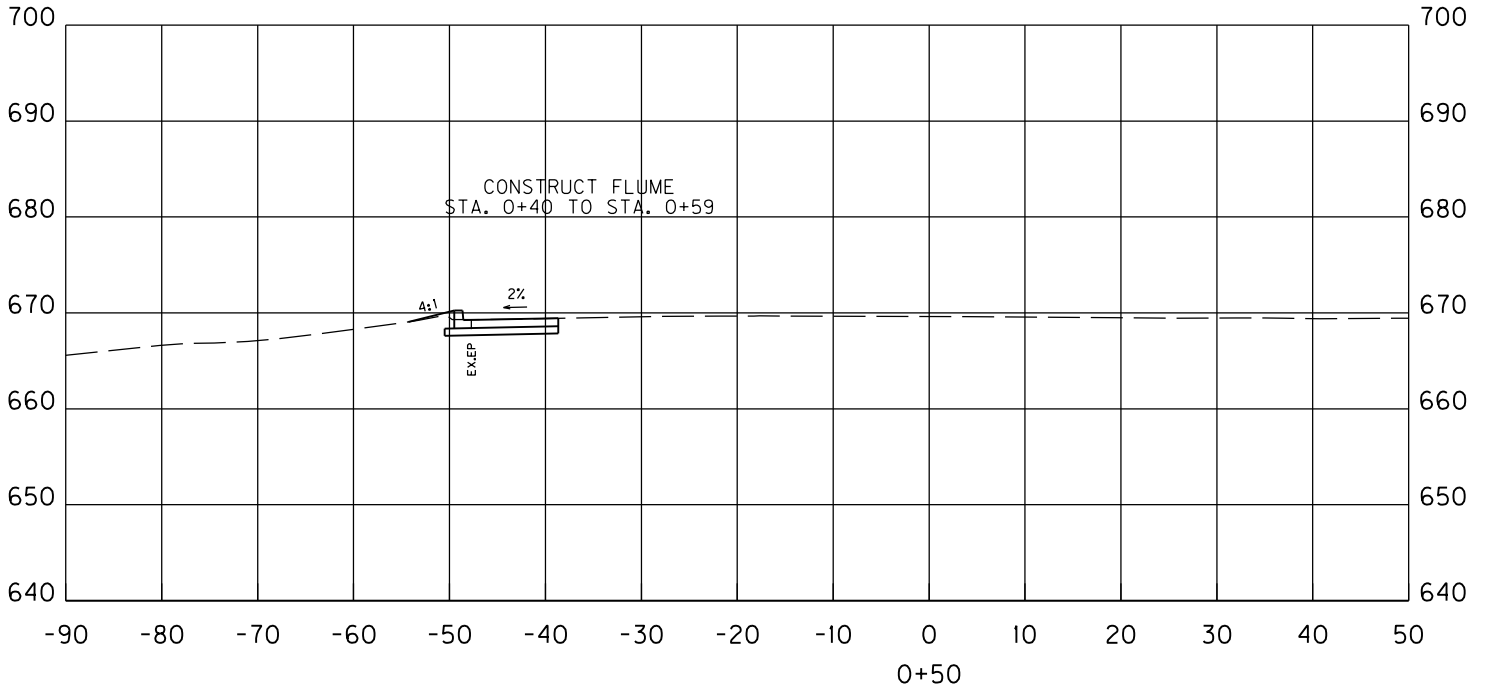
NOTE: PROPOSED SIGNS ARE BEING INSTALLED ON EXISTING TRUSS. DO NOT DISTURB EXISTING TRUSS (OTHER THAN REMOVAL OF EXISTING PANEL SIGNS AND INSTALLATION OF PROPOSED SIGNS)

DATE:	CHECKED BY:
DESIGNED BY: Standard Sheet ***	
DETAILED BY:	
Commonwealth of Kentucky DEPARTMENT OF HIGHWAYS	
JEFFERSON COUNTY	
ROUTE KY 1747	TOWN/SECTION 5-9019.65
110-140' OVERHEAD SIGN SUPPORT	
PREPARED BY Division of Structural Design	
SHEET NO.	DRAWING NO.



DATE: _____ CHECKED BY: _____
 DESIGNED BY: Standard Sheet
 DEPARTMENT OF HIGHWAYS
JEFFERSON COUNTY
 KY 1747
 5-9019,055
 DIVISION OF STRUCTURAL DESIGN

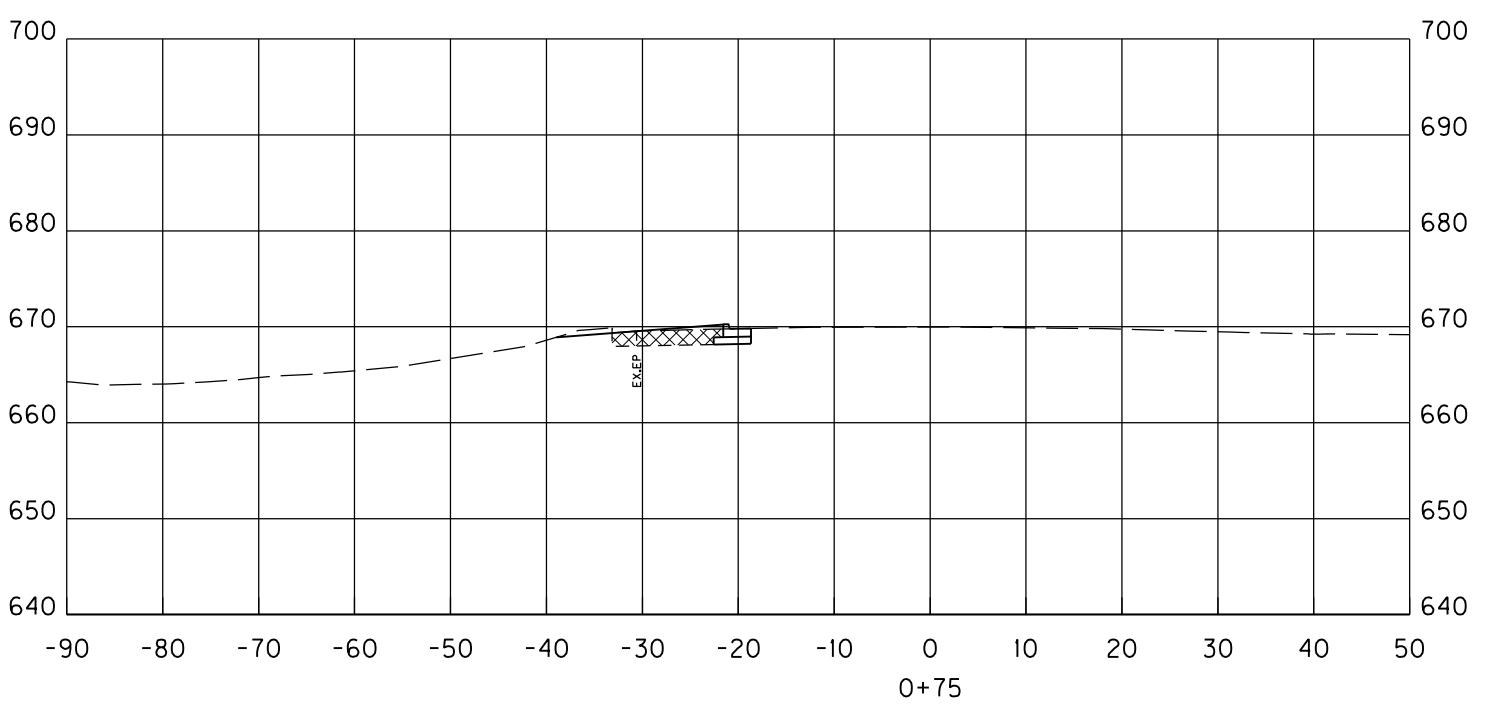
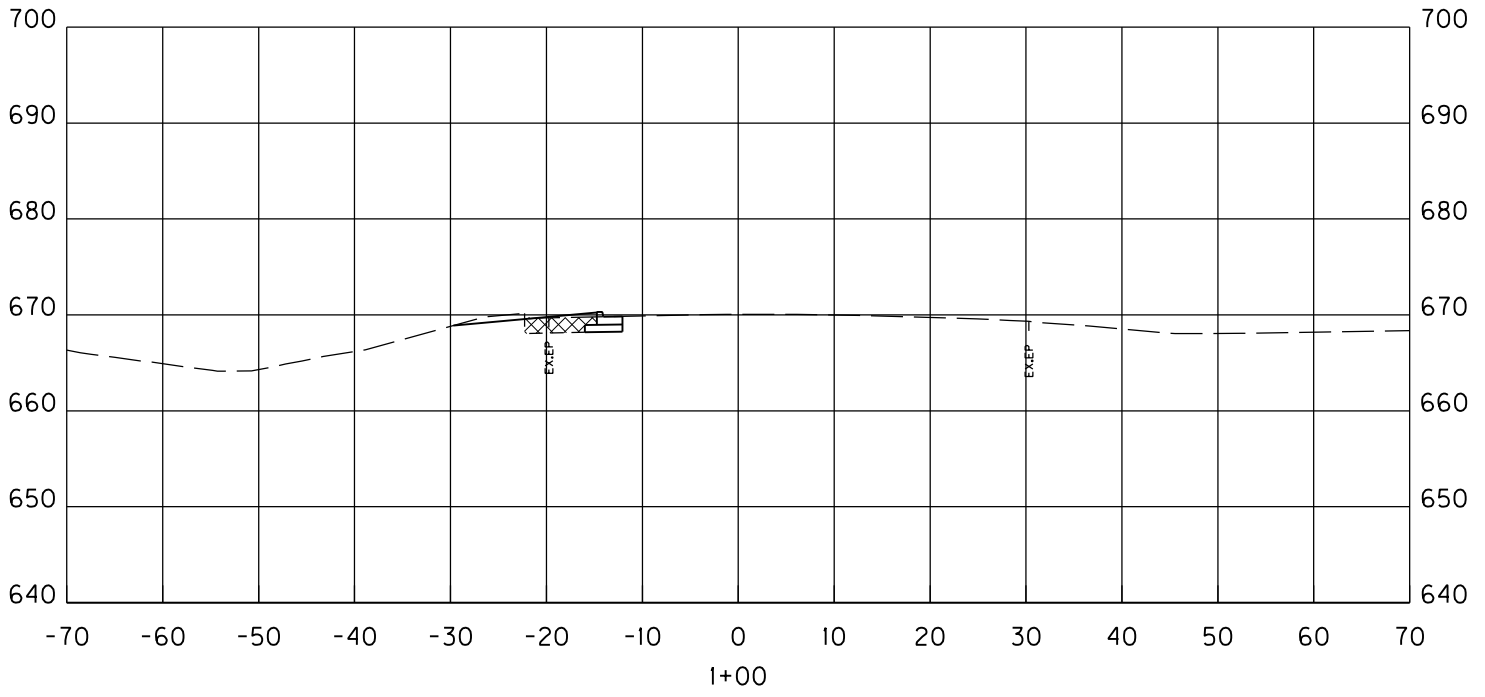
COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65



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

I-64 WB OFF RAMP
STA. 0+25 TO STA. 0+50
CROSS SECTIONS

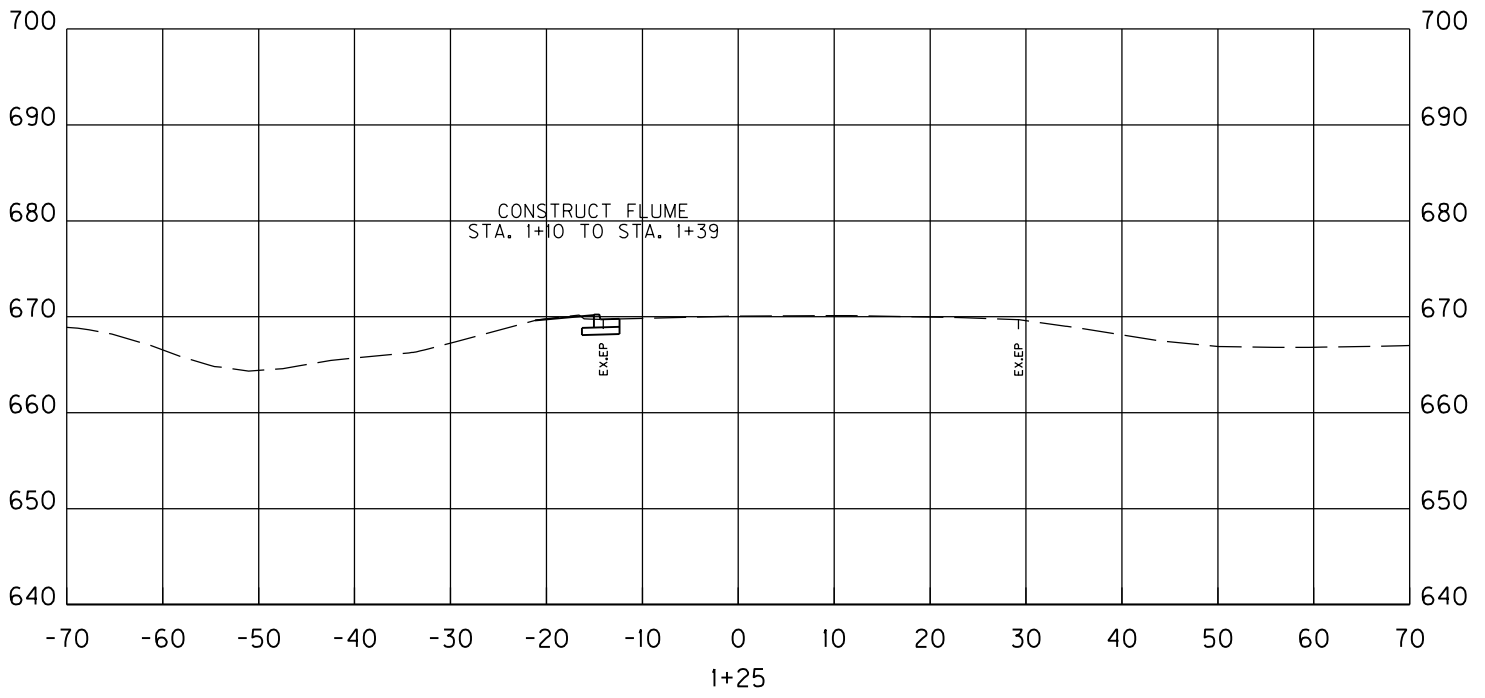
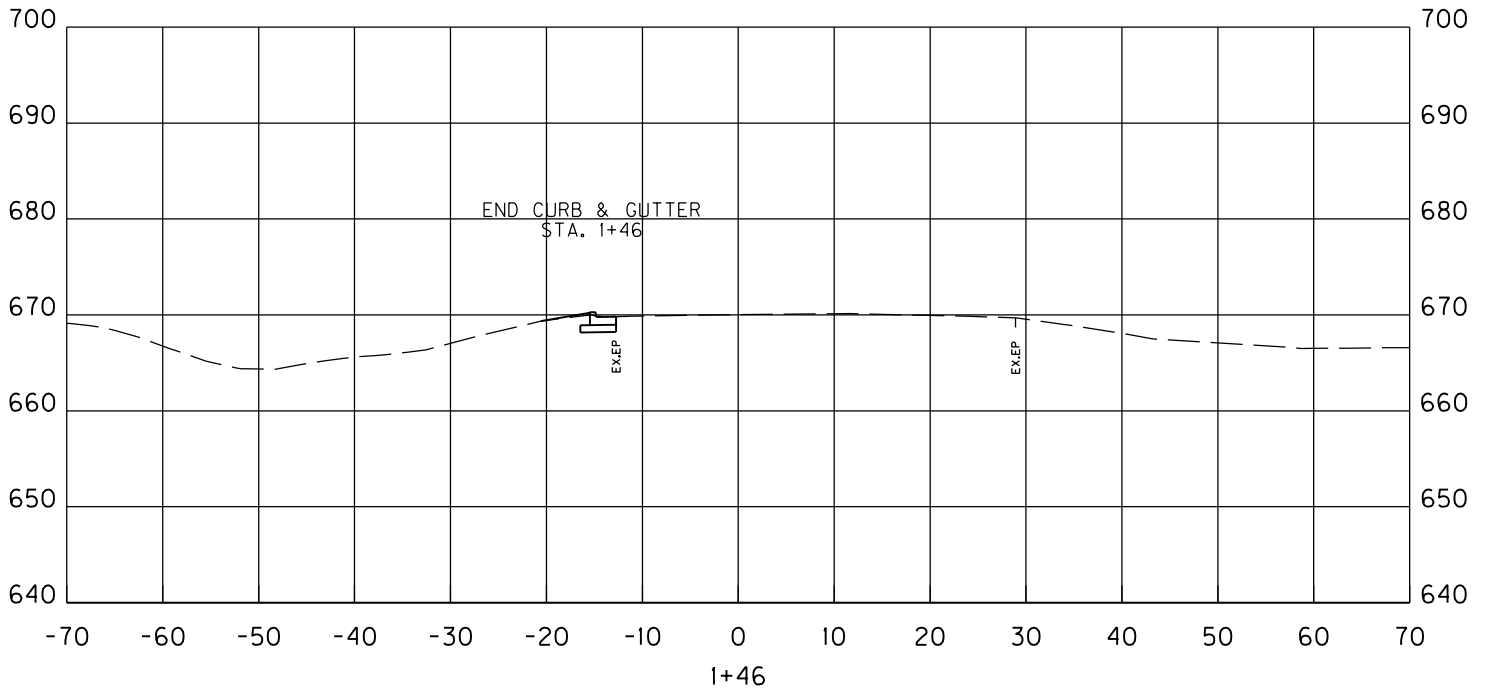
COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65



