CALL NO. 100

CONTRACT ID. 181041

BULLITT COUNTY

FED/STATE PROJECT NUMBER NHPP IM 0655 (120)

DESCRIPTION I-65

WORK TYPE GRADE, DRAIN & SURFACE WITH BRIDGE

PRIMARY COMPLETION DATE 11/1/2020

LETTING DATE: October 26,2018

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME October 26,2018. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 9%

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 - 181041

NHPP IM 0655 (120)

COUNTY - BULLITT

PCN - DE01500651841
NHPP IM 0655 (120)

I-65 CONSTRUCT NEW I-65 INTERCHANGE BETWEEN KY-480 AND KY-245, A DISTANCE OF 03.90 MILES.GRADE, DRAIN & SURFACE WITH BRIDGE SYP NO. 05-00538.00.

GEOGRAPHIC COORDINATES LATITUDE 37:57:38.00 LONGITUDE 85:41:38.00

COMPLETION DATE(S):

COMPLETED BY 11/01/2020 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.

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 Capacity Rating 102.10 Delivery of Proposals
102.8 Irregular Proposals 102.14 Disqualification of Bidders
102.9 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 on federally assisted projects shall be permitted. However, in the case of DBE’s, second tier subcontracts will only be permitted where the other subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.

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 Project Code Number (PCN), 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, the DBE's certificate of insurance, and an affidavit for bidders, offerors, and contractors from the DBE to the Division of Construction Procurement. The affidavit can be found on the Construction Procurement website. If the DBE is a supplier of materials for the project, a signed purchase order and an affidavit for bidders, offerors, and contractors 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 and nine (9) copies of this information must be received in the office of the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

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

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

1 Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2 Whether the bidder provided solicitations through all reasonable and available means;
3 Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4 Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainly whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the DBE Liaison in the Office of Minority Affairs 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 our 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:

- 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 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 (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 submitted within 10 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.

The Prime Contractor should supply the payment information at the time the DBE is compensated for their work. Form to use is located at:
http://transportation.ky.gov/Construction/Pages/Subcontracts.aspx

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 is Melvin Bynes and the telephone number is (502) 564-3601.

Photocopied payments and completed, signed and notarized affidavit must be submitted by the Prime Contractor to: Office of Civil Rights and Small Business Development
6th Floor West 200 Mero Street
Frankfort, KY 40622

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.

1/27/2017

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

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

SECTION 7 is expanded by the following new Article:

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

Pursuant to Title 46CFR Part 381, the Contractor agrees

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

ASPHALT MIXTURE

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

INCIDENTAL SURFACING

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

ASPHALT PAVEMENT RIDE QUALITY CATEGORY B

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

FUEL AND ASPHALT PAY ADJUSTMENT

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

OPTION A

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

MATERIAL TRANSFER VEHICLE (MTV)

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

Louisville Gas & Electric Company
Guidelines for Blasting In The Vicinity of Natural Gas Pipelines
September 27, 2002

General Information

The effect of blasting on natural gas pipelines depends primarily on the explosive energy release, the distance from the pipeline, and the physical parameters of the pipeline. The physical parameter of the pipeline includes its material, integrity, operating pressure (i.e., internal pressure), and consequences of failure. These physical parameters will vary from pipeline to pipeline.

When blasting occurs in the vicinity of natural gas pipelines, two stresses are involved - the stress from the blasting operations and the stress from the internal pressure of the pipeline. These stresses are superimposed to determine the maximum permitted stress for a particular pipeline.

Criterion Used

To determine the maximum permitted stress for a particular pipeline, Louisville Gas & Electric Company (LG&E) utilizes a charge weight per delay criterion. The charge weight per delay criterion is based upon a variety of parameters, such as, charge weight per delay, maximum operating pressure, powder factor, explosive's weight strength, minimum distance from the nearest charge to the pipeline, consequences of failure, etc. This criterion was selected because it allows LG&E to evaluate each blasting operation based upon its particular merits.

When blasters submit their blasting plans or blasting parameters, LG&E will used the charge weight per delay criterion to determine what is an acceptable distance from the affected pipeline for a given charge weight per delay. The acceptable distance may vary from blasting operation to blasting operation even with the same charge weight per delay and blasting parameters. This variation would be due to changes of the physical parameters of the affect pipeline. In addition, LG&E does not use the particle velocity criterion and will not recommend a specific particle velocity (in/s).

Notification Requirements

LG&E should be notified of blasting operation within 500 feet of an LG&E natural gas transmission pipeline (or 300 feet of natural gas distribution pipeline). This notification should be given to the appropriate LG&E Operation Center; i.e., East, Auburndale, Muldraugh or Bardstown. The appropriate Operation Center and telephone number can be obtained from the attached map, Operation Centers By Zip Code.

Louisville Gas & Electric Company
Guidelines for Blasting In Vicinity of Natural Gas Pipelines

ZIP CODES SERVICED BY
AUBURNDALE OPERATIONS CENTER

40202, 40203, 40204, 40205
40208, 40210, 40211, 40212
40213, 40215, 40217, 40047
40071, 40109, 40118, 40165
40209, 40214, 40216, 40218
40219, 40221, 40225, 40228
40229, 40258, 40272, 40291

ZIP CODES SERVICED BY
EAST OPERATIONS CENTER

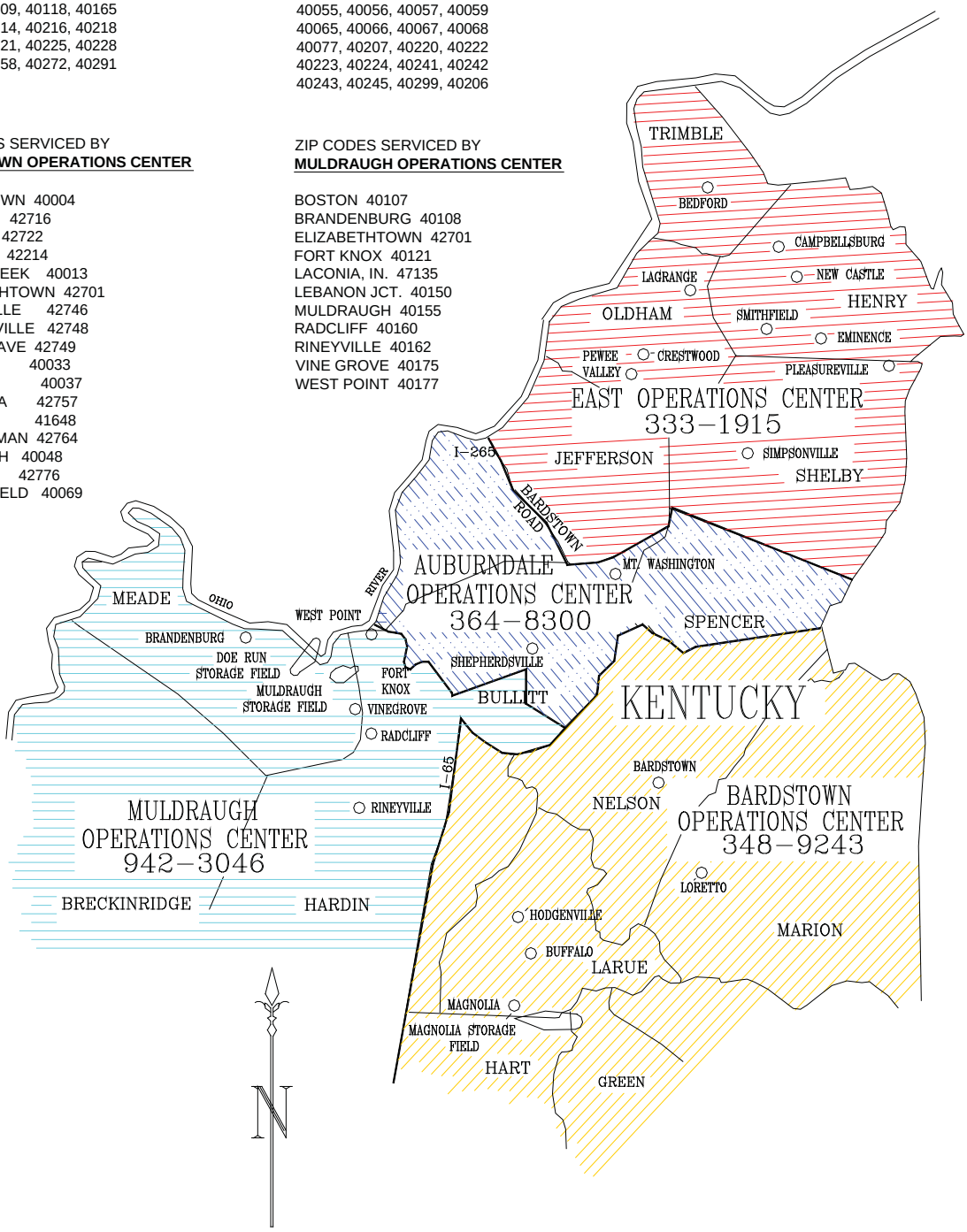
40006, 40010, 40011, 40014
40018, 40019, 40023, 40025
40026, 40027, 40031, 40050
40055, 40056, 40057, 40059
40065, 40066, 40067, 40068
40077, 40207, 40220, 40222
40223, 40224, 40241, 40242
40243, 40245, 40299, 40206

ZIP CODES SERVICED BY
BARDSTOWN OPERATIONS CENTER

BARDSTOWN 40004
BUFFALO 42716
CANMER 42722
CENTER 42214
COX'S CREEK 40013
ELIZABETHTOWN 42701
HARDYVILLE 42746
HODGENVILLE 42748
HORSE CAVE 42749
LEBANON 40033
LORETTO 40037
MAGNOLIA 42757
MANTON 41648
Mt. SHERMAN 42764
NAZARETH 40048
SONORA 42776
SPRINGFIELD 40069

ZIP CODES SERVICED BY
MULDRAUGH OPERATIONS CENTER

BOSTON 40107
BRANDENBURG 40108
ELIZABETHTOWN 42701
FORT KNOX 40121
LACONIA, IN. 47135
LEBANON JCT. 40150
MULDRAUGH 40155
RADCLIFF 40160
RINEYVILLE 40162
VINE GROVE 40175
WEST POINT 40177



OLD NUMBER - A 13655

Distribution Operations Gas Service Handbook LG&E Louisville Gas & Electric Company	Title: OPERATIONS CENTERS BY ZIP CODES	Job# GCS - 80 10 201		Revision:	
		Date: 1/2/03	Drawn By: CLARK	Scale: None	Sheet: 1 of 1

On receipt of a blasting plan or blasting parameters, LG&E will evaluate the blasting plan or blasting parameters to ensure the safety of the affected pipeline(s) and to determine the necessary precautionary measures. When blasting operations are planned within 200 feet of a LG&E pipeline, LG&E will also witness the blasting operation and perform pre- and post-blast inspections.

In addition to the above notice, LG&E should be notified at a minimum of five (5) working days prior to the blasting operations. This notification will allow LG&E sufficient time to take precautionary measures for the protection of its pipeline(s). Precautionary measures include evaluating the blasting plan or blasting parameters, conducting leakage surveys, performing valve maintenance, scheduling of personnel to witness the blasting operations, and taking other measures as deem appropriate by LG&E.

Finally, LG&E should be notified twenty-four (24) hours prior to commencement of the blasting operations. This notification will allow LG&E to have a representative on site during the blasting operations.

Blasting Operation Information

To perform its evaluation, LG&E needs the blasting information listed below. This information can be provided in a blasting plan or submitted separately as blasting parameters.

1. The maximum charge weight per delay (lbs.).
2. The minimum distance from LG&E's pipeline (feet).
3. The maximum powder factor (lb/yd^3).
4. The exact location of the blasting operations. (Detail Description)
5. Scheduled date(s) of the blasting operations.
6. Blasting project's name.
7. The blasting company's name.
8. The blasting company's telephone number.
9. The name of the blaster(s).
10. The blaster's license number.
11. The blaster's telephone number, if applicable.
12. The type and name of explosive.
13. The manufacture of the explosive.
14. The weight strength of the explosive (cal/gm).
15. The specific gravity of the explosive.
16. The number of holes, burden and minimum hole spacing (feet).
17. Diameter, depth, and layout of the holes.
18. Type of matting, if used.

19. Type of delay.
20. Delay interval. (ms)
21. Total number of delays.
22. Number of dynamite sticks per delay.
23. Number of holes per delay.
24. Type of material to be blasted.
25. Method of installation of the dynamite.
26. Method of detonation.

LG&E's Provisions for Monitoring

LG&E's provisions for monitoring the blasting operations includes the following:

(a) To have representative(s) on site to perform the following:

(1) To inspect and check all facilities and appurtenances to ensure safe conditions after the each blasting sequence.
(2) To monitor the drilling of each hole and the loading of explosive to verify compliance with the agreement letter.
(3) To provide immediate response in the event of an emergency.
(4) To record the date, the time of day, the measured perpendicular distances between the pipeline and the nearest charge, blasting parameters (e.g., charge weight per delay, hole spacing, delay interval, type of explosive, energy release, etc.) and seismographs results.
(5) To prohibit further blasting and have a leakage survey performed, if the agreement between the blasting company and LG&E is violated.
(6) To initiate LG&E's Gas Emergency Operating Procedures in the event of damage to LG&E's facilities.
(7) To monitor the operating pressure of its pipelines to ensure that unexpected abnormal operation does not occur as a result of the blasting operations.

(b) To conduct a leakage survey over the pipeline prior to the blasting operations, after each blast sequence, and after the area has been restored to normal conditions. The leakage survey will be conducted on all facilities that are in the affected blast area for a distance considered adequate by LG&E. At a minimum, the leakage survey will be conducted for a distance of 300 feet in all directions.

(c) To continue surveillance for a reasonable period of time for settlement of backfilled excavations and for damage caused by other related construction activity.

Documentation

1. For all parties that submit either a blasting plan or blasting parameters, LG&E will send them an agreement letter that stipulates the agreement between the parties. At minimum, the agreement letter will include the following:

    a. Maximum charge weight per delay with the corresponding minimum distance from LG&E pipeline(s).
    b. The blasting parameters in addition to the charge weight per delay and distance.
    c. The schedule for the blasting operation.
    d. Specifications for notification of actual blasting commencement.
    e. Requirements for submitting new blasting parameters.
    f. LG&E's project manager and representative and their contact information.
    g. LG&E's provisions for monitoring the involved pipeline(s).
    h. LG&E's provisions for damages to LG&E facilities and/or recovery of loss revenues as the result of agreement letter violations.

2. For all parties that submit either a blasting plan or blasting parameters, LG&E requires a copy of the blaster's blasting report or the blasting report information submitted separately. A blasting report typically contains the following minimum data:

    a. Name of company or contractor.
    b. Exact location of the blast, date and time of detonation.
    c. Name, signature and license number of blaster in charge.
    d. Type of material blasted.
    e. Number of holes, burden and spacing.
    f. Diameter and depth of holes.
    g. Types of explosive used.
    h. Total amount of explosives used.
    i. Maximum amount of explosives per delay period of eight (8) milliseconds or greater.
    j. Method of firing and type of circuit.
    k. Direction, distance in feet, and identification of the nearest dwelling house, public building, school, church, commercial or institutional building neither owned nor leased by the person conduction the blasting.
    l. Weather conditions.
    m. Type and height or length of stemming.
    n. A statement as to whether mats or other protections against flyrock were used.
    o. Type of delay electric blasting caps used and delay periods used.

p. The person taking the seismograph reading shall accurately indicate exact location of seismograph if used and shall also show the distance of seismograph from blast.

q. Seismograph records, where record:

   1. Name of person and firm analyzing the seismograph record.
   2. Seismograph reading.

r. Maximum number of hole per delay period of eight (8) milliseconds or greater.

s. Sketch of blast pattern including number of holes, burden and spacing distance delay pattern, and if decking is used, a hole profile.

PPL companies

POWER LINE SAFETY

OSHA Cranes in Construction Standard Power Line Safety Section 1926.1408 and 1926.1409

This is a high level summary only. Refer to www.osha.gov for details.

Employer must identify the work zone by either: (1) demarcating boundaries (with flags, range limit device or range control warning device) and prohibit operator from operating past those boundaries; OR (2) define the work zone as the area 360 degrees around the equipment, up to the equipment's maximum working radius.

Determine if any part of equipment, load line, or load could get closer than 20 feet for less than 350 kV or 50 feet for greater than 350 kV if operated up to the equipment's maximum working radius.

NO → Crane operator can proceed with crane operations.

YES → Employer must do either **Option 1, 2, or 3.**

Option 1. Confirm from the utility that the power line has been de-energized and visibly grounded at the worksite. Proceed with crane operations.

Option 2. Employer must ensure that no part of the equipment, load line, or load gets closer than 20 feet if less than 350 kV or 50 feet if more than 350 kV to the power line by implementing the Encroachment Precautions. Employer needs to know if line is more or less than 350 kV but does not need to know exact voltage.

Option 3. Employer contacts utility to determine line voltage. Utility provides within 2 days. Determine if any part of equipment, load line, or load while operating up to the maximum working radius in the work zone could get closer than the Table A distances. If so, implement Encroachment Precautions.

Table A Distances:

Up to 50 kV:	10 feet
50 to 200 kV:	15 feet
200 to 350 kV:	20 feet
350 to 500 kV:	25 feet

Implement encroachment precautions.

Operations where any part of crane, load line, or load is closer than Table A distance to an energized power line is prohibited unless the requirements on Page 2 are met.

Encroachment Prevention Precautions required for Options 2 or 3:

1. Conduct a planning meeting with operator and other workers.
2. Tag lines, if used, must be non-conductive.
3. Erect and maintain elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags at 20 feet from the power line if less than 350 kV or 50 feet if more than 350 kV (if using Option 2) or the distance shown in Table A if using Option 3. If operator is unable to see the elevated warning line, a dedicated spotter (B) must be used in addition to implementing one of A, C, D, or E below.

In addition to the items above, implement at least one of these:

A. Use a proximity alarm set to give operator sufficient warning to prevent encroachment.
B. Use a dedicated spotter who is in continuous contact with the operator.
C. Use a device that automatically warns the operator to stop (range control warning device).
D. Use a device that limits range of movement, set to prevent encroachment.
E. Use an insulating link between the end of the load line and the load.

PPL companies

POWER LINE SAFETY

Power Line Safety requirements for getting closer than the Table A distances

Table A Distances:
Up to 50 kV: 10 feet
50 to 200 kV: 15 feet
200 to 350 kV: 20 feet
350 to 500 kV: 25 feet

Operations where any part of crane, load line, or load is closer than Table A distance to an energized power line is prohibited unless the requirements on this page are met.

Crane operator employer shall determine that it is infeasible to work without breaching Table A distances.

Employer determines after consulting with utility that it is infeasible to de-energize and ground or relocate the power line.

Utility or registered professional engineer (PE) shall determine minimum clearance distance that shall be maintained to prevent electrical contact.

Planning meeting with employer and utility (or PE) shall be held to determine procedures that shall be followed.

If so equipped, the automatic reclosing features shall be made inoperative by the utility before work begins.

Crane operator is required to have utility install line hose or coverup except where unavailable for the voltage.

Documented procedures must be developed and kept on site. Equipment user, operator and others shall meet with utility to review procedures.

Utility and employers of employees involved in the work shall identify one person to direct implementation of procedures.

If procedures are not effective, crane operator shall stop work OR have utility de-energize lines.

Crane operator is also required to do these items.

- Dedicated spotter shall be used.
- Elevated warning line or barricade in view of operator equipped with flags shall be installed.
- Insulating link shall be installed between end of load line and load.
- Non-conductive rigging shall be used.
- If equipment has device that limits range of movement, it shall be used.
- Tag lines shall be non-conductive.
- Barricades set up 10 feet around crane to prevent personnel from entering the work area.
- Workers, other than operator, shall be prohibited from touching load line.
- Only essential personnel shall be allowed.
- Crane shall be grounded.

SPECIAL NOTE FOR SPOT SUBGRADE STABILIZATION ALTERNATES

This Special Note will apply when indicated on the plans or in the proposal. When this note is used a primary subgrade stabilization method will be as outlined in the project plans. This note will only apply for areas of the project where the primary subgrade selected is not feasible due to Maintenance of Traffic, entrances, narrow part-width sections, or other constraints. The locations for the use of this note and the selected alternate are subject to approval of the Engineer. Section references herein are to the current edition of the Department's Standard Specifications for Road and Bridge Construction, including Supplemental Specifications.

1.0 DESCRIPTION. Use one of the following five (5) alternates for the subgrade stabilization.

A. Eight inches of chemical stabilization using lime or cement
B. Eight inches of chemical stabilization using stockpiled, lime-stabilized soil (**Alternate "B" only allowed when lime stabilization** is the primary subgrade for the project.)
C. High-Strength Geotextile Fabric with six (6) additional inches of aggregate base
D. Geogrid reinforcement and geotextile fabric with eight (8) additional inches of aggregate base
E. Fifteen (15) inches of rock (#2's, #3's or #23's) wrapped in geotextile fabric. **Do NOT use Alternate "E" under concrete pavements**.

Stabilization should be applied from shoulder break to shoulder break.

2.0 MATERIALS

2.1 Cement, Lime, Asphalt Curing Seal, Water and Sand: Conform to Section 208.02.

2.2 Aggregate: Conform to Section 805.

2.3 Geogrid: Furnish geogrid according to Section 304.

2.4 Type IV Geotextile Fabric: Conform to Section 843.

2.5 High-Strength Geotextile Fabric: Furnish a woven or non-woven fabric meeting the AASHTO M 288 Class 1 strength requirements corresponding to <50% elongation. The fabric shall also comply with table 5 (Stabilization Geotextiles) in AASHTO M 288, with the exception of the minimum permittivity value being 0.1 sec^{-1}.

Packing, Shipment, Storage of Geogrid or Geotextile. Ensure that each roll is labeled with the Manufacturer's name, product type, lot number, roll number, manufactured date, and roll dimension. Protect the fabric or grid from direct sunlight, UV rays, and temperatures greater than 120 ^{o}F, mud, dirt, and debris during all periods of shipment and storage.

3.0 CONSTRUCTION

Surface Preparation. Prepare the surface according to Section 207 and Section 208.

3.1 Alternate A - Chemical Stabilization: Construct a minimum 8-inch thick, chemically stabilized roadbed according to Section 208. See the geotechnical notes to determine the type of chemical used for the stabilization (lime or cement) and additional requirements.

3.2 Alternate B - Chemical Stabilization w/ Stockpiled Lime-Stabilized Soil: Construct an 8-inch thick, chemically stabilized Roadbed according to section 208 using stockpiled lime stabilized soil. The lime shall be stockpiled offsite from the subgrade area being stabilized. The stockpiled soil shall consist of either:

1) Lime stabilized subgrade constructed in an approved borrow area, or approved area outside the typical section but within right-of-way.

2) Lime stabilized soil left over from cutting the chemically stabilized roadbed to final grade. The cuttings shall then be stored in a separate area until needed. The cuttings shall be stored in a minimum thickness of three (3) feet, and the stockpile lightly tamped when completed. The stockpile shall be covered until needed with an asphalt curing seal, or other approved method.

Follow all construction requirements of Section 208 unless otherwise noted herein. The stabilized material shall be maintained at or above optimum moisture content, which may require the addition of water prior to placement of the asphalt seal. Heavy construction traffic shall not be permitted on the pre-mixed material. Compaction requirements of Section 208 will not apply during initial placement with Option 1 (typical lime-stabilized soil from borrow area).

After sealing with an asphalt curing seal, the stabilized soil shall be left in place until needed. If ambient air temperature will drop below 32 degrees Fahrenheit for more than 2 hours, take appropriate measures to cover and protect the stabilized soils, subject to approval of the Engineer.

When ready for subgrade stabilization within the roadbed, excavate pre-stabilized soils and transport to the area to be stabilized. Place pre-stabilized material in 4 to 6-inch loose lifts at the locations determined by the Engineer. Mixing may be performed by disking or other lightweight equipment approved by the Engineer. At the time of reusing the stockpiled soil, additional water may need to be added to increase the moisture content to optimum, or slightly above.

Compaction may be performed with a vibratory sheepsfoot compactor or other approved equipment. Use caution to ensure the selected compactor and other construction equipment will not overload nearby subsurface utilities or produce excessive vibration. Test moisture content with a nuclear or Speedy Moisture gage and add water if needed to maintain a moisture content at or slightly above optimum. Place an asphalt curing seal on the constructed subgrade. Construction traffic shall not be permitted until the subgrade can support traffic without rutting.

3.3 Alternate C - High-Strength Geotextile Fabric: Place High-Strength Fabric at the proper elevation and locations in continuous strips to minimize the amount of joints and wrinkles during placement. All seams shall be sewn according the Manufacturer's recommendations, **lapping of seams is NOT permitted**. High-Strength Fabric shall be temporarily secured in place to maintain tension during aggregate placement. This may be done with staples, pins, sand bags or backfill as required by fill properties, fill placement procedures, or weather conditions as the Engineer directs. Make sure there are no buckles or folds in the fabric.

Ensure that a **Representative** of the High-Strength Fabric Manufacturer is on the project when work begins, **and at least the first 3 days of fabric construction**. The representative shall remain on call as the project progresses, to advise the Engineer.

High-Strength Fabric should not be completely placed before placing aggregate, but should be placed at the front of a "paving train" consisting of the fabric laydown **equipment followed no further than 50 feet by the aggregate placement equipment**. In curves and intersections, cut and seam the fabric to prevent development of buckles and folds.

Place aggregate over the fabric according to the Contract. Place, spread, and compact the aggregate in such a manner that minimizes the development of wrinkles and movement in the fabric. The Department will require a minimum loose thickness of 6 inches prior to operation of tracked vehicles over the fabric. Keep the turning of tracked vehicles to a minimum to prevent displacement of the fill and damage to the fabric. Rubber tired equipment may pass over the fabric at slow speeds (less than 10

mph). Avoid sudden braking and sharp turning movements. Repair any damage caused during placement or by vehicles.

If the total aggregate base thickness is less than 12 inches, the aggregate base will be placed in one lift. If greater than 12 inches, place the aggregate in 6 inch to 12 inch lifts.

3.3.1 Sampling/Testing of High-Strength Fabric:
The Department will sample the High-Strength Fabric at the project site according to KM 64-113 at a frequency determined by the Engineer. The Department will test the fabric for all properties possible given the testing equipment availability. When the Department determines that an individual samples fails to meet any specification requirement, the Department will reject that roll and sample 2 additional rolls from the same lot. When the Department determines that either of these 2 additional samples fails to comply with any part of the specification, the Department will reject the entire quantity of rolls represented by that sample.

3.4 Alternate D – Geogrid and Fabric: Place geogrid in accordance with Sections 304 and 302 of the current Standard Specifications and in accordance with the contract documents. Place the geotextile fabric first, then place the geogrid on top of the geotextile fabric so that they are at the bottom of the aggregate layer.

Ensure that a **Geogrid Representative** of the geogrid Manufacturer is on the project when work begins, **and at least the first 3 days of geogrid construction**. The representative shall remain on call as the project progresses, to advise the Engineer.

Geogrid shall be temporarily secured in place to maintain tension during aggregate placement. This may be done with staples, pins, sand bags or backfill as required by fill properties, fill placement procedures, or weather conditions as the Engineer directs. Make sure there are no buckles or folds in the geogrid.

Geogrid should not be completely placed before placing aggregate, but should be placed at the front of a “paving train” consisting of the geogrid laydown equipment **followed no further than 50 feet by the aggregate placement equipment**. In curves and intersections, cut and overlap the geogrid. Place the geogrid and aggregate according to Sections 304 and 302, and in accordance with the contract documents.

Contrary to Section 302.03.03, if the total aggregate base thickness is less than 12 inches, the aggregate base will be placed in one lift. If greater than 12 inches, place

the aggregate in 6 inch to 12 inch lifts. All other construction and density requirements of Section 302 will apply.

3.5 Alternate E - Fifteen (15) Inches of Rock and Fabric: Do ***NOT*** use this alternate for concrete pavements. Use fifteen (15) inches of Coarse Aggregate #2's, #3's or #23's wrapped in Type IV Geotextile Fabric. This will require excavating the subgrade by fifteen (15) inches more than shown on the plans. This alternate also requires positive drainage of the rock roadbed – perforated pipe discharged into weep holes in drainage boxes or headwalls or by daylighting the rock. The drainage solution and the additional 15-inch excavation are incidental to Subgrade Stabilization.

4.0 MEASUREMENT. The Department will measure the quantity of Subgrade Stabilization in square yards. The square yard price will include the additional aggregate (6 or 8 inches), the Type IV Geotextile Fabric and the geogrid, Lime, Cement, Lime Stabilized Roadbed, Cement Stabilized Roadbed, Asphalt Curing Seal, or Sand for Blotter, Coarse Aggregate #2's, #3's or #23's, High-Strength Geotextile Fabric and drainage items. No separate payment will be made for the above items. The Department will not make payment for providing a Geogrid or High-Strength Fabric Manufacturer's representative and will consider it incidental to the bid item for Subgrade Stabilization. The Department will not measure excavation (for 15 inches of rock and fabric or an additional 6 to 8 inches of aggregate) or adjusting subgrade differences between the alternates, and will consider such excavation or adjustments as incidental to Subgrade Stabilization. The Department will not measure hauling, extra handling, or placement of stockpiled lime stabilization soil for payment and will consider these incidental to Subgrade Stabilization. Fuel Price Adjustment does not apply to the Subgrade Stabilization bid item.

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

Code	Pay Item	Pay Unit
24790EC	Subgrade Stabilization	Square Yard

The Cabinet will consider payment as full compensation for all work required in this note. If the Department determines a thicker chemical or rock stabilization section is needed once construction begins, the unit price for subgrade stabilization will be adjusted as follows:

Adjusted Unit Price = Original Unit Bid Price * (New Thickness/Original Thickness of Alternate)

Special Note for Work near Railroad
5-538.00
I-65 Interchange @ MP 114
Bullitt County

Special care shall be taken to ensure no impact to the railroad or its right of way. All work and equipment must be kept off the railroad's right of way. At no point shall the Contractor enter the railroad's right of way.

In the case that anything happens to impact the railroad right of way or foul the tracks, please immediately call the emergency contact listed below. When referring to the location, be sure to mention the railroad mile post. Any costs associated with such an incident, including but not limited to removal of the obstruction and/or repairs to the railroad facilities shall be the responsibility of the Contractor.

RR Location:
CSX Transportation, Inc.
Railroad mile post: 000-20.60
Emergency contact: 1-800-232-0144

SPECIAL NOTE FOR INLAID PAVEMENT MARKERS

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's Standard and Supplemental Specifications and applicable Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications. This work shall consist of:

(1) Maintain and Control Traffic; and (2) Furnish and install Inlaid Pavement Markers (IPMs) in recessed grooves; and (3) Any other work as specified by these notes and the Contract.

II. MATERIALS

The Department will sample all materials in accordance with the Department's Sampling Manual. 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 unless otherwise specified in these Notes.

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

B. Markers. Provide reflective lenses with depth control breakaway positioning tabs. Before furnishing the markers, provide to the Engineer the manufacturer's current recommendations for adhesives and installation procedures. Use one brand and design throughout the project. Use markers meeting the specifications in the table below.