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

I-64 WB OFF RAMP
STA. 0+75 TO STA. 1+00
CROSS SECTIONS

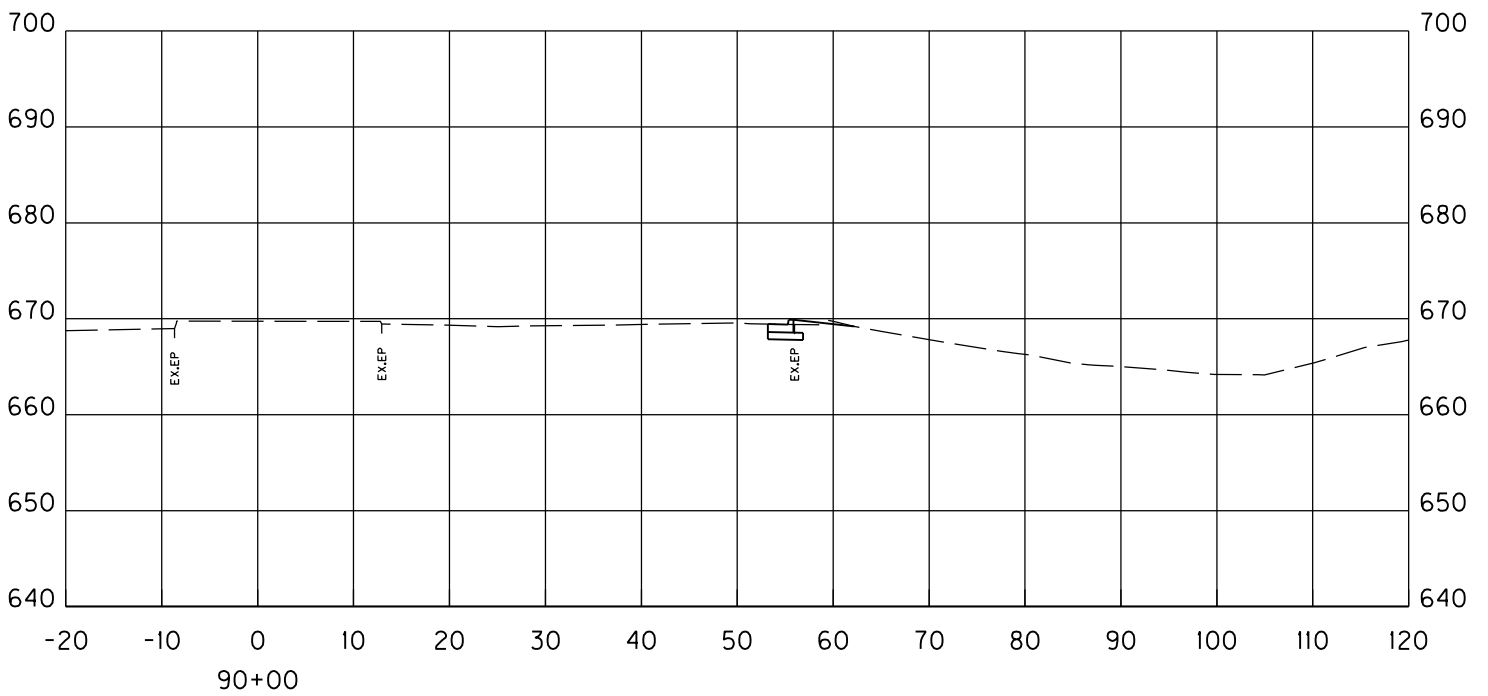
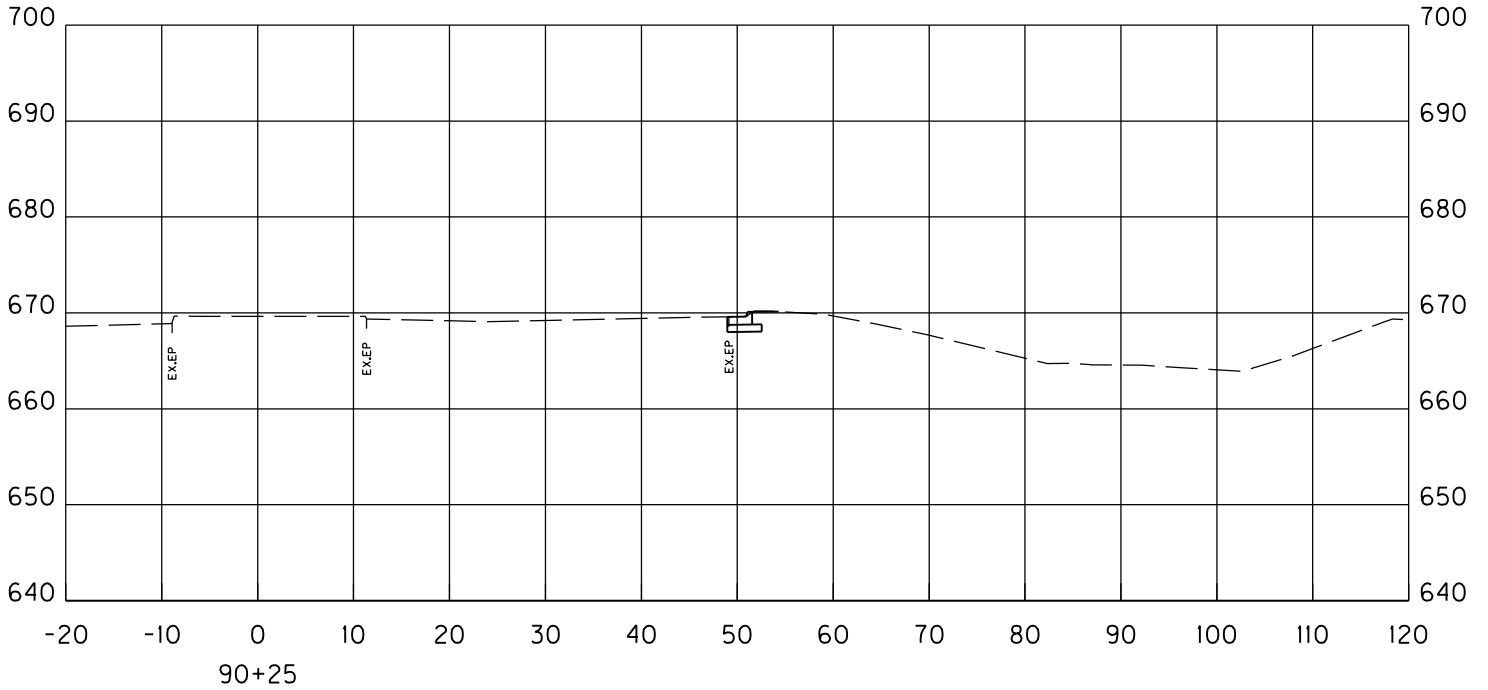
COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65



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

I-64 WB OFF RAMP
STA. 1+25 TO STA. 1+46
CROSS SECTIONS

COUNTY OF	ITEM NO.
JEFFERSON	5-9019.65



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

KY 1747
STA. 90+00 TO STA. 90+25
CROSS SECTIONS

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-9076	R1



Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
PLANS OF
PROPOSED PROJECT
KY 864 (FEGENBUSH LN) AT FENWICK DR
GRADE, DRAIN & RESURFACING
JEFFERSON COUNTY
FD52 056 0864 005-007

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
R2-R8B	LAYOUT DESCRIPTION
R3-R4	TYPICAL SECTIONS/GENERAL & PAVING SUMMARY/
R5	GENERAL NOTES
R6	GENERAL NOTES
R7	GENERAL NOTES
R8	GENERAL NOTES
U1-U4	UTILITY RELOCATION PLANS 14 SHEETS TOTAL
X1-X2	CROSS SECTION SHEETS

SHEETS NOT INCLUDED IN TOTAL SHEETS
R2A, R2B

STANDARD DRAWINGS

NUMBER	DESCRIPTION
RD-200-03	ROADWAY
RD-200-04	ROADWAY
RD-200-05	ROADWAY
RD-200-06	ROADWAY
RD-200-07	ROADWAY
RD-200-08	ROADWAY
RD-200-09	ROADWAY
RD-200-10	ROADWAY
RD-200-11	ROADWAY
RD-200-12	ROADWAY
RD-200-13	ROADWAY
RD-200-14	ROADWAY
RD-200-15	ROADWAY
RD-200-16	ROADWAY
RD-200-17	ROADWAY
RD-200-18	ROADWAY
RD-200-19	ROADWAY
RD-200-20	ROADWAY
RD-200-21	ROADWAY
RD-200-22	ROADWAY
RD-200-23	ROADWAY
RD-200-24	ROADWAY
RD-200-25	ROADWAY
RD-200-26	ROADWAY
RD-200-27	ROADWAY
RD-200-28	ROADWAY
RD-200-29	ROADWAY
RD-200-30	ROADWAY
RD-200-31	ROADWAY
RD-200-32	ROADWAY
RD-200-33	ROADWAY
RD-200-34	ROADWAY
RD-200-35	ROADWAY
RD-200-36	ROADWAY
RD-200-37	ROADWAY
RD-200-38	ROADWAY
RD-200-39	ROADWAY
RD-200-40	ROADWAY
RD-200-41	ROADWAY
RD-200-42	ROADWAY
RD-200-43	ROADWAY
RD-200-44	ROADWAY
RD-200-45	ROADWAY
RD-200-46	ROADWAY
RD-200-47	ROADWAY
RD-200-48	ROADWAY
RD-200-49	ROADWAY
RD-200-50	ROADWAY
RD-200-51	ROADWAY
RD-200-52	ROADWAY
RD-200-53	ROADWAY
RD-200-54	ROADWAY
RD-200-55	ROADWAY



THE CONTROL OF ACCESS ON THIS PROJECT SHALL BE BY PERMIT

THIS PROJECT IS OFF THE NH SYSTEM

LAYOUT MAP

DESIGN CRITERIA

CLASS OF HIGHWAY	MINOR ARTERIAL
TYPE OF TERRAIN	ROLLING
DESIGN SPEED	35 MPH
RECORDED MFSO	
LEVEL OF SERVICE	
ADT PRESENT (2015)	12,339
ADT FUTURE ()	
DIV	
D %	
1 %	
2 %	

GEOGRAPHIC COORDINATES

LATITUDE 38 DEGREES 2 MINUTES 18.39 SECONDS NORTH
 LONGITUDE 85 DEGREES 38 MINUTES 11.02 SECONDS WEST

DESIGNED

2. RESTRICTED SD _____
 LEVEL OF SERVICE _____
 MAX. DISTANCE W/O PASSING _____

KY 864 FEGENBUSH LN

LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH
_____	_____	_____	_____	_____	_____	_____	_____
FOR EQUALITIES	FOR EQUALITIES	FOR EQUALITIES	FOR EQUALITIES	FOR EQUALITIES	FOR EQUALITIES	FOR EQUALITIES	FOR EQUALITIES
NOT INCLUDED	NOT INCLUDED	NOT INCLUDED	NOT INCLUDED	NOT INCLUDED	NOT INCLUDED	NOT INCLUDED	NOT INCLUDED
RAILROAD CROSSINGS NO.	RAILROAD CROSSINGS NO.	RAILROAD CROSSINGS NO.	RAILROAD CROSSINGS NO.	RAILROAD CROSSINGS NO.	RAILROAD CROSSINGS NO.	RAILROAD CROSSINGS NO.	RAILROAD CROSSINGS NO.
BRIDGES	BRIDGES	BRIDGES	BRIDGES	BRIDGES	BRIDGES	BRIDGES	BRIDGES

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF
JEFFERSON

LETTING DATE: _____

PROJECT NO. 5-3906
 PROJECT NUMBER: HD52 056 0864 005-007
 PROJECT NUMBER: HD52 056 0864 005-007

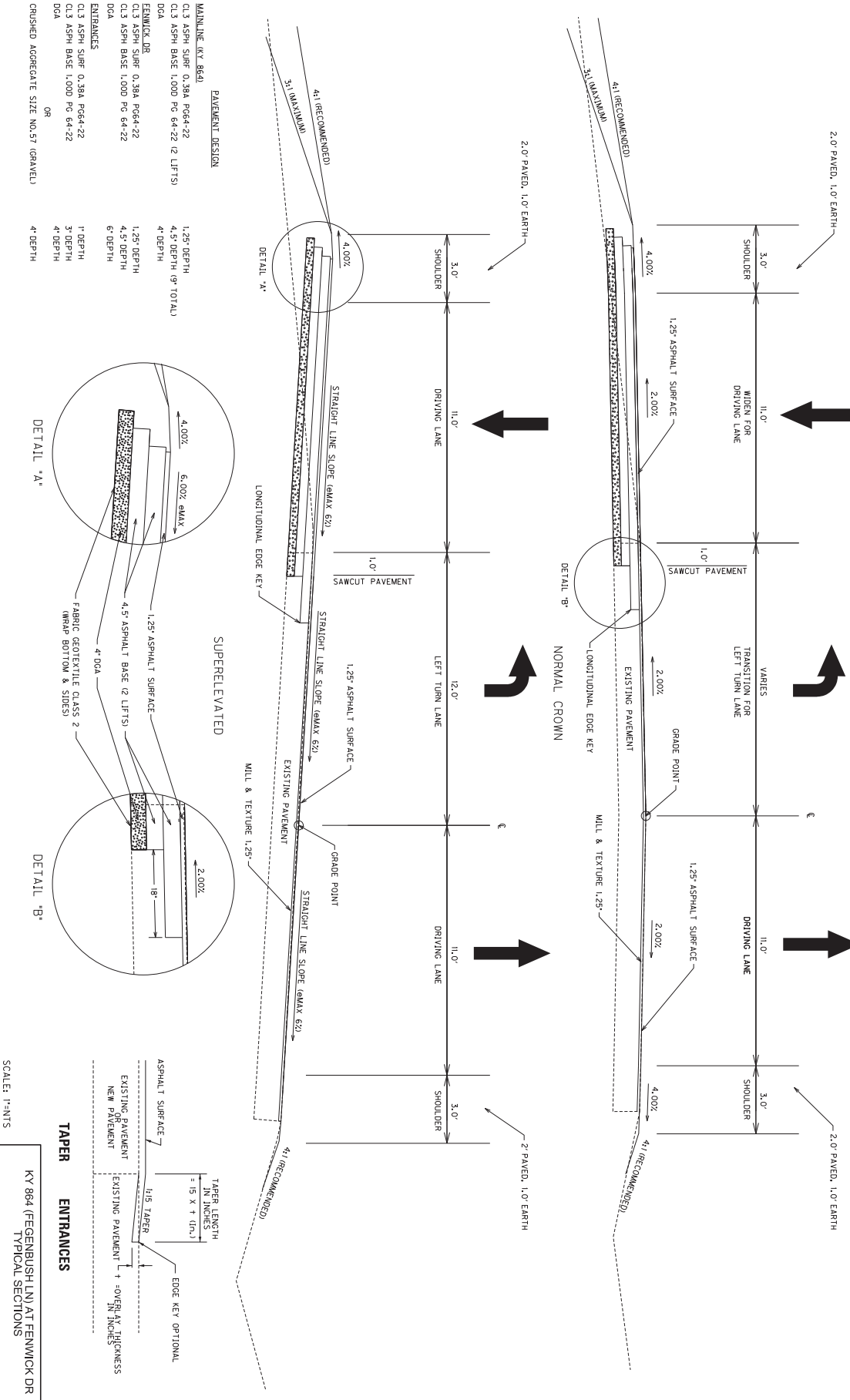
RECOMMENDED BY: ADAM ULRICH
 PROJECT MANAGER
 DATE: 9/14/2020

PLAN APPROVED BY: [Signature]
 DATE: 02-02-2022



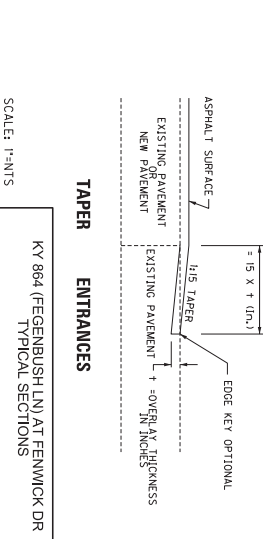
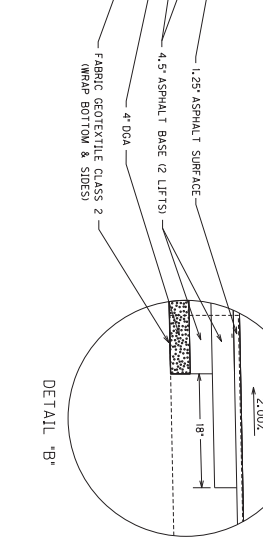
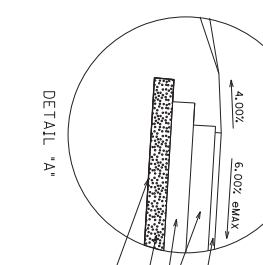
MicroStation v8.11.0.832 E-SHEET NAME: USER: adamulrich DATE PLOTTED: October 27, 2020 FILE NAME: C:\PWORK\KADAM\ULRICH\1546905\R02\200TS.DGN

TYPICAL SECTIONS KY 864 (FEGENBUSH LANE)



- PAVEMENT DESIGN**
- MAINLINE (KY 864)
 - CL 3 ASPH SURF 0.384 PG64-22
 - CL 3 ASPH BASE 1.000 PG 64-22 (2 LIFTS)
 - DCA
 - FENWICK DR
 - CL 3 ASPH SURF 0.384 PG64-22
 - CL 3 ASPH BASE 1.000 PG 64-22
 - DCA
- ENTRANCES**
- CL 3 ASPH SURF 0.384 PG64-22
 - CL 3 ASPH BASE 1.000 PG 64-22
 - DCA
- OR
- CRUSHED AGGREGATE SIZE NO.57 (GRAVEL)

- 1.25\"/>



SCALE: 1"=10'

KY 864 (FEGENBUSH LN) AT FENWICK DR
TYPICAL SECTIONS

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-9018	R2

MicroStation v8.11.9.832 E-SHEET NAME: ---- USER: adam.litch DATE PLOTTED: June 3, 2021 FILE NAME: C:\PWORK\KADAM\ULRICH\1033003\0020\ASU.DGN

GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT	KEY 864 (FEGENBUSH LN)	FENWICK	ENTRANCES	TOTAL
204	BARBICIDE - TYPE III	EA		4		4
2200	ROADWAY EXCAVATION	CY	258			258
2545	CLEARING AND GRUBBING ⑤ ⑦	LS	1			1
2562	TEMPORARY SIGNS	SF	132			132
2569	DEMOLITIZATION	LS	1			1
2585	EDGE KEY	LF		121		121
2603	FABRIC GEOTEXTILE CLASS 2	SY	777	121		898
2650	MAINTAIN AND CONTROL TRAFFIC	LS	1			1
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EA	3			3
2676	MOBILIZATION FOR MILL & TEXTURING	EA	1			1
2677	ASPHALT PAVE MILLING & TEXTURING	TON	167			167
2701	TEMP SILT FENCE	LF	1,430			1,430
2703	SILT TRAP TYPE A	EA	4			4
2704	SILT TRAP TYPE B	EA	1			1
2705	SILT TRAP TYPE C	EA	1			1
2706	CLEAN SILT TRAP TYPE A	EA	1			1
2707	CLEAN SILT TRAP TYPE B	EA	4			4
2708	CLEAN SILT TRAP TYPE C	EA	1			1
2726	STAKING	LS	1			1
3271	TREE TRIMMING ⑦	LF	200			200
5550	EROSION CONTROL BLANKET	SY	100			100
5963	INITIAL FERTILIZER	TON	.01			.01
5964	MAINTENANCE FERTILIZER	TON	.04			.04
5985	SEEDING AND PROTECTION	SY	818			818
5992	AGRICULTURAL LIMESTONE	TON	.51			.51
6511	PAVE STRIPING - THERMO - 6 IN W ⑤	LF	4,350			4,350
6542	PAVE STRIPING - THERMO - 6 IN T ⑤	LF	1,646			1,646
6543	PAVE STRIPING - THERMO - 8 IN T ⑤	LF	2,880			2,880
6545	PAVE STRIPING - THERMO - 8 IN Y ⑤	LF	67			67
6574	PAVE MARKING - THERMO CURV ARROW	EA	2			2
20550ND	SAWCUT PAVEMENT	LF	849			849
21289ED	LONGITUDINAL EDGE KEY	LF	849			849
21813NN	REMOVE AND RELOCATE SHEET SIGNS	EA	6			6
22400NN	REMOVE AND RELOCATE SIGN ASSEMBLY ⑧	EA	6			6
24634ED	PAVE MARKING - THERMO DOTTED LANE EXTER. ⑥	LF	145			145

PAVING SUMMARY

ITEM CODE	ITEM	UNIT	KEY 864 (FEGENBUSH LN)	FENWICK	ENTRANCES	TOTAL PROJECT
1	DOA BASE	TON	171	40	1	212
7I	CRUSHED AGGREGATE SIZE NO 57 ①	TON				10
190	LEVELING & WEDGING PG 64-22	TON	75	64	4	143
214	CL3 ASPH BASE 1,000 PG 64-22	TON	391	28	1	420
2497DEC	ASPHALT MATERIAL FOR TACK NON-TRACKING AT ONE TIME WAS TRACKLESS TACK ④	TON	1,67	.32	.06	2.05
22906E540E	CL3 ASPH SURF 0.384 PG 64-22	TON	215	26	6	247

PAVING AREAS

ITEM	S O U A R E Y A R D S		TOTAL PROJECT
	KEY 864 (FEGENBUSH LN)	FENWICK	
DOA BASE	170	115	285
CRUSHED AGGREGATE SIZE NO 57		43	43
LEVELING & WEDGING PG 64-22	578	291	869
CL3 ASPH BASE 1,000 PG 64-22	718	110	828
ASPHALT MATERIAL FOR TACK NON-TRACKING AT ONE TIME WAS TRACKLESS TACK	3,121	372	3,493
CL3 ASPH SURF 0.384 PG 64-22	3,121	372	3,493

NOTES

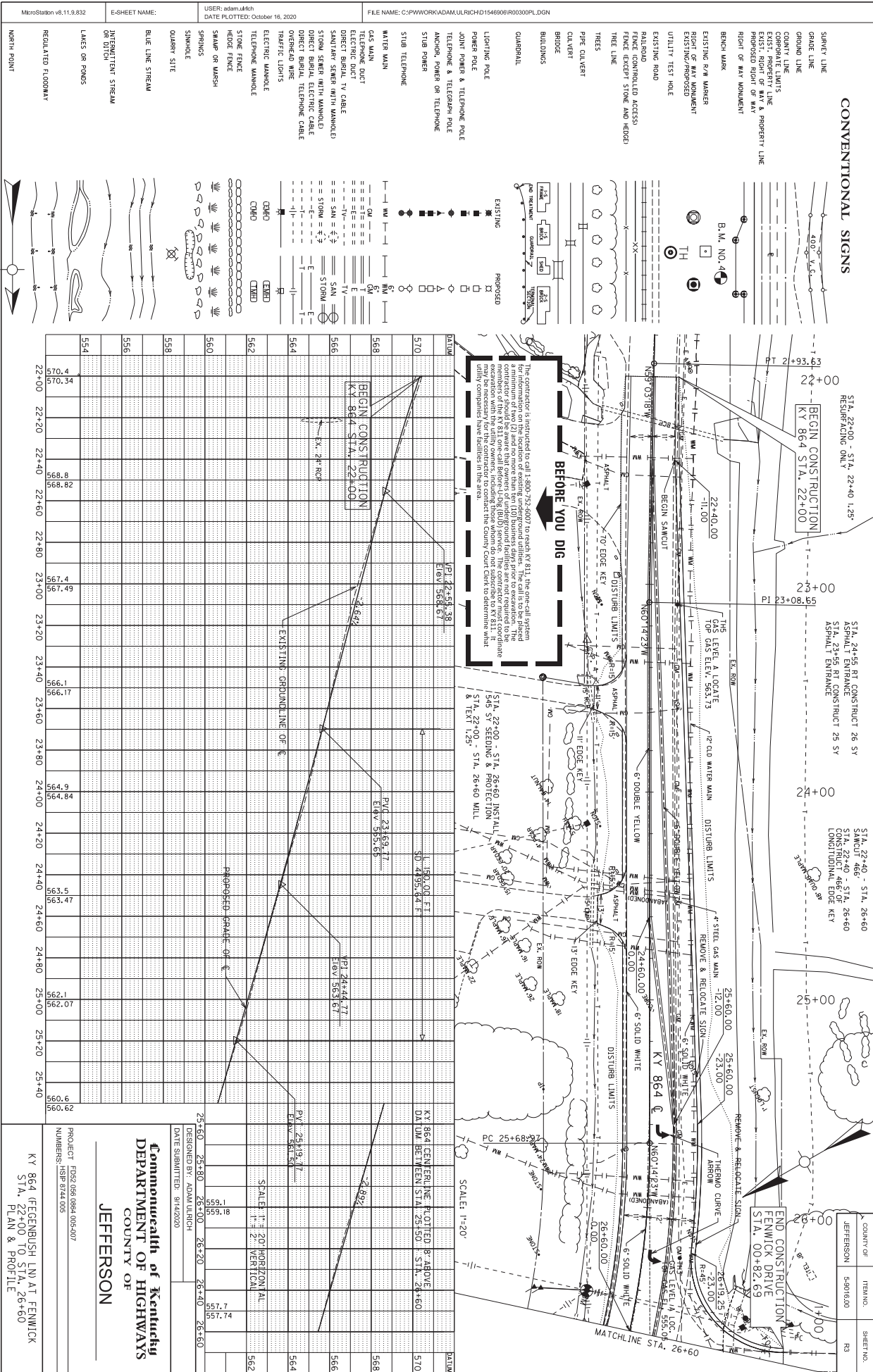
- ① ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 100 LBS PER SQ YD PER INCH OF DEPTH, UNLESS NOTED OTHERWISE.
- ② ESTIMATED AT 115 LBS PER SQ YD PER INCH OF DEPTH.
- ③ ESTIMATED AT 100 LBS PER SQ YD PER INCH OF DEPTH.
- ④ ESTIMATED AT 95 LBS PER SQ YD PER INCH OF DEPTH.
- ⑤ APPROXIMATELY 0.92 ACRES.
- ⑥ MARKINGS SHALL BE RECESSED. REFER TO SPECIAL NOTE. CONTRACTOR MAY USE SPRAY OR EXTRUDED THERMO.
- ⑦ NO TREE'S SHALL BE REMOVED GREATER THAN 5" IN DIAMETER AT BREAST HEIGHT.
- ⑧ NEW POSTS AND ANCHORS WILL BE REQUIRED FOR EACH SIGN REINSTALLED. THIS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE AND RELOCATE SIGN ASSEMBLY."

EARTHWORK TOTALS

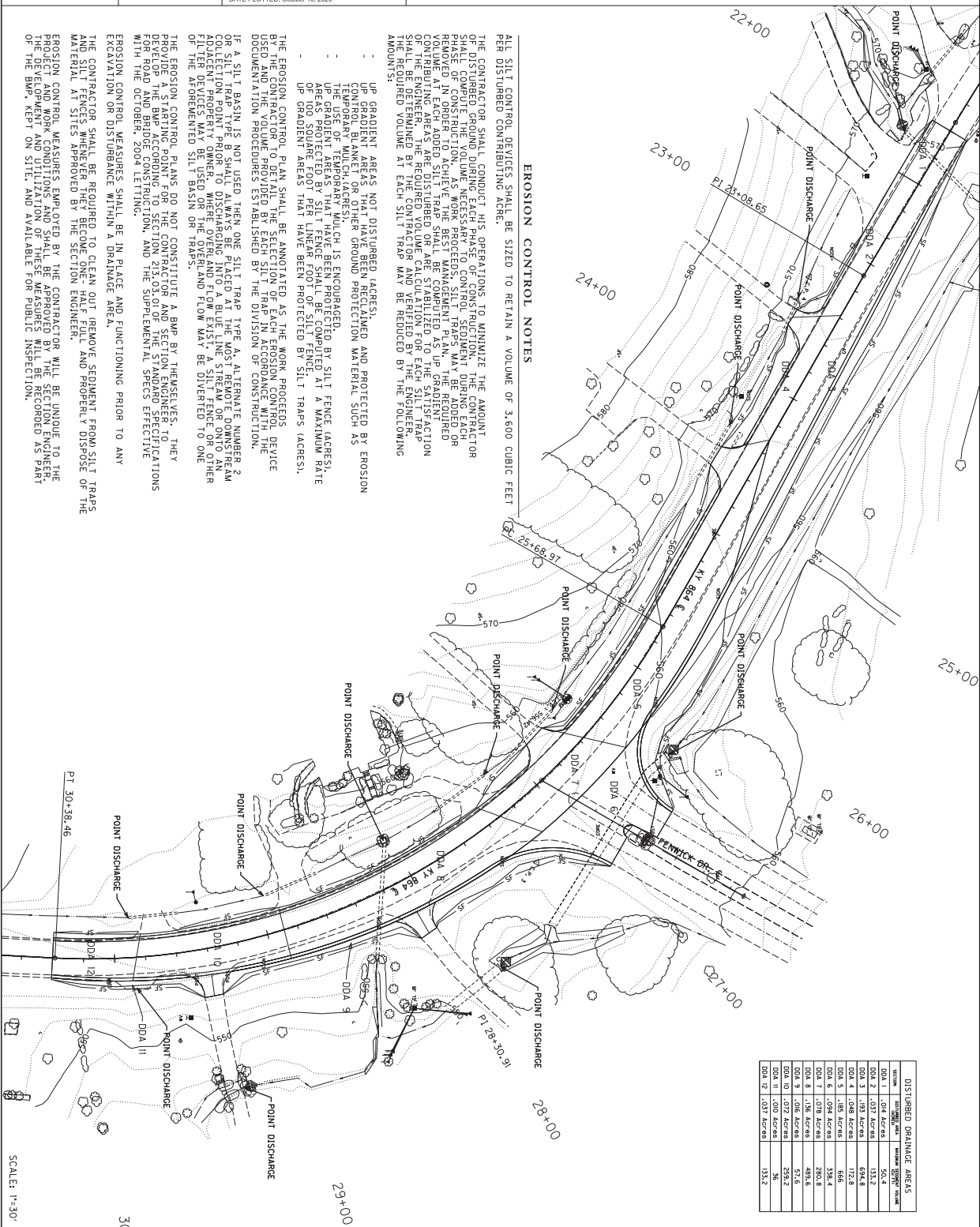
EMBANKMENT
117.75 CUYD TOTAL EMB.
EXCAVATION
257.23 CUYD TOTAL EXC.
ESTIMATE FOR EARTHWORK CALCULATIONS FOR DESIGN AND INFORMATION ONLY. ASSUMPTIONS FOR SHRINKAGE AND SWELL FACTORS ARE THE CONTRACTORS RESPONSIBILITY.

GENERAL & PAVING SUMMARY SHEET

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	S-9076	R2A



MicroStation v8.11.9.832 E-SHEET NAME: USER: adam.dh DATE PLOTTED: October 16, 2020 FILE NAME: C:\PW\WORK\KADAM\ULRICH\1546906\R00700EC.DGN



EROSION CONTROL NOTES

MUL SILT CONTROL DEVICES SHALL BE SIZED TO RETAIN A VOLUME OF 3,600 CUBIC FEET PER DISTURBED CONTRIBUTING ACRE.

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED CONTRIBUTING ACRE. AS WORK PROGRESSES, SILT TRAPS MAY BE ADDED OR REMOVED IN CONSTRUCTION. AS WORK PROGRESSES, SILT TRAPS MAY BE ADDED OR REMOVED IN CONSTRUCTION. AS WORK PROGRESSES, SILT TRAPS MAY BE ADDED OR REMOVED IN CONSTRUCTION.

UP GRADIENT AREAS NOT DISTURBED (AGRES).

CONTRIBUTING AREAS THAT HAVE BEEN RECLAIMED AND PROTECTED BY EROSION CONTROL BLANKET OR OTHER GROUND PROTECTION MATERIAL SUCH AS MULCH OR TEMPORARY MULCH IS ENCOURAGED.

UP GRADIENT AREAS THAT HAVE BEEN PROTECTED BY SILT FENCE (AGRES).

AREAS PROTECTED BY SILT FENCE SHALL BE COMPUTED AT A MAXIMUM RATE UP GRADIENT AREAS THAT HAVE BEEN PROTECTED BY SILT TRAPS (AGRES).

THE EROSION CONTROL PLAN SHALL BE ANNOTATED AS THE WORK PROGRESSES BY THE CONTRACTOR TO DETAIL THE SELECTION OF EACH EROSION CONTROL DEVICE USED AND THE VOLUME PROVIDED BY EACH SILT TRAP IN ACCORDANCE WITH THE DOCUMENTATION PROCEDURES ESTABLISHED BY THE DIVISION OF CONSTRUCTION.

IF A SILT BASIN IS NOT USED THEN ONE SILT TRAP TYPE A, ALTERNATE NUMBER 2 OR SILT TRAP TYPE B SHALL ALWAYS BE PLACED AT THE MOST REMOTE DOWNSTREAM ADJACENT PROPERTY OWNER WHERE OVERLAND FLOW EXISTING SILT FENCE OR OTHER FILTER DEVICES MAY BE USED OR THE OVERLAND FLOW MAY BE DIVERTED TO ONE OF THE AFOREMENTIONED SILT BASIN OR TRAPS.

THE EROSION CONTROL PLANS DO NOT CONSTITUTE A BMP BY THEMSELVES. THEY PROVIDE A STARTING POINT FOR THE CONTRACTOR AND SECTION ENGINEER TO DEVELOP A BMP. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEVELOPMENT OF A BMP FOR ROAD AND BRIDGE CONSTRUCTION, AND THE SUPPLEMENTAL SPECS EFFECTIVE WITH THE OCTOBER, 2004 LETTING.

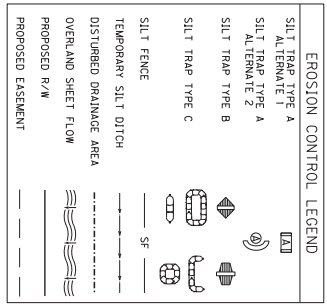
EROSION CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONING PRIOR TO ANY EXCAVATION OR DISTURBANCE WITHIN A DRAINAGE AREA.

THE CONTRACTOR SHALL BE REQUIRED TO CLEAN OUT AND REMOVE SEDIMENT FROM SILT TRAPS AND SILT FENCES WHENEVER THEY BECOME ONE HALF FULL AND PROPERLY DISPOSE OF THE MATERIAL AT SITES APPROVED BY THE SECTION ENGINEER.

EROSION CONTROL MEASURES EMPLOYED BY THE CONTRACTOR WILL BE UNIQUE TO THE PROJECT AND WORK CONDITIONS AND SHALL BE APPROVED BY THE SECTION ENGINEER. THE DEVELOPMENT AND UTILIZATION OF THESE MEASURES WILL BE RECORDED AS PART OF THE BMP, KEPT ON SITE, AND AVAILABLE FOR PUBLIC INSPECTION.

DISTURBED DRAINAGE AREAS

Station	Disturbance Area	Volume (cu yd)
DDA I	0.04 Acres	50.4
DDA 2	0.037 Acres	133.2
DDA 3	0.029 Acres	624.8
DDA 4	0.06 Acres	168
DDA 5	0.094 Acres	338.4
DDA 6	0.08 Acres	288.0
DDA 7	0.078 Acres	489.6
DDA 8	0.196 Acres	517.6
DDA 9	0.072 Acres	259.2
DDA 10	0.072 Acres	259.2
DDA 11	0.037 Acres	133.2



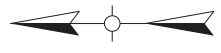
SCALE: 1"=30'



KY 884 (FEGENBUSH) AT FENNWICK
EROSION CONTROL SHEET
STA. 22+00 - STA. 30+40

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-9076	R7

MicroStation v8.11.3.832 E-SHEET NAME: USER: adam.litch DATE PLOTTED: July 31, 2019 FILE NAME: C:\PWORK\KADAM\ULRICH\1546906\R00800CC.DGN



GEOMETRIC CONTROL POINTS KY 864 MAINLINE

LOCATION	STATE PLANE COORDINATES		
	NORTH (Y)	EAST (X)	
POB 20+800.72	3943842.78	4934502.04	
PI 20+971.17	3943908.76	4934427.09	
PT 21+93.63	3943953.44	4934344.23	
PI 23+08.65	3944012.59	4934245.57	
PC 25+68.97	3944141.80	4934019.59	
PI 28+03.72	3944271.82	4933792.20	
P'T 30+38.46	3944351.39	4933806.15	
POE 31+80.00	3944674.73	4933813.69	

GEOMETRIC CONTROL POINTS FENWICK DRIVE

LOCATION	STATE PLANE COORDINATES		
	NORTH (Y)	EAST (X)	
POB 0+00.00	3944220.02	4933920.55	
POE 1+50.00	3944689.88	4933846.00	

Delta = 87°14.08'
T = 96.62'
L = 132.00'
E = 3.45'

Delta = 63°17'36.10"
T = 261.94'
L = 469.49'
R = 425.00'
E = 74.24'

COORDINATE CONTROL POINTS

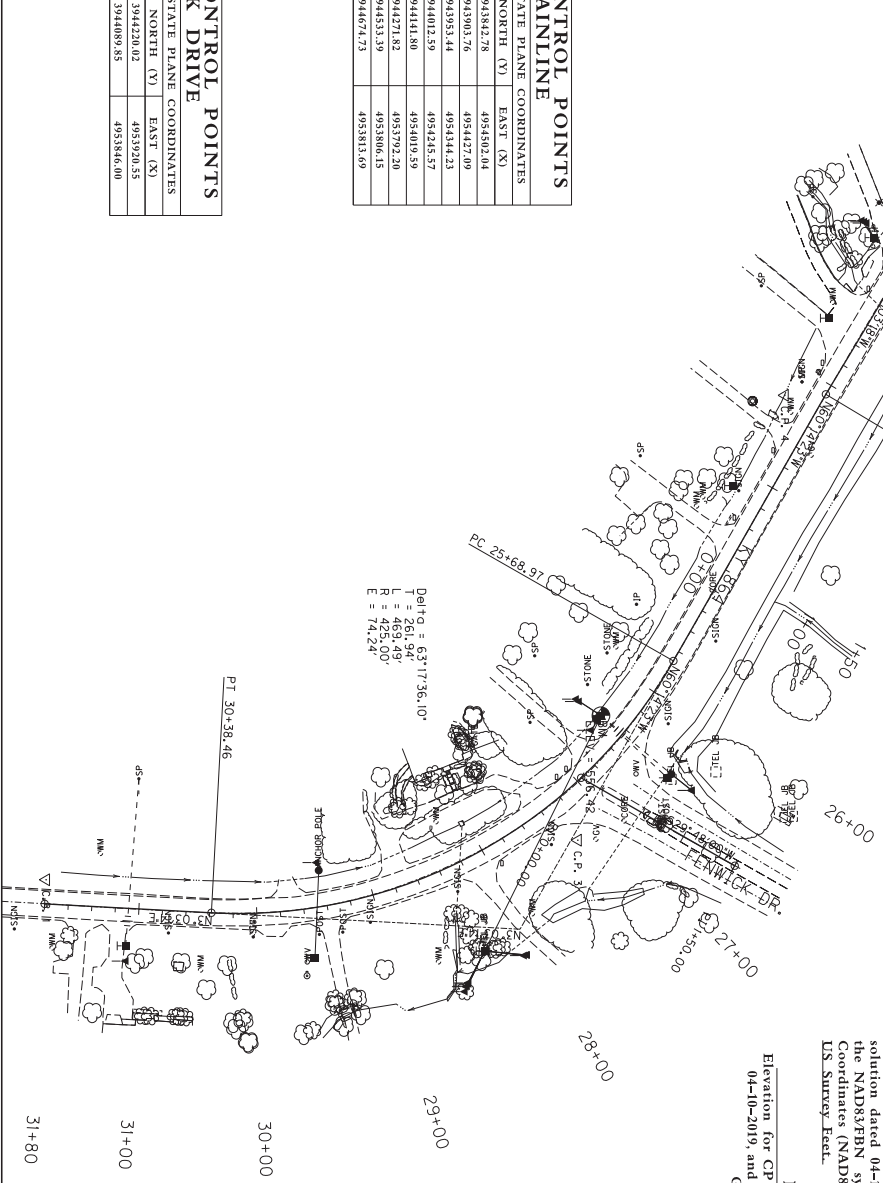
POINT	DESCRIPTION	ELEV. (Z)	MAINLINE STATION and OFFSET	STATE PLANE COORDINATES		
				NORTH (Y)	EAST (X)	
C.P. 1	CONCRETE MONUMENT STAMPED KYTC 5-2016.00 #1	558.13	31+80.00 20+42 RT	3944673.65	4933834.08	
C.P. 2	CONCRETE MONUMENT STAMPED KYTC 5-2016.00 #2	578.23	20+00.72 27.64 LT	3943821.34	4934484.59	
C.P. 3	IPC STAMPED KYTC POINT	555.43	27+30.88 38.16 LT	3944222.98	4933867.63	
C.P. 4	IPC STAMPED KYTC POINT	565.66	23+26.76 29.91 RT	3944047.55	4934244.70	

COORDINATE SYSTEM

Horizontal coordinates on CP #1 was obtained from an OPUS solution dated 04-10-2019. Horizontal coordinates are based on the NAD83/FBN system. These coordinates are State Plane Coordinates (NAD83/FBN) Kentucky Single Zone and in US Survey Feet.