SPECIFICATIONS FOR HOUSING AND REFLECTOR	
Material:	Polycarbonate Plastic
Weight:	Housing 2.00 oz.
	Reflector 2.00oz.
Housing Size:	5.00" x 3.00" x 0.70" high
Specific Intensity of Reflectivity at 0.2° Observation Angle	
White:	3.0 at 0°entrance angle
	1.2 at 20°entrance angle
Yellow:	60% of white values
Red:	25% of white values

C. Adhesives. Use adhesives that conform to the manufacturer's recommendations.

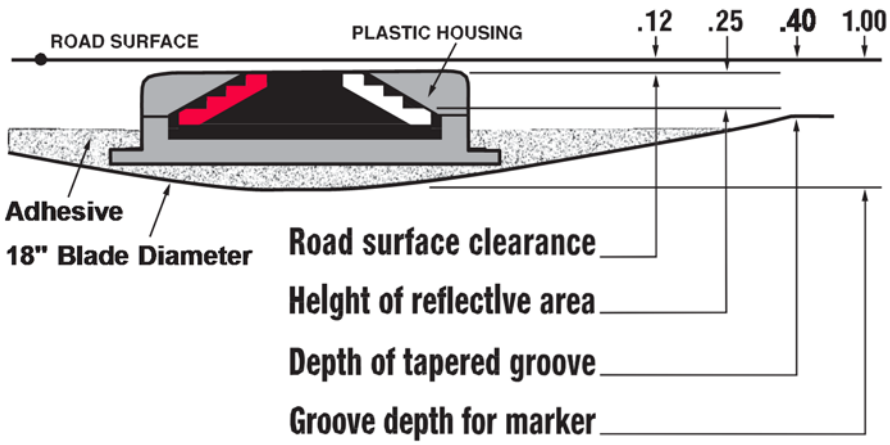
III. CONSTRUCTION

A. Experimental Evaluation. The University of Kentucky Transportation Center will be evaluating this installation of IPMs. Notify the Engineer a minimum of 14 calendar days prior to beginning work. The Engineer will coordinate the University's activities with the Contractor's work.

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

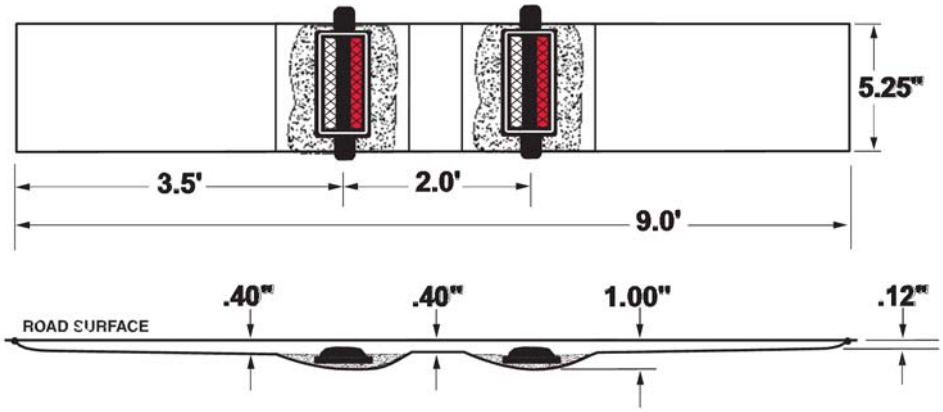
C. Installation. Install IPMs in recessed grooves cut into the final course of asphalt pavement according to the manufacturer's recommendations. Do not cut the grooves until the pavement has cured sufficiently to prevent tearing or raveling. Cut installation grooves using diamond blades on saws that accurately control groove dimensions. Remove all dirt, grease, oil, loose or unsound layers, and any other material from the marker area which would reduce the bond of the adhesive. Maintain pavement surfaces in a clean condition until placing markers.

Prepare the pavement surfaces, and install the markers in the recessed groove according to the drawing below. Use an approved snowplowable epoxy adhesive. Ensure that the adhesive bed area is equal to the bottom area of the marker, and apply adhesive in sufficient quantity to force excess out around the entire perimeter of the marker. Use materials, equipment, and construction procedures that ensure proper adhesion of the markers to the pavement surface according to the manufacturer's recommendations. Remove all excess adhesive from in front of the reflective faces. If any adhesive or foreign matter cannot be removed from the reflective faces, or if any marker fails to properly adhere to the pavement surface, remove and replace the marker at no additional cost to the Department.



D. Location and Spacing. Install the markers in the pattern for high reflectivity with two (2) IPMs per groove. Locate and space markers as shown in the current Standard Drawings or Sepias. (Note: use Inlaid Pavement Markers wherever Type V Pavement

Markers are called for.) Do not install markers on bridge decks. Do not install a marker on top of a pavement joint or crack. Offset the recessed groove a minimum of 2 inches from any longitudinal pavement joint or crack and at least one inch from the painted stripe, ensuring that the finished line of markers is straight with minimal lateral deviation. Give preference to maintaining the 2-inch offset between recessed groove and joint as opposed to keeping the line of markers straight.



Place inlaid markers as much in line with existing pavement striping as possible. Place markers installed along an edge line or channelizing line so that the near edge of the plastic housing is no more than one inch from the near edge of the line. Place markers installed along a lane line between and in line with the dashes. Do not place markers over the lines except where the lines deviate visibly from their correct alignment, and then only after obtaining the Engineer's prior approval of the location.

If conflicts between recessed groove placement in relation to pavement joint and striping cannot be resolved, obtain the Engineer's approval to eliminate the marker or revise the alignment.

E. Disposal of Waste. Dispose of all removed asphalt pavement, debris, and other waste at sites off the right of way obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

F. Restoration. Be responsible for all damage to public and/or private property resulting from the work. Restore all damaged features in like kind materials and design at no additional cost to the Department.

G. On-Site Inspection. Make a thorough inspection of the site prior to submitting a bid and be thoroughly familiar with existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid as evidence of this inspection having been made and will not honor any claims for money or grant Contract time extensions resulting from site conditions.

H. Caution. Do not take information shown on the drawings and in this proposal and the types and quantities of work listed as an accurate or complete evaluation of the material and conditions to be encountered during construction, but consider the types and quantities of work listed as approximate only. The bidder must draw his or her own conclusion as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation or extension of Contract time if the conditions encountered are not in accordance with the information shown.

IV. MEASUREMENT

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

B. Inlaid Pavement Markers. The Department shall measure as Each. One (1) installation of "INLAID PAVEMENT MARKER" will consist of grooving the pavement, removing asphalt cuttings and debris, preheating pavement to remove moisture, adhesives, and installation of two (2) markers with all lenses in accordance with this note.

Note: Each pay item of Inlaid Pavement Marker will require two markers.

V. PAYMENT

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

B. Inlaid Pavement Markers. The Department will make payment for the completed and accepted quantities of completely installed "INLAID PAVEMENT MARKERS" at the Contract unit price, Each. Accept payment as full compensation for all labor, equipment, materials, and incidentals necessary to accomplish this work to the satisfaction of the Engineer. A system of one (1) groove and two (2) markers shall be paid as one "INLAID PAVEMENT MARKER". The bid item "INLAID PAVEMENT MARKER" shall be used regardless of the color and type of lenses required.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

County: BULLITT Item No.: 5-538.00

Federal Project No.: NHPPIM 0655 (120)

Project Description:

The project involves the design of a new I-65 interchange and east-west crossroad near I-65 MP 114.4. The new east-west crossroad will connect to Ohm Drive on the east side of I-65 and KY 61 on the west side of I-65.

Roadway Classification: ☒ Urban ☒ Rural

☐ Local ☒ Collector ☐ Arterial ☐ Interstate

ADT (current) N/A AM Peak Current N/A PM Peak Current N/A % Trucks N/A

Project Designation: ☒ Significant ☐ Other: _____

Traffic Control Plan Design:

Taper and Diversion Design Speeds 55 mph (I-65)

Minimum Lane Width 12' (I-65) Minimum Shoulder Width 2'

Minimum Bridge Width N/A

Minimum Radius 2864.8' (Ex. I-65) Maximum Grade 2.85% (Ex. I-65)

Minimum Taper Length 300' (I-65) Minimum Intersection Level of Service N/A

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

Comments:

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-538.00

Discussion:

1) Public Information Plan	
a) Prepare with assistance from ☒ KYTC or ☐ _____	
b) Identify Trip Generators Referenced	f) Railroad Involvement Referenced
c) Identify Types of Road Users Referenced	g) Address Pedestrians, Bikes Mass Transit Referenced
d) Public Information Message Referenced	h) Address Timing, Frequency, Updates, Effectiveness of Plan Referenced
e) Public Information Strategies to be used Referenced	i) Police & Other Emergency Services Referenced

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-538.00

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

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

Comments:

Ohm Drive Connector – New Interchange Near MP 114.4 – Phase 1A and 1B

Phase 1A construction includes: Cooper Run Road cul-de-sac (north of Ohm Drive Connector),

Phase 1B construction includes: KY 61, Cooper Run Road (south of Ohm Drive Connector), Ohm Drive Connector from KY 61 up to Sta. 105+00, Drive 259+50 RT, and Drive 261+18 RT tie in.

See attached TTCP sheet for Phase 1 Construction and Detour for KY 61.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-538.00

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

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

Comments:

Ohm Drive Connector – New Interchange Near MP 114.4 – Phase 2A

Phase 2A construction includes: Ohm Drive Connector from Sta. 142+00 to the end of project, Temporary Drive 146+00 LT, Drive 149+50 LT tie in, Access Drive 51+85 LT and RT, Drive 149+50 RT and Cell Tower Drive tie in, Drive 155+40 RT, Drive 166+60 RT, Alpha Way from Ohm Drive Connector to end of project, and Pier #2, the median pier, along I-65 for the Ohm Drive Connector Bridge.

See attached TTCP sheet for Phase 2A Construction.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-538.00

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

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

Comments:

Ohm Drive Connector – New Interchange Near MP 114.4 – Phase 2B

Phase 2B construction includes: Ohm Drive Connector from Sta. 105+00 up to and including Integral End Bent #1, Bridge Pier #1, Drive 111+50 LT, Drive 111+50 RT, Bridge Pier #3, Integral End Bent #2, Ohm Drive Connector from Integral End Bent #2 to Sta. 142+00, all proposed ramps along I-65 (Ramp A-D), and Longacre Drive.

See attached TTCP sheet for Phase 2B Construction.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-538.00

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

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

Comments:

Ohm Drive Connector – New Interchange Near MP 114.4 – Phase 2C

Phase 2C construction includes: The Ohm Drive Connector Bridge.

See attached TTCP sheet for Phase 2C Construction.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-538.00

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

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

Comments:

Ohm Drive Connector – New Interchange Near MP 114.4 – Phase 3

Phase 3 construction includes: Bridge mounted signs at the Ohm Drive Connector Bridge and Sign Truss on I-65 Sta. e 1383+70

See attached TTCP sheet for Phase 3 Construction.

Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

Item No. 5-538.00

APPROVAL:

Charles S. Berg — 7/30/2018
Project Manager — Date

Thomas J. Wright — 8-3-18
Project Delivery and Preservation Manager — Date

Mohamed Abdel — 8-1-18
Engineering Support Manager — Date

Digitally signed by MICHAEL M LOYSELLE
Date: 2018.08.27 13:02:00 -04'00'
FHWA Representative — Date

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

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Bullitt County
Ohm Drive Connector
I-65 New Interchange near MP 114.4

TRAFFIC MANAGEMENT PLAN OVERVIEW

PROJECT GOALS AND OBJECTIVES

Purpose and Need

Significant commercial development such as the Cedar Grove Business Park, Salt River Business Park and Love's Travel Stop has occurred within the past 18 years around the existing I-65/KY 480 interchange. According to data supplied by the Bullitt County Economic Development Authority, the Cedar Grove area employs over 8,000 people on a normal day. Many of the businesses located in the Cedar Grove Area are large warehouse distribution centers and large internet order fulfillment centers housed in office/warehouse type buildings with up to 1.3 million square feet under roof. Employment almost doubles during the seasonal peak from November through January. The I-65/KY 480 interchange is the only means of access to the residences and businesses in the area, and the interchange is projected to be severely congested during peak travel times.

Future commercial development plans near the interchange such as the expansion of the Cedar Grove Business Park and along KY 61 to the south are expected to further contribute to increased traffic congestion at the I-65/KY 480 interchange. By 2040, traffic volumes on KY 480 are projected to grow by 59 percent over existing volumes with a high percentage of trucks. Level of service (LOS) is a measure of operational performance of a roadway, ranging from A (best) to F (worst), that is used to evaluate the performance of roadway segments and intersections. A LOS of E or F is considered unacceptable. In 2015, the I-65/KY 480 southbound ramp intersection operated at LOS C during the AM peak period and LOS D during the PM peak period while the northbound ramp intersection operated at LOS B for both the AM and PM peak period. In 2040, both the southbound and northbound ramp intersections are projected to operate at LOS F in the PM peak period. In the AM peak period, the southbound ramp intersection is projected to operate at LOS D, while the northbound ramp intersection is projected to operate at LOS E.

The purpose of the project is to improve access and mobility between I-65 and the rapidly growing commercial development in the area

Environmental Impacts

Aquatic/Terrestrial Ecology:

- Stream impacts: 13,595 linear feet
- Wetland impacts: 0.41 acre
- Bat habitat impacts: 63.7 acres
- No Kentucky Glade Cress was found during the ecology survey.
- No caves or rock shelters were observed within the study area.
- The project area is within "Known Summer 1 Habitat" for both Indiana Bat and northern long eared bat. Further coordination with USFWS is required which will likely result in a Conservation

Memorandum of Agreement (CMOA) and a per acre payment to the Imperiled Bat Conservation Fund per the programmatic agreement between KYTC and USFWS.
• Suitable foraging habitat for gray bat is present along wooded intermittent streams in the study area.
• Bat habitat mitigation would cost an estimated $427,000 if the habitat impact is in the summer. Those costs would be less in non-summer months.
• Because anticipated impacts currently exceed 0.1 acre, wetland mitigation would be required.
• Stream mitigation is required for crossings with impacts greater than 300 feet of perennial or intermittent stream, or ephemeral stream impacts greater than 0.1 acre.
• Stream and wetland mitigation is estimated at $3.16 million. This estimate includes mitigation for intermittent stream and wetland impacts, along with ephemeral stream impacts that exceed 0.1 acre at a crossing.
• A Letter of Permission (LOP) and an Individual Water Quality Certification (WQC) will need to be submitted to the U.S. Army Corps of Engineers and Kentucky Division of Water, respectively.

Archaeology:
• Research identified 17 previous surveys that showed 32 archaeological sites within 2 km of the project area. There were no previously recorded NHRP sites within the project area.
• One historic archaeological site (historic school for African-American children built circa 1916 and used as a schoolhouse until circa 1956) is along Cooper Run Road. The school building was relocated to the Bullitt County Board of Education property in Shepherdsville around 2014. The site of the former school building is recommended not eligible for the National Register of Historic Places.
• 136.7 acres were surveyed by pedestrian survey supplemented with screened shovel testing. 3.8 acres were unsurveyed on the Southern Connector due to landowner denial of access (McCubbins tract). Based on other work in the project area, the McCubbins parcel is not likely to yield significant finds.
• Archaeological clearance is recommended for the portions of the project area that were surveyed.

Cultural Historic:
• The team identified and documented 20 cultural historic sites older than 50 years within the Area of Potential Effect.
• It was recommended that none of the 20 sites be considered eligible for the National Register of Historic Places under Criterion A, B or C.
• The Cultural Historic consultants recommended a finding of No Effect for the proposed project, and no further evaluation is needed.

HazMat/UST:
• An environmental database report showed three sites within a one mile radius of the project, but all of those sites fell outside of the project area.
• One UST, temporarily stored there by the property owner, was observed on the McGruder tract (Rolling Acres Farms) east of I-65.
• Interview with Mr. McGruder indicated that fill material being imported to his property is considered clean fill.
• Two solid waste debris dump sites were observed near Cooper Run Road.
• R/W takes for any KY 61 widening need to avoid the portion of the Ratliff tract used for an automobile salvage yard.
• The MP 114 HazMat/UST report was approved by Division of Environmental Analysis (DEA) and District 5 on August 1, 2016.

Socioeconomic:

• The proposed project would be compatible with existing land use plans east of I-65 (industrial use), but not west (agricultural and rural residential). However, the land use plan has not kept pace with the rapid development proposals in the project area. Several development proposals have been made for land along KY 61.
• No adverse impacts were identified to community resources.
• There are no commercial or residential relocations for any of the alternatives.
• This project would impact approximately 19.65 acres of prime and statewide important farmland soils, but would not impact any active farmland.
• There are no proposed relocations with either alternative, so there are no environmental justice impacts. There are also no pedestrian/bicycle facilities impacts from any of the alternatives.
• There would be low visual (viewshed) and construction activity impacts for the two build alternatives.
• No Section 4(f) or Section 6(f) resources were identified within the project area boundary.
• Low beneficial safety impacts would derive from the build alternatives.
• The socioeconomic report was approved by DEA and District 5 on July 11, 2016.

Traffic Noise:

• Eight noise receptors were evaluated, and a traffic noise impact is predicted at one receptor.
• Barriers were evaluated for each impacted receptor, however, feasibility requirements were not met for either alternative. Therefore, there are no recommended noise barriers for this project.
• The traffic noise report was approved by DEA and District 5 on August 1.

Permits Required:

This project will require a Letter of Permission (LOP) and an individual Water Quality Certification (WQC) from Division of Water regardless of the alternative selected due to intermittent stream impacts of over 500 feet in length

R/W and Utility Impacts

Right-of-way and utility issues were reviewed. Right-of way cost estimates prepared by District 5 R/W Division assume no donation of right-of-way; however, the 2016 – 2018 SYP right-of-way estimates are representative of initial “pledged donation” of the right-of-way by local government. With a federally funded project, a fair market value appraisal must be completed and a good faith offer made to the property owner is mandatory. The property owner can then decline the offer and opt to donate the property. From previous experiences, the property owner often opts to receive payment for the taking, and previously suggested donations are often not executed. The 40 percent court cost factor included in both estimates is considered standard.

The proposed Browning development will displace utilities. Relocation of those utilities will require coordination with KYTC to prevent double relocations. AT&T Legacy plans to replace the entire cable run from KY 44 to KY 245 as part of the MP 114 project. Conduit is being placed under Alpha Way (currently under construction) for use in pulling cable later.

Bicycle and Pedestrian Facilities

Ohm Drive Connector will be connecting KY 61 to the west of I-65 and Ohm Drive to the east of I-65. There are currently no bicycle or pedestrian facilities along either KY 61 or Ohm Drive. However, the interchange improvements at the I-65/KY 480 Interchange Exit 116 just north of the proposed project

will include the construction of sidewalks and a shared use path along KY 480. A shared use path is proposed for the south side of KY 480 from Stevens Drive to the newly constructed Alpha Way. Alpha Way intersects the proposed Ohm Drive Connector approximately 1000’ west of the connector tie to Ohm Drive.

Alpha Way has an urban typical that provides a 10’ berm outside the curb and gutter on both sides of the roadway. This berm is to accommodate the potential for bike and pedestrian facilities to be constructed along the roadway in the future. The project team made the decision to use the same typical utilizing the 10’ berm for the urban section for this project. The Ohm Drive Connector rural typical will have an 8’ paved shoulder to accommodate bicycle and pedestrian traffic across I-65 to KY 61.

In addition to the items noted above, the following considerations were discussed by the project team:
• Bullitt County planning and zoning requires all new construction to accommodate bike/pedestrian facilities
• Significant bike/pedestrian traffic are not present along the existing KY 61 corridor
• Public input has not expressed a desire for bike/pedestrian accommodations along KY 61 or the E-W connector
• Existing transit stops are not present along the existing corridor
• Planned transit stops are not currently anticipated along the proposed corridor

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PUBLIC INFORMATION PLAN

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

LOCAL STAKEHOLDERS

- Elected Officials
  - State Senator Dan Seum- (502) 564-8100; dan.seum@lrc.ky.gov
  - State Representative Linda Belcher – (502) 564-8100; linda.belcher@lrc.ky.gov
  - Bullitt County Judge Executive Melanie Roberts – (502) 543-2262; judgeroberts@windstream.net
  - Bullitt County Magistrate District 4 Joe Rayhill – (502) 299-4106; joe.rayhill@yahoo.com
  - Shepherdsville Mayor Curtis Hockenbury – (502) 543-2923 mayorhock@shepcity.com
  - Shepherdsville City Clerk – (502) 215-1529 trichmond@shepcity.com

- Local Agencies
  - Donnie Tinnell, Bullitt County Sheriff– (502) 543-2514; donnie.tinnell@bcky.org
  - Bullitt County E-911 Center – (502) 543-7074; fax (502) 955-5562
  - Joseph Shepherd, Bullitt County Schools Transportation Dept. – (502) 869-8031; joseph.shepherd@bullitt.kyschools.us
  - Hyte Rouse, Bullitt County Road Department – (502) 543-2510; hyterouse@windstream.net
  - Layne Troutman, Shepherdsville Fire Department – (502) 543-6833; ltroutman@shepfire.com

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

- Neighborhoods and their Mayors

TRUCKING FIRMS AND OUT OF STATE STAKEHOLDERS

Information will be distributed electronically to trucking firms via Rick Taylor at the Department of Vehicle Regulation (502-564-4540; rick.taylor@ky.gov). Information will also be posted on the 511 website (www.511.ky.gov) and on the 511 telephone information system.

PRESENTATIONS

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

MEDIA RELATIONS

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

MAINTENACE OF TRAFFIC

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Bullitt County

Ohm Drive Connector

I-65 New Interchange near MP 114.4

GENERAL NOTES

TRAFFIC CONTROL

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

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 current ***Standard Specifications for Road and Bridge Construction*** unless otherwise provided for in these notes. The lump sum bid to "Maintain and Control Traffic" shall also include, but is not limited to, the following items and operations:

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

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

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

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

On all roads other than I-65, the Contractor shall maintain a two-lane traveled way with a minimum lane width of 11 feet. However, during working hours, alternating one-way traffic may be allowed at the discretion of the Engineer, provided adequate signing and flagpersons are at the location. On I-65, the Contractor shall maintain three lanes in each direction with minimum lane width of 12 feet.

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

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

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

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

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

PROJECT PHASING

Due to traffic restrictions and utility coordination on this project, Phase 1 construction may occur independently of Phase 2, with the approval of the Engineer.

PHASE 1 - KY 61 AND COOPER RUN ROAD

PHASE 1A

The following roads will be closed to thru traffic only during this phase unless noted:

- Cooper Run Road (thru traffic closure will be the permanent condition)

No change in traffic patterns will occur along KY 61 other than a crossroad road closure at the southern intersection with Copper Run Road. Traffic traveling on Cooper Run Road will only be allowed to use the northern intersection with KY 61.

1-1 The Contractor shall construct the proposed Cooper Run Road Cul-de-sac.

PHASE 1B

The following roads will be closed to thru traffic only during this phase unless noted:

- KY 61 from north of Mary Foster Road to south of Newman Hill Road
- Cooper Run Road (thru traffic closure will be the permanent condition)

A temporary traffic restriction will be enforced on KY 61. Traffic traveling NB on KY 61 will be detoured along KY 245 EB to I-65 NB to KY 480 WB. Traffic traveling SB on KY 61 will be detoured along KY 480 EB to I-65 SB to KY 245 WB. Traffic traveling on Cooper Run Road will only be allowed to use the northern intersection with KY 61. Remove KY 61 Detour signing and open to traffic when KY 61 is complete.

1-2 The Contractor shall construct all of proposed KY 61 including the Cooper Run Road intersection and tie in, the guardrail for permanent road closure on Cooper Run Road, proposed Ohm Drive Connector intersection up to Sta. 105+00, Drive 259+50 RT, and Drive 261+18 RT tie in.

PHASE 2 - OHM DRIVE CONNECTOR, ALPHA WAY, RAMPS A-D, AND OHM DRIVE CONNECTOR BRIDGE

The posted speed limit on I-65 will be reduced to 55 mph through the construction zone for the duration of Phase 2 construction along I-65.

PHASE 2A

The following roads will be closed to thru traffic only during this phase unless noted:

- Buffalo Run Road (thru traffic closure will be the permanent condition)
- Alpha Way
- Ohm Drive

No change in traffic patterns will occur along I-65, a temporary shoulder restriction may occur during construction of the median pier. Refer to Standard Drawing TTC-135-02 (or current edition) for details.

2-1 The Contractor shall construct all of proposed Ohm Drive Connector from Sta. 142+00 to end of project, including temporary Drive 146+00 LT, Drive 149+50 LT tie in, Access Drive 51+85 LT and RT, Drive 149+50 RT and Cell Tower Drive tie in, Drive 155+40 RT, and Drive 166+60 RT.

2-2 The Contractor shall construct all of Alpha Way from Ohm Drive Connector to end of project.

2-3 The Contractor shall construct Pier #2, the median pier, along I-65 for the Ohm Drive Connector bridge.

PHASE 2B

The following roads will be closed to thru traffic only during this phase unless noted:
- Buffalo Run Road (thru traffic closure will be the permanent condition)
- Ohm Drive Connector (back of Sta. 165+50)
- Longacre Driveway

Traffic traveling on Alpha Way will be returned to normal conditions. Traffic traveling on proposed Ohm Drive Connector will only be allowed to access the newly constructed temporary and proposed driveways, Ohm Drive and Alpha Way. Traffic traveling on I-65 in both the NB and SB directions will be shifted towards the median.

2-4 The Contractor shall construct proposed Ohm Drive Connector from Sta. 105+00 up to and including Integral End Bent #1, Bridge Pier #1, Drive 111+50 LT, Drive 111+50 RT, and all of the proposed SB Ramps (A and C). Upon completion of ramp construction adjacent to I-65 SB, the Contractor shall shift the barrier wall outward to allow for traffic to return to normal conditions. Ramps will remain closed until the completion of this project, except when used during I-65 nighttime lane closure, when permitted within the contract.

2-5 The Contractor shall construct Bridge Pier #3, Integral End Bent #2, proposed Ohm Drive Connector from Integral End Bent #2 to Sta. 142+00, and all of the proposed NB Ramps (B and D). Upon completion of ramp construction adjacent to I-65 NB, the Contractor shall shift the barrier wall outward to allow for traffic to return to normal conditions. Ramps will remain closed until the completion of this project, except when used during I-65 nighttime lane closure, when permitted within the contract.

2-6 The Contractor shall construct all of the proposed Longacre Driveway tie in.

PHASE 2C

The following roads will be closed to thru traffic only during this phase unless noted:
- Ohm Drive Connector

At the conclusion of Phase 2B, the temporary barrier along all ramps shall be removed. Channelization devices and type 3 barricades shall be placed along Ramp A and Ramp D, except when the ramps are used during I-65 nighttime lane closures as permitted within the contract.

Access to Parcel 8 will return to normal conditions using the proposed Longacre Driveway. Traffic traveling on proposed Ohm Drive Connector will only be allowed to access the newly constructed proposed driveways, Ohm Drive and Alpha Way. Traffic on I-65 will return to normal conditions. However, during temporary nighttime closures for setting bridge beams, traffic traveling NB and SB on I-65 will be reduced to one lane of traffic and then detoured along the newly constructed ramps. See Standard Drawing TTC-125-03 (or current edition) for details on double lane closure for the inside and middle lanes. Lane closure may only occur between the hours of 10:00 P.M. to 5:00 A.M. and may only occur one direction at a time.

2-7 Upon completion of Integral End Bents #1 and #2 and Bridge Piers #1 and #3, the Contractor shall set bridge beams over I-65 during temporary nighttime lane closures and then complete any remaining bridge work under normal traffic conditions.

PHASE 3 - BRIDGE MOUNTED SIGNS AT THE PROPOSED OHM DRIVE CONNECTOR BRIDGE AND SIGN TRUSS I-65 STA. e 1383+70

The posted speed limit on I-65 will be reduced to 55 mph through the construction zone for the duration of Phase 3 construction along I-65.

The bridge mounted signs at the proposed Ohm Drive Connector bridge and the sign truss details are not shown in the Maintenance of Traffic Plans. See signing plans, Sheets T13-T59 for more information.

Installation of the bridge mounted signs at the proposed Ohm Drive Connector bridge will require a temporary nightly double lane closure along I-65 in both directions. Traffic traveling NB and SB on I-65 will be reduced to one lane of traffic and then detoured along the newly constructed ramps. Refer to Phase 2C plan sheets and Standard Drawing TTC-125-03 (or current edition) for additional information. Lane closure may only occur between the hours of 10:00 P.M. to 5:00 A.M. and may only occur one direction at a time.

Traffic traveling on I-65 in both directions will have a temporary night time median lane closure for the construction of the sign truss base and median barrier, refer to Standard Drawing TTC-115-03 (or current edition). In addition, both the median shoulders and the SB ramp shoulder may be closed to complete this construction, refer to Standard Drawing TTC-135-02 (or current edition). Closures shall be limited to the work area for the proposed sign truss. Installation of the sign truss will require a rolling road block along I-65 in the SB direction.

3-1 The Contractor shall install bridge mounted signs on the proposed Ohm Drive Connector bridge.

3-2 The Contractor shall construct a proposed sign truss at the north end of the I-65 SB off ramp to KY 480, I-65 Sta. e 1383+70. The right sign truss support and proposed guardrail will be along the outside ramp shoulder and the left sign truss support will be along the I-65 center median. The Contractor shall remove a portion of the existing median barrier and shoulder to construct the left sign truss support.

SPECIAL NOTES

PUBLIC INFORMATION PLAN (PIP)

KYTC District 5 Public Information Officer (PIO) will inform the motoring public and area stakeholders of project information including maintenance of traffic. The District Public Information Officer will coordinate and disseminate to stakeholders and the media appropriate information regarding the construction plans. Prior to construction, signs shall be in place per applicable standard drawing(s) and/or as directed by the Engineer over the project limits.

WORK ZONE ACCESS PLAN

The Contractor is required to develop a work zone access plan specifying entry and exit access locations for all work zones on the project. The Contractor shall submit work zone access details to the Engineer.

The work zone access plan shall be submitted for review and approval to KYTC officials at the pre-construction conference.

The contractor selected will need to supply a work plan for all activities associated with work in the median of I-65. The contractor may use I-65 to access the work site in the median or the shoulder area (for bridge abutment work) ONLY. Access to all other work sites shall be via local roads or other means outside of the interstate right-of-way.

ADVANCE NOTICE OF WORK

The Contractor shall give the Engineer seven (7) days advance notice of any work affecting traffic on I-65.

LANE CLOSURE

Any lane closure is paid under the item “Maintain and Control Traffic” and no direct payment will be made. Lane closures will not be permitted during inclement weather, including wet pavement conditions. Lane closures will not be permitted during holidays specified in these notes. Remove all lane closures during non-working hours.

Provide additional traffic control or flaggers as directed by the Engineer.

Prior to beginning construction, provide for approval by the Engineer a written plan for maintaining lane and shoulder closures during construction. Specifically identify locations where lane closures shall be in place and the anticipated duration of the closures. Include plans for signing required to implement and maintain the lane and shoulder closures. Channelization devices for lane closures shall be drums unless otherwise specified in the Maintenance of Traffic Plans.

COMPLETION DATE AND LIQUIDATED DAMAGES

FAILURE TO COMPLETE WORK ON TIME

Specified fixed completion date for this contract is November 1, 2020. For each calendar day beyond a fixed completion date of November 1, 2020, the Department will assess liquidated damages per Section 108.09 of the current edition of the ***Standard Specifications for Road and Bridge Construction***.