BASIS OF ELEVATIONS

Elevation for CP #1 was derived from an OPUS solution dated 04-10-2019, and are adjusted to the NAVD88 Vertical Datum. Geoid model used was Geoid12B.



SCALE: 1" = 50'



FEGENBUSH LANE AT FENWICK DRIVE
COORDINATE CONTROL SHEET
STA. 20+00.72 - STA. 31+80.00

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	5-0016	R8

Oct 02, 2020 - 11:45am wamith
Z:\Pipeline Design and Construction\WRRP Projects\2020\16040 Fegenbush Lane\16040 Fegenbush.dwg

SYMBOLOLOGY

	GATE VALVE (LWC STD - OPENS CLOCKWISE)
	BUTTERFLY VALVE (LWC STD - OPENS CLOCKWISE)
	GATE VALVE (AWMA STD - CLOSES CLOCKWISE)
	EZ VALVE
	BYPASS GATE VALVE ON LEAK DETECTION METER GATE VALVE WITH BYPASS ASSEMBLY
	CHECK VALVE
	PRESSURE REGULATING VALVE
	AIR VALVE
	TAPPING SLEEVE AND GATE VALVE
	AIR VALVE LABEL AS AUTOMATIC OR MANUAL
	PFLOMETER W/ACCESS MANHOLE
	DRAIN ASSEMBLY
	FIRE HYDRANT
	FIRE DOMESTIC SERVICE
	PRESSURE PLANE BOUNDARY VALVE
	REDUCER
	ABANDONED VALVE
	BEND (HORIZONTAL)
	BEND (VERTICAL)
	OFFSET (HORIZONTAL)
	OFFSET (VERTICAL)
	TEE (HORIZONTAL)
	TEE (VERTICAL)
	PLUG
	WYE
	OUTLET
	PRESSURE REDUCING STATION
	PUMP STATION

UTILITY LINE TYPES

	60" SEWER
	ELECTRIC
	OVERHEAD ELECTRIC
	UNDERGROUND ELECTRIC
	ELECTRIC GUY WIRE
	FIBER OPTIC
	SALT FENCE
	GAS
	SANITARY SEWER
	STORM SEWER
	CABLE TV
	EXISTING WATER
	PROPOSED WATER
	TRANSMISSION WATER MAIN
	TELEPHONE

PIPE TYPES

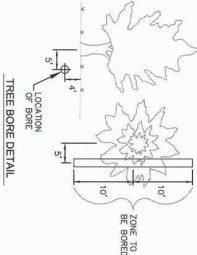
AC	ASBESTOS CEMENT
CC	CLEAN AND CEMENT LINED CAST IRON
CI	CAST IRON UNLINED
CL	CEMENT LINED CAST IRON
CLD	CEMENT LINED DELAYED CAST IRON
CCNC	REINFORCED OR PRE-STRESSED CONCRETE
COP	COPPER
CPB	CATHODIC PROTECTED WITH SACRIFICIAL ANODES
CE	CEMENT LINED DUCTILE IRON
DW	CEMENT LINED DUCTILE POLYMER/PE
DPM	DUCTILE IRON PRESSURE WARE/PE
GL	GALVANIZED STEEL
HPE	HIGH DENSITY POLYETHYLENE
PCP	PRE-STRESSED CONCRETE PIPE
PVC	POLYVINYL CHLORIDE
SD	UNLINED SAND CAST IRON
UCI	UNDESIGNATED CAST IRON

RESTORATION

	PAVER RESTORATION AREA MIL & PAVE 0.00 SQ. FT. (THIS SHEET)
	SIDEWALK RESTORATION AREA 0.00 SQ. FT. (THIS SHEET)
	GRASSY RESTORATION AREA (THIS SHEET)
	FLOWABLE FILL

GENERAL NOTES

- THESE DRAWINGS ARE FOR L.W.C. WORK ONLY. UTILITIES LOCATIONS ARE SHOWN FROM AVAILABLE INFORMATION AND ARE APPROXIMATE. CONTRACTORS ARE WISED TO MAKE THEIR OWN DETERMINATION OF EXIST LOCATIONS.
- THIS PROJECT HAS BEEN SUBMITTED TO BROWNSVILLE FOR APPROVAL AND VALIDATION. DOWNWATER CUTTING SHALL BE PERFORMED BY THE CONTRACTOR'S OWNERS WHICH THE PROJECT CONSTRUCTION SHALL BEGIN.
- BASE MAP INFORMATION DERIVED FROM PLANNING AND TOPOGRAPHIC DATA FROM LOUISIANA DEPARTMENT OF TRANSPORTATION (LDOT).
- JEFFERSON COUNTY PROPERTY DATA SHOWN ON THIS MAP WAS IDENTIFIED FROM PIA BLOCK MAPS ADJUSTED TO LOCAL PLANE AND THE BOUNDARIES AND BEING POINTS AND SHOULD NOT BE USED FOR PURPOSES OTHER THAN GENERAL PROPERTY REFERENCE AND IDENTIFICATION.
- WHEN ABANDONING EXISTING GATE VALVES, REMOVE OPERATOR W/ VENTURE, ROUND TOP & LID AND BACKFILL WITH EITHER CONCRETE OR ASPHALT.
- MAIN MAN 18" VERTICAL CLEARANCE BETWEEN WATER MAIN AND DRAINAGE SEWER LINES.
- CONTRACTOR WILL BE RESPONSIBLE TO BRACE OR PROTECT ANY UTILITY POLES IN AREA OF WORK. CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING UTILITIES AND SAFE MAINTENANCE SHALL BE INCLUDED IN THE CONTRACTOR'S ORIGINAL BID.
- CONTRACTOR SHALL VERIFY THAT INSPECTOR HAS OBTAINED APPROVAL FROM PLANT OPERATIONS MANAGER TO SHUT OFF CRITICAL WATER MAINS PRIOR TO ANY CONSTRUCTION ACTIVITIES THAT WILL IMPACT CRITICAL FACILITIES OR CRITICAL INFRASTRUCTURE (HOSPITALS, SCHOOLS, ETC.) IMPACTED.
- ALL MATERIAL SHALL BE SUPPLIED AND INSTALLED BY CONTRACTOR.
- SUPPLY AND TRANSPORT, REVIEW, RE-COATE AND/OR DISCONTINUE 300-L CUSTOMER SERVICES.
- ASBESTOS/CEMENT WATER MAIN NOTES (WHERE APPLICABLE)
THE CONTRACTOR PERFORMING THE CUTS OR TAPS SHALL BE RESPONSIBLE FOR THE ASBESTOS/CEMENT PIPE PER ALL LOCAL, STATE, FEDERAL AND FEDERAL ORDINANCES AND REGULATIONS.
ALL ABANDONED AC WATER MAIN SHALL BE SAFELY COVERED WITH FLOWABLE FILL.
- DRIVEWAY REPAIR
ASPHALT - REMOVE FROM STREET TO EDGE OF EXISTING ASPHALT - FILL WITH ASPHALT - FILL FROM STREET TO 14 EXPANSION JOINT BEYOND TRENCH CUT.



TREE BORE DETAIL NOTES:

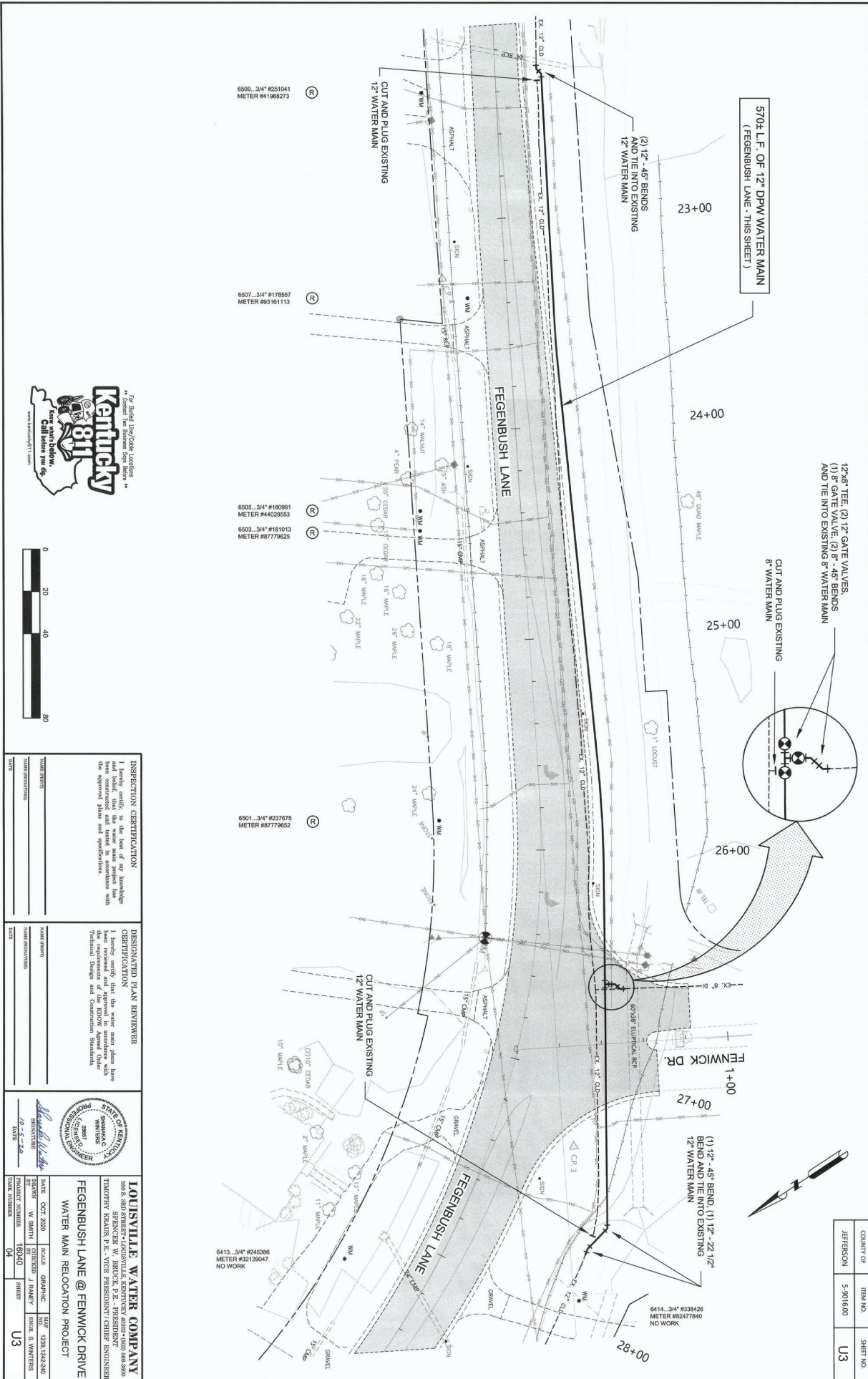
- 1) WHEN IN DIRT, AND WHEN INSTALLING MAIN DIAMETER OF 6" INCHES OR LARGER, THE ROOT SYSTEM SHALL BE BORED AND THE BORE SHALL BE BORED A MINIMUM OF 70 FEET - 10 FEET SHALL BE LOCATED A MINIMUM OF 4 FEET MINIMUM OF 5 FEET FROM THE CENTER OF THE TREE. (SEE TREE BORE DETAIL THIS SHEET.)

LOUISVILLE WATER COMPANY
605 S. MAIN STREET, SUITE 200
BROWNSVILLE, TX 77801
TIMOTHY KEALIN, P.E., VICE PRESIDENT/CHIEF ENGINEER

FEGENBUSH LANE @ FENWICK DRIVE
WATER MAIN RELOCATION PROJECT

DATE	SCALE	SCALE	DATE
OCT 2020	GRAPHIC	N/A	
REVISED	1" = 10'		
BY: W. SMITH	DESIGNED	BY: W. SMITH	DATE: 10/2/20
PROJECT NUMBER: 04	SHEET	U1	

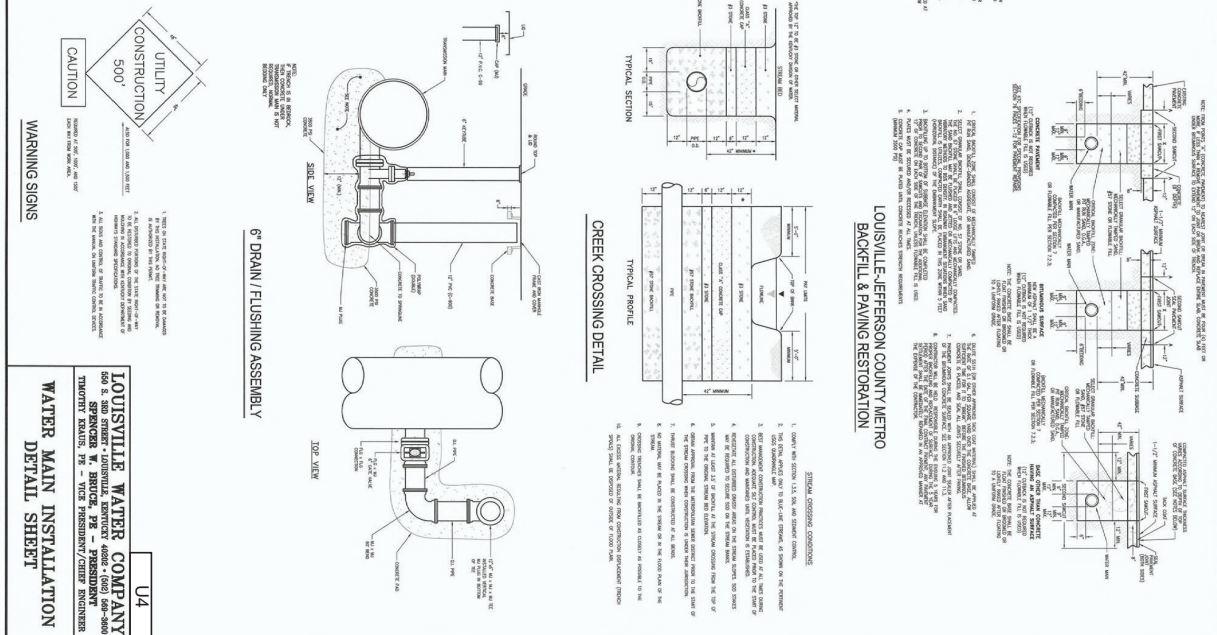
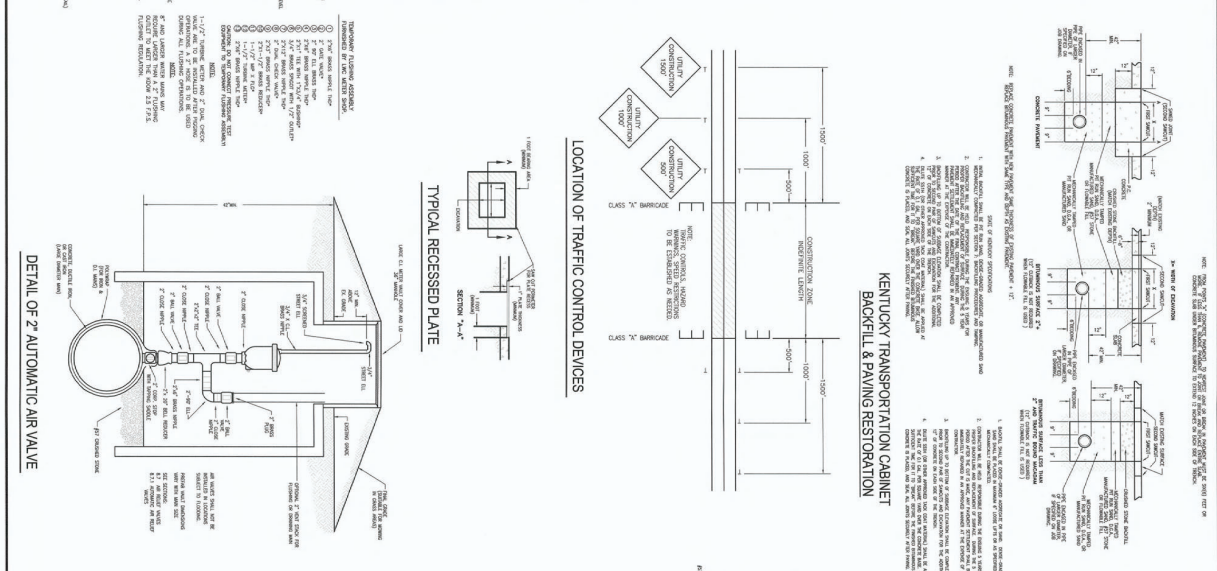
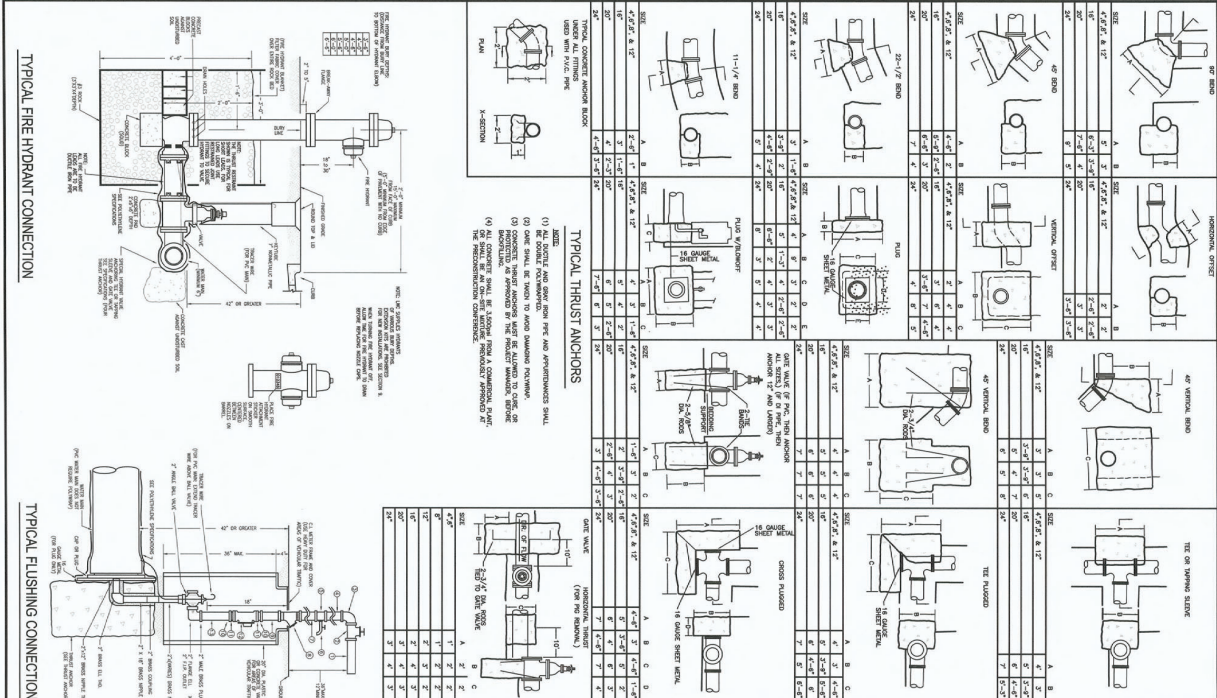
Oct 05, 2020 - 11:01am wsmth
Z:\Pipe Design and Construction\MRRP Projects\2020\16040 Fegenbush Lane\16040 Fegenbush.dwg

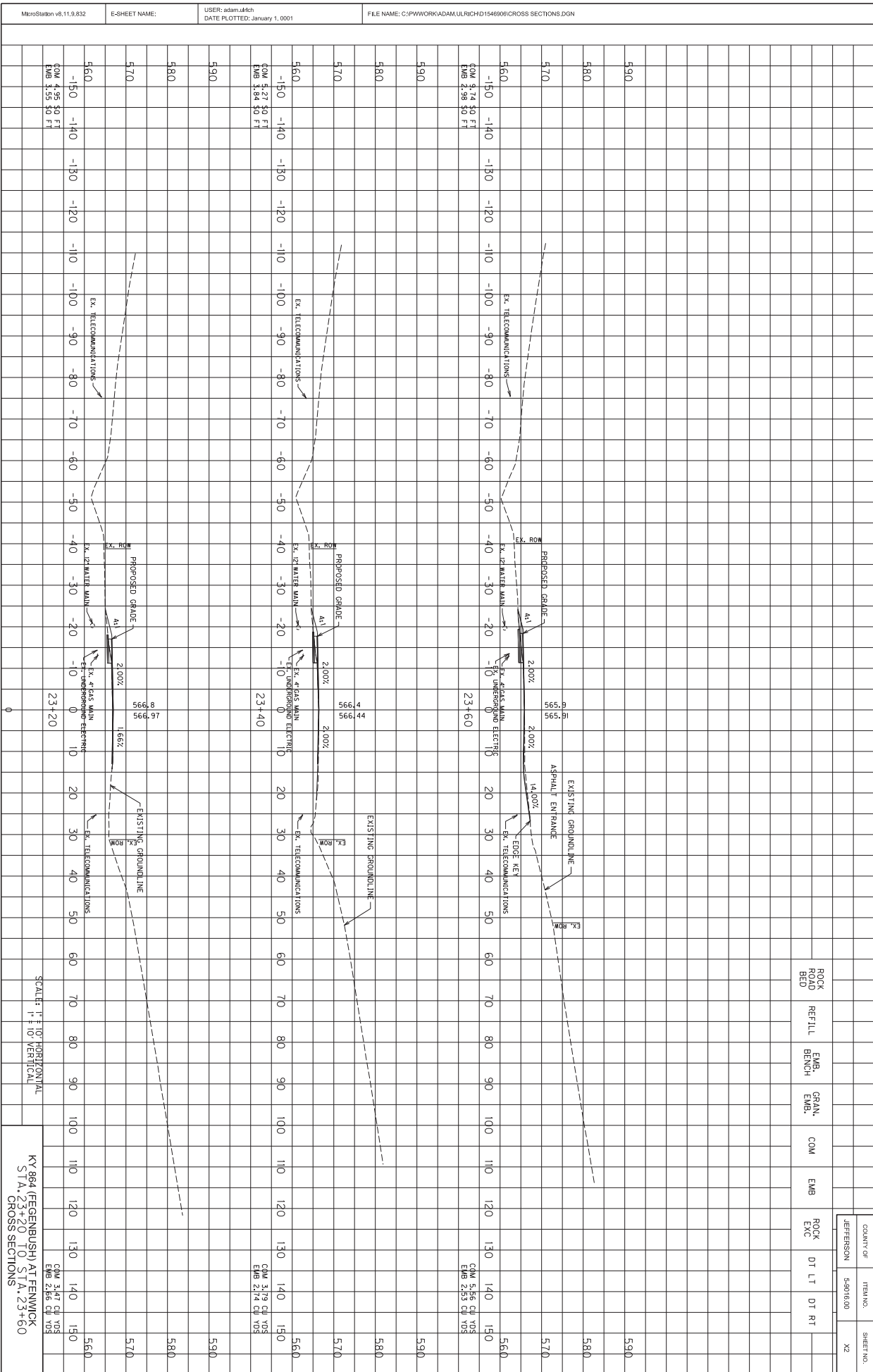


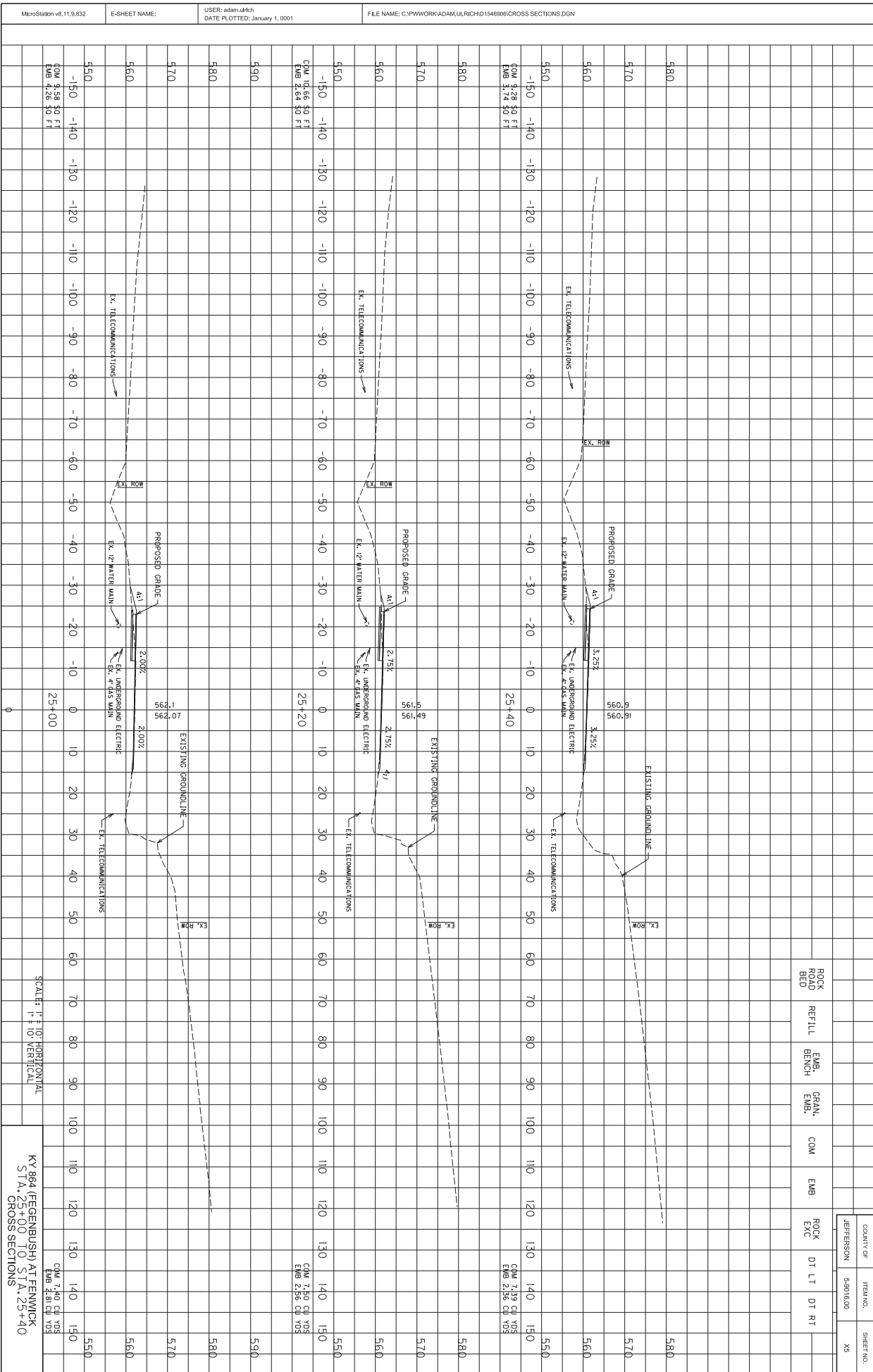
INSPECTION CERTIFICATION I, the undersigned, in the best of my knowledge and belief, that the water main project has been constructed and tested in accordance with the approved plans and specifications.	
YOUR SIGNATURE DATE	YOUR PRINTED NAME DATE
DESIGNED PLAN REVIEWER CERTIFICATION I hereby certify that the water main plans have been reviewed and approved in accordance with the Professional Design and Construction Standards.	
YOUR SIGNATURE DATE	YOUR PRINTED NAME DATE
LOUISVILLE WATER COMPANY 608 S. 3RD STREET - LOUISVILLE, KENTUCKY 40203-0280 SPENCER W. BRUCE, P.E. - PRESIDENT TIMOTHY KEANE, P.E. - VICE PRESIDENT/CHIEF ENGINEER	
DATE: OCT 2020 DRAWN BY: W. SMITH CHECKED BY: J. RANNEY REVISION NUMBER: 1824 SHEET NUMBER: 04	SCALE: GRAPHIC DATE: 10-5-2020 SHEET NUMBER: U3

COUNTY OF	IRAWA	SHEET NO.
JEFFERSON	5-901.600	U3

Oct 02, 2020 - 11:45am wsmth
Z:\Pipeline Design and Construction\WRRP Projects\2020\16040 Fegenbush Lane\16040 Fegenbush.dwg







COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	54016.00	X5

ROCK ROAD BED
 REFILL
 EMB. BENCH
 GRAN. EMB.
 COM
 EMB
 ROCK EXC
 DT LT
 DT RT

KY 884 (FEGENBUSH) AT FENWICK
 STA. 25+00 TO STA. 25+40
 CROSS SECTIONS

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

C&M 7.40 CU YDS
 EMB 2.81 CU YDS

C&M 9.28 CU YDS
 EMB 3.74 CU YDS

C&M 10.68 CU YDS
 EMB 4.28 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

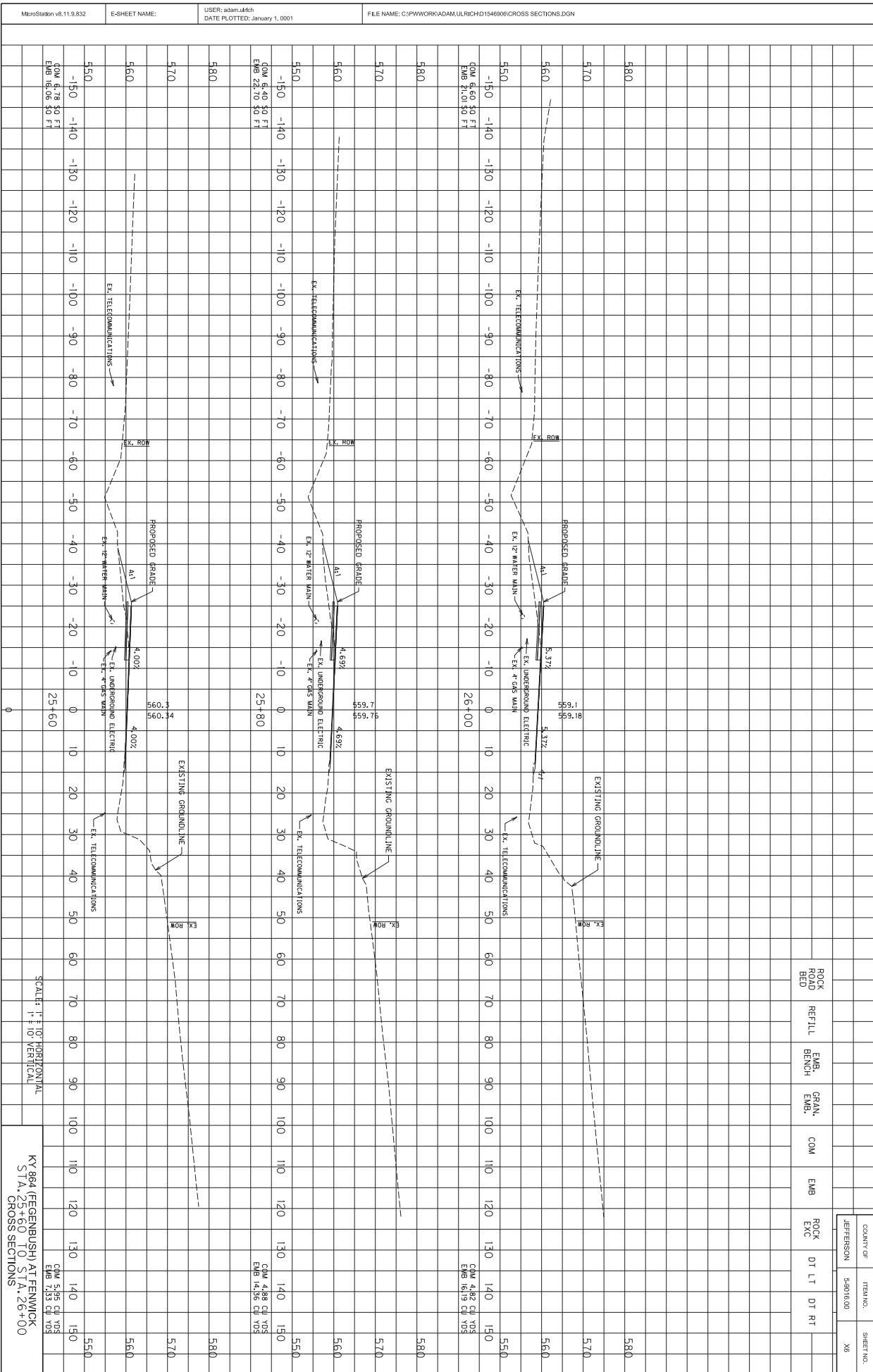
C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS

C&M 7.50 CU YDS
 EMB 2.58 CU YDS



MicroStation v8,11.9,832

E-SHEET NAME:

USER: adamulth
DATE PLOTTED: January 1, 2001

FILE NAME: C:\PWORK\KADAM\ULRICH\01546906\CROSS SECTIONS.DGN

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

KY 884 (FEGENBUSH) AT FENWICK
STA. 25+60 TO STA. 26+00
CROSS SECTIONS

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	54076.00	X8

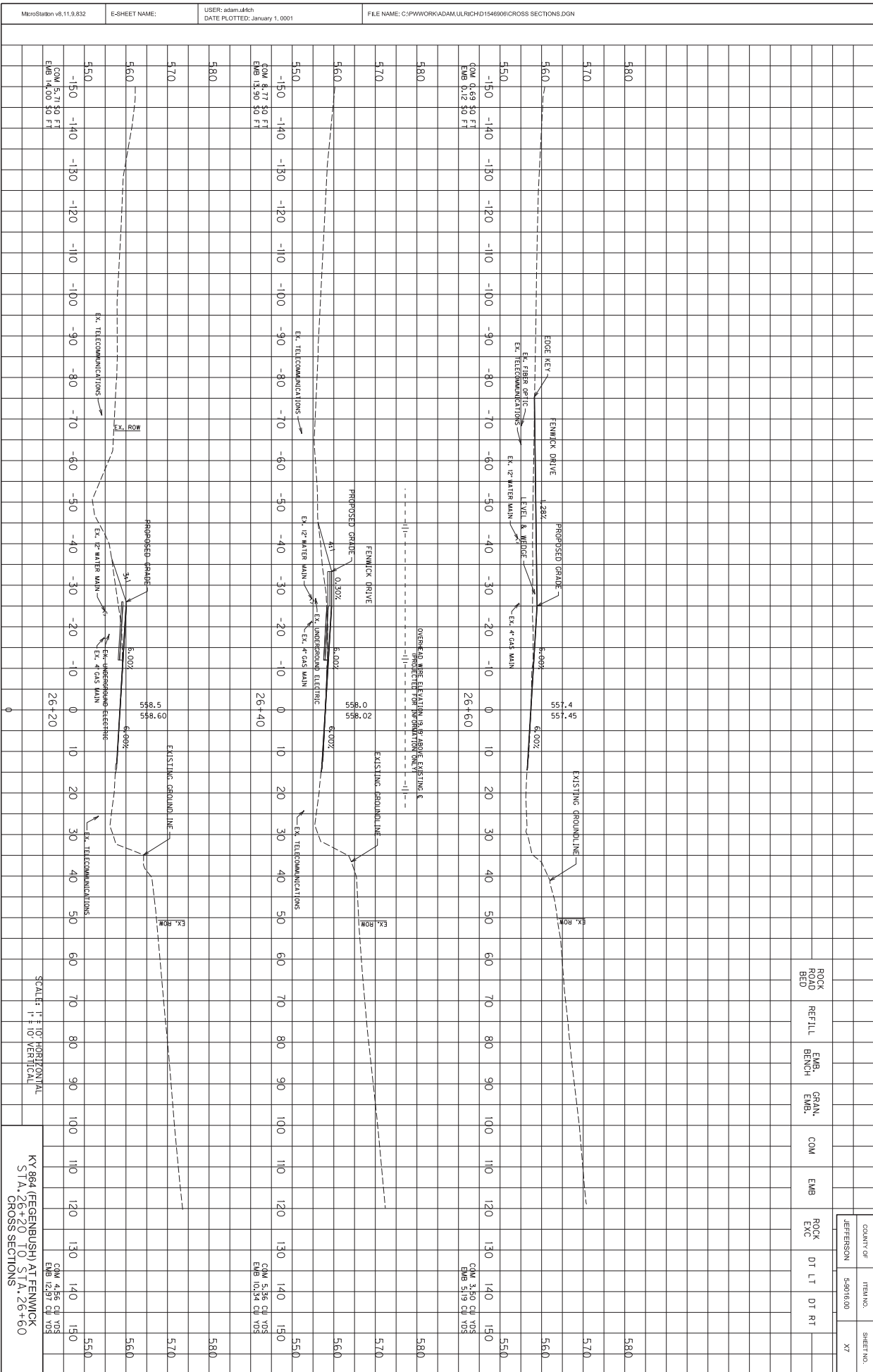
ROCK ROAD BED	REFILL	EMB. BENCH	GRAN. EMB.	COM	EMB	ROCK EXC	DT LT	DT RT
---------------	--------	------------	------------	-----	-----	----------	-------	-------