KY 61

The construction of widening on KY 61 is to be done during a full road closure not to exceed 42 calendar days, beginning no earlier than the first day of summer break for the Bullitt County School system. KY 61 is to be complete and open to traffic no less than one calendar week prior to the first day of school. Damages of $24,000 per day or fraction thereof amounting to $1000 per hour shall be assessed if KY 61 is closed outside of the allowed closure period. The Contractor may complete as much work as possible on KY 61 prior to initiating the full road closure. Traffic shall be maintained using flaggers or other methods as directed by the Engineer, including any advance warning signage. Message boards notifying the public of the closure shall be placed at either end of the construction zone a minimum of two weeks before the beginning of the closure period.

I-65 Placement of Bridge Beams

Temporary double lane closures should be used on I-65, in only one direction at a time, during evening hours for placement of beams for the proposed bridge over I-65. The third travel lane will be routed along the newly constructed ramps during this period. The days and periods of time this will be allowed are Monday through Saturday (excluding holidays) beginning at 10:00 P.M. and ending at 5:00 A.M. the following day. Failure to reopen the lanes by 5:00 A.M. will result in a penalty of $3,000 for the first hour or fraction thereof and $15,000 for any additional hour or fraction thereof for exceeding the allotted time. No lane closures along I-65 will be allowed on holidays as specified in the Maintenance of Traffic Notes.

I-65 Placement of Sign Truss

Rolling road blocks should be used on I-65 during evening hours for placement of the sign truss on SB I-65 at Sta. e1383+70. Traffic may be halted at the nearest interchange for a maximum of fifteen minutes on I-65. Successive road blocks will only be permitted once normal traffic flow has been restored. Traffic stoppage will only be permitted between the hours of 10:00 P.M. and 5:00 A.M. Failure to reopen the road after the 15-minute period will result in a penalty of $1,500 for the first 15-minute increment exceeding the allotted time, and $5,000 for each additional 15-minute increment. Rolling road blocks will not be allowed during the holidays specified in the Maintenance of Traffic Notes.

I-65 Placement of Bridge-Mounted Signs

Temporary double lane closures should be used on I-65, in only one direction at a time, during evening hours for placement of bridge-mounted signs on the proposed bridge over I-65. The third travel lane will be routed along the newly constructed ramps during this period. The days and periods of time this will be allowed are Monday through Saturday (excluding holidays) beginning at 10:00 P.M. and ending at 5:00 A.M. the following day. Failure to reopen the lanes by 5:00 A.M. will result in a penalty of $3,000 for the first hour or fraction thereof and $15,000 for any additional hour or fraction thereof for

exceeding the allotted time. No lane closures along I-65 will be allowed on holidays as specified in the Maintenance of Traffic Notes.

I-65 LANE CLOSURES

Temporary lane closures may be installed for construction operations adjacent to the traveled way. The days and periods of time this will be allowed are Monday thru Saturday (excluding holidays) beginning at 9:00 PM and ending at 6:00 AM the following day. Failure to reopen the lane by 6:00 AM. will result in a penalty of $3,000 for the first hour or fraction thereof and $15,000 any additional hour or fraction thereof for exceeding the allotted time. Prior to performing any construction sequence, the Contractor must apply in writing to the Engineer for approval of the period of time selected. The engineer at their discretion, can cancel or shorten any period of time before and during a construction sequence. If the engineer shortens a period of time before and during a construction sequence, the Contractor shall remove all equipment and install proper traffic control devices. No lane closures along I-65 will be allowed on holidays as specified in the Maintenance of Traffic Notes.

All liquidated damages will be applied cumulatively.

All other applicable portions of KYTC Standard Specification Section 108 apply.

SPECIFIED HOLIDAYS IN WHICH NO LANE CLOSURES ARE PERMITTED

No lane closures along I-65 will be allowed on the following days or nights:

Nov. 22-25, 2018	Thanksgiving holiday
Dec. 22-25, 2018	Christmas holiday
Dec. 29, 2018-Jan. 1, 2019	New Year’s holiday
April 19-21, 2019	Easter weekend
May 3-5, 2019	Kentucky Derby weekend
May 25-27, 2019	Memorial Day weekend
July 4-7, 2019	Independence Day weekend
Aug. 30-Sep.2, 2019	Labor Day weekend
Nov. 28-31, 2019	Thanksgiving holiday
Dec. 24-29, 2019	Christmas holiday
Dec. 28, 2019-Jan. 1, 2020	New Year’s holiday
April 10-12, 2020	Easter weekend
May 1-3, 2020	Kentucky Derby weekend
May 29-31, 2020	Memorial Day weekend
July 3-5, 2020	Independence Day weekend
Aug. 28-30, 2020	Labor Day weekend
Nov. 25-29, 2020	Thanksgiving holiday

VARIABLE MESSAGE SIGNS

Provide variable message signs on KY 61 and I-65 in advance of the proposed road and bridge construction at locations to be determined by the Engineer. Variable message signs are to inform the traveling public of the dates of proposed construction, times of proposed temporary lane shifts or detours and should be in place seven (7) days before the actual beginning of construction. For the full road closure on KY 61, the variable message boards shall be in place a minimum of two weeks prior to the closure. The locations designated may vary as the work progresses. The messages required to be provided will be designated by the Engineer. The variable message signs will be in operation at all times. In the event of damage or mechanical/electrical failure, the Contractor will repair or replace the variable message sign immediately. Variable message boards will be paid for once, no matter how many times they are removed or relocated. The department will not take possession of the signs upon completion of work.

CONTRACTOR VEHICLE

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

EXISTING GUARDRAIL

If existing guardrail is removed, the Contractor shall provide positive separation and the appropriate safety devices.

PAVEMENT DROP-OFF

A pavement edge that traffic is not expected to cross, except accidentally, should be treated as follows:

- Less than two inches - No protection required. Warning signs should be placed in advance of and throughout the drop-off area.
- Two to four inches - Plastic drums, vertical panels or barricades every 100 feet on tangent sections for speeds of 50 mph or greater. Cones may be used in place of plastic drums, panels and barricades during daylight hours. For tangent sections with speeds less than 50 mph and for curves, devices should be placed every 50 feet. Spacing of devices on tapered sections should be in accordance with the ***Manual on Uniform Traffic Control Devices***, current edition.
- Greater than four inches - positive separation or wedge with 3:1 or flatter slope needed. If there is five feet or more distance between the edge of the pavement and the drop-off, then drums, panel, or barricades may be used. If the drop-off is greater than 12 inches, positive separation is strongly encouraged. If concrete barriers are used, special reflective devices or steady burn lights should be used for overnight installations.

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

drop-off area.

Lesser treatment than those described above may be considered for low-volume local streets.

Payment will be allowed for DGA material used for wedging.

TEMPORARY ENTRANCES

Reasonable means of ingress and egress shall be maintained to all properties within the project limits. Access to fire hydrants must also be maintained at all times.

The Contractor shall notify all property owners twenty-four (24) hours in advanced of any driveway or entrance closing. Payment will be allowed at the unit price bid for all surfacing materials required to construct and maintain any temporary entrances which may be necessary, to provide access to the properties. However, no direct payment will be allowed for excavation and/or embankment.

SIGNS

Contrary to section 112, individual signs will be measured only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged signs or signs directed to be replaced by the Engineer due to poor legibility or reflectivity will not be measured for payment.

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GENERAL NOTES

TRAFFIC CONTROL

1. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE STANDARD DRAWINGS, CURRENT EDITIONS.

2. EXCEPT FOR THE ROADWAY AND TRAFFIC CONTROL BID ITEMS LISTED, ALL ITEMS OF WORK NECESSARY TO MAINTAIN AND CONTROL TRAFFIC WILL BE PAID AT THE LUMP SUM BID PRICE TO "MAINTAIN AND CONTROL TRAFFIC" AS SET FORTH IN THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION UNLESS OTHERWISE PROVIDED FOR IN THESE NOTES. THE LUMP SUM BID TO "MAINTAIN AND CONTROL TRAFFIC" SHALL ALSO INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING ITEMS AND OPERATIONS:

   A. ALL GRADING AND NECESSARY DRAINAGE (UNLESS A BID ITEM FOR DETOUR CONSTRUCTION IS INCLUDED) FOR THE TEMPORARY ROADWAY AND REMOVAL THEREOF, WHEN IT IS NO LONGER NEEDED. IF A BID ITEM FOR DETOUR CONSTRUCTION IS INCLUDED, GRADING AND DRAINAGE WILL BE PAID FOR IN THE BID ITEM "DETOUR CONSTRUCTION".

   B. ALL LABOR AND MATERIALS NECESSARY FOR CONSTRUCTION AND MAINTENANCE OF TRAFFIC CONTROL DEVICES AND MARKINGS.

   C. ALL FLAGPERSONS AND TRAFFIC CONTROL DEVICES SUCH AS, BUT NOT LIMITED TO, FLASHERS, SIGNS, BARRICADES AND VERTICAL PANELS, PLASTIC DRUMS (STEEL DRUMS WILL NOT BE PERMITTED) AND CONES NECESSARY FOR THE CONTROL AND PROTECTION OF VEHICULAR AND PEDESTRIAN TRAFFIC AS SPECIFIED IN THESE NOTES, THE PLANS, THE MUTCD OR THE ENGINEER.

3. ANY TEMPORARY TRAFFIC CONTROL ITEMS, DEVICES, MATERIALS AND INCIDENTALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR WHEN NO LONGER NEEDED.

4. ON ALL ROADS OTHER THAN I-65, THE CONTRACTOR SHALL MAINTAIN A TWO-LANE TRAVELED WAY WITH A MINIMUM LANE WIDTH OF 11 FEET. HOWEVER, DURING WORKING HOURS, ALTERNATING ONE-WAY TRAFFIC MAY BE ALLOWED AT THE DISCRETION OF THE ENGINEER, PROVIDED ADEQUATE SIGNING AND FLAGPERSONS ARE AT THE LOCATION. ON I-65, THE CONTRACTOR SHALL MAINTAIN THREE LANES IN EACH DIRECTION WITH MINIMUM LANE WIDTH OF 12 FEET.

5. THE CONTRACTOR SHALL COMPLETELY COVER ANY SIGNS, EITHER EXISTING, PERMANENT OR TEMPORARY, WHICH DO NOT PROPERLY APPLY TO THE CURRENT TRAFFIC PHASING, AND SHALL MAINTAIN THE COVERING UNTIL THE SIGNS ARE APPLICABLE OR ARE REMOVED.

6. IN GENERAL, ALL TRAFFIC CONTROL DEVICES SHALL BE PLACED STARTING AND PROCEEDING IN THE DIRECTION OF THE FLOW OF TRAFFIC AND REMOVED STARTING AND PROCEEDING IN THE DIRECTION OPPOSITE THE FLOW OF TRAFFIC.

7. THE ENGINEER AND THE CONTRACTOR, OR THEIR AUTHORIZED REPRESENTATIVES, SHALL REVIEW THE SIGNING BEFORE TRAFFIC IS ALLOWED TO USE ANY LANE CLOSURES, CROSSOVERS OR DETOURS. ALL SIGNING SHALL BE APPROVED BY THE ENGINEER BEFORE WORK CAN BE STARTED BY THE CONTRACTOR.

8. IF THE CONTRACTOR DESIRES TO DEVIATE FROM THE TRAFFIC CONTROL SCHEME AND CONSTRUCTION SCHEDULE OUTLINED IN THESE PLANS AND THIS PROPOSAL, THEY SHALL PREPARE AN ALTERNATE PLAN AND PRESENT IT IN WRITING TO THE ENGINEER. THIS ALTERNATE PLAN CAN BE USED ONLY AFTER REVIEW AND APPROVAL OF THE DIVISIONS OF TRAFFIC, DESIGN AND CONSTRUCTION, AND THE FEDERAL HIGHWAY ADMINISTRATION, WHERE APPLICABLE.

9. IF TRAFFIC SHOULD BE STOPPED DUE TO CONSTRUCTION OPERATIONS AND AN EMERGENCY VEHICLE ON AN OFFICIAL EMERGENCY RUN ARRIVES AT THE SCENE, THE CONTRACTOR SHALL MAKE THE PROVISIONS FOR THE PASSAGE OF THAT VEHICLE AS QUICKLY AS POSSIBLE.

10. ALL SIGNS NECESSARY FOR A MARKED DETOUR WILL BE PROVIDED BY THE CONTRACTOR AS REQUIRED BY STANDARD DRAWINGS AND THE MUTCD. SIGNS OUTSIDE THE PROJECT LIMITS SHALL BE PAID FOR BY THE SQUARE FOOT. THIS QUANTITY SHALL INCLUDE SIGN MOUNTING HARDWARE AND POSTS.

SPECIAL NOTES

PUBLIC INFORMATION PLAN (PIP)

KYTC DISTRICT 5 PUBLIC INFORMATION OFFICER (PIO) WILL INFORM THE MOTORING PUBLIC AND AREA STAKEHOLDERS OF PROJECT INFORMATION INCLUDING MAINTENANCE OF TRAFFIC. THE DISTRICT PUBLIC INFORMATION OFFICER WILL COORDINATE AND DISSEMINATE TO STAKEHOLDERS AND THE MEDIA APPROPRIATE INFORMATION REGARDING THE CONSTRUCTION PLANS. PRIOR TO CONSTRUCTION, SIGNS SHALL BE IN PLACE PER APPLICABLE STANDARD DRAWING(S) AND/OR AS DIRECTED BY THE ENGINEER OVER THE PROJECT LIMITS.

WORK ZONE ACCESS PLAN

THE CONTRACTOR IS REQUIRED TO DEVELOP A WORK ZONE ACCESS PLAN SPECIFYING ENTRY AND EXIT ACCESS LOCATIONS FOR ALL WORK ZONES ON THE PROJECT. THE CONTRACTOR SHALL SUBMIT WORK ZONE ACCESS DETAILS TO THE ENGINEER.

THE WORK ZONE ACCESS PLAN SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO KYTC OFFICIALS AT THE PRE-CONSTRUCTION CONFERENCE.

THE CONTRACTOR SELECTED WILL NEED TO SUPPLY A WORK PLAN FOR ALL ACTIVITIES ASSOCIATED WITH WORK IN THE MEDIAN OF I-65. THE CONTRACTOR MAY USE I-65 TO ACCESS THE WORK SITE IN THE MEDIAN OR THE SHOULDER AREA (FOR BRIDGE ABUTMENT WORK) ONLY. ACCESS TO ALL OTHER WORK SITES SHALL BE VIA LOCAL ROADS OR OTHER MEANS OUTSIDE OF THE INTERSTATE RIGHT-OF-WAY.

ADVANCED NOTICE OF WORK

THE CONTRACTOR SHALL GIVE THE ENGINEER SEVEN (7) DAYS ADVANCE NOTICE OF ANY WORK AFFECTING TRAFFIC ON I-65.

LANE CLOSURE

ANY LANE CLOSURE IS PAID UNDER THE ITEM "MAINTAIN AND CONTROL TRAFFIC" AND NO DIRECT PAYMENT WILL BE MADE. LANE CLOSURES WILL NOT BE PERMITTED DURING INCLEMENT WEATHER, INCLUDING WET PAVEMENT CONDITIONS. LANE CLOSURES WILL NOT BE PERMITTED DURING HOLIDAYS SPECIFIED IN THESE NOTES. REMOVE ALL LANE CLOSURES DURING NON-WORKING HOURS.

PROVIDE ADDITIONAL TRAFFIC CONTROL OR FLAGGERS AS DIRECTED BY THE ENGINEER.

PRIOR TO BEGINNING CONSTRUCTION, PROVIDE FOR APPROVAL BY THE ENGINEER A WRITTEN PLAN FOR MAINTAINING LANE AND SHOULDER CLOSURES DURING CONSTRUCTION. SPECIFICALLY IDENTIFY LOCATIONS WHERE LANE CLOSURES SHALL BE IN PLACE AND THE ANTICIPATED DURATION OF THE CLOSURES. INCLUDE PLANS FOR SIGNING REQUIRED TO IMPLEMENT AND MAINTAIN THE LANE AND SHOULDER CLOSURES. CHANNELIZATION DEVICES FOR LANE CLOSURES SHALL BE DRUMS UNLESS OTHERWISE SPECIFIED IN THE MAINTENANCE OF TRAFFIC PLANS.

COMPLETION DATE AND LIQUIDATED DAMAGES

FAILURE TO COMPLETE WORK ON TIME

SPECIFIED FIXED COMPLETION DATE FOR THIS CONTRACT IS NOVEMBER 1, 2020. FOR EACH CALENDAR DAY BEYOND A FIXED COMPLETION DATE OF NOVEMBER 1, 2020, THE DEPARTMENT WILL ASSESS LIQUIDATED DAMAGES PER SECTION 108.09 OF THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

KY 61

THE CONSTRUCTION OF WIDENING ON KY 61 IS TO BE DONE DURING A FULL ROAD CLOSURE NOT TO EXCEED 42 CALENDAR DAYS, BEGINNING NO EARLIER THAN THE FIRST DAY OF SUMMER BREAK FOR THE BULLITT COUNTY SCHOOL SYSTEM. KY 61 IS TO BE COMPLETE AND OPEN TO TRAFFIC NO LESS THAN ONE CALENDAR WEEK PRIOR TO THE FIRST DAY OF SCHOOL. DAMAGES OF $24,000 PER DAY OR FRACTION THEREOF AMOUNTING TO $1000 PER HOUR SHALL BE ASSESSED IF KY 61 IS CLOSED OUTSIDE OF THE ALLOWED CLOSURE PERIOD. THE CONTRACTOR MAY COMPLETE AS MUCH WORK AS POSSIBLE ON KY 61 PRIOR TO INITIATING THE FULL ROAD CLOSURE. TRAFFIC SHALL BE MAINTAINED USING FLAGGERS OR OTHER METHODS AS DIRECTED BY THE ENGINEER, INCLUDING ANY ADVANCE WARNING SIGNAGE. MESSAGE BOARDS NOTIFYING THE PUBLIC OF THE CLOSURE SHALL BE PLACED AT EITHER END OF THE CONSTRUCTION ZONE A MINIMUM OF TWO WEEKS BEFORE THE BEGINNING OF THE CLOSURE PERIOD.

I-65 PLACEMENT OF BRIDGE BEAMS

TEMPORARY DOUBLE LANE CLOSURES SHOULD BE USED ON I-65, IN ONLY ONE DIRECTION AT A TIME, DURING EVENING HOURS FOR PLACEMENT OF BEAMS FOR THE PROPOSED BRIDGE OVER I-65. THE THIRD TRAVEL LANE WILL BE ROUTED ALONG THE NEWLY CONSTRUCTED RAMPS DURING THIS PERIOD. THE DAYS AND PERIODS OF TIME THIS WILL BE ALLOWED ARE MONDAY THROUGH SATURDAY (EXCLUDING HOLIDAYS) BEGINNING AT 10:00 P.M. AND ENDING AT 5:00 A.M. THE FOLLOWING DAY. FAILURE TO REOPEN THE LANES BY 5:00 A.M. WILL RESULT IN A PENALTY OF $3,000 FOR THE FIRST HOUR OR FRACTION THEREOF AND $15,000 FOR ANY ADDITIONAL HOUR OR FRACTION THEREOF FOR EXCEEDING THE ALLOTTED TIME. NO LANE CLOSURES ALONG I-65 WILL BE ALLOWED ON HOLIDAYS AS SPECIFIED IN THE MAINTENANCE OF TRAFFIC NOTES.

I-65 PLACEMENT OF SIGN TRUSS

ROLLING ROAD BLOCKS SHOULD BE USED ON I-65 DURING EVENING HOURS FOR PLACEMENT OF THE SIGN TRUSS ON SB I-65 AT STA. E1383+70. TRAFFIC MAY BE HALTED AT THE NEAREST INTERCHANGE FOR A MAXIMUM OF FIFTEEN MINUTES ON I-65. SUCCESSIVE ROAD BLOCKS WILL ONLY BE PERMITTED ONCE NORMAL TRAFFIC FLOW HAS BEEN RESTORED. TRAFFIC STOPPAGE WILL ONLY BE PERMITTED BETWEEN THE HOURS OF 10:00 P.M. AND 5:00 A.M. FAILURE TO REOPEN THE ROAD AFTER THE 15-MINUTE PERIOD WILL RESULT IN A PENALTY OF $1,500 FOR THE FIRST 15-MINUTE INCREMENT EXCEEDING THE ALLOTTED TIME, AND $5,000 FOR EACH ADDITIONAL 15-MINUTE INCREMENT. ROLLING ROAD BLOCKS WILL NOT BE ALLOWED DURING THE HOLIDAYS SPECIFIED IN THE MAINTENANCE OF TRAFFIC NOTES.

I-65 PLACEMENT OF BRIDGE-MOUNTED SIGNS

TEMPORARY DOUBLE LANE CLOSURES SHOULD BE USED ON I-65, IN ONLY ONE DIRECTION AT A TIME, DURING EVENING HOURS FOR PLACEMENT OF BRIDGE-MOUNTED SIGNS ON THE PROPOSED BRIDGE OVER I-65. THE THIRD TRAVEL LANE WILL BE ROUTED ALONG THE NEWLY CONSTRUCTED RAMPS DURING THIS PERIOD. THE DAYS AND PERIODS OF TIME THIS WILL BE ALLOWED ARE MONDAY THROUGH SATURDAY (EXCLUDING HOLIDAYS) BEGINNING AT 10:00 P.M. AND ENDING AT 5:00 A.M. THE FOLLOWING DAY. FAILURE TO REOPEN THE LANES BY 5:00 A.M. WILL RESULT IN A PENALTY OF $3,000 FOR THE FIRST HOUR OR FRACTION THEREOF AND $15,000 FOR ANY ADDITIONAL HOUR OR FRACTION THEREOF FOR EXCEEDING THE ALLOTTED TIME. NO LANE CLOSURES ALONG I-65 WILL BE ALLOWED ON HOLIDAYS AS SPECIFIED IN THE MAINTENANCE OF TRAFFIC NOTES.

I-65 LANE CLOSURES

TEMPORARY LANE CLOSURES MAY BE INSTALLED FOR CONSTRUCTION OPERATIONS ADJACENT TO THE TRAVELED WAY. THE DAYS AND PERIODS OF TIME THIS WILL BE ALLOWED ARE MONDAY THRU SATURDAY (EXCLUDING HOLIDAYS) BEGINNING AT 9:00 PM AND ENDING AT 6:00 AM THE FOLLOWING DAY. FAILURE TO REOPEN THE LANE BY 6:00 AM. WILL RESULT IN A PENALTY OF $3,000 FOR THE FIRST HOUR OR FRACTION THEREOF AND $15,000 ANY ADDITIONAL HOUR OR FRACTION THEREOF FOR EXCEEDING THE ALLOTTED TIME. PRIOR TO PERFORMING ANY CONSTRUCTION SEQUENCE, THE CONTRACTOR MUST APPLY IN WRITING TO THE ENGINEER FOR APPROVAL OF THE PERIOD OF TIME SELECTED. THE ENGINEER AT THEIR DISCRETION, CAN CANCEL OR SHORTEN ANY PERIOD OF TIME BEFORE AND DURING A CONSTRUCTION SEQUENCE. IF THE ENGINEER SHORTENS A PERIOD OF TIME BEFORE AND DURING A CONSTRUCTION SEQUENCE, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND INSTALL PROPER TRAFFIC CONTROL DEVICES. NO LANE CLOSURES ALONG I-65 WILL BE ALLOWED ON HOLIDAYS AS SPECIFIED IN THE MAINTENANCE OF TRAFFIC NOTES.

ALL LIQUIDATED DAMAGES WILL BE APPLIED CUMULATIVELY.

ALL OTHER APPLICABLE PORTIONS OF KYTC STANDARD SPECIFICATION SECTION 108 APPLY.

SPECIFIED HOLIDAYS IN WHICH NO LANE CLOSURES ARE PERMITTED

NO LANE CLOSURES ALONG I-65 WILL BE ALLOWED ON THE FOLLOWING DAYS OR NIGHTS:

NOV. 22-25, 2018	THANKSGIVING HOLIDAY
DEC. 22-25, 2018	CHRISTMAS HOLIDAY
DEC. 29, 2018-JAN. 1, 2019	NEW YEAR'S HOLIDAY
APRIL 19-21, 2019	EASTER WEEKEND
MAY 3-5, 2019	KENTUCKY DERBY WEEKEND
MAY 25-27, 2019	MEMORIAL DAY WEEKEND
JULY 4-7, 2019	INDEPENDENCE DAY WEEKEND
AUG. 30-SEP. 2, 2019	LABOR DAY WEEKEND
NOV. 28-31, 2019	THANKSGIVING HOLIDAY
DEC. 24-29, 2019	CHRISTMAS HOLIDAY
DEC. 28, 2019-JAN. 1, 2020	NEW YEAR'S HOLIDAY
APRIL 10-12, 2020	EASTER WEEKEND
MAY 1-3, 2020	KENTUCKY DERBY WEEKEND
MAY 29-31, 2020	MEMORIAL DAY WEEKEND
JULY 3-5, 2020	INDEPENDENCE DAY WEEKEND
AUG. 28-30, 2020	LABOR DAY WEEKEND
NOV. 25-29, 2020	THANKSGIVING HOLIDAY

NOTES AND CONSTRUCTION PHASING
MAINTENANCE OF TRAFFIC
SHEET 1 OF 2

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SPECIAL NOTES (CONTINUED)

VARIABLE MESSAGE SIGNS

PROVIDE VARIABLE MESSAGE SIGNS ON KY 61 AND I-65 IN ADVANCE OF THE PROPOSED ROAD AND BRIDGE CONSTRUCTION AT LOCATIONS TO BE DETERMINED BY THE ENGINEER. VARIABLE MESSAGE SIGNS ARE TO INFORM THE TRAVELING PUBLIC OF THE DATES OF PROPOSED CONSTRUCTION, TIMES OF PROPOSED TEMPORARY LANE SHIFTS OR DETOURS AND SHOULD BE IN PLACE SEVEN (7) DAYS BEFORE THE ACTUAL BEGINNING OF CONSTRUCTION. FOR THE FULL ROAD CLOSURE ON KY 61, THE VARIABLE MESSAGE BOARDS SHALL BE IN PLACE A MINIMUM OF TWO WEEKS PRIOR TO THE CLOSURE. THE LOCATIONS DESIGNATED MAY VARY AS THE WORK PROGRESSES. THE MESSAGES REQUIRED TO BE PROVIDED WILL BE DESIGNATED BY THE ENGINEER. THE VARIABLE MESSAGE SIGNS WILL BE IN OPERATION AT ALL TIMES. IN THE EVENT OF DAMAGE OR MECHANICAL/ELECTRICAL FAILURE, THE CONTRACTOR WILL REPAIR OR REPLACE THE VARIABLE MESSAGE SIGN IMMEDIATELY. VARIABLE MESSAGE BOARDS WILL BE PAID FOR ONCE, NO MATTER HOW MANY TIMES THEY ARE REMOVED OR RELOCATED. THE DEPARTMENT WILL NOT TAKE POSSESSION OF THE SIGNS UPON COMPLETION OF WORK.

CONTRACTOR VEHICLES

THE CONTRACTOR'S VEHICLES SHALL ALWAYS MOVE WITH AND NOT AGAINST THE FLOW OF TRAFFIC. VEHICLES SHALL ENTER AND LEAVE THE WORK AREAS IN A MANNER WHICH WILL NOT BE HAZARDOUS TO OR INTERFERE WITH NORMAL TRAFFIC. VEHICLES SHALL NOT PARK OR STOP EXCEPT WITHIN WORK AREAS DESIGNATED BY THE ENGINEER.

EXISTING GUARDRAIL

IF EXISTING GUARDRAIL IS REMOVED, THE CONTRACTOR SHALL PROVIDE POSITIVE SEPARATION AND THE APPROPRIATE SAFETY DEVICES.

PAVEMENT DROP-OFF

A PAVEMENT EDGE THAT TRAFFIC IS NOT EXPECTED TO CROSS, EXCEPT ACCIDENTALLY, SHOULD BE TREATED AS FOLLOWS:

- LESS THAN TWO INCHES - NO PROTECTION REQUIRED. WARNING SIGNS SHOULD BE PLACED IN ADVANCE OF AND THROUGHOUT THE DROP-OFF AREA.
- TWO TO FOUR INCHES - PLASTIC DRUMS, VERTICAL PANELS OR BARRICADES EVERY 100 FEET ON TANGENT SECTIONS FOR SPEEDS OF 50 MPH OR GREATER. CONES MAY BE USED IN PLACE OF PLASTIC DRUMS, PANELS AND BARRICADES DURING DAYLIGHT HOURS. FOR TANGENT SECTIONS WITH SPEEDS LESS THAN 50 MPH AND FOR CURVES, DEVICES SHOULD BE PLACED EVERY 50 FEET. SPACING OF DEVICES ON TAPERED SECTIONS SHOULD BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
- GREATER THAN FOUR INCHES - POSITIVE SEPARATION OR WEDGE WITH 3:1 OR FLATTER SLOPE NEEDED. IF THERE IS FIVE FEET OR MORE DISTANCE BETWEEN THE EDGE OF THE PAVEMENT AND THE DROP-OFF, THEN DRUMS, PANEL, OR BARRICADES MAY BE USED. IF THE DROP-OFF IS GREATER THAN 12 INCHES, POSITIVE SEPARATION IS STRONGLY ENCOURAGED. IF CONCRETE BARRIERS ARE USED, SPECIAL REFLECTIVE DEVICES OR STEADY BURN LIGHTS SHOULD BE USED FOR OVERNIGHT INSTALLATIONS.

FOR TEMPORARY CONDITIONS, DROP-OFFS GREATER THAN FOUR INCHES MAY BE PROTECTED WITH PLASTIC DRUMS, VERTICAL PANELS OR BARRICADES FOR SHORT DISTANCES DURING DAYLIGHT HOURS WHILE WORK IS BEING DONE IN THE DROP-OFF AREA.

LESSER TREATMENTS THAN THOSE DESCRIBED ABOVE MAY BE CONSIDERED FOR LOW-VOLUME LOCAL STREETS.

PAYMENT WILL BE ALLOWED FOR DGA MATERIAL USED FOR WEDGING.

TEMPORARY ENTRANCES

REASONABLE MEANS OF INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. ACCESS TO FIRE HYDRANTS MUST ALSO BE MAINTAINED AT ALL TIMES.

THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS TWENTY-FOUR (24) HOURS IN ADVANCED OF ANY DRIVEWAY OR ENTRANCE CLOSING. PAYMENT WILL BE ALLOWED AT THE UNIT PRICE BID FOR ALL SURFACING MATERIALS REQUIRED TO CONSTRUCT AND MAINTAIN ANY TEMPORARY ENTRANCES WHICH MAY BE NECESSARY, TO PROVIDE ACCESS TO THE PROPERTIES. HOWEVER, NO DIRECT PAYMENT WILL BE ALLOWED FOR EXCAVATION AND/OR EMBANKMENT.

SIGNS

CONTRARY TO SECTION 112, INDIVIDUAL SIGNS WILL BE MEASURED ONLY ONCE FOR PAYMENT, REGARDLESS OF HOW MANY TIMES THEY ARE SET, RESET, REMOVED, AND RELOCATED DURING THE DURATION OF THE PROJECT. REPLACEMENTS FOR DAMAGED SIGNS OR SIGNS DIRECTED TO BE REPLACED BY THE ENGINEER DUE TO POOR LEGIBILITY OR REFLECTIVITY WILL NOT BE MEASURED FOR PAYMENT.

CONSTRUCTION PHASING NOTES

DUE TO TRAFFIC RESTRICTIONS AND UTILITY COORDINATION ON THIS PROJECT, PHASE I CONSTRUCTION MAY OCCUR INDEPENDENTLY OF PHASE 2, WITH THE APPROVAL OF THE ENGINEER.

PHASE I - KY 61 AND COOPER RUN ROAD

PHASE 1A

THE FOLLOWING ROADS WILL BE CLOSED TO THRU TRAFFIC ONLY DURING THIS PHASE UNLESS NOTED:
- COOPER RUN ROAD (THRU TRAFFIC CLOSURE WILL BE THE PERMANENT CONDITION)

NO CHANGE IN TRAFFIC PATTERNS WILL OCCUR ALONG KY 61 OTHER THAN A CROSSROAD ROAD CLOSURE AT THE SOUTHERN INTERSECTION WITH COOPER RUN ROAD. TRAFFIC TRAVELING ON COOPER RUN ROAD WILL ONLY BE ALLOWED TO USE THE NORTHERN INTERSECTION WITH KY 61.

(1-1) THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED COOPER RUN ROAD CUL-DE-SAC.

PHASE 1B

THE FOLLOWING ROADS WILL BE CLOSED TO THRU TRAFFIC ONLY DURING THIS PHASE UNLESS NOTED:
- KY 61 FROM NORTH OF MARY FOSTER ROAD TO SOUTH OF NEWMAN HILL ROAD.
- COOPER RUN ROAD (THRU TRAFFIC CLOSURE WILL BE THE PERMANENT CONDITION)

A TEMPORARY TRAFFIC RESTRICTION WILL BE ENFORCED ON KY 61. TRAFFIC TRAVELING NB ON KY 61 WILL BE DETOURED ALONG KY 245 EB TO I-65 NB TO KY 480 WB. TRAFFIC TRAVELING SB ON KY 61 WILL BE DETOURED ALONG KY 480 EB TO I-65 SB TO KY 245 WB. TRAFFIC TRAVELING ON COOPER RUN ROAD WILL ONLY BE ALLOWED TO USE THE NORTHERN INTERSECTION WITH KY 61. REMOVE KY 61 DETOUR SIGNING AND OPEN TO TRAFFIC WHEN KY 61 IS COMPLETE.

(1-2) THE CONTRACTOR SHALL CONSTRUCT ALL OF PROPOSED KY 61 INCLUDING THE COOPER RUN ROAD INTERSECTION AND TIE IN, THE GUARDRAIL FOR PERMANENT ROAD CLOSURE ON COOPER RUN ROAD, PROPOSED OHM DRIVE CONNECTOR INTERSECTION UP TO STA. 105+00, DRIVE 259+50 RT, AND DRIVE 261+18 RT TIE IN.

PHASE 2 - OHM DRIVE CONNECTOR, ALPHA WAY, RAMPS A-D, AND OHM DRIVE CONNECTOR BRIDGE

THE POSTED SPEED LIMIT ON I-65 WILL BE REDUCED TO 55 MPH THROUGH THE CONSTRUCTION ZONE FOR THE DURATION OF PHASE 2 CONSTRUCTION ALONG I-65.

PHASE 2A

THE FOLLOWING ROADS WILL BE CLOSED TO THRU TRAFFIC ONLY DURING THIS PHASE UNLESS NOTED:
- BUFFALO RUN ROAD (THRU TRAFFIC CLOSURE WILL BE THE PERMANENT CONDITION)
- ALPHA WAY
- OHM DRIVE

NO CHANGE IN TRAFFIC PATTERNS WILL OCCUR ALONG I-65, A TEMPORARY SHOULDER RESTRICTION MAY OCCUR DURING CONSTRUCTION OF THE MEDIAN PIER. REFER TO STANDARD DRAWING TTC-135-02 (OR CURRENT EDITION) FOR DETAILS.

(2-1) THE CONTRACTOR SHALL CONSTRUCT ALL OF PROPOSED OHM DRIVE CONNECTOR FROM STA. 142+00 TO END OF PROJECT, INCLUDING TEMPORARY DRIVE 146+00 LT, DRIVE 149+50 LT TIE IN, ACCESS DRIVE 51+85 LT AND RT, DRIVE 149+50 RT AND CELL TOWER DRIVE TIE IN, DRIVE 155+40 RT, AND DRIVE 166+60 RT.

(2-2) THE CONTRACTOR SHALL CONSTRUCT ALL OF ALPHA WAY FROM OHM DRIVE CONNECTOR TO END OF PROJECT.

(2-3) THE CONTRACTOR SHALL CONSTRUCT PIER #2, THE MEDIAN PIER, ALONG I-65 FOR THE OHM DRIVE CONNECTOR BRIDGE.

PHASE 2B

THE FOLLOWING ROADS WILL BE CLOSED TO THRU TRAFFIC ONLY DURING THIS PHASE UNLESS NOTED:
- BUFFALO RUN ROAD (THRU TRAFFIC CLOSURE WILL BE THE PERMANENT CONDITION)
- OHM DRIVE CONNECTOR (BACK OF STA. 165+50)
- LONGACRE DRIVEWAY

TRAFFIC TRAVELING ON ALPHA WAY WILL BE RETURNED TO NORMAL CONDITIONS. TRAFFIC TRAVELING ON PROPOSED OHM DRIVE CONNECTOR WILL ONLY BE ALLOWED TO ACCESS THE NEWLY CONSTRUCTED TEMPORARY AND PROPOSED DRIVEWAYS, OHM DRIVE AND ALPHA WAY. TRAFFIC TRAVELING ON I-65 IN BOTH THE NB AND SB DIRECTIONS WILL BE SHIFTED TOWARDS THE MEDIAN.

PHASE 2B (CONTINUED)

(2-4) THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-5) THE CONTRACTOR SHALL CONSTRUCT BRIDGE PIER #3, INTEGRAL END BENT #2, PROPOSED OHM DRIVE CONNECTOR FROM INTEGRAL END BENT #2 TO STA. 142+00, AND ALL OF THE PROPOSED NB RAMPS (B AND D). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 NB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-6) THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

PHASE 2C

THE FOLLOWING ROADS WILL BE CLOSED TO THRU TRAFFIC ONLY DURING THIS PHASE UNLESS NOTED:
- OHM DRIVE CONNECTOR

AT THE CONCLUSION OF PHASE 2B, THE TEMPORARY BARRIER ALONG ALL RAMPS SHALL BE REMOVED. CHANNELIZATION DEVICES AND TYPE 3 BARRICADES SHALL BE PLACED ALONG RAMP A AND RAMP D, EXCEPT WHEN THE RAMPS ARE USED DURING I-65 NIGHTTIME LANE CLOSURES AS PERMITTED WITHIN THE CONTRACT.

ACCESS TO PARCEL 8 WILL RETURN TO NORMAL CONDITIONS USING THE PROPOSED LONGACRE DRIVEWAY. TRAFFIC TRAVELING ON PROPOSED OHM DRIVE CONNECTOR WILL ONLY BE ALLOWED TO ACCESS THE NEWLY CONSTRUCTED PROPOSED DRIVEWAYS, OHM DRIVE AND ALPHA WAY. TRAFFIC ON I-65 WILL RETURN TO NORMAL CONDITIONS. HOWEVER, DURING TEMPORARY NIGHTTIME CLOSURES FOR SETTING BRIDGE BEAMS, TRAFFIC TRAVELING NB AND SB ON I-65 WILL BE REDUCED TO ONE LANE OF TRAFFIC AND THEN DETOURED ALONG THE NEWLY CONSTRUCTED RAMPS. SEE STANDARD DRAWING TTC-125-03 (OR CURRENT EDITION) FOR DETAILS ON DOUBLE LANE CLOSURE FOR THE INSIDE AND MIDDLE LANES. LANE CLOSURE MAY ONLY OCCUR BETWEEN THE HOURS OF 10:00 P.M. TO 5:00 A.M. AND MAY ONLY OCCUR IN ONE DIRECTION AT A TIME.

(2-7) UPON COMPLETION OF INTEGRAL END BENTS #1 AND #2 AND BRIDGE PIERS #1 AND #3, THE CONTRACTOR SHALL SET BRIDGE BEAMS OVER I-65 DURING TEMPORARY NIGHTTIME LANE CLOSURES AND THEN COMPLETE ANY REMAINING BRIDGE WORK UNDER NORMAL TRAFFIC CONDITIONS.

PHASE 3 - BRIDGE MOUNTED SIGNS AT THE PROPOSED OHM DRIVE CONNECTOR BRIDGE AND SIGN TRUSS I-65 STA. ℮ 1383+70

THE POSTED SPEED LIMIT ON I-65 WILL BE REDUCED TO 55 MPH THROUGH THE CONSTRUCTION ZONE FOR THE DURATION OF PHASE 3 CONSTRUCTION ALONG I-65.

THE BRIDGE MOUNTED SIGNS AT THE PROPOSED OHM DRIVE CONNECTOR BRIDGE AND THE SIGN TRUSS DETAILS ARE NOT SHOWN IN THE MAINTENANCE OF TRAFFIC PLANS. SEE SIGNING PLANS, SHEETS T13-T59 FOR MORE INFORMATION.

INSTALLATION OF THE BRIDGE MOUNTED SIGNS AT THE PROPOSED OHM DRIVE CONNECTOR BRIDGE WILL REQUIRE A TEMPORARY NIGHTLY DOUBLE LANE CLOSURE ALONG I-65 IN BOTH DIRECTIONS. TRAFFIC TRAVELING NB AND SB ON I-65 WILL BE REDUCED TO ONE LANE OF TRAFFIC AND THEN DETOURED ALONG THE NEWLY CONSTRUCTED RAMPS. REFER TO PHASE 2C PLANS SHEETS AND STANDARD DRAWING TTC-125-03 (OR CURRENT EDITION) FOR ADDITIONAL INFORMATION. LANE CLOSURE MAY ONLY OCCUR BETWEEN THE HOURS OF 10:00 P.M. TO 5:00 A.M. AND MAY ONLY OCCUR IN ONE DIRECTION AT A TIME.

TRAFFIC TRAVELING ON I-65 IN BOTH DIRECTIONS WILL HAVE A TEMPORARY NIGHT TIME MEDIAN LANE CLOSURE FOR THE CONSTRUCTION OF THE SIGN TRUSS BASE AND MEDIAN BARRIER, REFER TO STANDARD DRAWING TTC-115-03 (OR CURRENT EDITION). IN ADDITION, BOTH THE MEDIAN SHOULDERS AND THE SB RAMP SHOULDER MAY BE CLOSED TO COMPLETE THIS CONSTRUCTION, REFER TO STANDARD DRAWING TTC-135-02 (OR CURRENT EDITION). CLOSURES SHALL BE LIMITED TO THE WORK AREA FOR THE PROPOSED SIGN TRUSS. INSTALLATION OF THE SIGN TRUSS WILL REQUIRE A ROLLING ROAD BLOCK ALONG I-65 IN THE SB DIRECTION.

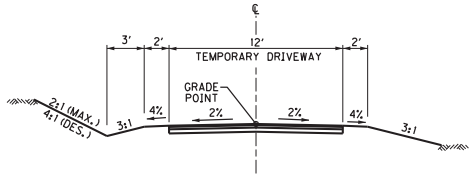
(3-1) THE CONTRACTOR SHALL INSTALL BRIDGE MOUNTED SIGNS ON THE PROPOSED OHM DRIVE CONNECTOR BRIDGE.

(3-2) THE CONTRACTOR SHALL CONSTRUCT A PROPOSED SIGN TRUSS AT THE NORTH END OF THE I-65 SB OFF RAMP TO KY 480, I-65 STA. ℮ 1383+70. THE RIGHT SIGN TRUSS SUPPORT AND PROPOSED GUARDRAIL WILL BE ALONG THE OUTSIDE RAMP SHOULDER AND THE LEFT SIGN TRUSS SUPPORT WILL BE ALONG THE I-65 CENTER MEDIAN. THE CONTRACTOR SHALL REMOVE A PORTION OF THE EXISTING MEDIAN BARRIER AND SHOULDER TO CONSTRUCT THE LEFT SIGN TRUSS SUPPORT.

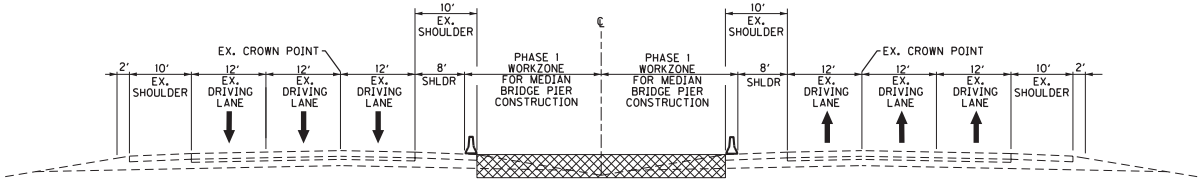
NOTES AND CONSTRUCTION PHASING MAINTENANCE OF TRAFFIC SHEET 2 OF 2

COUNTY OF	ITEM NO.	SHEET
BULLITT	5-538.00	R113

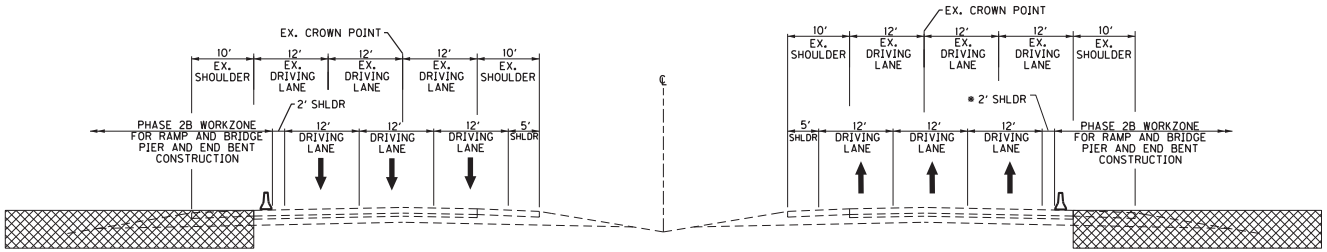
TYPICAL SECTIONS



TEMPORARY DRIVE 146+00 LT



PHASE 2A – EXISTING I–65
STA. b 1302+00 TO STA. b 1305+00



PHASE 2B – EXISTING I–65

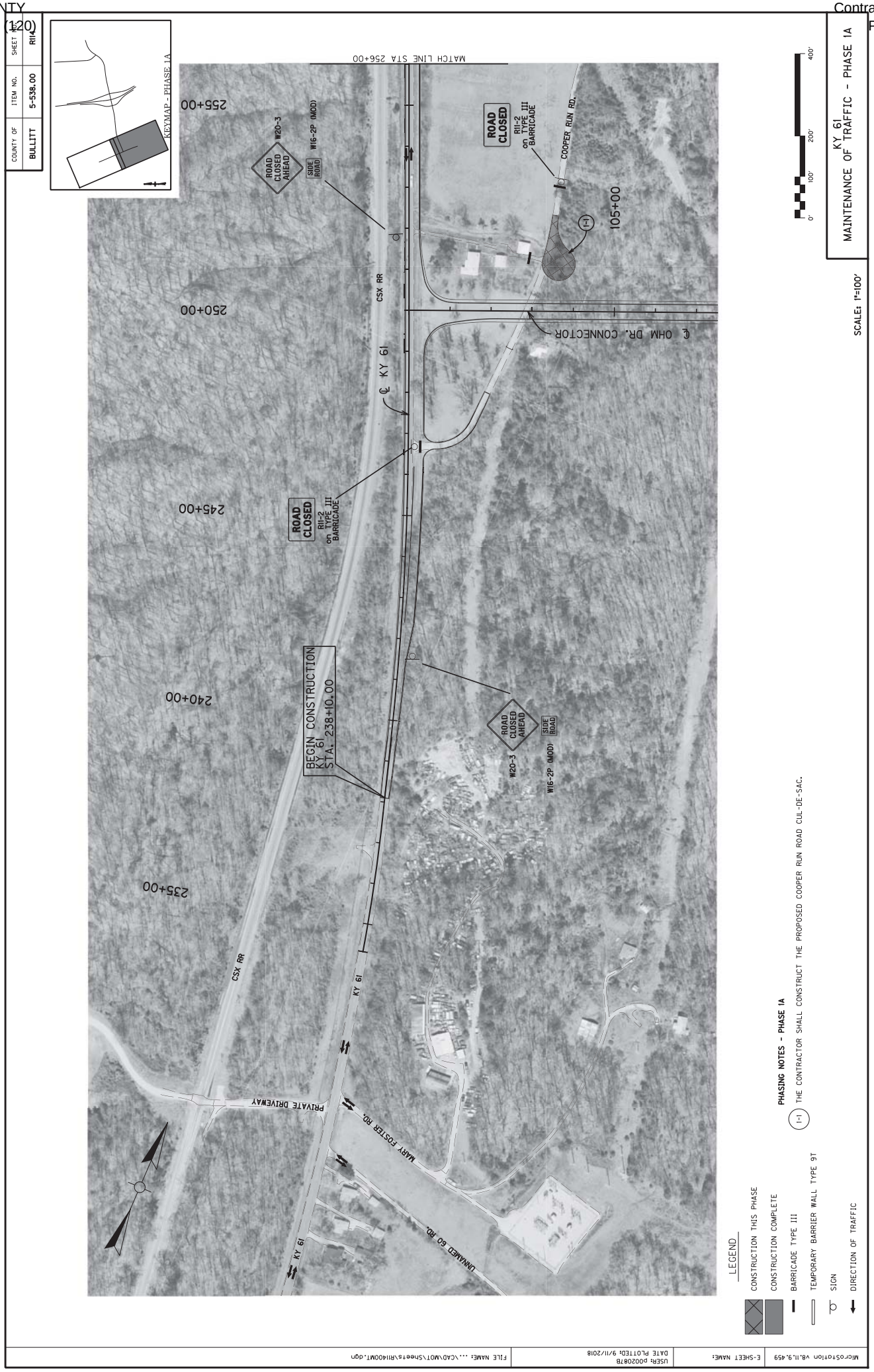
STA. 1277+90 TO STA. c 1336+00 – NB
STA. 1274+20 TO STA. c 1329+80 – SB

*** 5' MIN SHOULDER REQUIRED FOR NB**
HORIZONTAL STOPPING SIGHT DISTANCE
FROM STA. b 1299+95 TO STA. b 1305+55

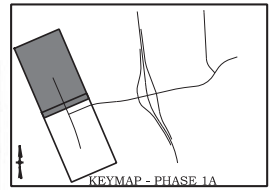
SCALE: N.T.S.

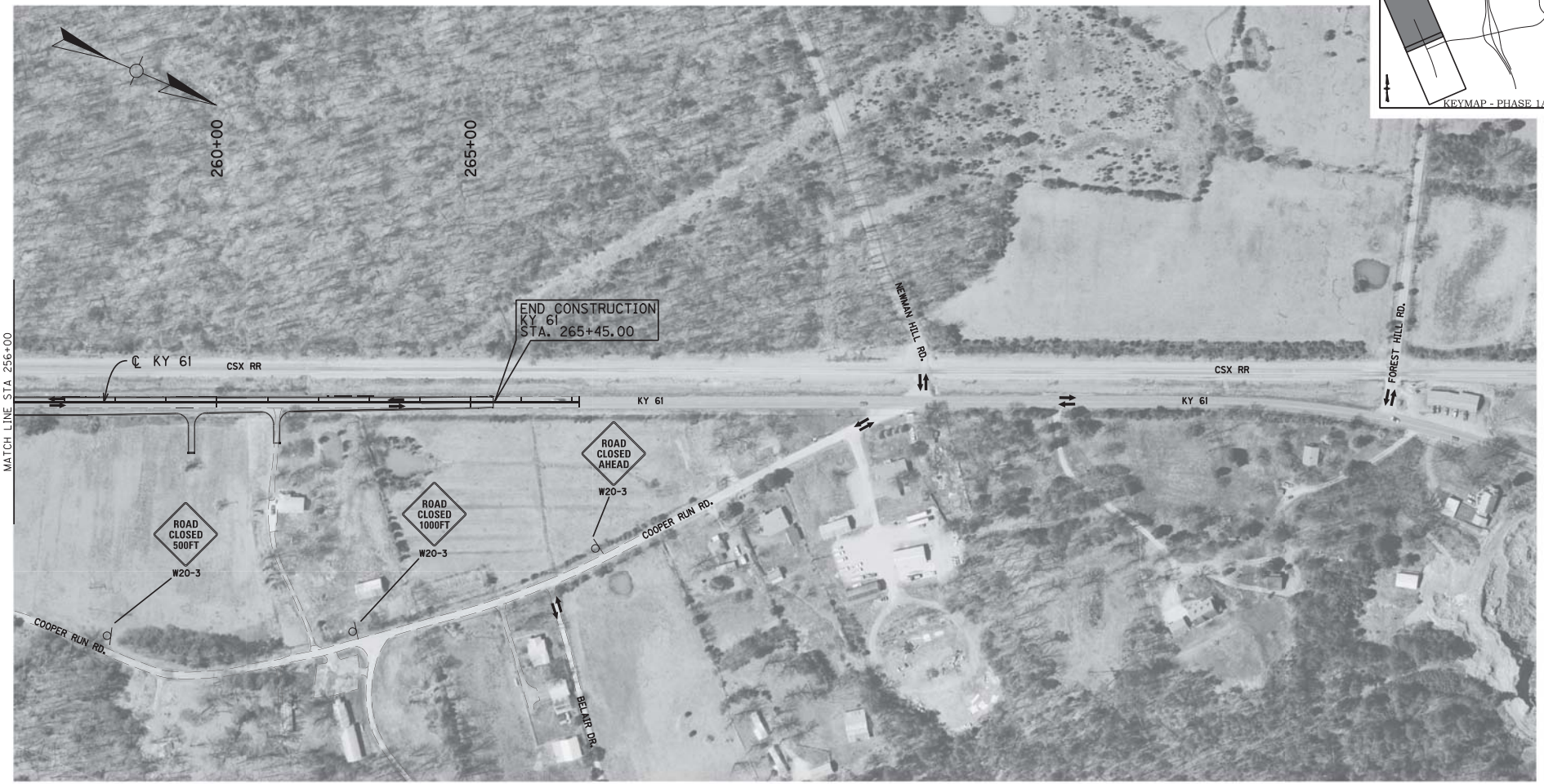
TYPICAL SECTIONS
MAINTENACE OF TRAFFIC

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: a002078 DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\RI130OMT.dgn


KY 61
MAINTENANCE OF TRAFFIC - PHASE 1A
SCALE: 1"=100'
0' 100' 200' 400'
COUNTY OF BULLITT
ITEM NO. 5-538.00
SHEET NO. RII4
KEYMAP - PHASE 1A
MATCH LINE STA 256+00
255+00
250+00
245+00
240+00
235+00
105+00
ROAD CLOSED
RII-2 on TYPE III BARRICADE
COOPER RUN RD.
℄ OHM DR. CONNECTOR
℄ KY 61
CSX RR
ROAD CLOSED AHEAD
W20-3
W16-2P (MOD)
SIDE ROAD
BEGIN CONSTRUCTION
KY 61
STA. 238+10.00
PRIVATE DRIVEWAY
MARY FOSTER RD.
UNNAMED GO RD.
PHASING NOTES - PHASE 1A
(1-1) THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED COOPER RUN ROAD CUL-DE-SAC.
LEGEND
CONSTRUCTION THIS PHASE
CONSTRUCTION COMPLETE
BARRICADE TYPE III
TEMPORARY BARRIER WALL TYPE 9T
SIGN
DIRECTION OF TRAFFIC
MicroStation v8.11.9.459
E-SHEET NAME:
USER: pd020878
DATE PLOTTED: 9/11/2018
FILE NAME: ...\CAD\MOT\Sheets\RII40OMT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	RIIS





LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

PHASING NOTES - PHASE 1A

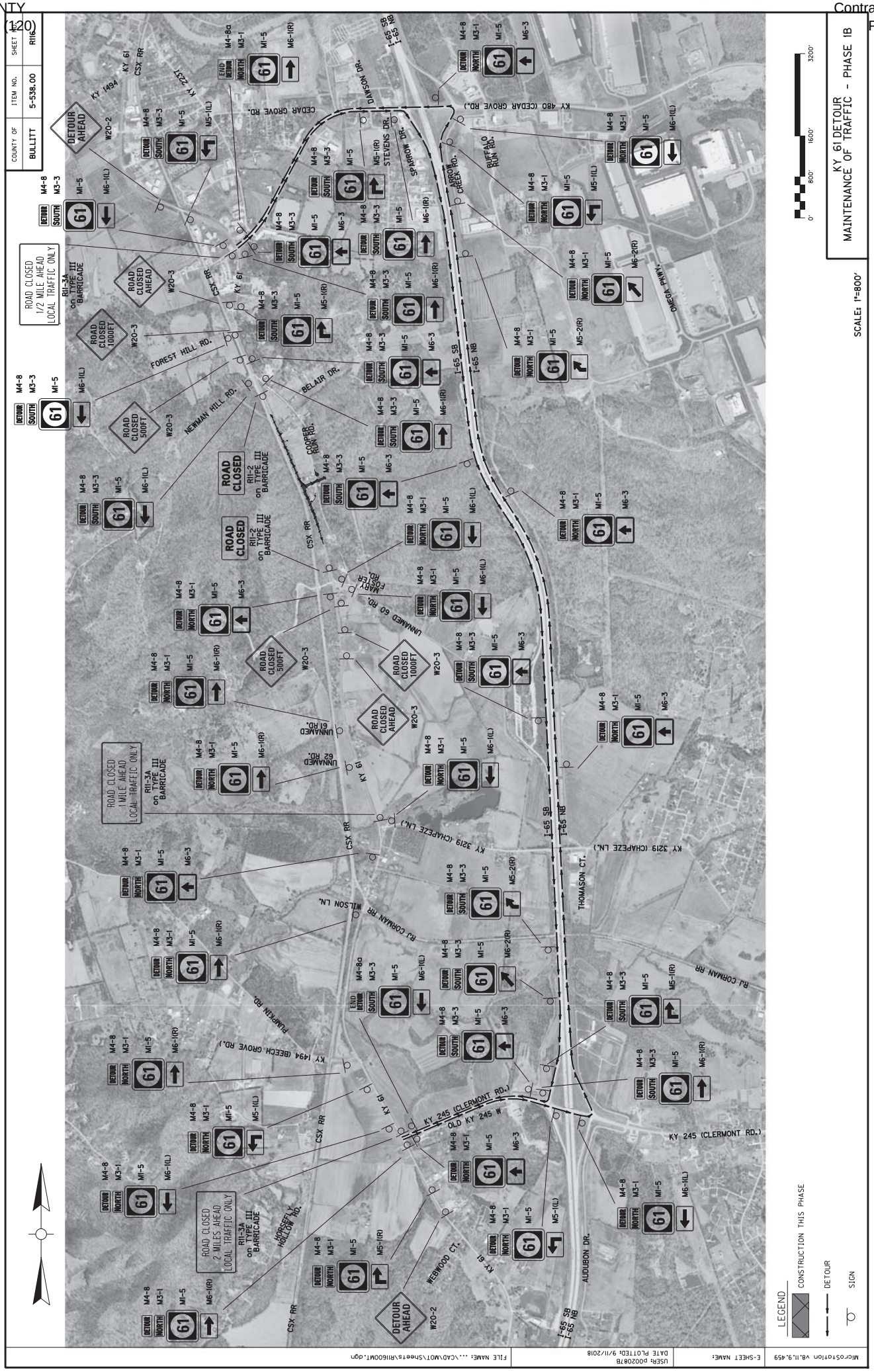
(1-1) THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED COOPER RUN ROAD CUL-DE-SAC.

0' 100' 200' 400'

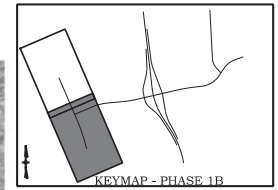
SCALE: 1"=100'

KY 61
MAINTENANCE OF TRAFFIC - PHASE 1A

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: 000208TB DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\RI500MT.dgn


KY 61 DETOUR
MAINTENANCE OF TRAFFIC - PHASE IB
SCALE: 1"=800'
0'
800'
1600'
3200'
COUNTY OF
BULLITT
ITEM NO.
5-538.00
SHEET #
RI16
LEGEND
CONSTRUCTION THIS PHASE
DETOUR
SIGN
DETOUR AHEAD
ROAD CLOSED 1/2 MILE AHEAD LOCAL TRAFFIC ONLY
ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY
ROAD CLOSED 2 MILES AHEAD LOCAL TRAFFIC ONLY
ROAD CLOSED
ROAD CLOSED AHEAD
ROAD CLOSED 500FT
ROAD CLOSED 1000FT
RI1-3A on TYPE III BARRICADE
RI1-2 on TYPE III BARRICADE
I-65 SB
I-65 NB
KY 61
CSX RR
KY 1494
KY 2231
KY 480 (CEDAR GROVE RD.)
KY 3219 (CHAPEZE LN.)
KY 245 (CLERMONT RD.)
OLD KY 245 W
KY 191
KY 1494 (BEECH GROVE RD.)
CEDAR GROVE RD.
DAWSON DR.
STEVENS DR.
SPARROW DR.
BUFFALO RUN RD.
ARROW CREEK RD.
OMEGA PKWY.
FOREST HILL RD.
NEWMAN HILL RD.
BELAIR DR.
COOPER RUN RD.
MARY FISHER RD.
UNNAMED 60 RD.
UNNAMED 61 RD.
UNNAMED 62 RD.
RJ CORMAN RR
WILSON LN.
PUMPKIN RD.
HORSEFLY HOLLOW RD.
WEEWOOD CT.
AUDUBON DR.
THOMASON CT.
DETOUR SOUTH
DETOUR NORTH
END DETOUR SOUTH
M4-8
M3-3
M1-5
M6-1(L)
M6-1(R)
M5-1(L)
M5-1(R)
M5-2(R)
M6-2(R)
M6-3
M4-8a
M3-1
W20-2
W20-3
MicroStation v8.11.9.459
E-SHEET NAME:
USER: pd020878
DATE PLOTTED: 9/11/2018
FILE NAME: ...\CAD\MOT\Sheets\RI16OMT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R117



LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

NOTE: SIGNS AND DETOUR ASSEMBLIES ON THIS SHEET ARE ALSO SHOWN ON SHEET R116 UNLESS OTHERWISE NOTED.

PHASING NOTES - PHASE 1B

(I-2) THE CONTRACTOR SHALL CONSTRUCT ALL OF PROPOSED KY 61 INCLUDING THE COOPER RUN ROAD INTERSECTION AND TIE IN, THE GUARDRAIL FOR PERMANENT ROAD CLOSURE ON COOPER RUN ROAD, PROPOSED OHM DRIVE CONNECTOR INTERSECTION UP TO STA. 105+00, DRIVE 259+50 RT, AND DRIVE 261+18 RT TIE IN.