550 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
COM 6.60 CU YDS
EMB 21.00 CU YDS

560 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
COM 4.40 CU YDS
EMB 16.19 CU YDS

570 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
COM 5.95 CU YDS
EMB 17.53 CU YDS

580 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
COM 4.88 CU YDS
EMB 16.19 CU YDS

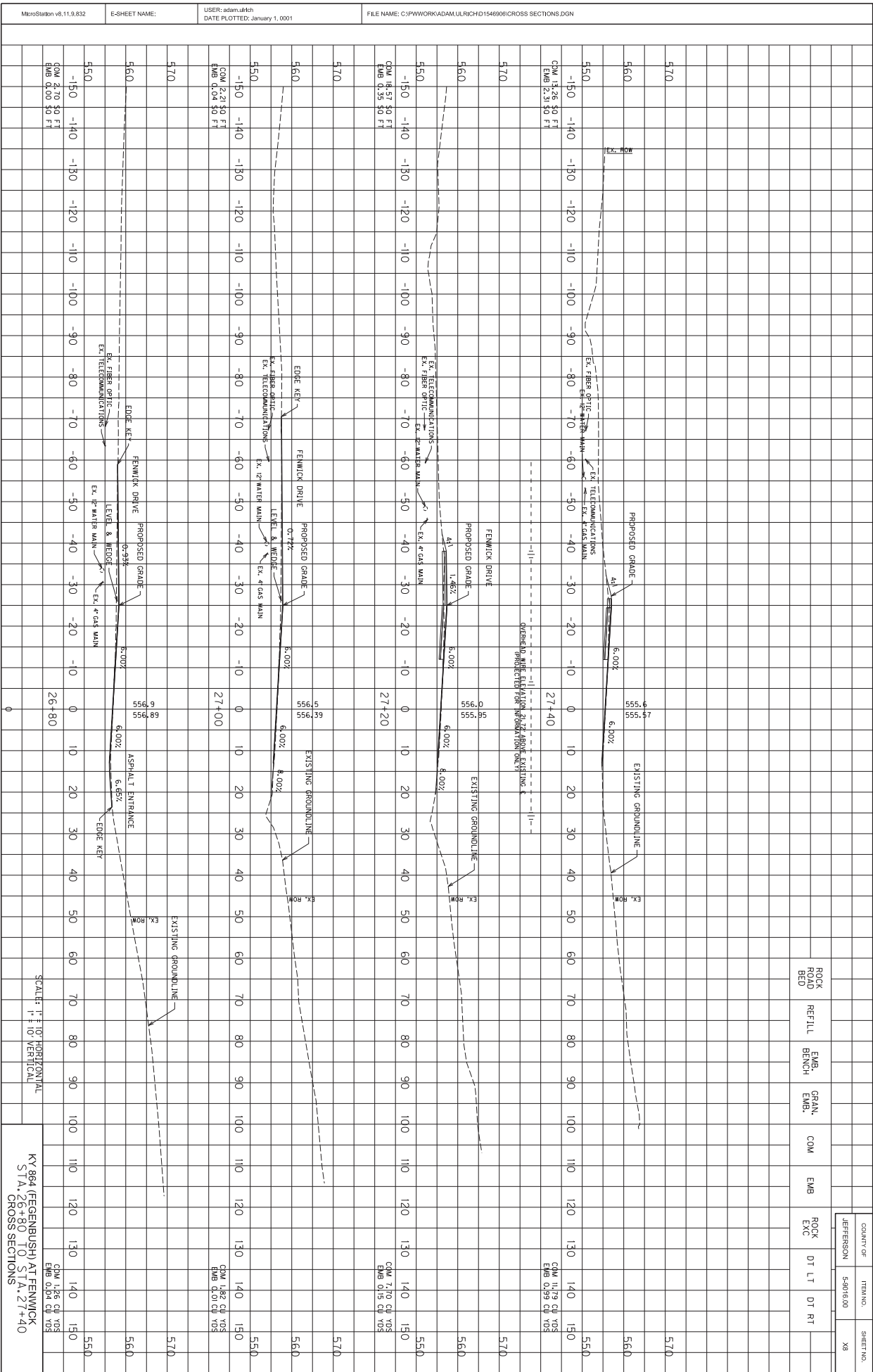


COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	54016.00	X7

STATION	COM	EMB	EXC	DT LT	DT RT
570					
580					
590					
600					
610					
620					
630					
640					
650					
660					
670					
680					
690					
700					
710					
720					
730					
740					
750					
760					
770					
780					
790					
800					
810					
820					
830					
840					
850					
860					
870					
880					
890					
900					
910					
920					
930					
940					
950					

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

KY 884 (FEGENBUSH) AT FENWICK
STA. 26+20 TO STA. 26+60
CROSS SECTIONS

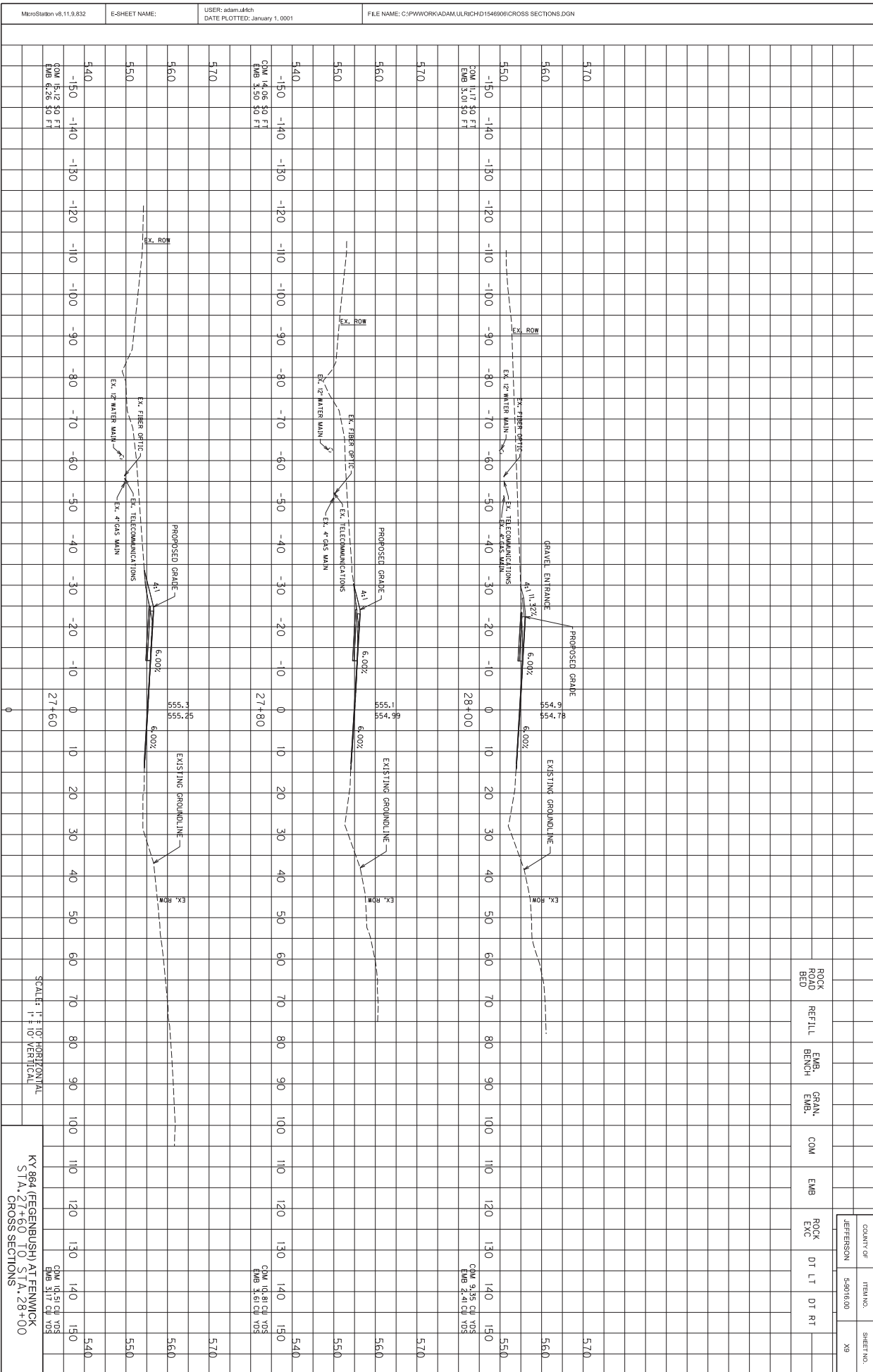


STATION	PROPOSED GRADE (ELEVATION)	EXISTING GROUNDLINE (ELEVATION)	UTILITY / FEATURE	ROW / EMB DIMENSIONS
0	555.57	555.57	Proposed Grade 6.00%	27+40
10	556.5	556.5	Proposed Grade 6.00%	27+40
20	557.5	557.5	Proposed Grade 6.00%	27+40
30	558.5	558.5	Proposed Grade 6.00%	27+40
40	559.5	559.5	Proposed Grade 6.00%	27+40
50	560.5	560.5	Proposed Grade 6.00%	27+40
60	561.5	561.5	Proposed Grade 6.00%	27+40
70	562.5	562.5	Proposed Grade 6.00%	27+40
80	563.5	563.5	Proposed Grade 6.00%	27+40
90	564.5	564.5	Proposed Grade 6.00%	27+40
100	565.5	565.5	Proposed Grade 6.65%	27+40
110	566.5	566.5	Proposed Grade 6.65%	27+40
120	567.5	567.5	Proposed Grade 6.65%	27+40
130	568.5	568.5	Proposed Grade 6.65%	27+40
140	569.5	569.5	Proposed Grade 6.65%	27+40
150	570.5	570.5	Proposed Grade 6.65%	27+40

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

KY 884 (FEGENBUSH) AT FENWICK
STA. 26+80 TO STA. 27+40
CROSS SECTIONS

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	54016.00	X8



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

KY 884 (FEGENBUSH) AT FENWICK
STA. 27+60 TO STA. 28+00
CROSS SECTIONS

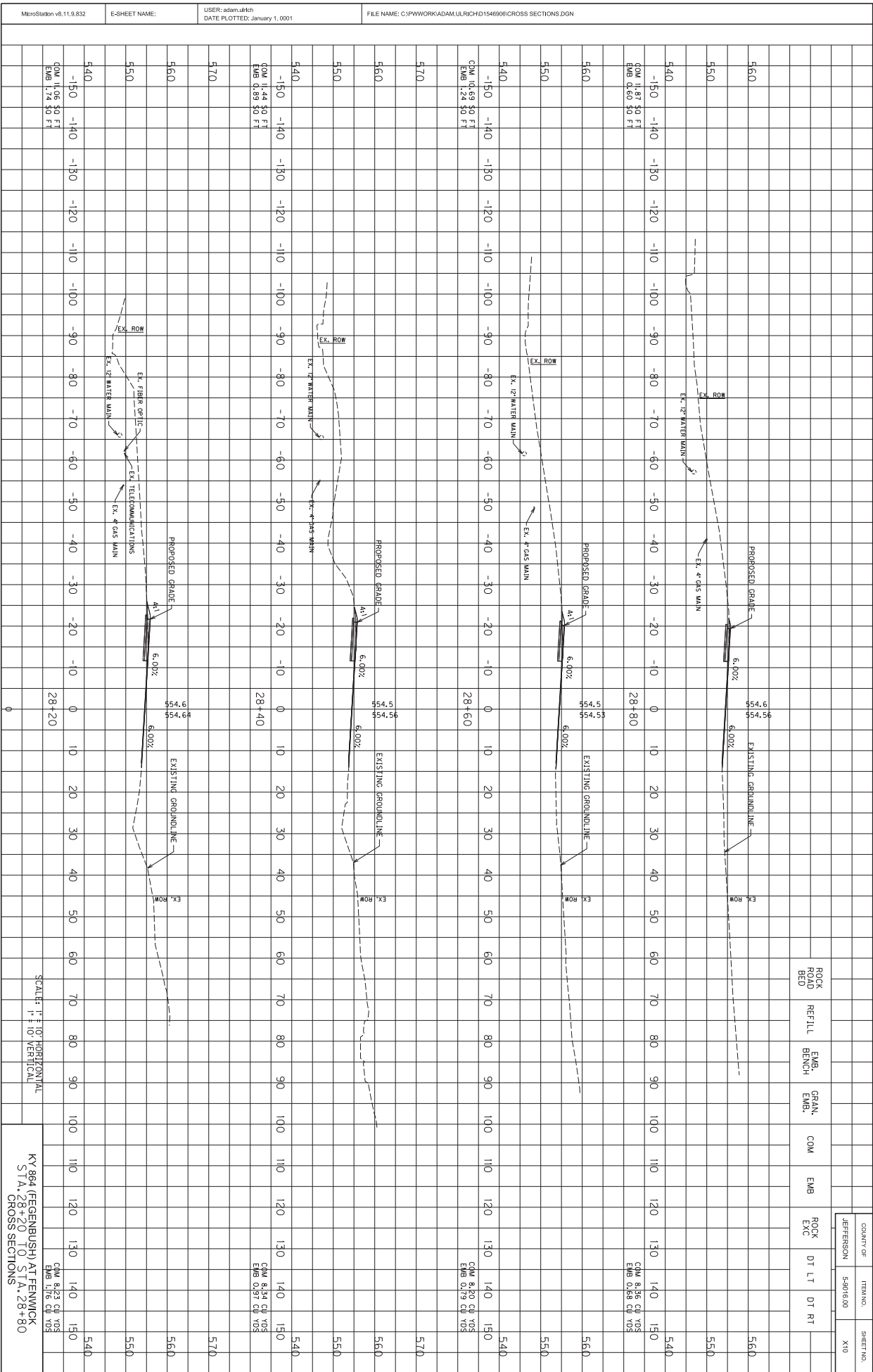
COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	54016.00	X9

ROCK ROAD BED	REFILL	EMB. BENCH	GRAN. EMB.	COM	EMB	ROCK EXC	DT LT	DT RT

COM 14.51 CU YDS
EMB 3.61 CU YDS

COM 14.51 CU YDS
EMB 3.61 CU YDS

COM 14.51 CU YDS
EMB 3.61 CU YDS

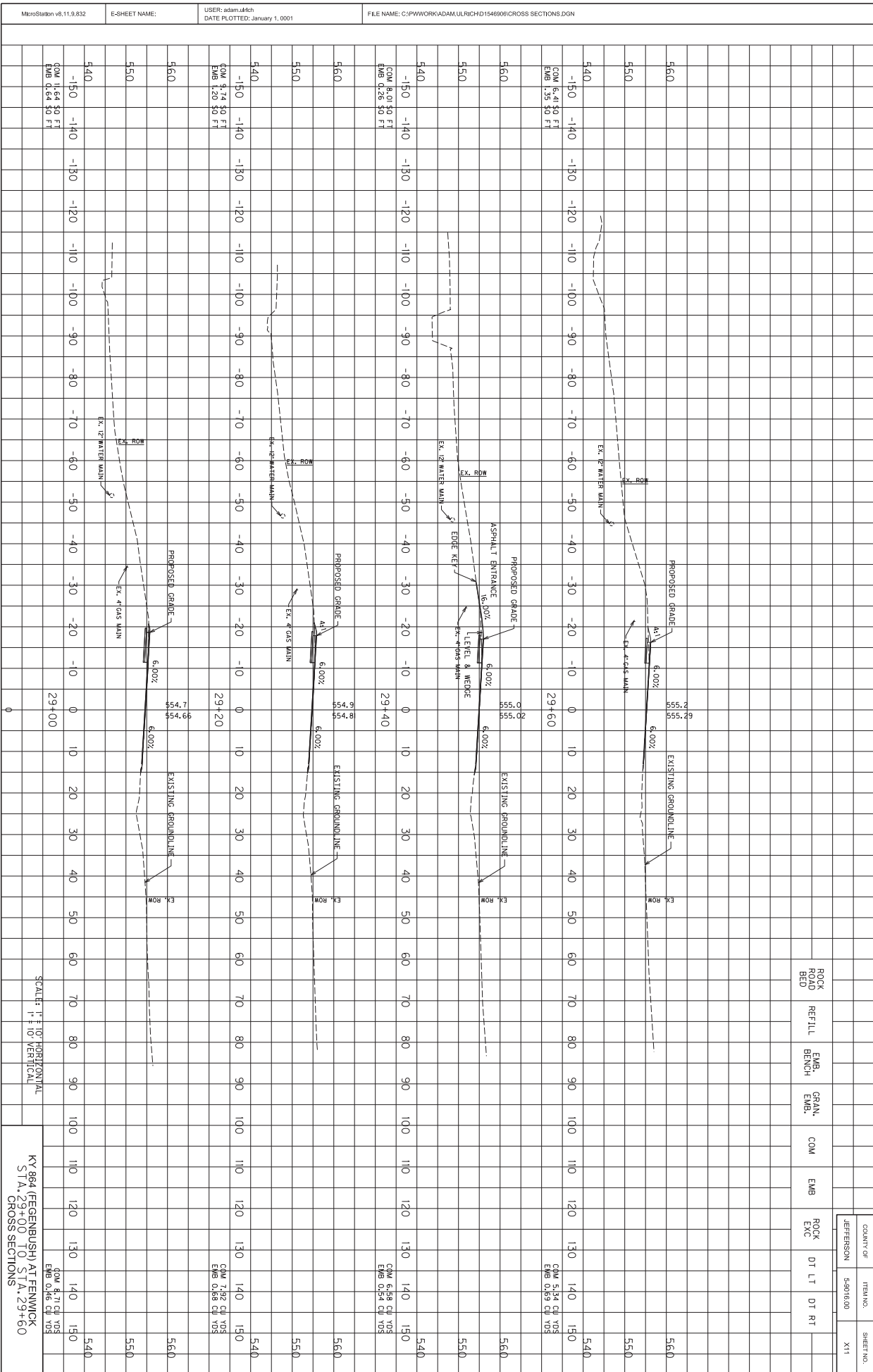


SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

KY 864 (FEGENBUSH) AT FENWICK
STA. 28+20 TO STA. 28+80
CROSS SECTIONS

COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	54076.00	X10

MicroStation v8.11.9.832 E-SHEET NAME: USER: adamulth DATE PLOTTED: January 1, 2001 FILE NAME: C:\PWORK\KADAM\ULRICH\01546906\CROSS SECTIONS.DGN