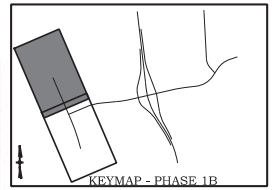
0' 100' 200' 400'

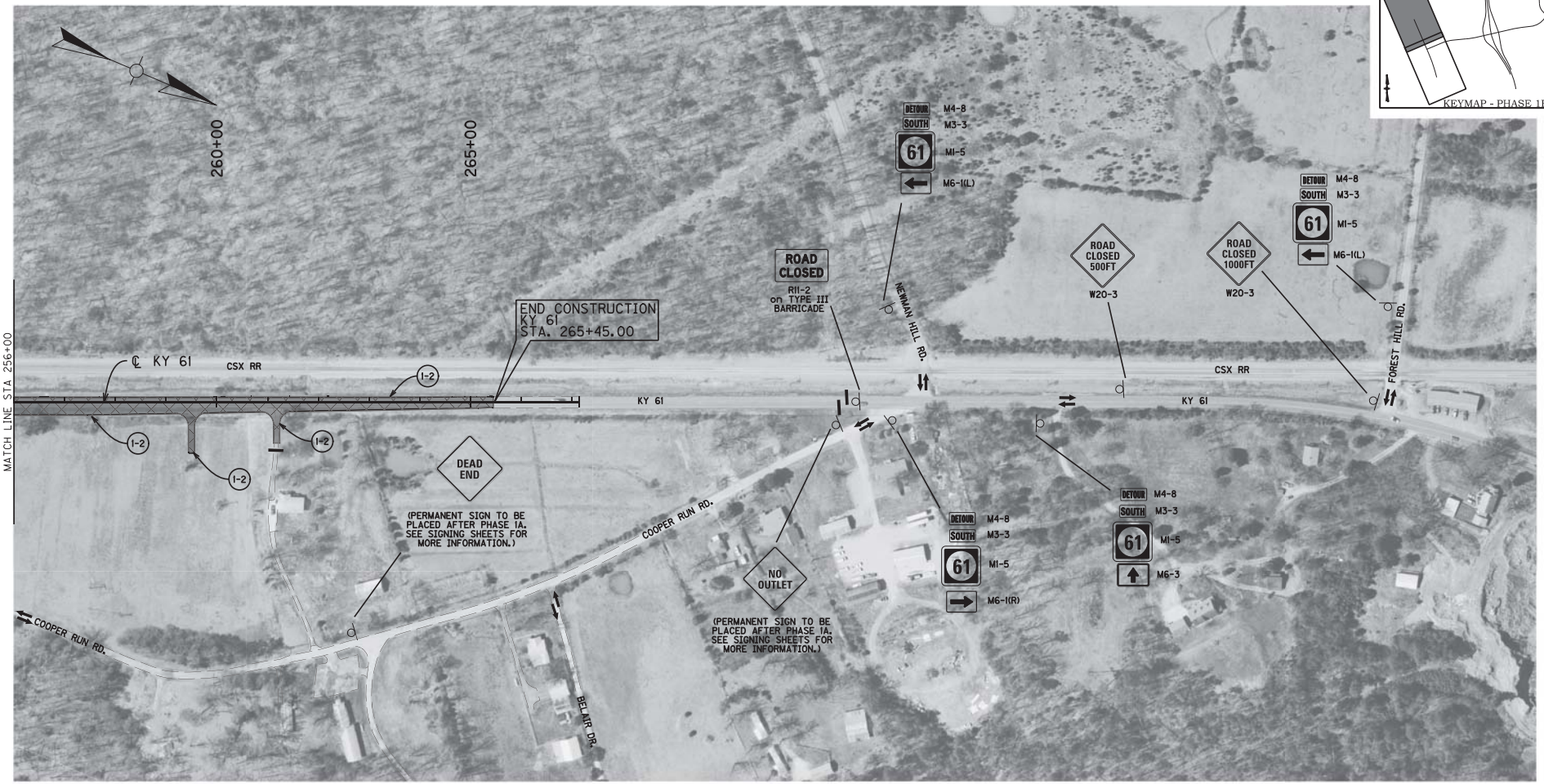
SCALE: 1"=100'

KY 61
MAINTENANCE OF TRAFFIC - PHASE 1B

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: a002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R117OMT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R118





LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

NOTE: SIGNS AND DETOUR ASSEMBLIES ON THIS SHEET ARE ALSO SHOWN ON SHEET R116 UNLESS OTHERWISE NOTED.

PHASING NOTES - PHASE 1B

(I-2) THE CONTRACTOR SHALL CONSTRUCT ALL OF PROPOSED KY 61 INCLUDING THE COOPER RUN ROAD INTERSECTION AND TIE IN, THE GUARDRAIL FOR PERMANENT ROAD CLOSURE ON COOPER RUN ROAD, PROPOSED OHM DRIVE CONNECTOR INTERSECTION UP TO STA. 105+00, DRIVE 259+50 RT, AND DRIVE 261+18 RT TIE IN.

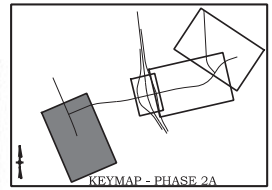
0' 100' 200' 400'

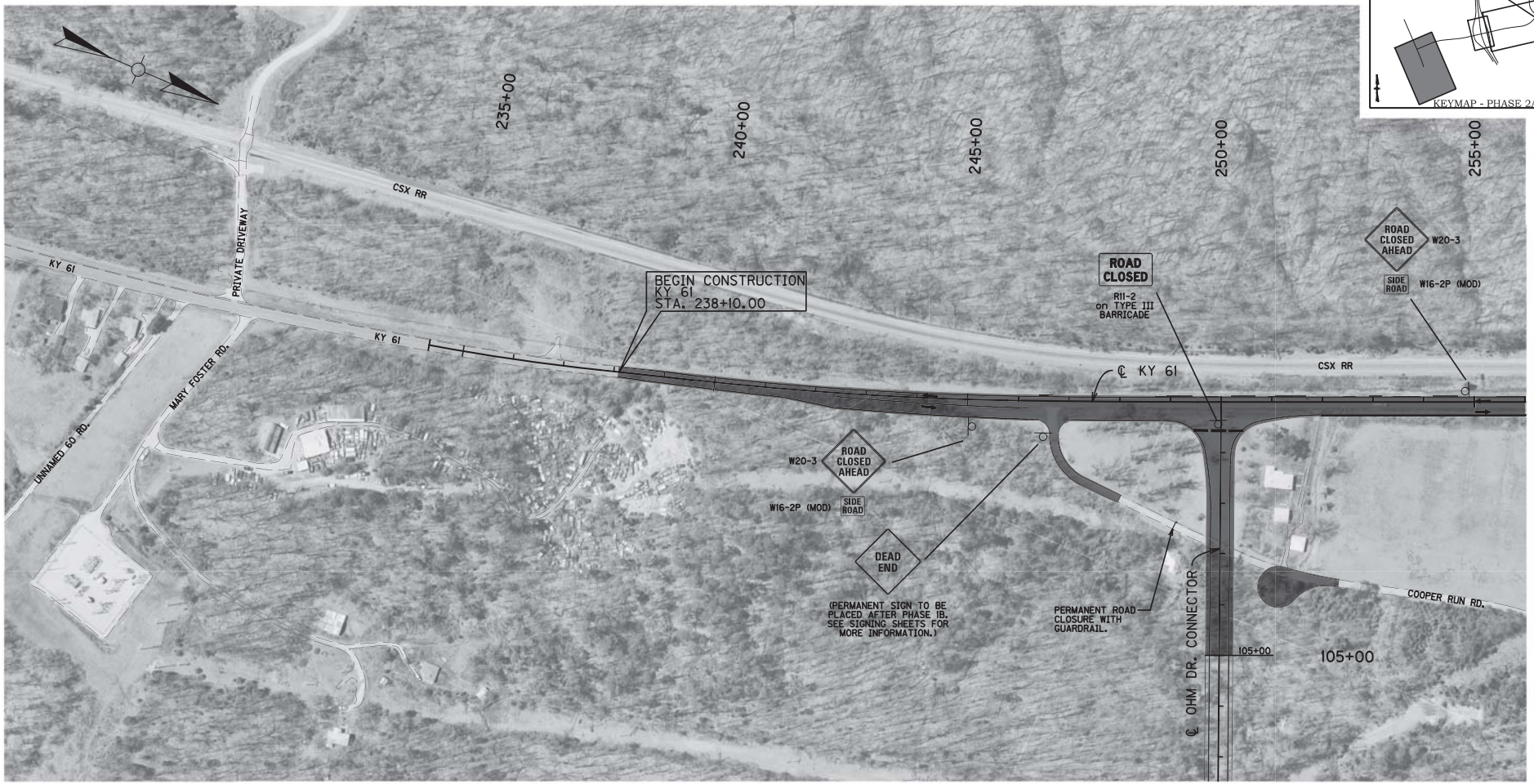
SCALE: 1"=100'

KY 61
MAINTENANCE OF TRAFFIC - PHASE 1B

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: a002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R1180MT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R119





LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

PHASING NOTES - PHASE 2A

(2-1) THE CONTRACTOR SHALL CONSTRUCT ALL OF PROPOSED OHM DRIVE CONNECTOR FROM STA. 142+00 TO END OF PROJECT, INCLUDING TEMPORARY DRIVE 146+00 LT, DRIVE 149+50 LT TIE IN, ACCESS DRIVE 51+85 LT AND RT, DRIVE 149+50 RT AND CELL TOWER DRIVE TIE IN, DRIVE 155+40 RT, AND DRIVE 166+60 RT.

(2-2) THE CONTRACTOR SHALL CONSTRUCT ALL OF ALPHA WAY FROM OHM DRIVE CONNECTOR TO END OF PROJECT.

(2-3) THE CONTRACTOR SHALL CONSTRUCT PIER #2, THE MEDIAN PIER, ALONG I-65 FOR THE OHM DRIVE CONNECTOR BRIDGE.

NOTES: TEMPORARY SIGNS AND TEMPORARY BARRICADES ON KY 61 SHALL REMAIN FOR THE DURATION OF THE PROJECT.

CONTRACTOR SHALL PLACE CHANNELIZATION DEVICES TO REMOVE KY 61 TURN LANES FROM OPERATION.

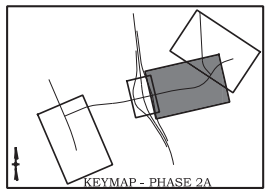
0' 100' 200' 400'

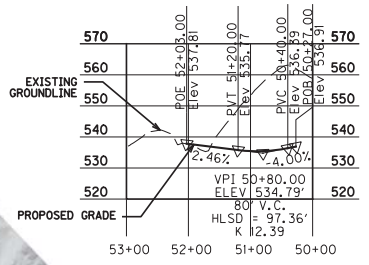
SCALE: 1"=100'

KY 61
MAINTENANCE OF TRAFFIC - PHASE 2A

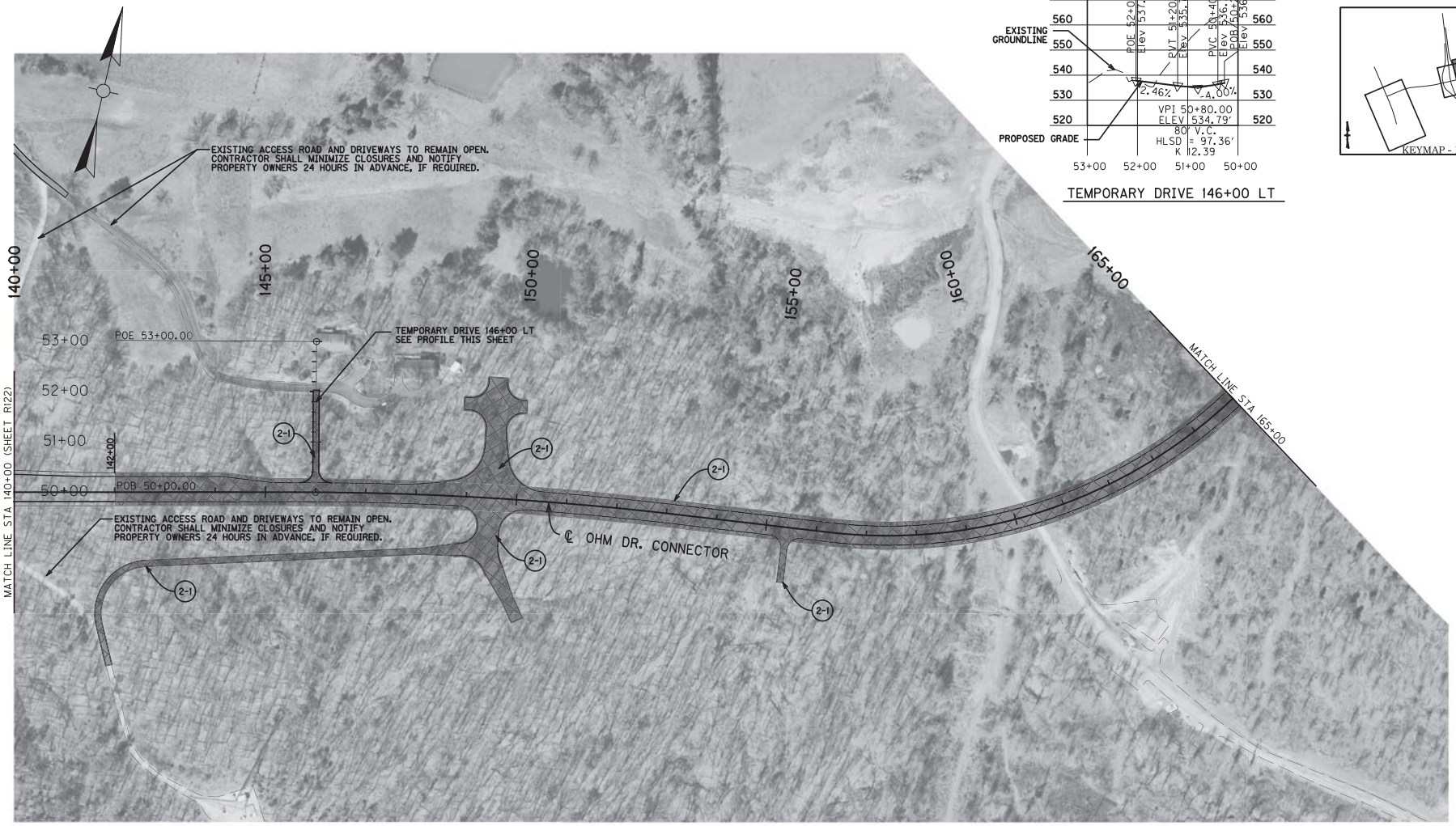
MicroStation v8.11.9.459 | E-SHEET NAME: | USER: 000208TB DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R119OMT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R128





TEMPORARY DRIVE 146+00 LT



LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

PHASING NOTES - PHASE 2A

(2-1) THE CONTRACTOR SHALL CONSTRUCT ALL OF PROPOSED OHM DRIVE CONNECTOR FROM STA. 142+00 TO END OF PROJECT, INCLUDING TEMPORARY DRIVE 146+00 LT, DRIVE 149+50 LT TIE IN, ACCESS DRIVE 51+85 LT AND RT, DRIVE 149+50 RT AND CELL TOWER DRIVE TIE IN, DRIVE 155+40 RT, AND DRIVE 166+60 RT.

(2-2) THE CONTRACTOR SHALL CONSTRUCT ALL OF ALPHA WAY FROM OHM DRIVE CONNECTOR TO END OF PROJECT.

(2-3) THE CONTRACTOR SHALL CONSTRUCT PIER #2, THE MEDIAN PIER, ALONG I-65 FOR THE OHM DRIVE CONNECTOR BRIDGE.

0' 100' 200' 400'

SCALE: 1"=100'

OHM DRIVE CONNECTOR
MAINTENANCE OF TRAFFIC - PHASE 2A

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: a002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R12000MT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R12

KEYMAP - PHASE 2A

PHASING NOTES - PHASE 2A

2-1 THE CONTRACTOR SHALL CONSTRUCT ALL OF PROPOSED OHM DRIVE CONNECTOR FROM STA. 142+00 TO END OF PROJECT, INCLUDING TEMPORARY DRIVE 146+00 LT, DRIVE 149+50 LT TIE IN, ACCESS DRIVE 51+85 LT AND RT, DRIVE 149+50 RT AND CELL TOWER DRIVE TIE IN, DRIVE 155+40 RT, AND DRIVE 166+60 RT.

2-2 THE CONTRACTOR SHALL CONSTRUCT ALL OF ALPHA WAY FROM OHM DRIVE CONNECTOR TO END OF PROJECT.

2-3 THE CONTRACTOR SHALL CONSTRUCT PIER #2, THE MEDIAN PIER, ALONG I-65 FOR THE OHM DRIVE CONNECTOR BRIDGE.

ROAD CLOSED 3/4 MILE AHEAD LOCAL TRAFFIC ONLY
R11-3A

3750'

ROAD CLOSED 1000FT
W20-3

500'

ROAD CLOSED 500FT
W20-3

500'

120+00

ALPHA WAY

ROAD CLOSED
R11-2 on TYPE III BARRICADE

ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY
R11-3A

115+00

ROAD CLOSED 1000FT
W20-3

BUFFALO RUN RD.

4280'

110+00

500'

ROAD CLOSED 500FT
W20-3

105+00

500'

ROAD CLOSED
R11-2 on TYPE III BARRICADE

100+00

165+00

MATCH LINE STA 165+00

OMEGA PKWY.

W20-3 ROAD CLOSED AHEAD
W16-2P (MOD) SIDE ROAD

OMEGA PKWY.

W20-3 ROAD CLOSED AHEAD
W16-2P (MOD) SIDE ROAD

ROAD CLOSED TO THRU TRAFFIC
R11-4 on TYPE III BARRICADE

OHM DR.

175+00

ROAD CLOSED
R11-2 on TYPE III BARRICADE

END CONSTRUCTION ALPHA WAY STA. 105+15.00

END CONSTRUCTION OHM DRIVE CONNECTOR STA. 176+50.00

℄ OHM DR. CONNECTOR

170+00

℄ ALPHA WAY

OHM DR.

2-1

2-2

2-1

2-1

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

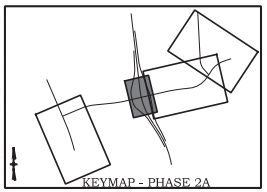
0' 100' 200' 400'

SCALE: 1"=100'

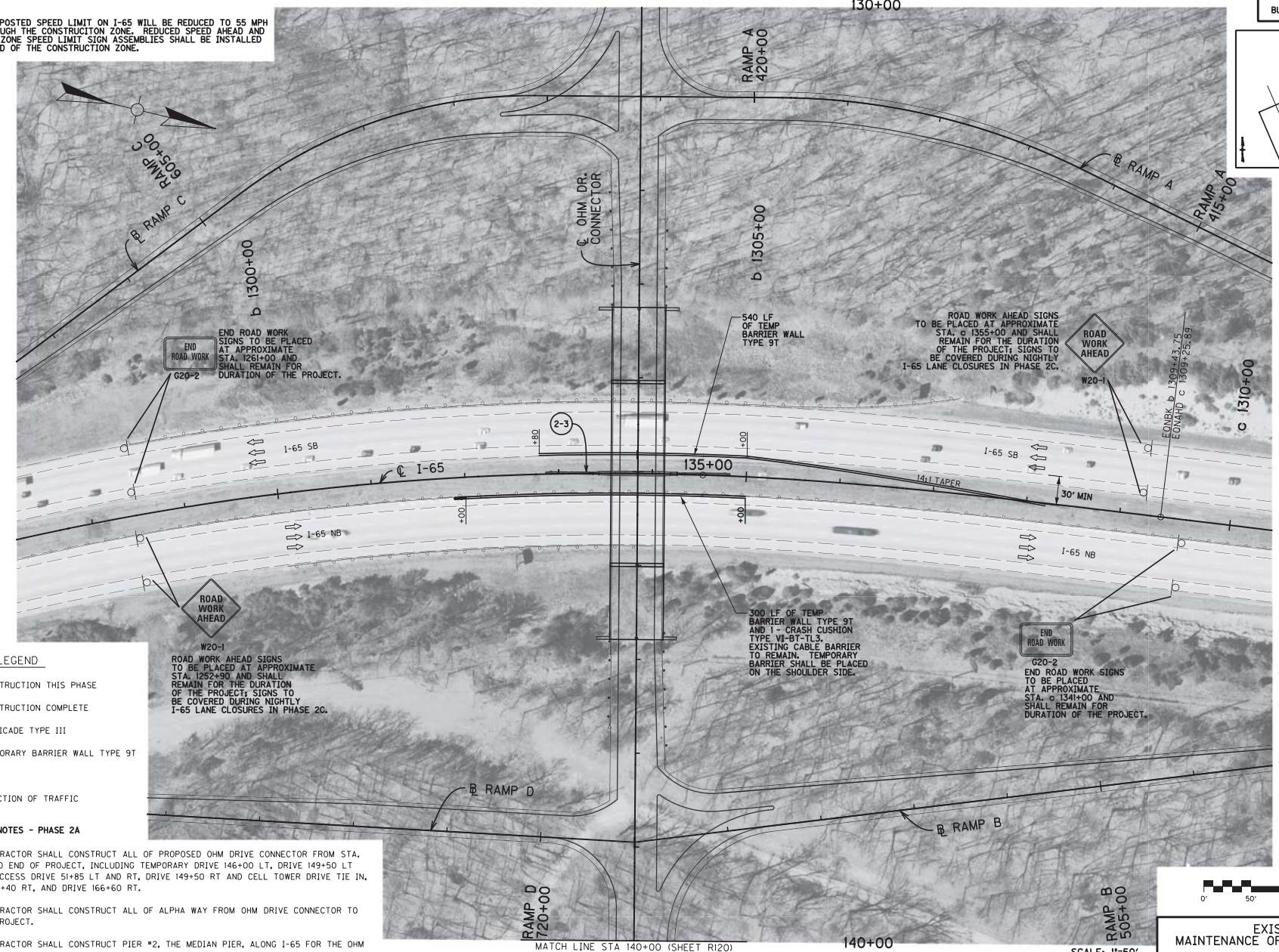
OHM DRIVE CONNECTOR AND ALPHA WAY MAINTENANCE OF TRAFFIC - PHASE 2A

MicroStation v8.11.9.459
E-SHEET NAME:
USER: p002087B
DATE PLOTTED: 9/11/2018
FILE NAME: ...\CAD\MOT\Sheets\R12100MT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R122



NOTE: THE POSTED SPEED LIMIT ON I-65 WILL BE REDUCED TO 55 MPH THROUGH THE CONSTRUCITON ZONE. REDUCED SPEED AHEAD AND WORKZONE SPEED LIMIT SIGN ASSEMBLIES SHALL BE INSTALLED AHEAD OF THE CONSTRUCTION ZONE.



LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

PHASING NOTES - PHASE 2A

(2-1) THE CONTRACTOR SHALL CONSTRUCT ALL OF PROPOSED OHM DRIVE CONNECTOR FROM STA. 142+00 TO END OF PROJECT, INCLUDING TEMPORARY DRIVE 146+00 LT, DRIVE 149+50 LT TIE IN, ACCESS DRIVE 51+85 LT AND RT, DRIVE 149+50 RT AND CELL TOWER DRIVE TIE IN, DRIVE 155+40 RT, AND DRIVE 166+60 RT.

(2-2) THE CONTRACTOR SHALL CONSTRUCT ALL OF ALPHA WAY FROM OHM DRIVE CONNECTOR TO END OF PROJECT.

(2-3) THE CONTRACTOR SHALL CONSTRUCT PIER #2, THE MEDIAN PIER, ALONG I-65 FOR THE OHM DRIVE CONNECTOR BRIDGE.

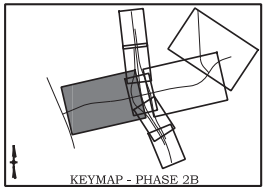
0' 50' 100' 200'

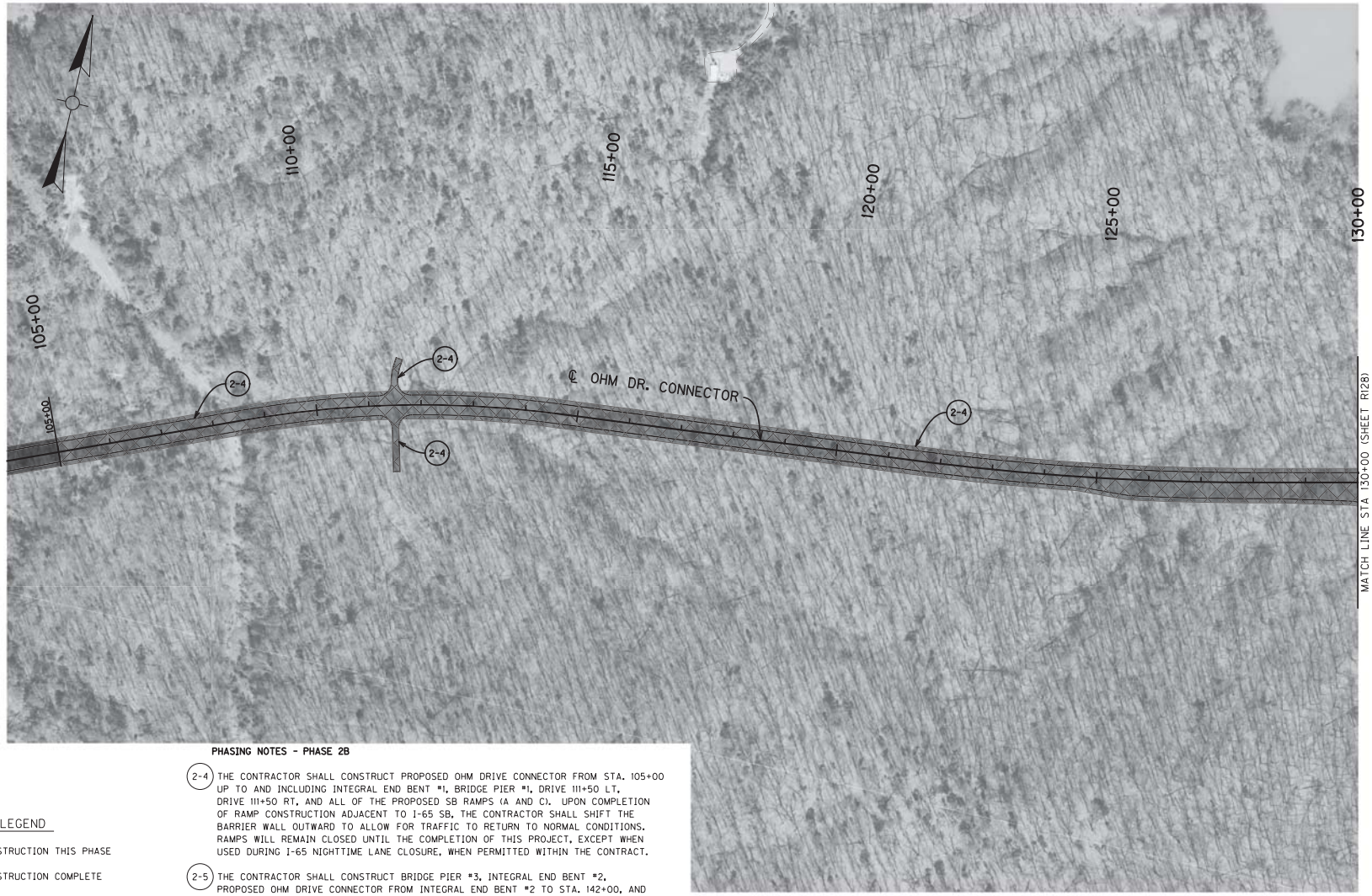
SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2A

MicroStation v8.11.9.459
E-SHEET NAME:
USER: a002087B
DATE PLOTTED: 9/11/2018
FILE NAME: ...\CAD\MOT\Sheets\R122OMT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R123





PHASING NOTES - PHASE 2B

(2-4) THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-5) THE CONTRACTOR SHALL CONSTRUCT BRIDGE PIER #3, INTEGRAL END BENT #2, PROPOSED OHM DRIVE CONNECTOR FROM INTEGRAL END BENT #2 TO STA. 142+00, AND ALL OF THE PROPOSED NB RAMPS (B AND D). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 NB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-6) THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

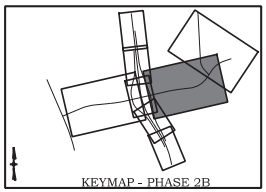
0' 100' 200' 400'

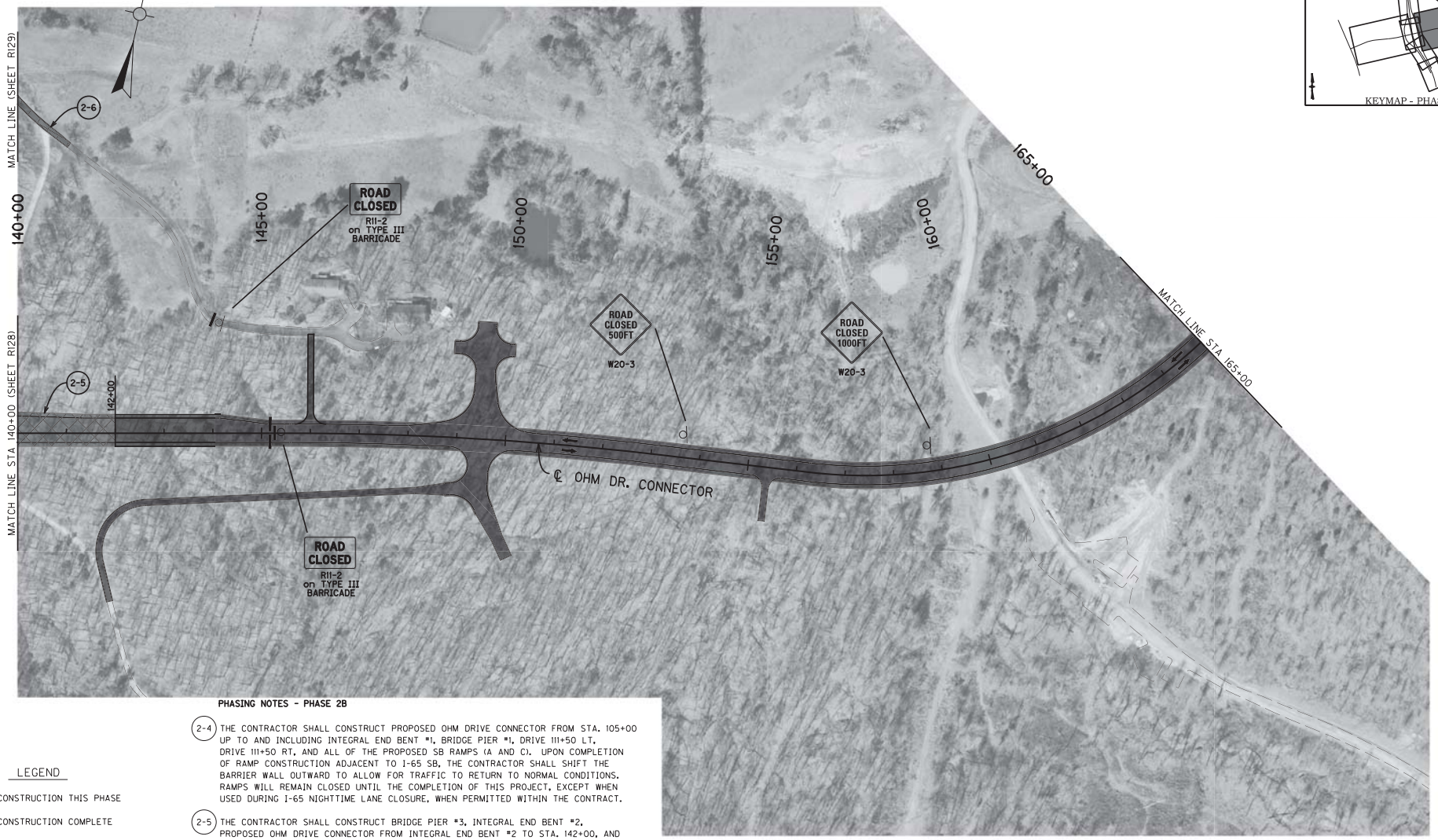
SCALE: 1"=100'

OHM DRIVE CONNECTOR
MAINTENANCE OF TRAFFIC - PHASE 2B

MicroStation v8.11.9.459
E-SHEET NAME:
USER: a002087B
DATE PLOTTED: 9/11/2018
FILE NAME: ...\CAD\MOT\Sheets\R12300MT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R124





PHASING NOTES - PHASE 2B

(2-4) THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-5) THE CONTRACTOR SHALL CONSTRUCT BRIDGE PIER #3, INTEGRAL END BENT #2, PROPOSED OHM DRIVE CONNECTOR FROM INTEGRAL END BENT #2 TO STA. 142+00, AND ALL OF THE PROPOSED NB RAMPS (B AND D). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 NB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-6) THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

NOTES: TEMPORARY SIGNS AND TEMPORARY BARRICADES ALONG OHM DRIVE CONNECTOR SHALL REMAIN FOR THE DURATION OF THE PROJECT.

0' 100' 200' 400'

SCALE: 1"=100'

OHM DRIVE CONNECTOR
MAINTENANCE OF TRAFFIC - PHASE 2B

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: a002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R12400MT.dgn

PHASING NOTES - PHASE 2B

2-4 THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

2-5 THE CONTRACTOR SHALL CONSTRUCT BRIDGE PIER #3, INTEGRAL END BENT #2, PROPOSED OHM DRIVE CONNECTOR FROM INTEGRAL END BENT #2 TO STA. 142+00, AND ALL OF THE PROPOSED NB RAMPS (B AND D). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 NB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

2-6 THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

NOTES: TEMPORARY SIGNS AND BARRICADES ON BUFFALO RUN ROAD ALPHA WAY, AND OHM DRIVE CONNECTOR SHALL REMAIN FOR THE DURATION OF THE PROJECT.

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R12S

KEYMAP - PHASE 2B

OMEGA PKWY.

ALPHA WAY

OHM DR.

ROAD CLOSED 1 MILE AHEAD LOCAL TRAFFIC ONLY
R11-3A

ROAD CLOSED 1/2 MILE AHEAD LOCAL TRAFFIC ONLY
R11-3A

115+00

175+00

ROAD CLOSED 1000FT
W20-3

BUFFALO RUN RD.

4280'

110+00

END CONSTRUCTION ALPHA WAY STA. 105+15.00

END CONSTRUCTION OHM DRIVE CONNECTOR STA. 176+50.00

℄ OHM DR. CONNECTOR

170+00

ROAD CLOSED 500FT
W20-3

500'

105+00

℄ ALPHA WAY

W20-3 ROAD CLOSED AHEAD

W16-2P (MOD) SIDE ROAD

ROAD CLOSED
R11-2 on TYPE III BARRICADE

100+00

ROAD CLOSED TO THRU TRAFFIC
R11-4 on TYPE III BARRICADE

165+00

MATCH LINE STA 165+00

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

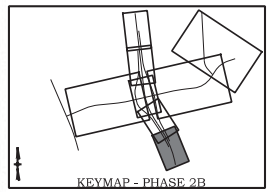
0' 100' 200' 400'

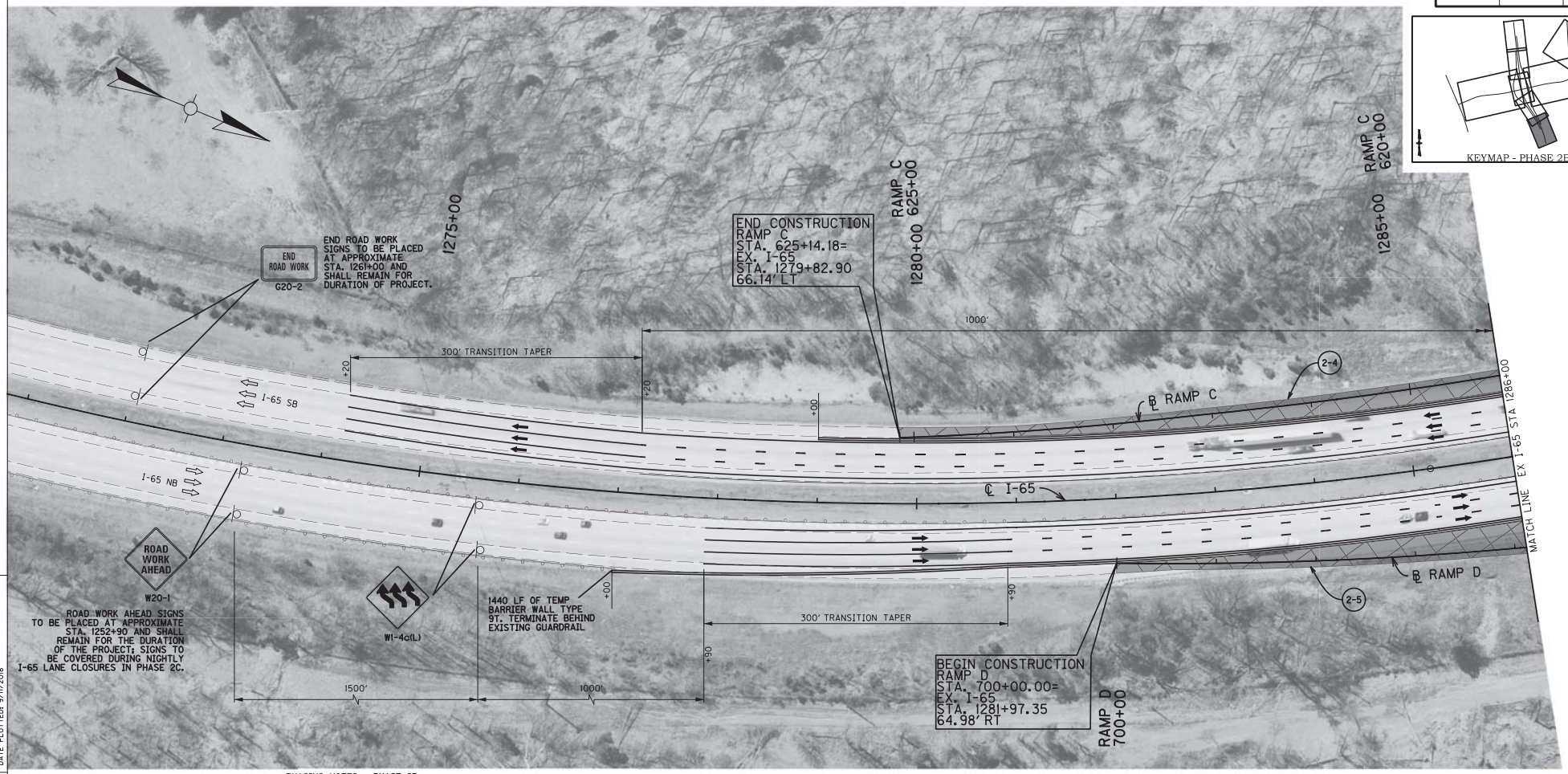
SCALE: 1"=100'

OHM DRIVE CONNECTOR AND ALPHA WAY MAINTENANCE OF TRAFFIC - PHASE 2B

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: a002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R12500MT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R126





PHASING NOTES - PHASE 2B

(2-4) THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-5) THE CONTRACTOR SHALL CONSTRUCT BRIDGE PIER #3, INTEGRAL END BENT #2, PROPOSED OHM DRIVE CONNECTOR FROM INTEGRAL END BENT #2 TO STA. 142+00, AND ALL OF THE PROPOSED NB RAMPS (B AND D). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 NB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-6) THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

NOTE: THE POSTED SPEED LIMIT ON I-65 WILL BE REDUCED TO 55 MPH THROUGH THE CONSTRUCTION ZONE. REDUCED SPEED AHEAD AND WORKZONE SPEED LIMIT SIGN ASSEMBLIES SHALL BE INSTALLED AHEAD OF THE CONSTRUCTION ZONE.

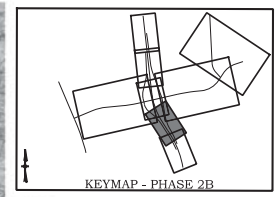
0' 50' 100' 200'

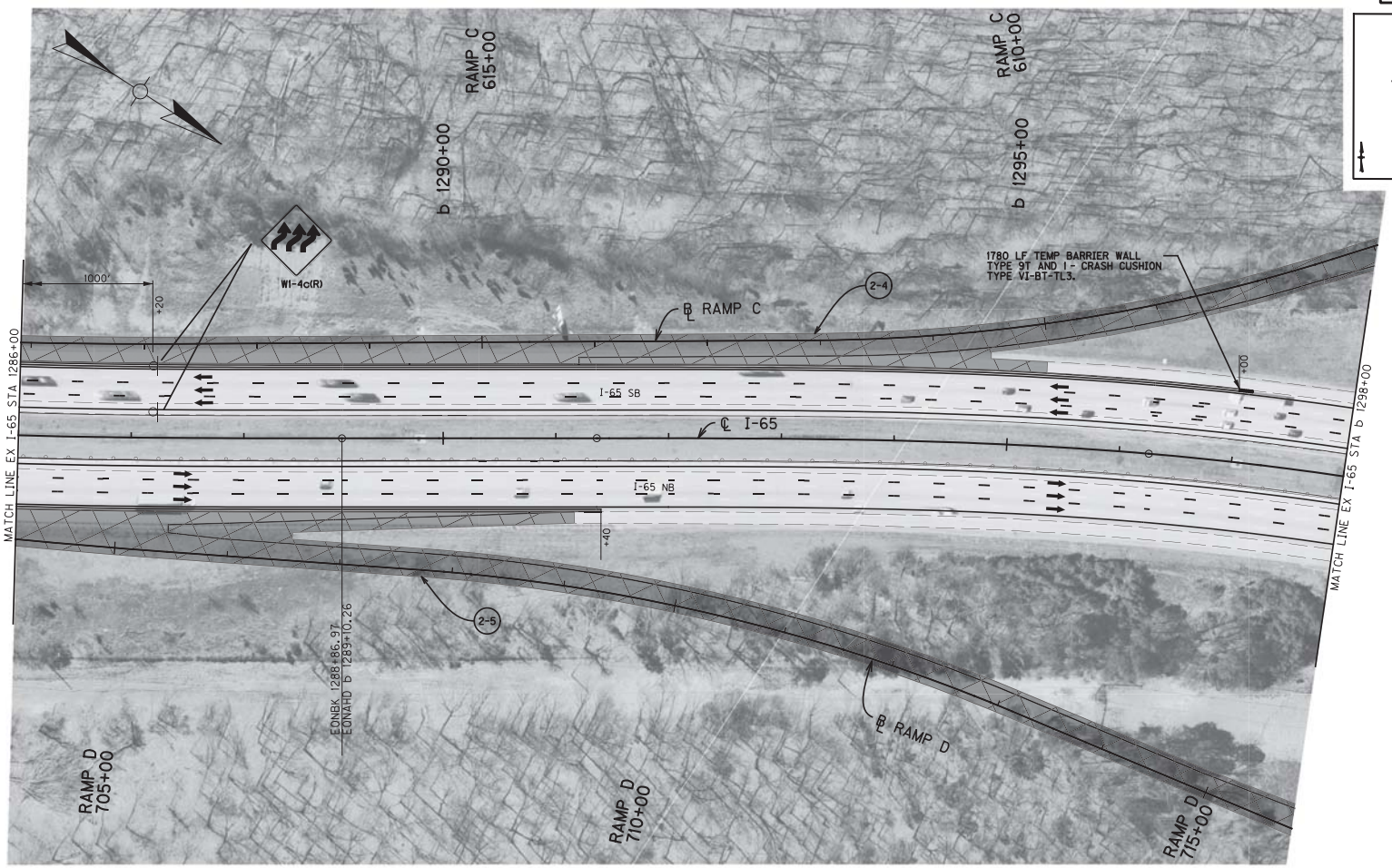
SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2B

FILE NAME: ...\CAD\MOT\Sheets\R12600MT.dgn
USER: a002087B
DATE PLOTTED: 9/11/2018
E-SHEET NAME:
MicroStation v8.11.9.459

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R122





PHASING NOTES - PHASE 2B

(2-4) THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-5) THE CONTRACTOR SHALL CONSTRUCT BRIDGE PIER #3, INTEGRAL END BENT #2, PROPOSED OHM DRIVE CONNECTOR FROM INTEGRAL END BENT #2 TO STA. 142+00, AND ALL OF THE PROPOSED NB RAMPS (B AND D). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 NB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-6) THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

NOTE: THE POSTED SPEED LIMIT ON I-65 WILL BE REDUCED TO 55 MPH THROUGH THE CONSTRUCTION ZONE.

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

0' 50' 100' 200'

SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2B

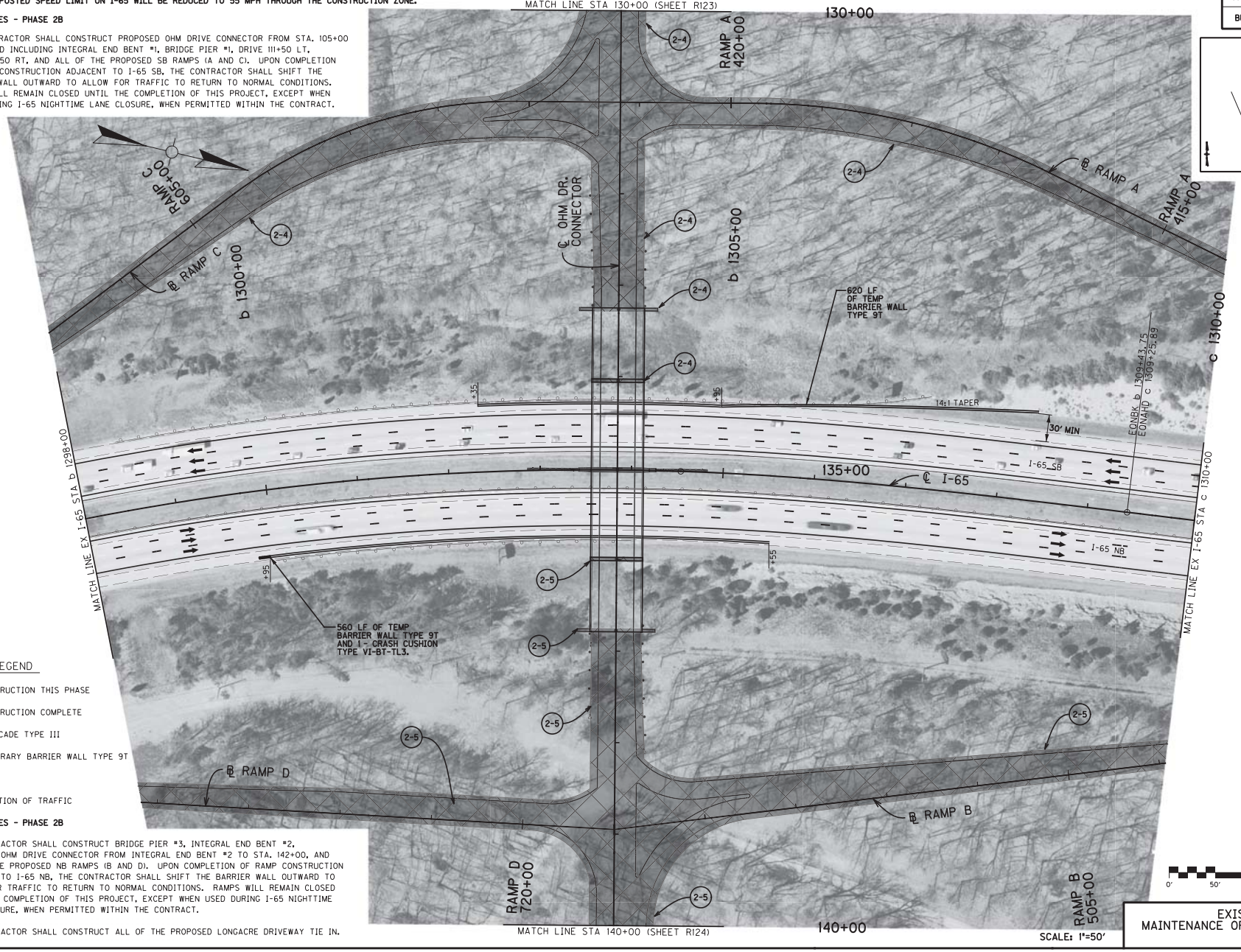
MicroStation v8.11.9.459 | E-SHEET NAME: | USER: p002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R12700MT.dgn

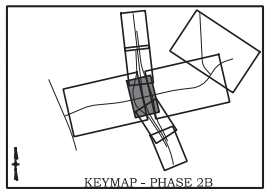
COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R128

NOTE: THE POSTED SPEED LIMIT ON I-65 WILL BE REDUCED TO 55 MPH THROUGH THE CONSTRUCTION ZONE.

PHASING NOTES - PHASE 2B

(2-4) THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.





LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

PHASING NOTES - PHASE 2B

(2-5) THE CONTRACTOR SHALL CONSTRUCT BRIDGE PIER #3, INTEGRAL END BENT #2, PROPOSED OHM DRIVE CONNECTOR FROM INTEGRAL END BENT #2 TO STA. 142+00, AND ALL OF THE PROPOSED NB RAMPS (B AND D). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 NB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-6) THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

0' 50' 100' 200'

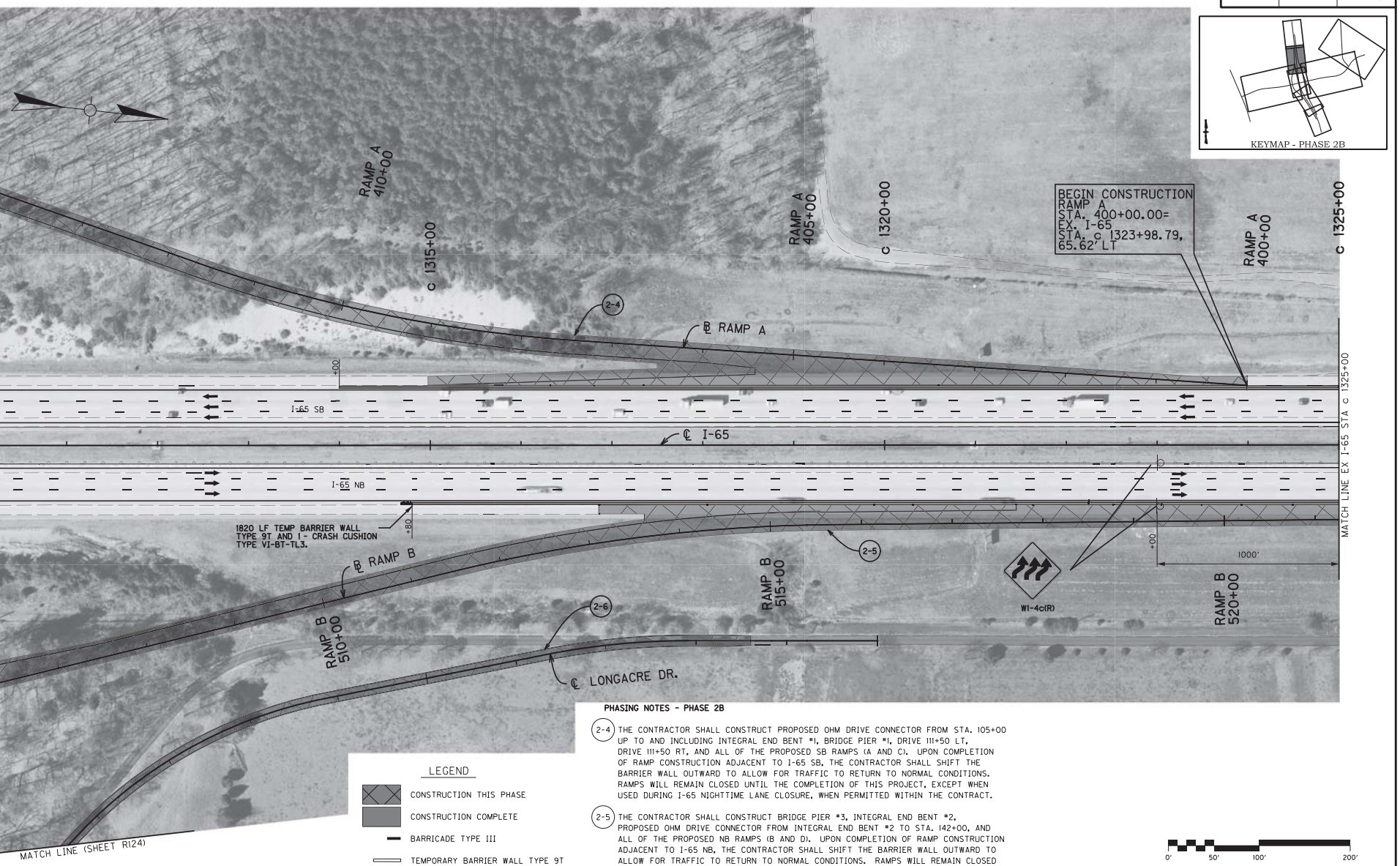
SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2B

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: p002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R12800MT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R128

NOTE: THE POSTED SPEED LIMIT ON I-65 WILL BE REDUCED TO 55 MPH THROUGH THE CONSTRUCTION ZONE.



LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

PHASING NOTES - PHASE 2B

(2-4) THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-5) THE CONTRACTOR SHALL CONSTRUCT BRIDGE PIER #3, INTEGRAL END BENT #2, PROPOSED OHM DRIVE CONNECTOR FROM INTEGRAL END BENT #2 TO STA. 142+00, AND ALL OF THE PROPOSED NB RAMPS (B AND D). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 NB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

(2-6) THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

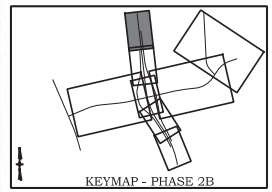
0' 50' 100' 200'

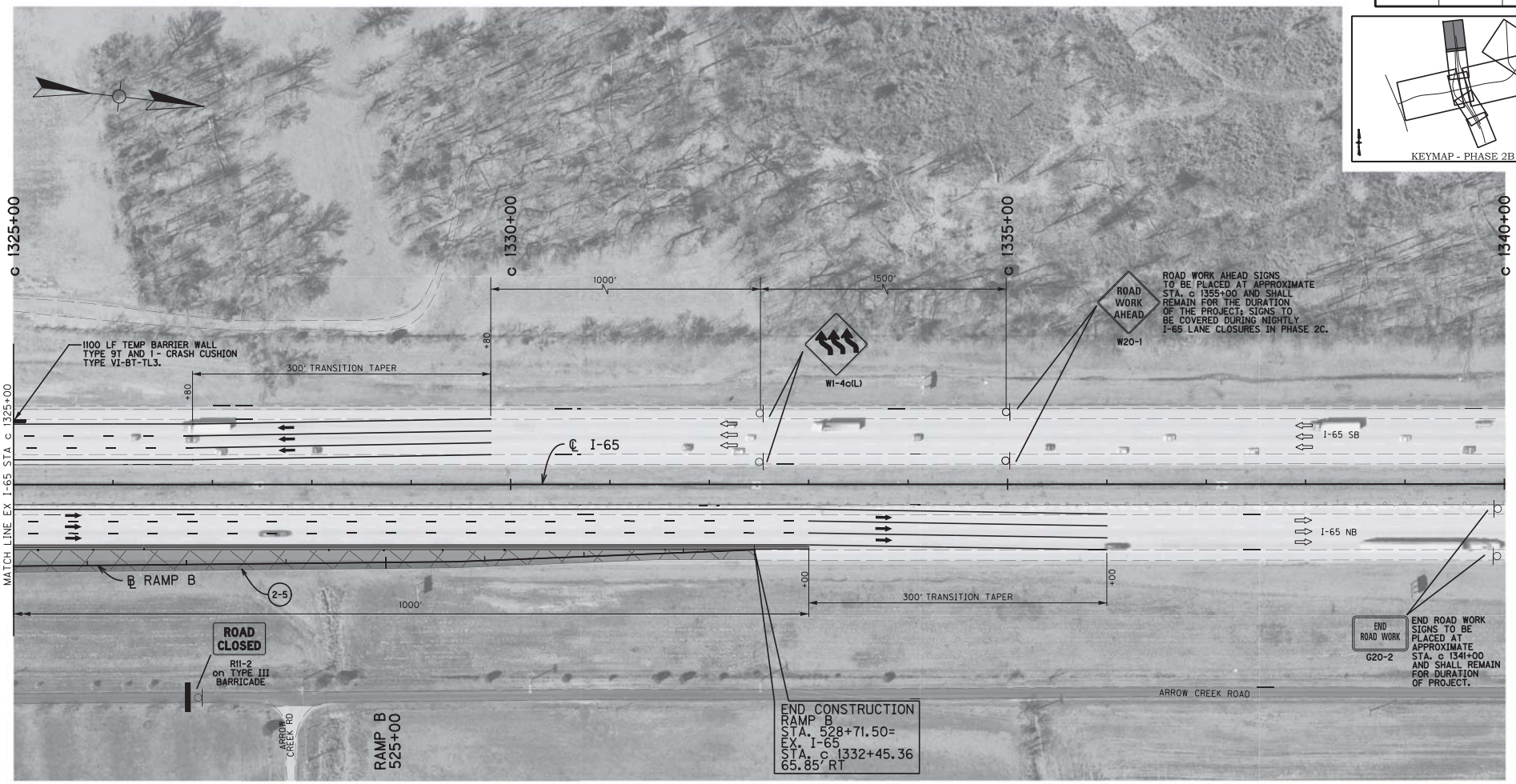
SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2B

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: p002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R12900MT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R136





PHASING NOTES - PHASE 2B

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC

(2-4) THE CONTRACTOR SHALL CONSTRUCT PROPOSED OHM DRIVE CONNECTOR FROM STA. 105+00 UP TO AND INCLUDING INTEGRAL END BENT #1, BRIDGE PIER #1, DRIVE 111+50 LT, DRIVE 111+50 RT, AND ALL OF THE PROPOSED SB RAMPS (A AND C). UPON COMPLETION OF RAMP CONSTRUCTION ADJACENT TO I-65 SB, THE CONTRACTOR SHALL SHIFT THE BARRIER WALL OUTWARD TO ALLOW FOR TRAFFIC TO RETURN TO NORMAL CONDITIONS. RAMPS WILL REMAIN CLOSED UNTIL THE COMPLETION OF THIS PROJECT, EXCEPT WHEN USED DURING I-65 NIGHTTIME LANE CLOSURE, WHEN PERMITTED WITHIN THE CONTRACT.

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NOTE: THE POSTED SPEED LIMIT ON I-65 WILL BE REDUCED TO 55 MPH THROUGH THE CONSTRUCTION ZONE. REDUCED SPEED AHEAD AND WORKZONE SPEED LIMIT SIGN ASSEMBLIES SHALL BE INSTALLED AHEAD OF THE CONSTRUCTION ZONE.

(2-6) THE CONTRACTOR SHALL CONSTRUCT ALL OF THE PROPOSED LONGACRE DRIVEWAY TIE IN.

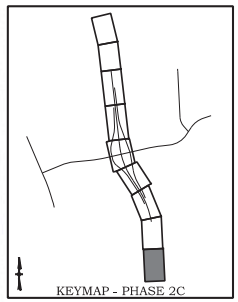
0' 50' 100' 200'

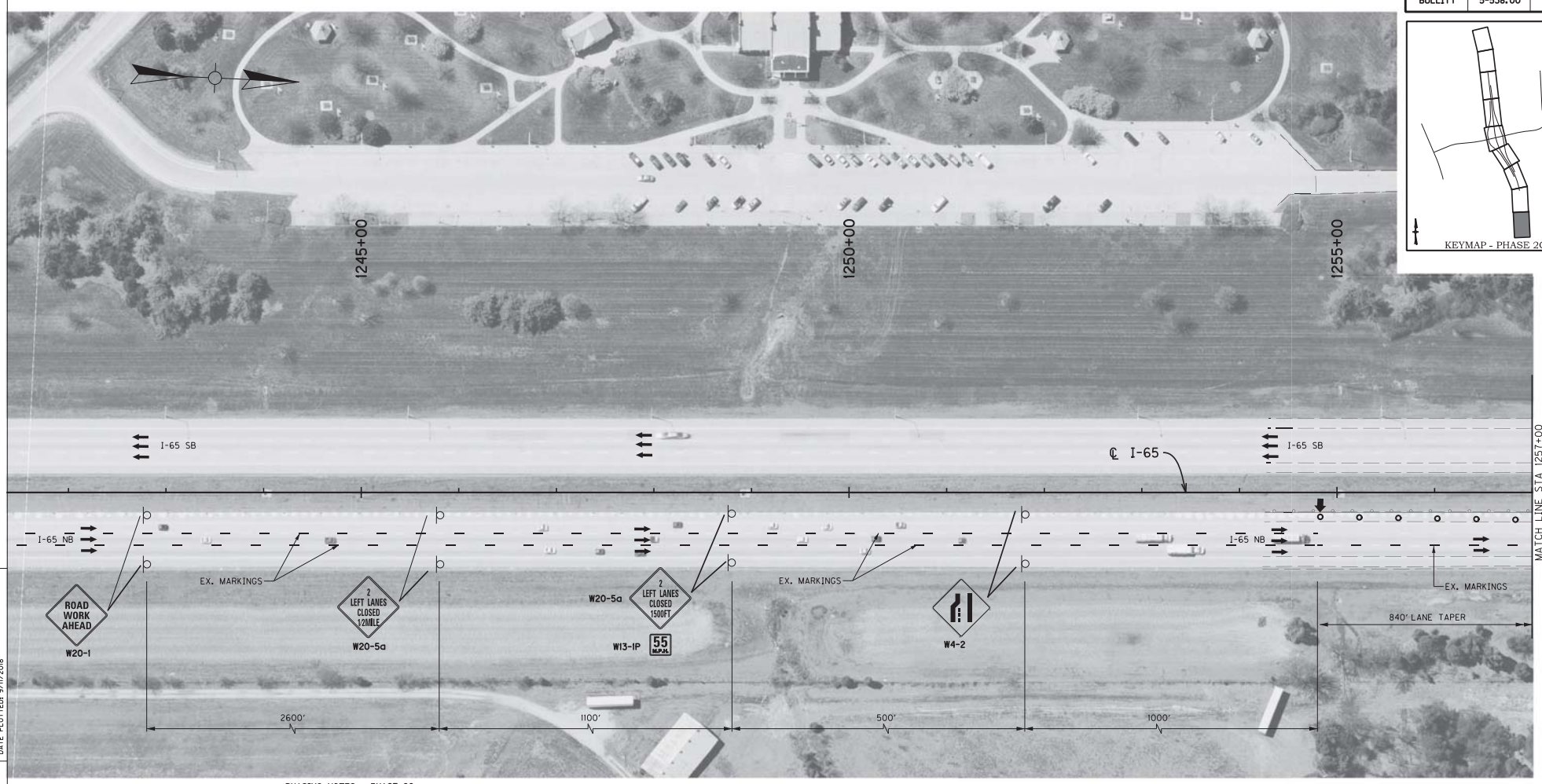
SCALE: 1"=50'

EXISTING I-65 MAINTENANCE OF TRAFFIC - PHASE 2B

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: a002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R13000MT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R13(





PHASING NOTES - PHASE 2C

(2-7) UPON COMPLETION OF INTEGRAL END BENTS #1 AND #2 AND BRIDGE PIERS #1 AND #3, THE CONTRACTOR SHALL SET BRIDGE BEAMS OVER I-65 DURING TEMPORARY NIGHTTIME LANE CLOSURES AND THEN COMPLETE ANY REMAINING BRIDGE WORK UNDER NORMAL TRAFFIC CONDITIONS.