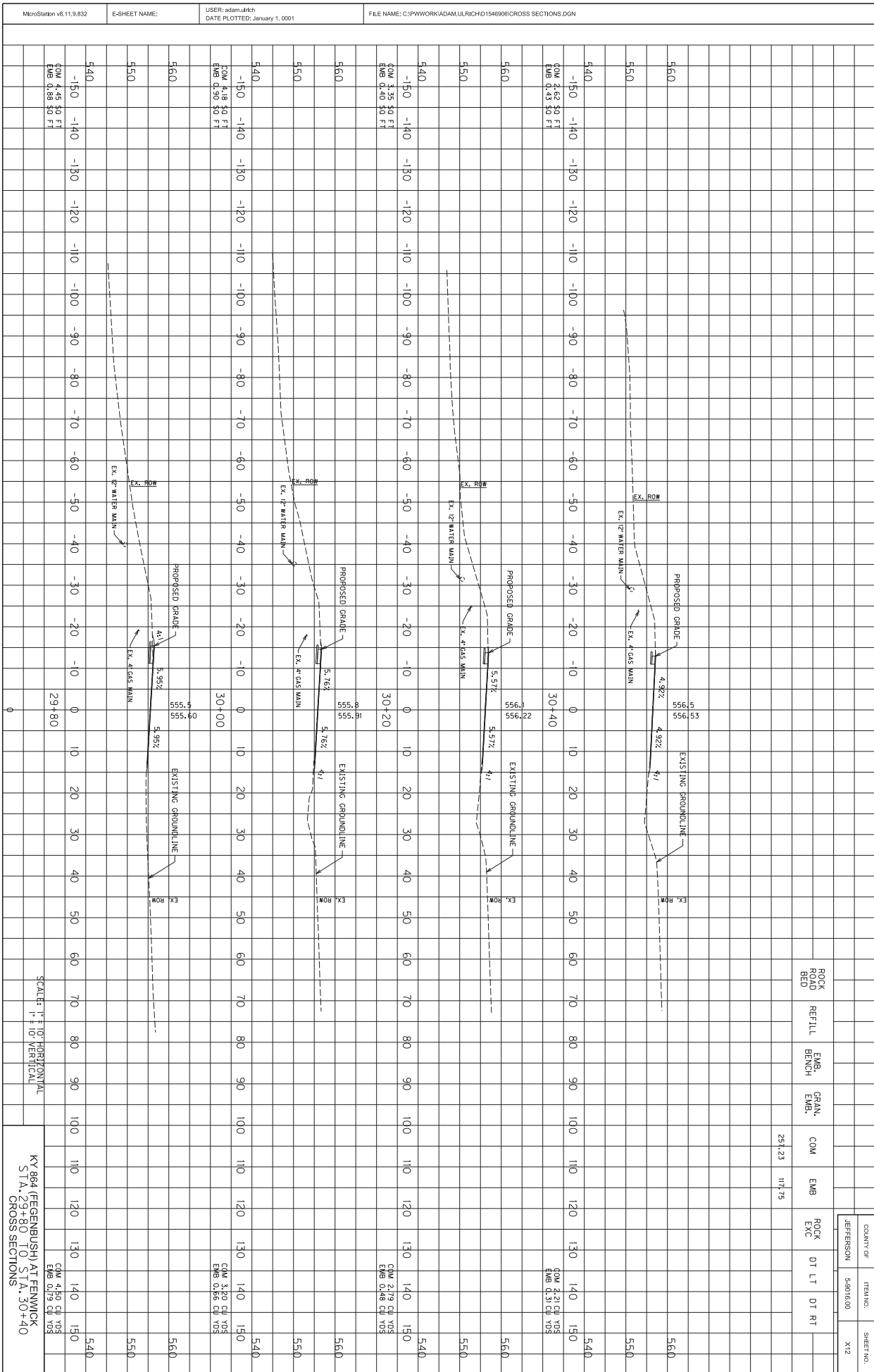


COUNTY OF	ITEM NO.	SHEET NO.
JEFFERSON	54016.00	X11

STATION	EMB	COM	EMB	EXC	DT LT	DT RT
540						
550						
560						

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

KY 884 (FEGENBUSH) AT FENWICK
STA. 29+00 TO STA. 29+60
CROSS SECTIONS



MicroStation v8.11.9.832 E-SHEET NAME: USER: adamulth DATE PLOTTED: January 1, 2001 FILE NAME: C:\PWORK\KADAM\ULRICH\01546906\CROSS SECTIONS.DGN

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

SPECIFICATIONS REFERENCE

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

SUPPLEMENTAL SPECIFICATIONS

The contractor shall use the Supplemental Specifications that are effective at the time of letting.
The Supplemental Specifications can be found at the following link:

<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

- 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 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:

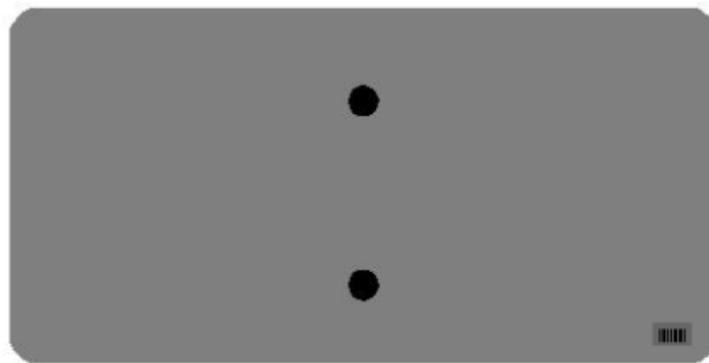
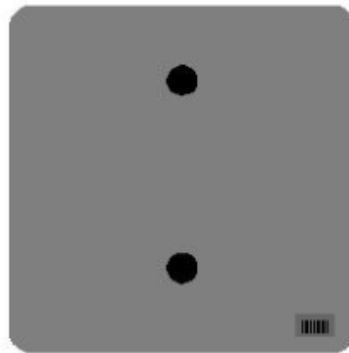
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

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.

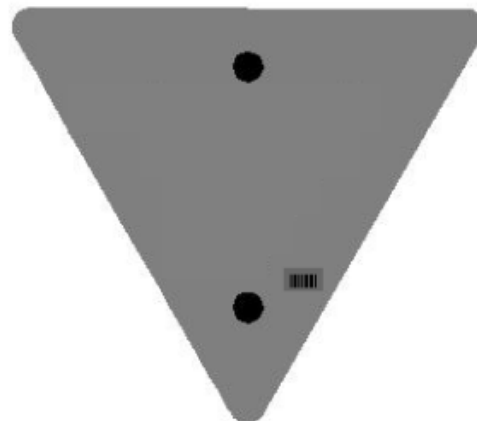
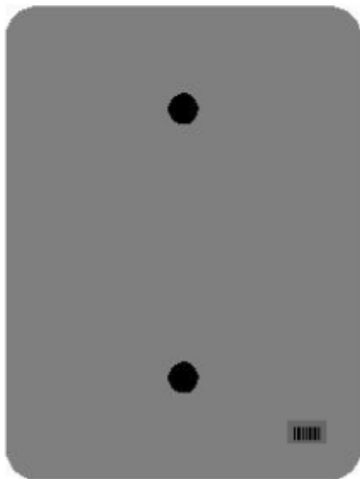
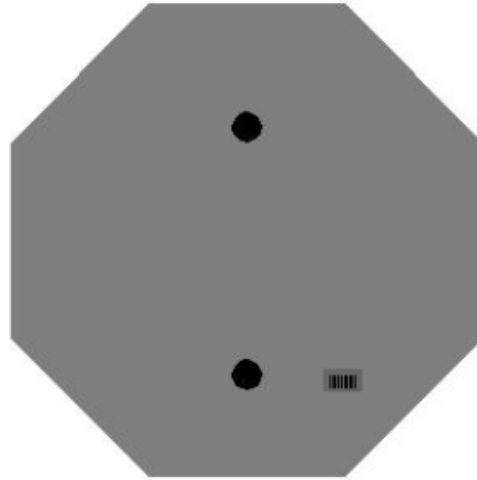
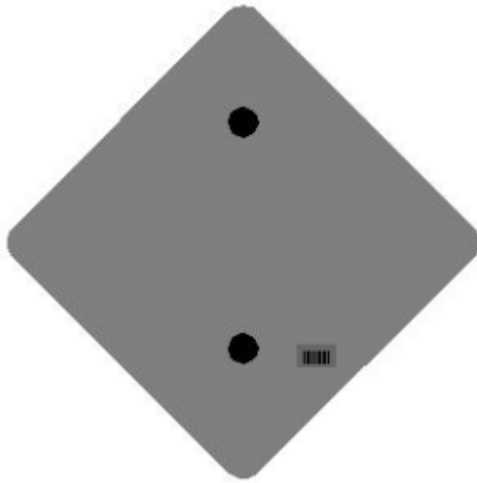
One Sign Post



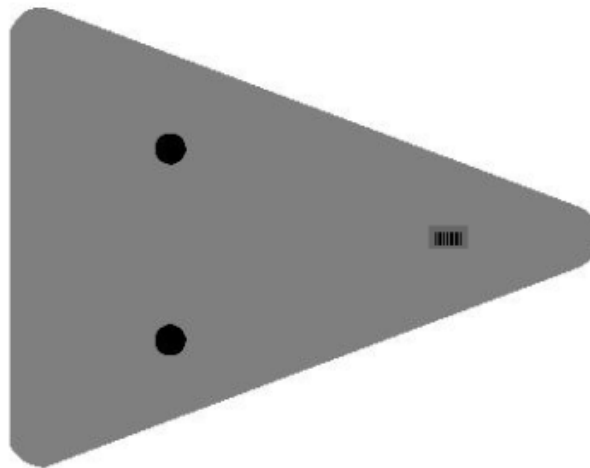
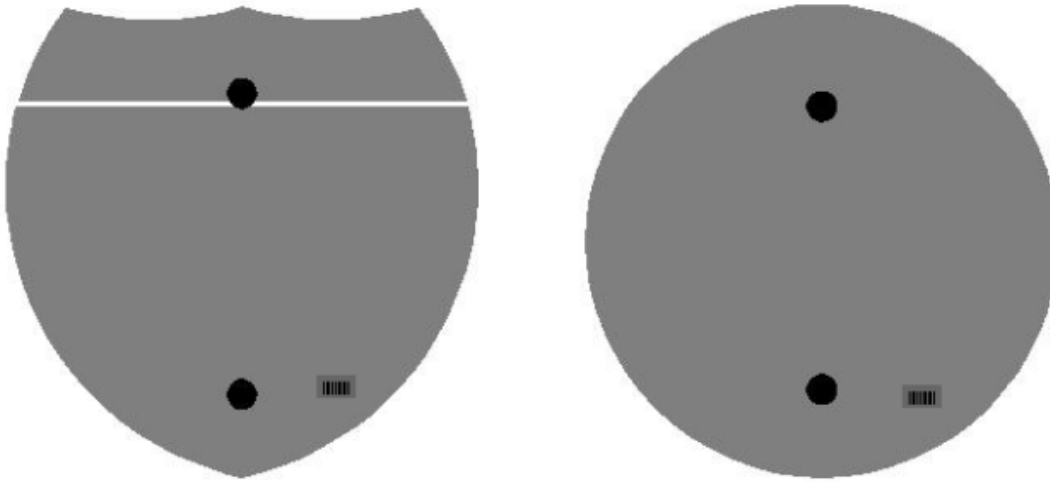
↑
2" Wide Post



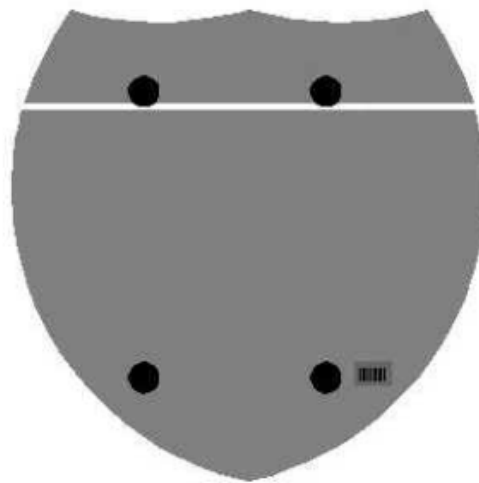
One Sign Post



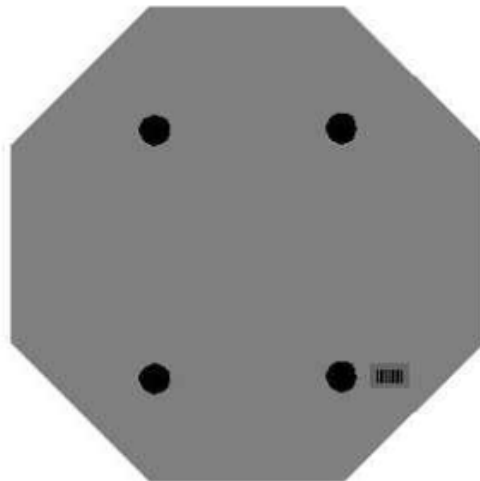
One Sign Post



Double Sign Post



Interstate
Shield

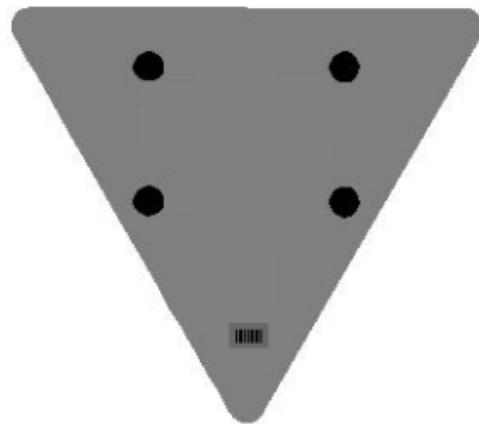


48" Stop

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.

11N

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

2020 STANDARD DRAWINGS THAT APPLY

**ROADWAY
~ BARRIERS ~**

TYPICAL BARRIER INSTALLATIONS

TYPICAL GUARDRAIL INSTALLATIONS	RBI-001-12
TYPICAL GUARDRAIL INSTALLATIONS	RBI-002-07

GUARDRAIL HARDWARE

STEEL BEAM GUARDRAIL (W-BEAM)	RBR-001-13
GUARDRAIL COMPONENTS	RBR-005-11
GUARDRAIL TERMINAL SECTIONS	RBR-010-06
GUARDRAIL SYSTEM TRANSITION	RBR-018
DELINEATORS FOR GUARDRAIL	RBR-005-01

~ DRAINAGE ~

BOX INLETS AND OUTLETS

DROP BOXES

DROP BOX INLET TYPE 1	RDB-001-12
DROP BOX INLET TYPE 13 (DETAIL SHEET)	RDB-013-07
DROP BOX INLET TYPE 13 AND TYPE 16 (FRAME & GRATE DETAILS)	RDB-014-06
DROP BOX INLET TYPE 13 (DETAIL & BAR CHART FOR LID)	RDB-015-04
DROP BOX INLET TYPE 13 (PIPE CHAMBER - GRADE CONDITION)	RDB-016-03
DROP BOX INLET TYPE 13 (PIPE CHAMBER - SAG CONDITION)	RDB-017-03
DROP BOX INLET TYPE 13 (ADDITIONAL STEEL - RISER)	RDB-018-04
DROP BOX INLET TYPE 13 (ADDITIONAL STEEL - CHAMBER)	RDB-019-04

PAVED DITCHES, FLUME INLETS AND CHANNEL LININGS

FLUME INLET TYPE 1	RDD-020-07
CHANNEL LINING CLASS II AND III	RDD-040-05

TYPICAL DRAINAGE INSTALLATIONS

CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS (12" – 24" PIPE)	RDI-001-10
PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER PIPE	RDI-020-10
PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER, REINFORCED CONC. PIPE	RDI-021-01
EROSION CONTROL BLANKET SLOPE INSTALLATION	RDI-040-01
EROSION CONTROL BLANKET CHANNEL INSTALLATION	RDI-041-01

MISCELLANEOUS DRAINAGE

SECURITY DEVICES FOR FRAMES, GRATES AND LIDS	RDX-160-06
TEMPORARY SILT FENCE	RDX-210-03
TEMPORARY SILT FENCE WITH WOVEN WIRE FENCE FABRIC	RDX-215-01
SILT TRAP - TYPE A	RDX-220-05
SILT TRAP - TYPE B	RDX-225-01
SILT TRAP - TYPE C	RDX-230-01

~ GENERAL ~

CURVE WIDENING AND SUPERELEVATION

CURVE WIDENING AND SUPERELEVATION TRANSITIONS	RGS-001-07
SUPERELEVATION FOR MULTILANE PAVEMENTS	RGS-002-06

Standard Drawings That Apply
Page 2 of 2

MISCELLANEOUS STANDARDS

MISCELLANEOUS STANDARDS	RGX-001-06
DETECTABLE WARNINGS	RGX-040-03
TYPE D BREAKAWAY SIGN SUPPORT	RGX-065-02

~ PAVEMENT ~

MEDIANS, CURBS, APPROACHES, ENTRANCES, ETC.

CURB AND GUTTER, CURBS AND VALLEY GUTTER	RPM-100-11
APPROACHES, ENTRANCES, AND MAIL BOX TURNOUT	RPM-110-07
SIDEWALK RAMPS	RPM-170-09

STANDARD REINFORCED CONCRETE PAVEMENT

CONCRETE PAVEMENT JOINT DETAILS	RPS-010-11
EXPANSION AND CONTRACTION JOINT LOAD TRANSFER ASSEMBLIES	RPS-020-14
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-030-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-031-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-032-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-033-07
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-034-07
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-035-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-036-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-037-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-038-06
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING	RPS-039-06

MISCELLANEOUS PAVING

STATION MARKINGS, CONCRETE PAVEMENT	RPX-001-04
PREFORMED COMPRESSION JOINT SEAL FOR CONCRETE PAVEMENT	RPX-010-05

TRAFFIC

~ PERMANENT ~

MARKERS

TYPICAL ENTRANCE RAMP MARKINGS	TPM-200
TYPICAL EXIT RAMP MARKINGS PAGE 1	TPM-201
TYPICAL EXIT RAMP MARKINGS PAGE 2	TPM-202
TYPICAL MARKINGS AT SIGNALIZED INTERSECTIONS	TPM-203
TYPICAL MARKINGS FOR ISLANDS AND MEDIANS	TPM-205
TYPICAL MARKINGS FOR TURN LANES PAGE 1	TPM-206
TYPICAL MARKINGS FOR TURN LANES PAGE 2	TPM-207

~ TEMPORARY ~

TRAFFIC CONTROL

LANE CLOSURE TWO-LANE HIGHWAY	TTC-100-05
LANE CLOSURE MULTI-LANE HIGHWAY CASE I	TTC-115-04
SHOULDER CLOSURE	TTC-135-03

STRIPING OPERATIONS

MOBILE OPERATION FOR PAINT STRIPING CASE III	TTS-110-02
MOBILE OPERATION FOR PAINT STRIPING CASE IV	TTS-115-02
MOBILE OPERATION FOR DURABLE STRIPING CASE I	TTS-120-02
MOBILE OPERATION FOR DURABLE STRIPING CASE II	TTS-125-02

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

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

- I. General
- II. Nondiscrimination
- III. Nonsegregated 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. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

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. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

ATTACHMENTS

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

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 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.

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (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).

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

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.

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.

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). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

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 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal 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).

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

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.

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 (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 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 35 and 29 CFR 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.

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, 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 who 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.

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, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure 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. 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, 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, 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 there under. 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, 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 and 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. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor 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 contracting agency deems appropriate.

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 \$10,000 or more.

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, 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). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. 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 he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 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.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

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" 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:

(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.

2. 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. 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.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

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 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.

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 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).

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 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 1, 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

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

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.

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.

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.

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.

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 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee 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 grantee or subgrantee 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.

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.

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. 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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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. 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) 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;
- (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; 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.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. 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)

a. By signing and submitting this proposal, the prospective lower tier 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.

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 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 grantee or subgrantee 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 grantee or subgrantee 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.

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.

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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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.

* * * * *

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

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall 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 20).