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LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION COMPLETE
- BARRICADE TYPE III
- TEMPORARY BARRIER WALL TYPE 9T
- SIGN
- DIRECTION OF TRAFFIC
- **ARROW PANEL**
- **CHANNELIZING DEVICES**

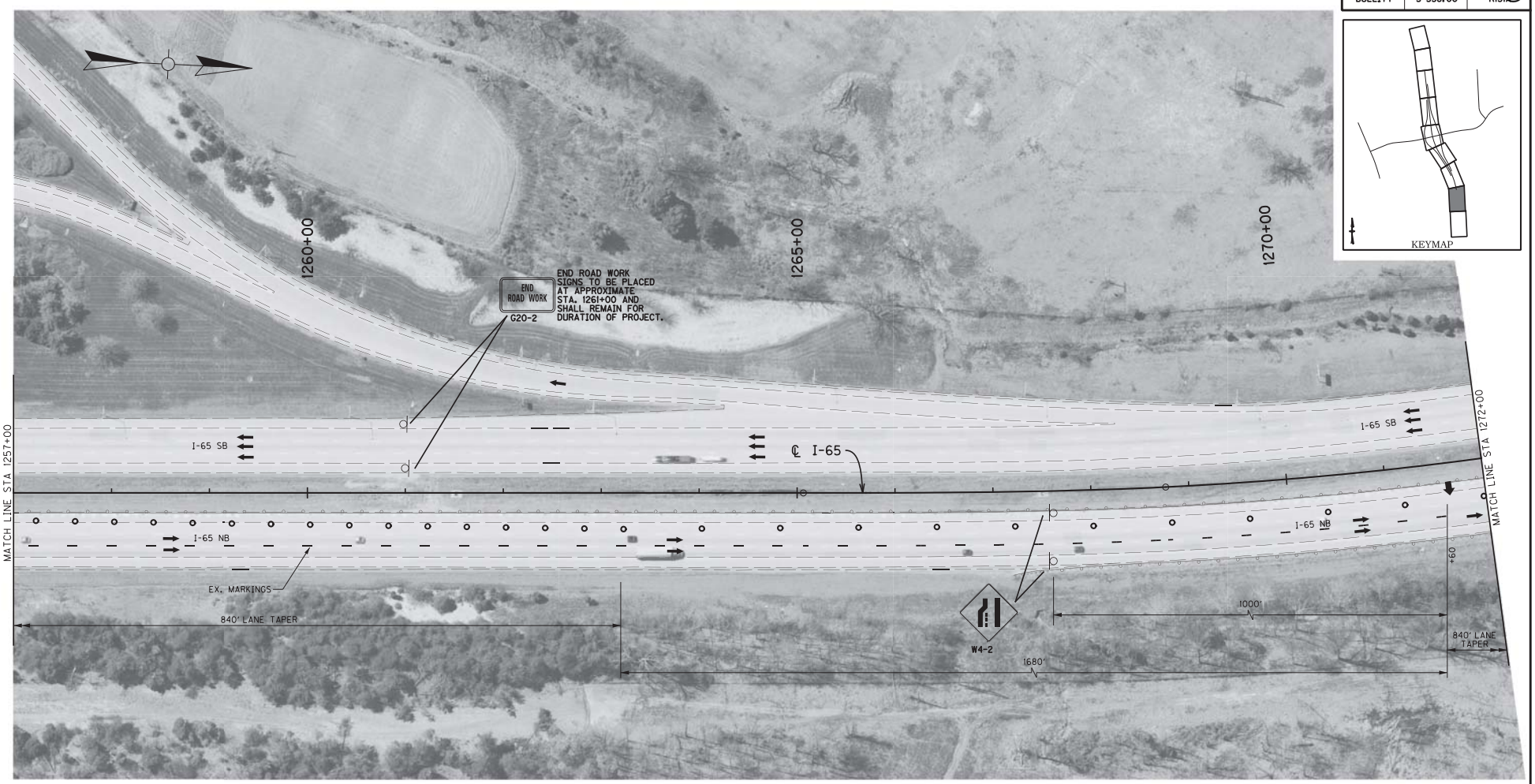
0' 50' 100' 200'

SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2C
PERMITTED NIGHTTIME CLOSURE

FILE NAME: ...\CAD\MOT\Sheets\R13100MT.dgn
USER: a002087B
DATE PLOTTED: 9/11/2018
E-SHEET NAME:
MicroStation v8.11.9.459

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R13MA



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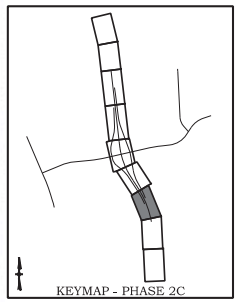
- SIGN
- DIRECTION OF TRAFFIC
- **ARROW PANEL**
- **CHANNELIZING DEVICES**

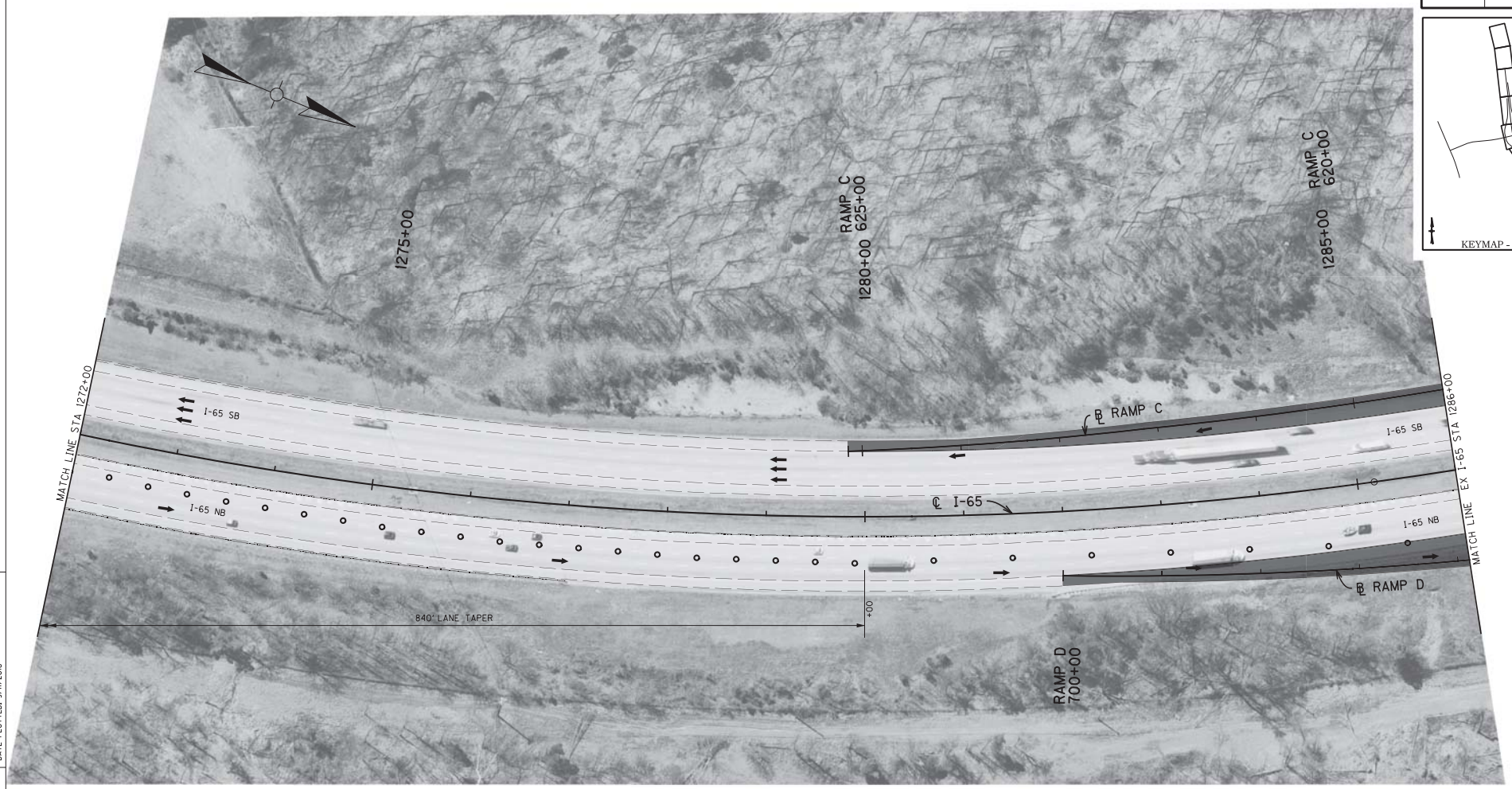
0' 50' 100' 200'

SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2C
PERMITTED NIGHTTIME CLOSURE

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R13IB





PHASING NOTES - PHASE 2C

LEGEND

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- TEMPORARY BARRIER WALL TYPE 9T
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- **CHANNELIZING DEVICES**

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MAINTENANCE OF TRAFFIC - PHASE 2C
PERMITTED NIGHTTIME CLOSURE

MicroStation v8.11.9.459
E-SHEET NAME:
USER: a002087B
DATE PLOTTED: 9/11/2018
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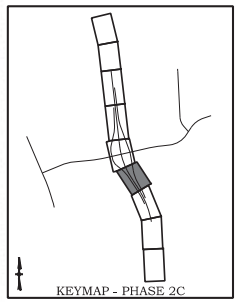
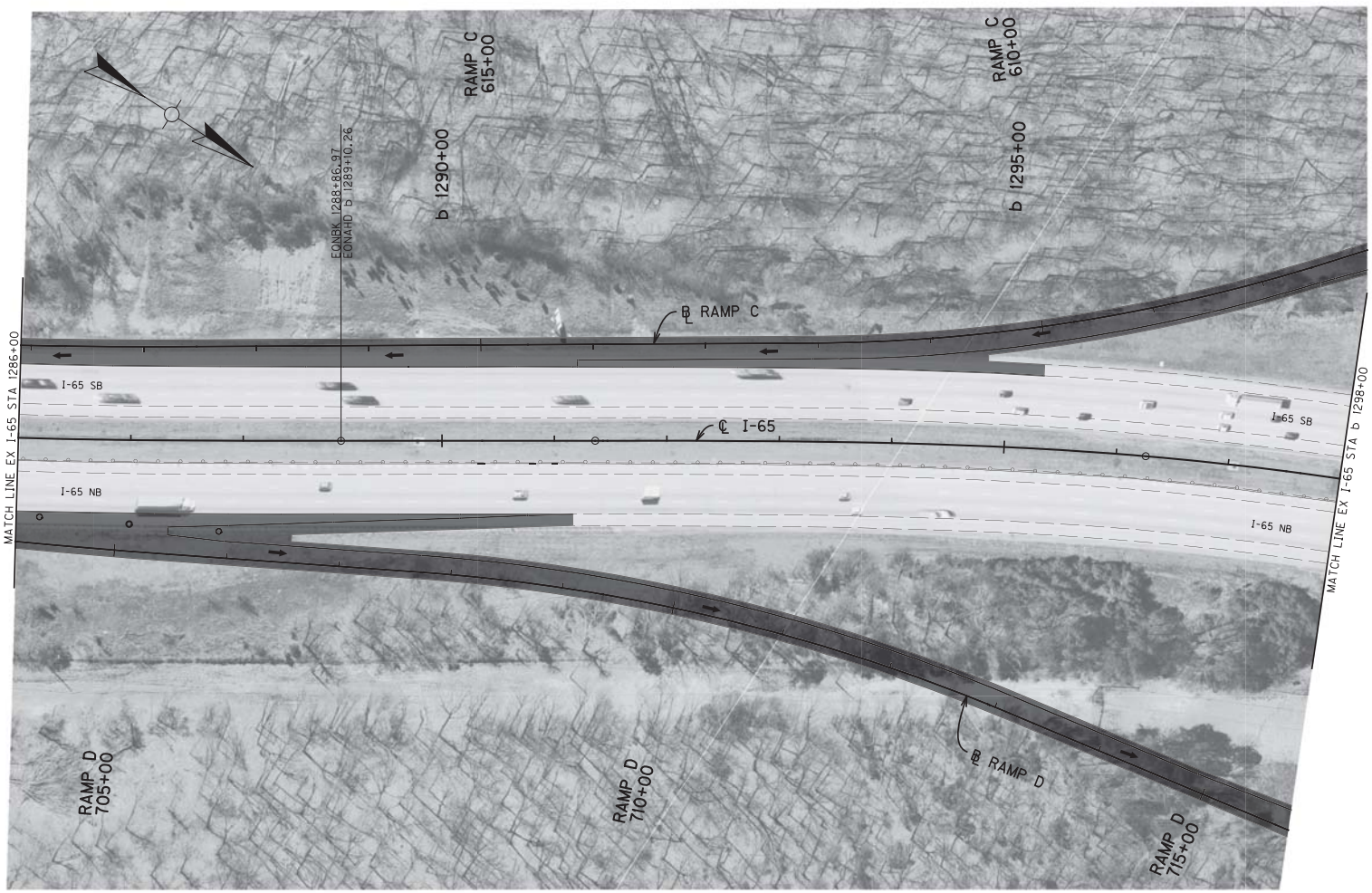
COUNTY OF	ITEM NO.	SHEET
BULLITT	5-538.00	R13C





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- DIRECTION OF TRAFFIC
- **ARROW PANEL**
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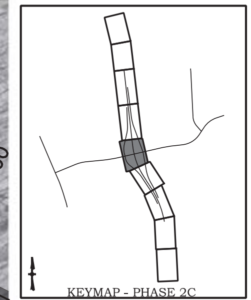
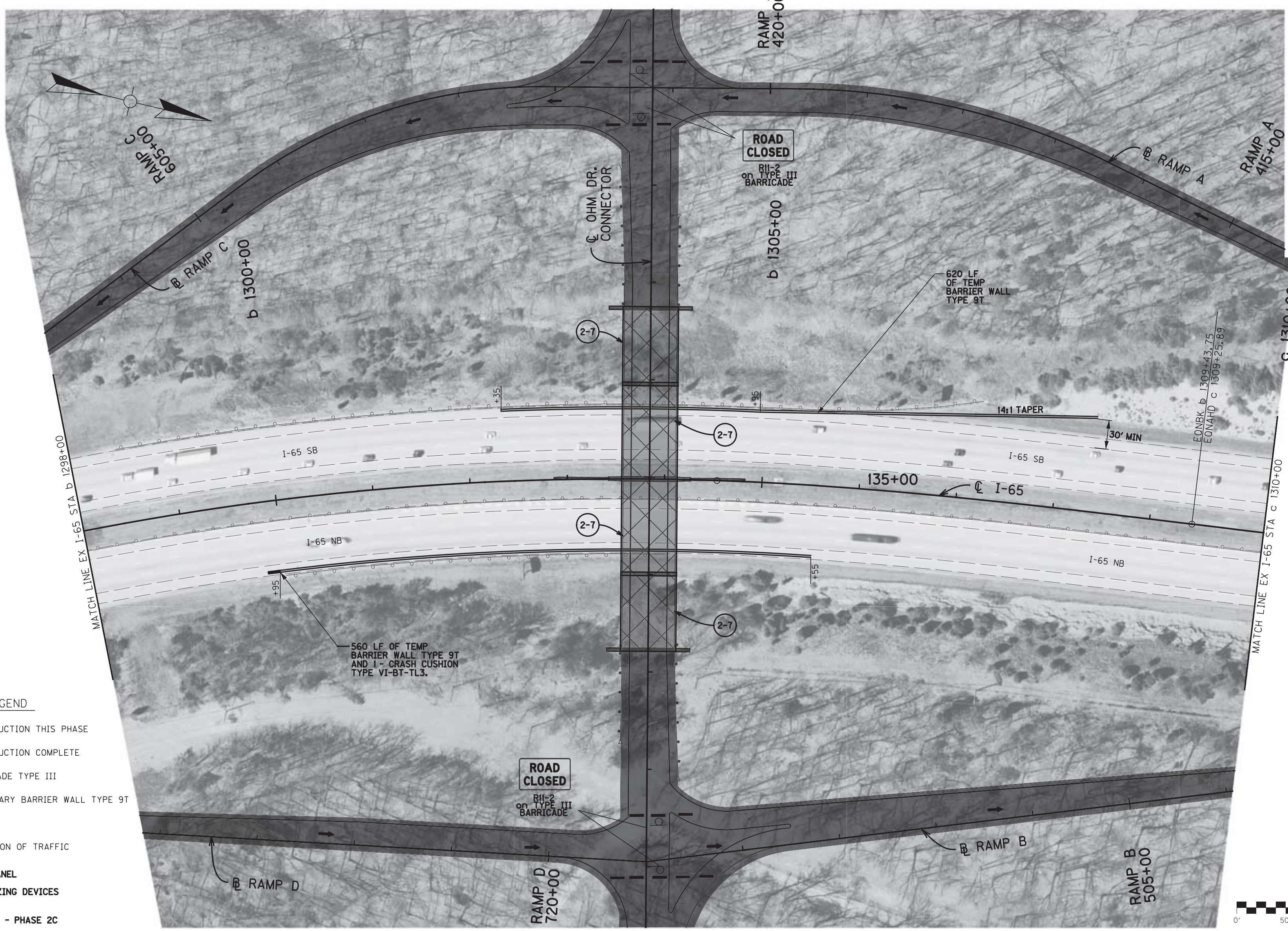
SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2C
PERMITTED NIGHTTIME CLOSURE

MicroStation v8.11.9.459
E-SHEET NAME:
USER: a002087B
DATE PLOTTED: 9/11/2018
FILE NAME: ...\CAD\MOT\Sheets\R13COMT.dgn

COUNTY OF	ITEM NO.	SHEET NO.
BULLITT	5-538.00	RI3ID





LEGEND

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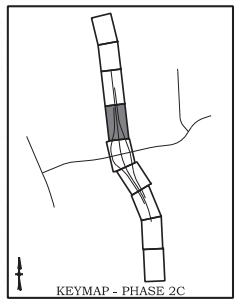
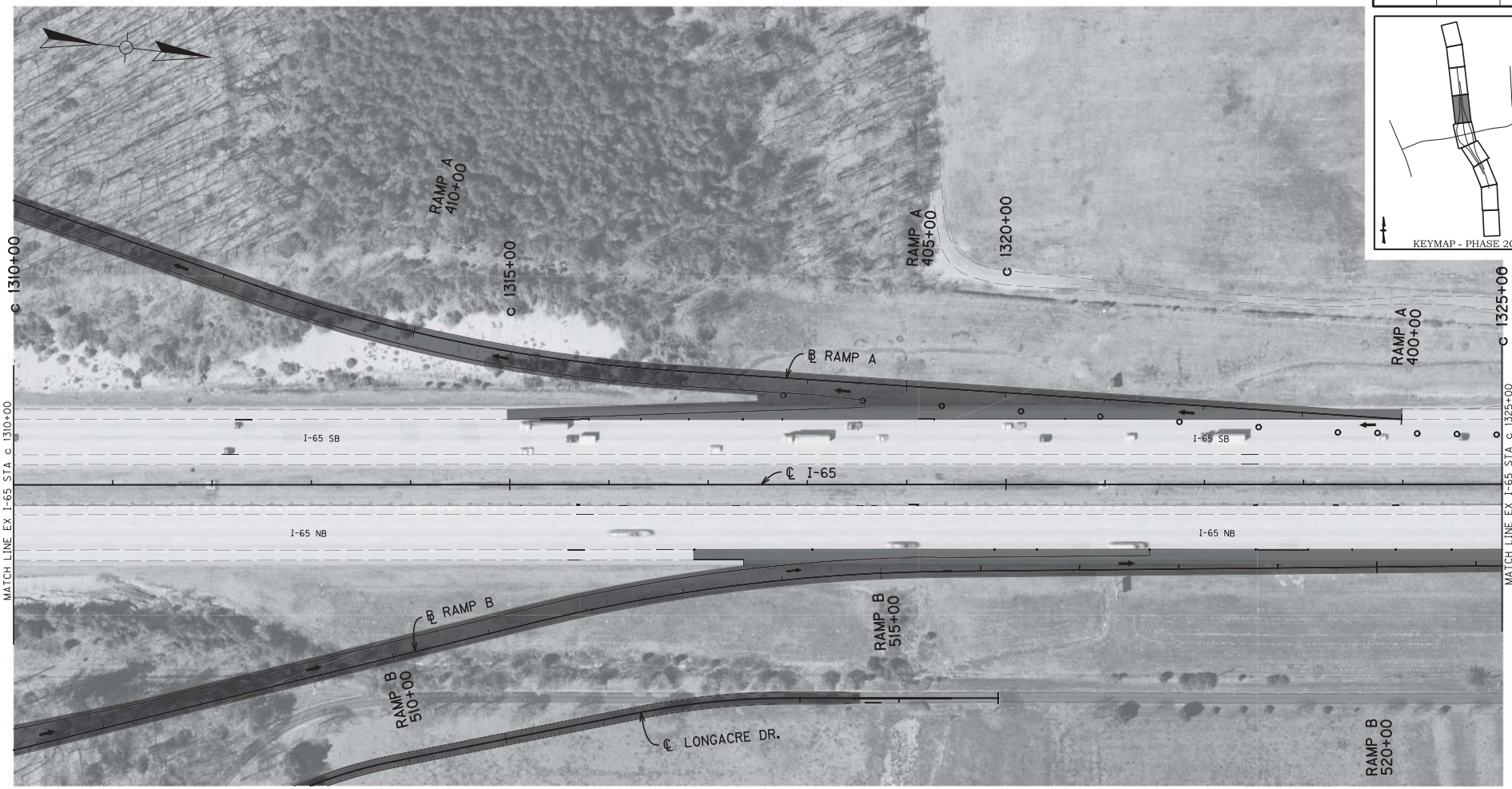
SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2C
PERMITTED NIGHTTIME CLOSURE

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: p00207B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\RI3IDOMT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R13E





PHASING NOTES - PHASE 2C

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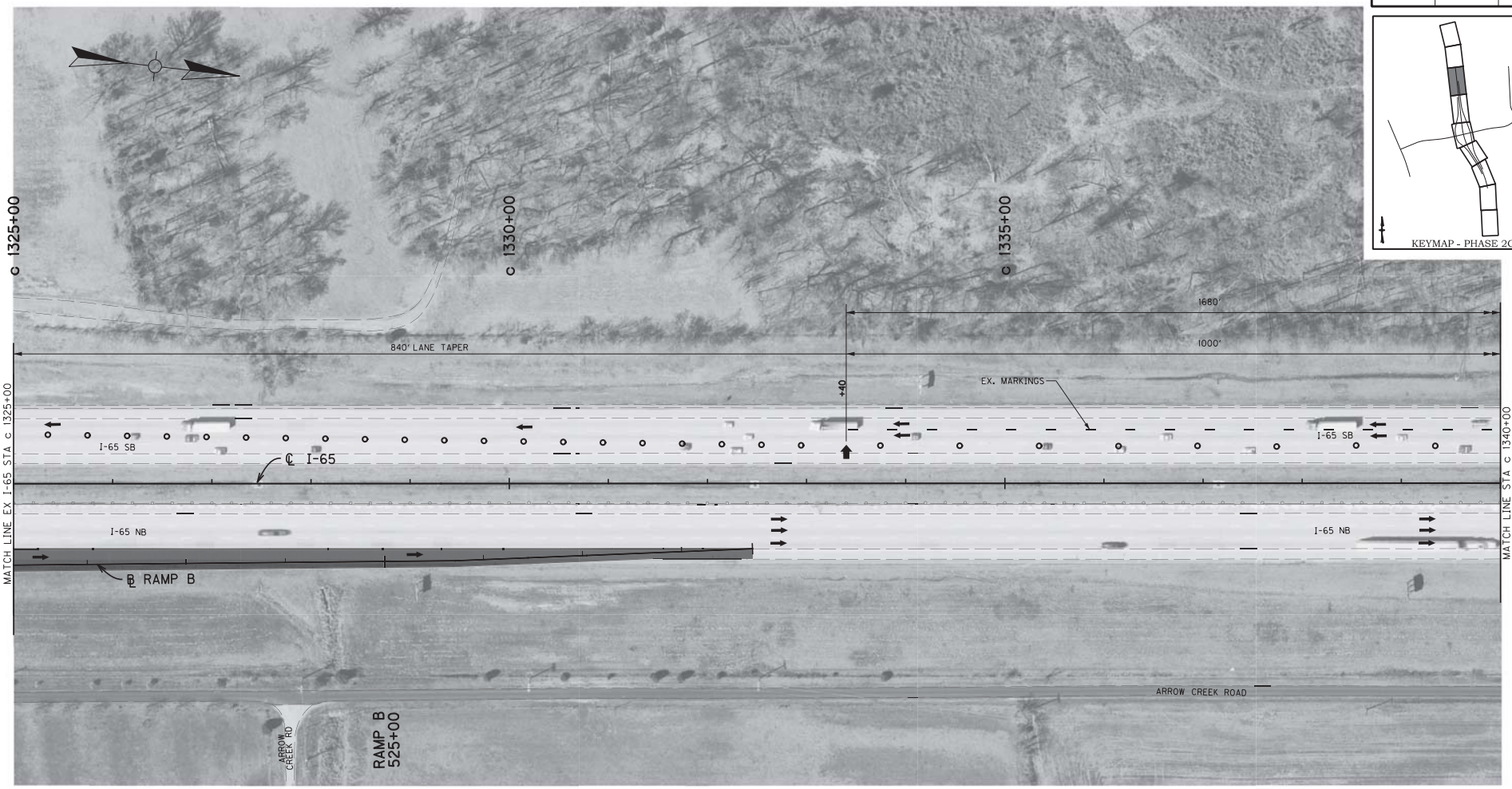
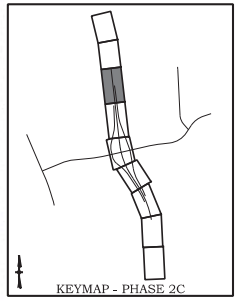
SCALE: 1"=50'

EXISTING I-65
MAINTENANCE OF TRAFFIC - PHASE 2C
PERMITTED NIGHTTIME CLOSURE

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: p002078 DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R13EOMT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R13F





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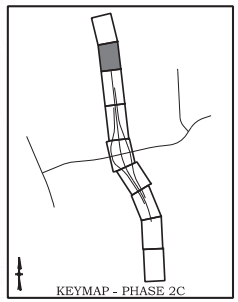
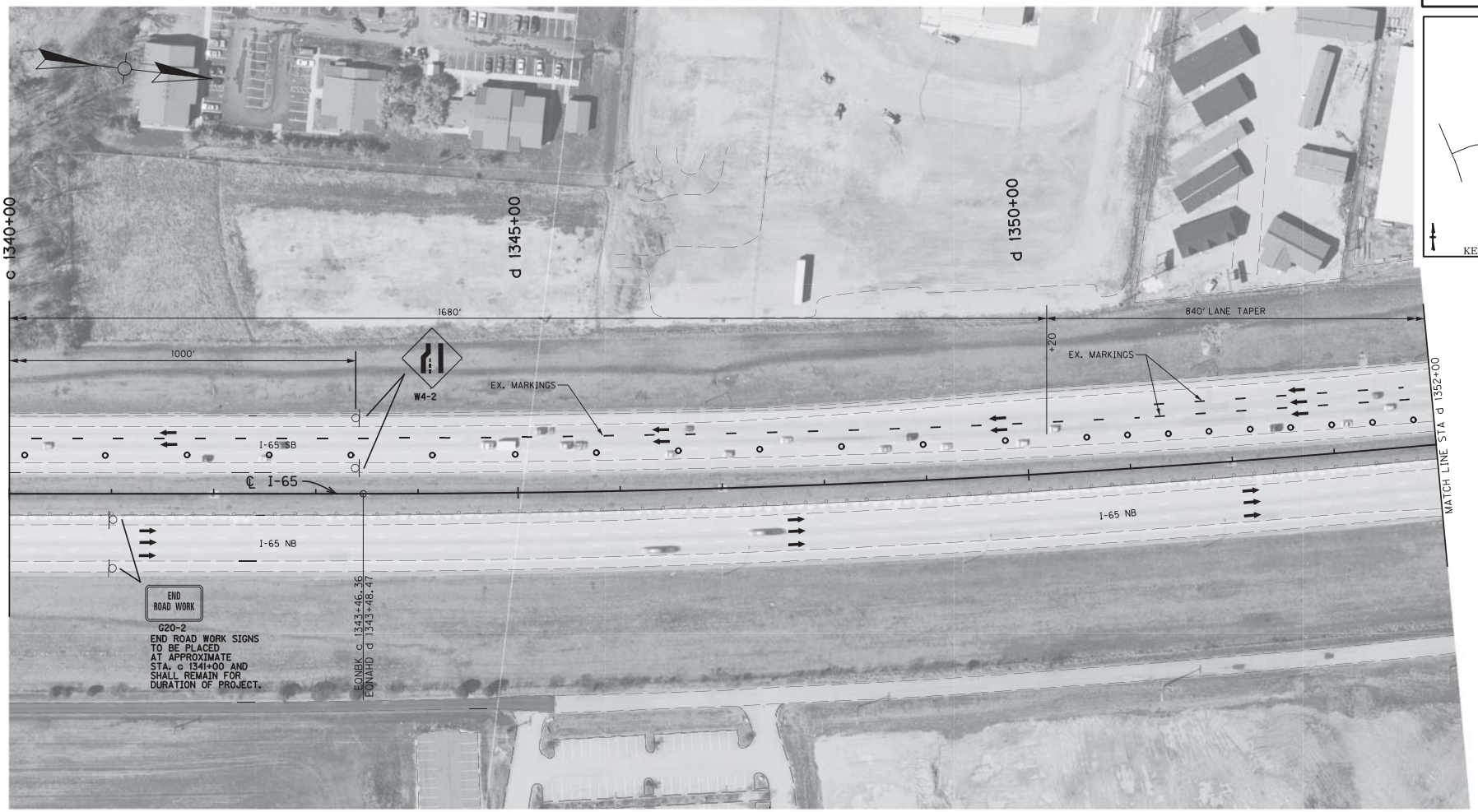
PERMITTED NIGHTTIME CLOSURE

MicroStation v8.11.9.459
E-SHEET NAME:
USER: p002087B
DATE PLOTTED: 9/11/2018
FILE NAME: ...\CAD\MOT\Sheets\R13FOMT.dgn

COUNTY OF	ITEM NO.	SHEET #
BULLITT	5-538.00	R13C





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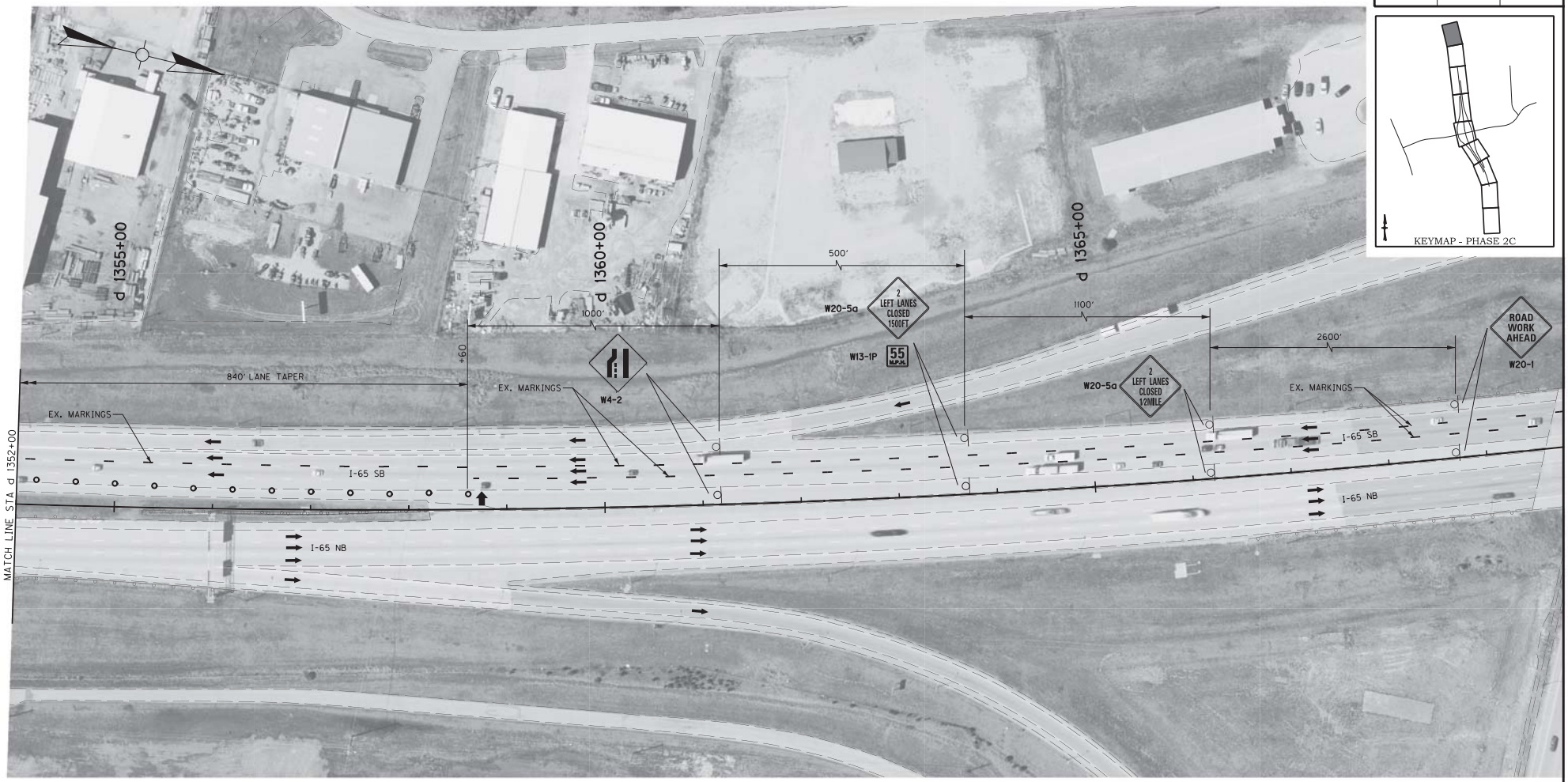
MAINTENANCE OF TRAFFIC - PHASE 2C
PERMITTED NIGHTTIME CLOSURE

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: p002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R13COMT.dgn

COUNTY OF	ITEM NO.	SHEET
BULLITT	5-538.00	R13HR



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PERMITTED NIGHTTIME CLOSURE

MicroStation v8.11.9.459 | E-SHEET NAME: | USER: a002087B DATE PLOTTED: 9/11/2018 | FILE NAME: ...\CAD\MOT\Sheets\R13HKMT.dgn

Special Note for Completion Date & Liquidated Damages

Bullitt County
Item No. 5-538.00

FAILURE TO COMPLETE WORK ON TIME

Specified fixed completion date for this contract is November 1, 2020. For each calendar day beyond a fixed completion date of November 1, 2020, the Department will assess liquidated damages per Section 108.09 of the current edition of the Standard Specifications for Road and Bridge Construction.