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.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

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, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

"General Decision Number: KY20220038 02/25/2022

Superseded General Decision Number: KY20210038

State: Kentucky

Construction Type: Highway

Counties: Anderson, Bath, Bourbon, Boyd, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grant, Grayson, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Mason, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington and Woodford Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

<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 \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
<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 \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a

conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	02/11/2022
2	02/18/2022
3	02/25/2022

BRIN0004-003 06/01/2021

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER.....	\$ 29.57	14.75

BRKY0001-005 06/01/2021

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

	Rates	Fringes
BRICKLAYER.....	\$ 29.57	15.10

BRKY0002-006 06/01/2021

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 30.87	15.87

BRKY0007-004 06/01/2021

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

	Rates	Fringes
BRICKLAYER.....	\$ 36.19	19.54

BRKY0017-004 06/01/2021

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

	Rates	Fringes
BRICKLAYER.....	\$ 30.87	15.87

CARP0064-001 04/01/2020

	Rates	Fringes
CARPENTER.....	\$ 29.81	19.96
Diver.....	\$ 45.09	19.96

PILEDRIVERMAN.....\$ 30.06 19.96

ELEC0212-008 06/07/2021

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 32.32	19.85

ELEC0212-014 11/25/2019

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician.....	\$ 24.35	12.09

ELEC0317-012 06/01/2021

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
ELECTRICIAN (Wiremen).....	\$ 35.10	27.47

ELEC0369-007 05/31/2021

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.....	\$ 33.85	18.72

ELEC0575-002 11/29/2021

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 35.00	19.76

ENGI0181-018 07/01/2021

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 34.80	17.85
GROUP 2.....	\$ 31.94	17.85
GROUP 3.....	\$ 32.39	17.85
GROUP 4.....	\$ 31.62	17.85

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller;
Batcher Plant; Bituminous Paver; Bituminous Transfer
Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All
Scoop; Carry Deck Crane; Central Compressor Plant; Cherry
Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over);

Concrete Paver; Truck-Mounted Concrete Pump; Core Drill;
Crane; Crusher Plant; Derrick; Derrick Boat; Ditching &
Trenching Machine; Dragline; Dredge Operator; Dredge
Engineer; Elevating Grader & Loaders; Grade-All; Gurrries;
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 06/01/2021

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.....	\$ 29.75	21.60
Structural.....	\$ 31.32	21.60

 IRON0070-006 06/01/2021

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN, GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE, WASHINGTON & WOODFORD
 BOURBON (Southern two-thirds, including Townships of Austerlity, Centerville, Clintonville, Elizabeth, Hutchison, Littlerock, North Middletown & Paris);
 CARROLL (Western two-thirds, including Townships of Carrollton, Easterday, English, Locust, Louis, Prestonville & Worthville);
 CLARK (Western two-thirds, including Townships of Becknerville, Flanagan, Ford, Pine Grove, Winchester & Wyandotte);
 OWEN (Eastern eighth, including Townships of Glenmary, Gratz, Monterey, Perry Park & Tacketts Mill);
 SCOTT (Southern third, including Townships of Georgetown, Great Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER.....	\$ 31.09	23.75

 IRON0769-007 06/01/2021

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, Pecksrige, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
 MASON (Eastern third, including Townships of Helena, Marshall, Orangeburg, Plumville & Springdale);
 NICHOLAS (Eastern eighth, including the Township of Moorefield Sprout)

Rates Fringes

IRONWORKER

ZONE 1.....	\$ 33.00	27.29
ZONE 2.....	\$ 33.40	27.29
ZONE 3.....	\$ 35.00	27.29

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 07/01/2021

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
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Laborers:

GROUP 1.....	\$ 23.51	16.22
GROUP 2.....	\$ 23.76	16.22
GROUP 3.....	\$ 23.81	16.22
GROUP 4.....	\$ 24.41	16.22

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 07/01/2021

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

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.51	16.22
GROUP 2.....	\$ 23.76	16.22
GROUP 3.....	\$ 23.81	16.22
GROUP 4.....	\$ 24.41	16.22

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 07/01/2021

BRECKINRIDGE & GRAYSON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.51	16.22
GROUP 2.....	\$ 23.76	16.22
GROUP 3.....	\$ 23.81	16.22
GROUP 4.....	\$ 24.41	16.22

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 12/01/2021

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

	Rates	Fringes
Painters: Bridges; Locks; Dams; Tension Towers & Energized Substations.....	\$ 35.06	21.15
Power Generating Facilities.....	\$ 31.82	21.15

PLUM0248-003 06/01/2021

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

	Rates	Fringes
Plumber and Steamfitter.....	\$ 38.00	21.60

PLUM0392-007 06/01/2018

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

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 32.01	19.67

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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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours
they work, up to 56 hours of paid sick leave each year.
Employees must be permitted to use paid sick leave for their
own illness, injury or other health-related needs, including
preventive care; to assist a family member (or person who is
like family to the employee) who is ill, injured, or has other
health-related needs, including preventive care; or for reasons
resulting from, or to assist a family member (or person who is
like family to the employee) who is a victim of, domestic
violence, sexual assault, or stalking. Additional information
on contractor requirements and worker protections under the EO

is available at
<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those

classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Director
Division of Construction Procurement
Frankfort, Kentucky 40622
502-564-3500

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
11.2%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

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

PART IV
INSURANCE

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

PART V
BID ITEMS

PROPOSAL BID ITEMS

224309

Page 1 of 5

Report Date 3/29/22

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	542.00	TON		\$	
0020	00071		CRUSHED AGGREGATE SIZE NO 57	10.00	TON		\$	
0030	00100		ASPHALT SEAL AGGREGATE	10.00	TON		\$	
0040	00103		ASPHALT SEAL COAT	2.00	TON		\$	
0050	00190		LEVELING & WEDGING PG64-22	143.00	TON		\$	
0060	00214		CL3 ASPH BASE 1.00D PG64-22	420.00	TON		\$	
0070	01810		STANDARD CURB AND GUTTER	96.00	LF		\$	
0080	01811		STANDARD CURB AND GUTTER MOD (10 INCH)	94.00	LF		\$	
0090	01812		REMOVE CURB AND GUTTER	175.00	LF		\$	
0100	01830		STANDARD INTEGRAL CURB	108.00	LF		\$	
0110	02071		JPC PAVEMENT-11 IN	672.00	SQYD		\$	
0120	02084		JPC PAVEMENT-8 IN	205.00	SQYD		\$	
0130	02720		SIDEWALK-4 IN CONCRETE	54.00	SQYD		\$	
0140	02721		REMOVE CONCRETE SIDEWALK	41.00	SQYD		\$	
0150	20550ND		SAWCUT PAVEMENT	463.00	LF		\$	
0160	22906ES403		CL3 ASPH SURF 0.38A PG64-22	247.00	TON		\$	
0170	23158ES505		DETECTABLE WARNINGS	48.00	SQFT		\$	
0180	24970EC		ASPHALT MATERIAL FOR TACK NON- TRACKING	2.05	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0190	01845		ISLAND INTEGRAL CURB	129.00	LF		\$	
0200	02014		BARRICADE-TYPE III	4.00	EACH		\$	
0210	02159		TEMP DITCH	276.00	LF		\$	
0220	02160		CLEAN TEMP DITCH	138.00	LF		\$	
0230	02200		ROADWAY EXCAVATION	785.00	CUYD		\$	
0240	02237		DITCHING	20.00	LF		\$	
0250	02483		CHANNEL LINING CLASS II	26.00	TON		\$	
0260	02545		CLEARING AND GRUBBING (APPROX 0.92 ACRES)	1.00	LS		\$	
0270	02562		TEMPORARY SIGNS	1,032.00	SQFT		\$	
0280	02585		EDGE KEY	121.00	LF		\$	
0290	02603		FABRIC-GEOTEXTILE CLASS 2	898.00	SQYD		\$	
0300	02650		MAINTAIN & CONTROL TRAFFIC (KY 1065 @ GRADE LANE)	1.00	LS		\$	
0310	02650		MAINTAIN & CONTROL TRAFFIC (KY 1865 @ I-264 RAMPS)	1.00	LS		\$	
0320	02650		MAINTAIN & CONTROL TRAFFIC (KY 1747 @ I-64 RAMPS)	1.00	LS		\$	
0330	02650		MAINTAIN & CONTROL TRAFFIC (KY 864 @ FENWICK DRIVE)	1.00	LS		\$	
0340	02671		PORTABLE CHANGEABLE MESSAGE SIGN	11.00	EACH		\$	
0350	02676		MOBILIZATION FOR MILL & TEXT (KY 864 @ FENWICK DRIVE)	1.00	LS		\$	
0360	02677		ASPHALT PAVE MILLING & TEXTURING	167.00	TON		\$	

PROPOSAL BID ITEMS

224309

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Report Date 3/29/22

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0370	02701		TEMP SILT FENCE	1,706.00	LF		\$	
0380	02703		SILT TRAP TYPE A	1.00	EACH		\$	
0390	02704		SILT TRAP TYPE B	4.00	EACH		\$	
0400	02705		SILT TRAP TYPE C	1.00	EACH		\$	
0410	02706		CLEAN SILT TRAP TYPE A	1.00	EACH		\$	
0420	02707		CLEAN SILT TRAP TYPE B	4.00	EACH		\$	
0430	02708		CLEAN SILT TRAP TYPE C	1.00	EACH		\$	
0440	02726		STAKING (KY 1065 @ GRADE LANE)	1.00	LS		\$	
0450	02726		STAKING (KY 1747 @ I-64 RAMPS)	1.00	LS		\$	
0460	02726		STAKING (KY 1865 @ I-264 RAMPS)	1.00	LS		\$	
0470	02726		STAKING (KY 864 @ FENWICK DRIVE)	1.00	LS		\$	
0480	02775		ARROW PANEL	3.00	EACH		\$	
0490	03271		TREE TRIMMING	200.00	LF		\$	
0500	05950		EROSION CONTROL BLANKET	125.00	SQYD		\$	
0510	05952		TEMP MULCH	1,389.00	SQYD		\$	
0520	05953		TEMP SEEDING AND PROTECTION	1,042.00	SQYD		\$	
0530	05963		INITIAL FERTILIZER	.05	TON		\$	
0540	05964		MAINTENANCE FERTILIZER	.11	TON		\$	
0550	05985		SEEDING AND PROTECTION	1,918.00	SQYD		\$	
0560	05990		SODDING	184.00	SQYD		\$	
0570	05992		AGRICULTURAL LIMESTONE	1.32	TON		\$	
0580	06511		PAVE STRIPING-TEMP PAINT-6 IN	4,350.00	LF		\$	
0590	06542		PAVE STRIPING-THERMO-6 IN W	13,221.00	LF		\$	
0600	06543		PAVE STRIPING-THERMO-6 IN Y	7,289.00	LF		\$	
0610	06545		PAVE STRIPING-THERMO-8 IN Y	67.00	LF		\$	
0620	06546		PAVE STRIPING-THERMO-12 IN W	1,510.00	LF		\$	
0630	06547		PAVE STRIPING-THERMO-12 IN Y	65.00	LF		\$	
0640	06556		PAVE STRIPING-DUR TY 1-6 IN W	1,707.00	LF		\$	
0650	06557		PAVE STRIPING-DUR TY 1-6 IN Y	1,836.00	LF		\$	
0660	06561		PAVE STRIPING-DUR TY 1-12 IN Y	10.00	LF		\$	
0670	06565		PAVE MARKING-THERMO X-WALK-6 IN	282.00	LF		\$	
0680	06568		PAVE MARKING-THERMO STOP BAR-24IN	363.00	LF		\$	
0690	06569		PAVE MARKING-THERMO CROSS-HATCH	127.00	SQFT		\$	
0700	06574		PAVE MARKING-THERMO CURV ARROW	42.00	EACH		\$	
0710	06576		PAVE MARKING-THERMO ONLY	18.00	EACH		\$	
0720	06578		PAVE MARKING-THERMO MERGE ARROW	3.00	EACH		\$	
0730	06598		PAVEMENT MARKING REMOVAL	432.00	SQFT		\$	
0740	20550ND		SAWCUT PAVEMENT	1,396.00	LF		\$	
0750	21289ED		LONGITUDINAL EDGE KEY	849.00	LF		\$	
0760	21373ND		REMOVE SIGN	1.00	EACH		\$	
0770	22664EN		WATER BLASTING EXISTING STRIPE	1,114.00	LF		\$	
0780	22692NS714		PAVEMENT MARKING-THERMO LETTERS	28.00	EACH		\$	
0790	22692NS714		PAVEMENT MARKING-THERMO LETTERS (TYPE 1 TAPE)	2.00	EACH		\$	
0800	23251ES717		PAVE MARK TY 1 TAPE X-WALK-6 IN	274.00	LF		\$	
0810	23254ES717		PAVE MARK TY 1 TAPE DOTTED LANE EXT	35.00	LF		\$	
0820	23265ES717		PAVE MARK TY 1 TAPE STOP BAR-24 IN	50.00	LF		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0830	23269ES717		PAVE MARK TY 1 TAPE-COMBO ARROW	4.00	EACH		\$	
0840	23270ES717		PAVE MARK TY 1 TAPE-CURV ARROW	16.00	EACH		\$	
0850	24683ED		PAVE MARKING-THERMO DOTTED LANE EXTEN	145.00	LF		\$	
0860	24768EC		LANE SEPARATOR CURB (PEXCO FG300)	152.00	LF		\$	
0870	24894EC		REMOVE (PAVEMENT MARKER LENS ONLY)	7.00	EACH		\$	
0880	24899EC		PAVE MARKING-THERMO ELONG ROUTE SHIELD	7.00	EACH		\$	
0890	24899EC		PAVE MARKING-THERMO ELONG ROUTE SHIELD (TYPE 1 TAPE)	1.00	EACH		\$	
0900	26165ES717		PAVE MARK TY 1 TAPE YIELD BAR-36 IN	16.00	LF		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0910	00520		STORM SEWER PIPE-12 IN	8.00	LF		\$	
0920	00522		STORM SEWER PIPE-18 IN	8.00	LF		\$	
0930	01310		REMOVE PIPE	16.00	LF		\$	
0940	01490		DROP BOX INLET TYPE 1	1.00	EACH		\$	
0950	01559		DROP BOX INLET TYPE 13G	1.00	EACH		\$	
0960	01689		FLUME INLET TYPE 1 MOD	3.00	EACH		\$	
0970	01705		REMOVE CURB & GUTTER BOX INLET	1.00	EACH		\$	
0980	21819NN		FITTINGS (12 INCH TO PROPOSED 12 INCH STORM SEWER)	2.00	EACH		\$	
0990	21819NN		FITTINGS (18 INCH TO PROPOSED 18 INCH STORM SEWER PIPE)	2.00	EACH		\$	

Section: 0004 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1000	06405		SBM ALUMINUM PANEL SIGNS	714.00	SQFT		\$	
1010	06406		SBM ALUM SHEET SIGNS .080 IN	47.56	SQFT		\$	
1020	06407		SBM ALUM SHEET SIGNS .125 IN	45.75	SQFT		\$	
1030	06410		STEEL POST TYPE 1	226.00	LF		\$	
1040	06448		SIGN BRIDGE ATTACHMENT BRACKET	1.00	EACH		\$	
1050	06490		CLASS A CONCRETE FOR SIGNS	.50	CUYD		\$	
1060	20418ED		REMOVE & RELOCATE SIGNS	4.00	EACH		\$	
1070	20419ND		ROADWAY CROSS SECTION	1.00	EACH		\$	
1080	21373ND		REMOVE SIGN	3.00	EACH		\$	
1090	21596ND		GMSS TYPE D	2.00	EACH		\$	
1100	21596ND		GMSS TYPE D (SURFACE MOUNT)	3.00	EACH		\$	
1110	21813NN		REMOVE AND RELOCATE SHEET SIGNS	6.00	EACH		\$	
1120	22400NN		REMOVE AND RELOCATE SIGN ASSEMBLY	6.00	EACH		\$	
1130	23639ED		REM SIGN BRIDGE MOUNT ATTACHMENT	1.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1140	24601EC		INSTALL (PANEL SIGN ON EXISTING TRUSS)	2.00	EACH		\$	
1150	24631EC		BARCODE SIGN INVENTORY	28.00	EACH		\$	
1160	24894EC		REMOVE (EXISTING PANEL SIGN FROM EXISTING TRUSS)	2.00	EACH		\$	

Section: 0005 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1170	04792		CONDUIT-1 IN (RIGID STEEL)	40.00	LF		\$	
1180	04811		ELECTRICAL JUNCTION BOX TYPE B	1.00	EACH		\$	
1190	04820		TRENCHING AND BACKFILLING	500.00	LF		\$	
1200	04830		LOOP WIRE	961.00	LF		\$	
1210	04845		CABLE-NO. 14/7C	500.00	LF		\$	
1220	04850		CABLE-NO. 14/1 PAIR	450.00	LF		\$	
1230	04895		LOOP SAW SLOT AND FILL	391.00	LF		\$	
1240	20093NS835		INSTALL PEDESTRIAN HEAD-LED	2.00	EACH		\$	
1250	21743NN		INSTALL PEDESTRIAN DETECTOR	2.00	EACH		\$	
1260	23222EC		INSTALL SIGNAL PEDESTAL	1.00	EACH		\$	
1270	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	50.00	LF		\$	
1280	24955ED		REMOVE SIGNAL EQUIPMENT (KY 1865 @ I-264 RAMPS)	1.00	EACH		\$	
1290	24963ED		LOOP TEST	6.00	EACH		\$	

Section: 0006 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1300	04740		POLE BASE	3.00	EACH		\$	
1310	04750		TRANSFORMER BASE	3.00	EACH		\$	
1320	04780		FUSED CONNECTOR KIT	13.00	EACH		\$	
1330	04793		CONDUIT-1 1/4 IN	410.00	LF		\$	
1340	04832		WIRE-NO. 12	378.00	LF		\$	
1350	04834		WIRE-NO. 6	820.00	LF		\$	
1360	04940		REMOVE LIGHTING (KY 1865 @ I-264 RAMPS)	1.00	LS		\$	
1370	04942		REMOVE STORE & REINSTALL POLE	3.00	EACH		\$	
1380	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	2.00	EACH		\$	
1390	20410ED		MAINTAIN LIGHTING (KY 1865 @ I-264 RAMPS)	1.00	LS		\$	
1400	23778EC		WIRE-NO. 10	410.00	LF		\$	

Section: 0007 - GUARDRAIL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1410	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	3.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1420	02351		GUARDRAIL-STEEL W BEAM-S FACE	275.00	LF		\$	
1430	02369		GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH		\$	
1440	02381		REMOVE GUARDRAIL	243.00	LF		\$	

Section: 0008 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1450	14037		W PIPE DUCTILE IRON 08 INCH	8.00	LF		\$	
1460	14039		W PIPE DUCTILE IRON 12 INCH	570.00	LF		\$	
1470	14074		W PLUG EXISTING MAIN	3.00	EACH		\$	
1480	14080		W SERV PE/PLST LONG SIDE 3/4 IN	5.00	EACH		\$	
1490	14095		W TIE-IN 08 INCH	1.00	EACH		\$	
1500	14097		W TIE-IN 12 INCH	2.00	EACH		\$	
1510	14106		W VALVE 08 INCH	1.00	EACH		\$	
1520	14108		W VALVE 12 INCH	2.00	EACH		\$	

Section: 0009 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1530	02569		DEMOBILIZATION	1.00	LS		\$	