KY 61

The construction of widening on KY 61 is to be done during a full road closure not to exceed 42 calendar days, beginning no earlier than the first day of summer break for the Bullitt County School system. KY 61 is to be complete and open to traffic no less than one calendar week prior to the first day of school. Damages of $24,000 per day or fraction thereof amounting to $1000 per hour shall be assessed if KY 61 is closed outside of the allowed closure period. The Contractor may complete as much work as possible on KY 61 prior to initiating the full road closure. Traffic shall be maintained using flaggers or other methods as directed by the Engineer, including any advance warning signage. Message boards notifying the public of the closure shall be placed at either end of the construction zone a minimum of two weeks before the beginning of the closure period.

I-65 Placement of Bridge Beams

Temporary double lane closures should be used on I-65, in only one direction at a time, during evening hours for placement of beams for the proposed bridge over I-65. The third travel lane will be routed along the newly constructed ramps during this period. The days and periods of time this will be allowed are Monday through Saturday (excluding holidays) beginning at 10:00 P.M. and ending at 5:00 A.M. the following day. Failure to reopen the lanes by 5:00 A.M. will result in a penalty of $3,000 for the first hour or fraction thereof and $15,000 for any additional hour or fraction thereof for exceeding the allotted time. No lane closures along I-65 will be allowed on holidays as specified in the Maintenance of Traffic Notes.

I-65 Placement of Sign Truss

Rolling road blocks should be used on I-65 during evening hours for placement of the sign truss on SB I-65 at Sta. e1383+70. Traffic may be halted at the nearest interchange for a maximum of fifteen minutes on I-65. Successive road blocks will only be permitted once normal traffic flow has been restored. Traffic stoppage will only be permitted between the hours of 10:00 P.M. and 5:00 A.M. Failure to reopen the road after the 15-minute period

will result in a penalty of $1,500 for the first 15-minute increment exceeding the allotted time, and $5,000 for each additional 15-minute increment. Rolling road blocks will not be allowed during the holidays specified in the Maintenance of Traffic Notes.

I-65 Placement of Bridge-Mounted Signs

Temporary double lane closures should be used on I-65, in only one direction at a time, during evening hours for placement of bridge-mounted signs on the proposed bridge over I-65. The third travel lane will be routed along the newly constructed ramps during this period. The days and periods of time this will be allowed are Monday through Saturday (excluding holidays) beginning at 10:00 P.M. and ending at 5:00 A.M. the following day. Failure to reopen the lanes by 5:00 A.M. will result in a penalty of $3,000 for the first hour or fraction thereof and $15,000 for any additional hour or fraction thereof for exceeding the allotted time. No lane closures along I-65 will be allowed on holidays as specified in the Maintenance of Traffic Notes.

I-65 Lane Closures

Temporary lane closures may be installed for construction operations adjacent to the traveled way. The days and periods of time this will be allowed are Monday thru Saturday (excluding holidays) beginning at 9:00 PM and ending at 6:00 AM the following day. Failure to reopen the lane by 6:00 AM. will result in a penalty of $3,000 for the first hour or fraction thereof and $15,000 any additional hour or fraction thereof for exceeding the allotted time. Prior to performing any construction sequence, the Contractor must apply in writing to the Engineer for approval of the period of time selected. The engineer at his discretion, can cancel or shorten any period of time before and during a construction sequence. If the engineer shortens a period of time before and during a construction sequence, the Contractor shall remove all equipment and install proper traffic control devices. No lane closures along I-65 will be allowed on holidays as specified in the Maintenance of Traffic Notes.

All liquidated damages will be applied cumulatively.

All other applicable portions of KYTC Standard Specification Section 108 apply.

SPECIAL NOTE

For Tree Removal

Bullitt County
I-65 New Interchange at MP 114
Item No. 05-538.00

NO CLEARING OF TREES 5 INCHES OR GREATER
(DIAMETER BREAST HEIGHT) FROM APRIL 1 TO AUGUST 15.

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

SPECIAL NOTE FOR PIPELINE INSPECTION

1.0 DESCRIPTION. The Department will perform visual inspections on all pipe on the project. A video inspection will be required on projects having more than 250 linear feet of storm sewer and/or culvert pipe and on routes with an ADT of greater than 1,000 vehicles. Conduct video inspections on all pipe located under the roadway and 50 percent of the remaining pipe not under the roadway. Storm sewer runs and outfall pipes not under the roadway take precedence over rural entrance pipes. Contractors performing this item of work must be prequalified with the Department in the work type J51 (Video Pipe Inspection and Cleaning). Deflection testing shall be completed using a mandrel in accordance with the procedure outlined below or by physical measurement for pipes greater than 36inches in diameter. Mandrel testing for deflection must be completed prior to the video inspection testing. Unless otherwise noted, Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

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

2.1 INSPECTION FOR DEFECTS AND DISTRESSES

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

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

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

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

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

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

3.0 MANDREL TESTING. Mandrel testing will be used for deflection testing. For use on Corrugated Metal Pipe, High Density Polyethylene Pipe, and Polyvinyl Chloride Pipe,

use a mandrel device with an odd number of legs (9 minimum) having a length not less than the outside diameter of the mandrel. The diameter of the mandrel at any point shall not be less than the diameter specified in Section 3.6. Mandrels can be a fixed size or a variable size.

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

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

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

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

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

3.6 AASHTO Nominal Diameters and Maximum Deflection Limits.

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

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

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

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

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

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

4.2 Record and submit all data.

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

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

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

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

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

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

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

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

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

RIGHT OF WAY CERTIFICATION

☒ Original ☐ Re-Certification

RIGHT OF WAY CERTIFICATION

ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
5-538.00	Bullitt	12FO FD52 015 9246701R	NHPP IM 0655 (118)

PROJECT DESCRIPTION

KY 480 - KY 245

☐ **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.

		EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Total Number of Parcels on Project	14		
Number of Parcels That Have Been Acquired			
Signed Deed	14		
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
Date		Date	7-17-18
Right of Way Director		**FHWA**	
Printed Name	D.M. Loy	Printed Name	
Signature	D.M. Loy	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date	17 July 2018	Date	

UTILITIES AND RAIL CERTIFICATION NOTE

Bullitt County
NHPP0655119
FD52 015 9246701U
CONSTRUCT NEW I-65 INTERCHANGE BETWEEN KY 480 AND KY 245.
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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.

AT&T Legacy, Salt River Rural Electric Cooperative, LG&E Electric, LG&E Gas, Windstream, Spectrum, and Bullitt County Public Schools have facilities within the project limits that require relocations. Please see the notes below pertaining to their relocations.

UTILITIES AND RAIL CERTIFICATION NOTE

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

City of Shepherdsville Sewer - The City has an existing 30-inch sanitary sewer located in a private easement 190ft left KY61 centerline at STA. 237+75 and 30ft left of centerline at STA. 265+45.

LG&E Electric Transmission – The Company has an existing transmission pole route crossing Ohm Drive at STA. 159+70 that is not to be disturbed.

The Roadway Contractor is required to adhere to *Powerline Safety, OSHA Cranes in Construction Standard Power Line Safety Section 1926.1408 and 1926.1409* (Appendix A).

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

Not Applicable

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

AT&T Legacy - The Company has existing underground fiber communication conduits in a private easement crossing Ohm Drive at STA. 160+30. The Company will relocate existing fiber communication conduits parallel to the existing alignment, and within the existing easement. **This work is anticipated to be completed by April 2020**.

Windstream –The Company has an existing aerial communication pole route located in an easement along KY 61 that is to be relocated by the Company's contractor. The existing poles are located approximately 30ft-35ft right of centerline. The proposed pole route is to be located approximately 60ft-100ft right of centerline. **This work is anticipated to be completed by November 2019.** The Company also has existing facilities on the east side of the proposed interchange attached to Salt River Electric owned poles. The Company will follow SRE proposed design. **This work is anticipated to be completed by June 2019.**

UTILITIES AND RAIL CERTIFICATION NOTE

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Bullitt County Public Schools – The School System has an existing aerial fiber communication lines located along KY61 and attached to SRE owned poles. The Company will relocate existing fiber communication lines to follow SRE proposed design. **This work is anticipated to be completed by September 2019.**

Salt River Rural Electric Coop. Corp. (SRE) - The Company has aerial electric facilities that are located in an easement that is approximately 280' east of KY-61 and crosses the proposed Ohm Drive connector at STA. 102+80. The Company's contractor will install poles along the same alignment but spanning the R/W. The Company has an aerial electric facilities that are located in an easement and are crossing the proposed Ohm Drive connector at STA. 108+55. The Company's contractor will install poles outside of the R/W to span the corridor. **This work is anticipated to be completed by August 2019.** The Company has an aerial electric facilities that are located in an easement along the east side of the I-65 corridor. The existing pole alignment crosses the proposed Ohm Drive connector at STA. 137+00. The proposed pole route will be located in a private easement following the proposed C/A and cross the proposed Ohm Drive connector at STA. 141+00. The Company also has an aerial electric pole route along Ohm Drive. The Company's contractor will remove the existing pole at STA. 172+50 LT and span the proposed roadway. **This work is anticipated to be completed by March 2019.**

Spectrum Communications – The Company has existing aerial communication lines along KY61 attached to Windstream owned poles. The Company will relocate existing communication lines to follow Windstream's proposed design. **This work is anticipated to be completed by February 2020.** The Company also has existing aerial fiber communication lines attached to Salt River Rural Electric Cooperative owned poles which are located in a private easement along the east side of I-65 and lead to the Crown Castle communication cell tower. The Company will relocate existing fiber communication lines to follow Salt River's proposed design. **This work is anticipated to be completed by May 2019.**

Salt River, Spectrum, and Windstream share the same pole route on the east side of the proposed interchange. The road Contractor shall be aware that existing poles will be removed once ALL facilities have been transferred to new poles.

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Salt River and Bullitt County Public Schools share the same pole route, which crosses Ohm Drive at STA. 103+00. The road Contractor shall be aware that the existing pole will be removed once ALL facilities have been transferred to new poles.

Windstream and Spectrum share the same pole route along KY-61. The road Contractor shall be aware that existing poles will be removed once ALL facilities have been transferred to new poles.

LG&E (High Pressure Gas) – The Company has an existing high pressure gas main crossing the proposed Ohm Drive in a private easement at STA. 160+20. The Company's contractor will relocate the gas main via a horizontal direction drill. The proposed high pressure gas main is located parallel to the existing high pressure main, and within the existing utility easement. The Contractor is to coordinate construction activities in this area with LG&E. **This work is anticipated to be completed by April 2019.**

The Roadway Contractor is required to adhere to LG&E *Guidelines for Blasting in the Vicinity of Natural Gas Pipelines* (Appendix B).

LG&E (Medium Pressure Gas) – The Company has a 6-inch medium pressure gas main located along the existing Ohm Drive. SUE Quality Level "A" information was obtained for this gas main (see below. The Company's contractor will drop the elevation of the existing main at STA. 176+10 and STA. 174+00 to accommodate the proposed drainage structures. **This work is anticipated to be completed by April 2019.**

The Contractor is to coordinate construction activities in this area with LG&E.

SUE Quality Level "A" Locates

Station	Offset	Project Northing	Project Easting	Depth	Top of Util. Elev.	Comment
173+91.43	27.22 LT	3874837.72	4940815.30	-2.33	519.93	TH #1: OHM Drive Connector
99+90.01	56.75 RT	3874610.37	4940127.24	-2.31	493.71	TH #2: Alpha Way
100+05.35	22.41 RT	3874602.22	4940090.93	-3.48	491.27	TH #3: Alpha Way

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

Louisville Water Company - The Company has an existing 12-inch PVC water main that is located along KY-61 from STA. 238+00.00 to STA. 246+70.00 then continues along Cooper Run Road that is to be relocated. The Company has an existing 16-inch PVC water main located along Ohm Drive. The existing water main crosses the proposed Alpha Way at STA. 100+25 and is to be relocated 10ft parallel to the existing main. The Contractor will also relocate a portion of the existing 16-inch PVC water main along Ohm Drive from STA. 173+60 to STA. 176+53.

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

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

AREA FACILITY OWNER CONTACT LIST

1. LG&E KU (Electric)
820 West Broadway
Louisville, KY 40202
Emergency Number (502) 589-1444
LG&E and KU Emergency Number 1-800-331-7370

Tsion Menkir
(502) 333-1882
Tsion.Menkir@LGE-KU.com
Bill Harper
O: (502) 333-1818
M: (502) 643-3361
Bill.Harper@LGE-KU.com

2. 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

Mike Kress
O: (502) 364-8364
M: (502) 817-7844
Mike.Kress@LGE-KU.com
Bill Harper
O: (502) 333-1818
M: (502) 643-3361
Bill.Harper@LGE-KU.com

UTILITIES AND RAIL CERTIFICATION NOTE

Bullitt County
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3. Louisville Water Company
550 South Third Street
Louisville, KY 40202

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

4. Windstream Kentucky, Inc.
229 Lees Valley Road
Shepherdsville, KY 40165
502-957-7127
OR
111 S. Main St.
Elizabethtown, KY 42071

Rondale Langley
(270) 765-1817
Rondale.langley@Windstream.com

Barry Roberts
(270) 723-7358
Barry.Roberts@Windstream.com

5. Salt River Rural Electric Coop. Corp.
111 W. Brashear Ave.
Bardstown, KY 40004
Telephone in Bullitt County

Daniel Carrico
Dcarrico@SRElectric.com
(502) 350-1606
Wesley Collins
wcollins@SRElectric.com

6. East Kentucky Power Coop
4775 Lexington Road
Winchester, KY 40391

Garry Harvey
(859)745-9601
Garry.Harvey@EKPC.coop

Or

P O Box 707
Winchester, KY 40391

Barry Warner
Barry.Warner@EKPC.coop
(859) 745-9304

7. City of Shepherdsville Sewer
634 Conestoga Parkway
P O Box 400
Shepherdsville, KY 40165

Engineer: Rob Campbell QK4
(502) 585-2222 (QK4)
RCampbell@qk4.com
fax: (502) 543-2923 (City Shep)
ph: (502) 955-7803 (City Shep)
Scott Flemming
Cell: (502) 664-6254

City of Shepherdsville Sewer (cont)

UTILITIES AND RAIL CERTIFICATION NOTE

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sfleming@shepcity.com

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

Deno Barbour
(502) 664-7395 – Cell
(502) 357-4376 – Office
Dwight.Barbour@charter.com
Kevin Mercer
(502) 817-5055 – Cell
(502) 357-4724 - Office
kevin.mercer@charter.com
Richard Bast
(502) 817-0734 – Cell
(502) 357-4118 - Office
richard.bast@charter.com

9. Lebanon Junction Water Works
City Hall - Main Street
P O Box 69
Lebanon Junction, KY 40150

Charles Sullivan
Cell (502) 817-0352
LJWW16@yahoo.com
City Hall 502-833-4311

10. Mt. Washington Sewer & Water Commission
208 Snapp Street
Mt. Washington, KY 40047
(502) 538-4216 or 538-4781 or 955-6784

Elizabeth Hall, City Administrator
DHall@mtwKY.org
Derrick Engineering – Consultant
derrickinc@bellsouth.net
Ronnie Fick, Public Works Director
RFick@mtwKY.org
(502)538-3771

11. Marathon Pipeline, LLC
539 South Main Street, Room X-05-018
Findlay, OH 45840
OR

Dennis Durnal
Office – (502) 448-8311
Cell – (419) 581-0038
ddurnal@marathonpetroleum.com

UTILITIES AND RAIL CERTIFICATION NOTE

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20-C Industrial Drive
Lexington, OH 44904

Greg Newman
gcnewman@marathonpetroleum.com
Office - (419) 884-0800x236
Cell – (419) 564-8826
Send to both contacts above

Aron Velasquez
Office – (419) 421-3704
advelasquez@marathonpetroleum.com

12. Mid - Valley Pipeline Company
4910 Limaburg Road
Burlington, KY 41005
FAX (866) 699-1185

Richard (Todd) Calfee
(859) 371-4469x14
Cell: 859-630-8271
RTCalfee@SunocoLogistics.com

13. AT&T Legacy
7555 E. Pleasant Valley Rd. – Suite 140
Independence, OH 44131

Mike Diederich
MD4145@att.com
Phone - (216) 750-0135
Cell - (216) 212-8556
Don Garr
DRGarr@Hughes.net
Cell - (502) 741-8374
Send to both contacts

14. City of Taylorsville Sewer & Water
70 Taylorsville Rd., P O Box 279
Taylorsville, KY 40071
Consultant: Kevin Sisler
220 Reynolds Rd
Lexington, KY 40517

Harold Compton
HCompton@TaylorsvilleWater.org
(502) 477-3235
Fax: (502) 477-1310
Kevin.@SislerMaggard.com
(859) 271-2978 (859) 509-3799
Steve Biven-City Clerk
SBiven@taylorsvillewater.org
(502) 477-3235 ext. 106

UTILITIES AND RAIL CERTIFICATION NOTE

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

3719 Bardstown Rd.
Louisville, KY 40218

Scott Roche
sr8832@att.com
Office - (502) 348-4528
Cell – (502) 827-4703

16. Bullitt County Schools
1040 Highway 44 East
Shepherdsville, KY 40165
(also managed by LG Fiber)
LG Fiber
P. O. Box 1702
Mt. Vernon, KY 40456

Jim Jackson
Jim.Jackson@Bullitt.kyschools.us
(502) 869-8040
Larry Gregory
LGFiber@gmail.com
(606)521-2649

17. Bullitt Co. Sanitation District
P O Box 818
Hillview, KY 40129

Jerry Kennedy
Office – (502) 957-6140
Cell - (502) 643-3165
BullittSanitation@Windstream.net

18. Inside Connect Cable LLC
4890 Knobb Creek Road
Brooks, KY 40109

TJ Scott
tscott@insideconnect.net
Tony Manley
Tony@InsideConnect.net
or Tony@ICcable.com
Office: (502)955-4882
Cell: (502)593-5357

19. Pioneer Village Sewer Plant
4846 Brownsboro Center Arcade
Louisville, KY 40242
502-895-4273

Joe Sanders
(502) 609-2114 - cell
NO EMAIL
Owner: Jim Walser
Contact not in KURTS

UTILITIES AND RAIL CERTIFICATION NOTE

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20. Kentucky Data Link (KDL now Windstream)
111 S. Main St.
Elizabethtown, KY 42071

James Galvin
Office: 270-765-1818
Mobile: 270-748-9249
James.Galvin@windstream.com
Mark Ware
Mark.Ware@windstream.com
Send to both contacts
Timothy Gibson
Timothy.Gibson@Windstream.com

21. Verizon Business (MCI)
400 International Parkway
Richardson, TX 75081

Dean Boyers
Dean.Boyers@Verizon.com
Office (469) 886-4238

22. Nolin Rural Electric Cooperative Corp.
411 Ring Road
Elizabethtown, KY 42701

Donnie Probst
(270) 765-6153

23. CenturyLink
260 Winn Ave
Winchester, KY 40391

Jim Trapnell
jim.trapnell@centurylink.com
Cell (859) 806-5833

CenturyLink National Network Construction
3625 Brookside Parkway Suite 400
Alpharetta, GA 30022

Chad Kirkland
Chadrick.kirkland@centurylink.com
Cell (770) 328-2449

24. Level 3 Communications (Transmission)
848 S. 8th St.
Louisville, KY 40203

Kevin Webster
Kevin.Webster@Level3.com
Office (502) 777-8622
Cell (502) 777-8622
Fax (502) 561-6950

UTILITIES AND RAIL CERTIFICATION NOTE

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Level 3 Communications (Distribution)
11857 Commonwealth Drive
Louisville, KY 40299

Mark Sewell
Mark.Sewell@Level3.com
Office (502) 389-4811
Cell (502) 295-0939

3770 Lucius Rd.
Columbia, SC 29201

Russ Wheat,
russ.wheat@level3.com
Office (803) 239-1116
Cell (803) 206-9563

25. Crown Castle Network Operations
10300 Ormsby Park Place
Suite 501
Louisville, KY 40223

Rebecca Gray
rebecca.gray@CrownCastle.com
(502)318-1313
Chris Gladstone
Chris.Gladstone@CrownCastle.com
(502) 689-2162

26. MCI/Verizon(Owns WUTEL)
MCI/Verizon
730 West Henry Street
Indianapolis, IN 46225

David Dickerson
david.b.dickerson@xo.com
Office: (615) 777-7855
Cell: (615) 507-5287
Dave Wiley (Field)
(502) 439-8783
dave.wiley@verizon.com

27. Kentucky Wired
209 St. Clair Street, 4th Floor
Frankfort, KY 40601

Debbie Rodgers
Office 502-782-9549
kentuckywired@ky.gov

Appendix A

Powerline Safety, OSHA Cranes in Construction Standard Power Line Safety Section 1926.1408 and 1926.1409

POWER LINE SAFETY

OSHA Cranes in Construction Standard Power Line Safety Section 1926.1408 and 1926.1409

This is a high level summary only. Refer to www.osha.gov for details.

Employer must identify the work zone by either: (1) demarcating boundaries (with flags, range limit device or range control warning device) and prohibit operator from operating past those boundaries; OR (2) define the work zone as the area 360 degrees around the equipment, up to the equipment's maximum working radius.

Determine if any part of equipment, load line, or load could get closer than 20 feet for less than 350 kV or 50 feet for greater than 350 kV if operated up to the equipment's maximum working radius.

NO → Crane operator can proceed with crane operations.

YES → Employer must do either **Option 1, 2, or 3.**

Option 1. Confirm from the utility that the power line has been de-energized and visibly grounded at the worksite. Proceed with crane operations.

Option 2. Employer must ensure that no part of the equipment, load line, or load gets closer than 20 feet if less than 350 kV or 50 feet if more than 350 kV to the power line by implementing the Encroachment Precautions. Employer needs to know if line is more or less than 350 kV but does not need to know exact voltage.

Option 3. Employer contacts utility to determine line voltage. Utility provides within 2 days. Determine if any part of equipment, load line, or load while operating up to the maximum working radius in the work zone could get closer than the Table A distances. If so, implement Encroachment Precautions.

Table A Distances:

Up to 50 kV:	10 feet
50 to 200 kV:	15 feet
200 to 350 kV:	20 feet
350 to 500 kV:	25 feet

Implement encroachment precautions.

Operations where any part of crane, load line, or load is closer than Table A distance to an energized power line is prohibited unless the requirements on Page 2 are met.

Encroachment Prevention Precautions required for Options 2 or 3:

1. Conduct a planning meeting with operator and other workers.
2. Tag lines, if used, must be non-conductive.
3. Erect and maintain elevated warning line, barricade, or line of signs, in view of the operator, equipped with flags at 20 feet from the power line if less than 350 kV or 50 feet if more than 350 kV (if using Option 2) or the distance shown in Table A if using Option 3. If operator is unable to see the elevated warning line, a dedicated spotter (B) must be used in addition to implementing one of A, C, D, or E below.

In addition to the items above, implement at least one of these:

A. Use a proximity alarm set to give operator sufficient warning to prevent encroachment.
B. Use a dedicated spotter who is in continuous contact with the operator.
C. Use a device that automatically warns the operator to stop (range control warning device).
D. Use a device that limits range of movement, set to prevent encroachment.
E. Use an insulating link between the end of the load line and the load.

POWER LINE SAFETY

Power Line Safety requirements for getting closer than the Table A distances

Table A Distances:

Up to 50 kV:	10 feet
50 to 200 kV:	15 feet
200 to 350 kV:	20 feet
350 to 500 kV:	25 feet

Operations where any part of crane, load line, or load is closer than Table A distance to an energized power line is prohibited unless the requirements on this page are met.

Crane operator employer shall determine that it is infeasible to work without breaching Table A distances.

Employer determines after consulting with utility that it is infeasible to de-energize and ground or relocate the power line.

Utility or registered professional engineer (PE) shall determine minimum clearance distance that shall be maintained to prevent electrical contact.

Planning meeting with employer and utility (or PE) shall be held to determine procedures that shall be followed.

If so equipped, the automatic reclosing features shall be made inoperative by the utility before work begins.

Crane operator is required to have utility install line hose or coverup except where unavailable for the voltage.

Documented procedures must be developed and kept on site. Equipment user, operator and others shall meet with utility to review procedures.

Utility and employers of employees involved in the work shall identify one person to direct implementation of procedures.

If procedures are not effective, crane operator shall stop work OR have utility de-energize lines.

Crane operator is also required to do these items.

- Dedicated spotter shall be used.
- Elevated warning line or barricade in view of operator equipped with flags shall be installed.
- Insulating link shall be installed between end of load line and load.
- Non-conductive rigging shall be used.
- If equipment has device that limits range of movement, it shall be used.
- Tag lines shall be non-conductive.
- Barricades set up 10 feet around crane to prevent personnel from entering the work area.
- Workers, other than operator, shall be prohibited from touching load line.
- Only essential personnel shall be allowed.
- Crane shall be grounded.

Appendix B

Guidelines for Blasting in the Vicinity of Natural Gas Pipelines

Louisville Gas & Electric Company
Guidelines for Blasting In The Vicinity of Natural Gas Pipelines
September 27, 2002

General Information

The effect of blasting on natural gas pipelines depends primarily on the explosive energy release, the distance from the pipeline, and the physical parameters of the pipeline. The physical parameter of the pipeline includes its material, integrity, operating pressure (i.e., internal pressure), and consequences of failure. These physical parameters will vary from pipeline to pipeline.

When blasting occurs in the vicinity of natural gas pipelines, two stresses are involved - the stress from the blasting operations and the stress from the internal pressure of the pipeline. These stresses are superimposed to determine the maximum permitted stress for a particular pipeline.

Criterion Used

To determine the maximum permitted stress for a particular pipeline, Louisville Gas & Electric Company (LG&E) utilizes a charge weight per delay criterion. The charge weight per delay criterion is based upon a variety of parameters, such as, charge weight per delay, maximum operating pressure, powder factor, explosive's weight strength, minimum distance from the nearest charge to the pipeline, consequences of failure, etc. This criterion was selected because it allows LG&E to evaluate each blasting operation based upon its particular merits.

When blasters submit their blasting plans or blasting parameters, LG&E will used the charge weight per delay criterion to determine what is an acceptable distance from the affected pipeline for a given charge weight per delay. The acceptable distance may vary from blasting operation to blasting operation even with the same charge weight per delay and blasting parameters. This variation would be due to changes of the physical parameters of the affect pipeline. In addition, LG&E does not use the particle velocity criterion and will not recommend a specific particle velocity (in/s).

Notification Requirements

LG&E should be notified of blasting operation within 500 feet of an LG&E natural gas transmission pipeline (or 300 feet of natural gas distribution pipeline). This notification should be given to the appropriate LG&E Operation Center; i.e., East, Auburndale, Muldraugh or Bardstown. The appropriate Operation Center and telephone number can be obtained from the attached map, Operation Centers By Zip Code.

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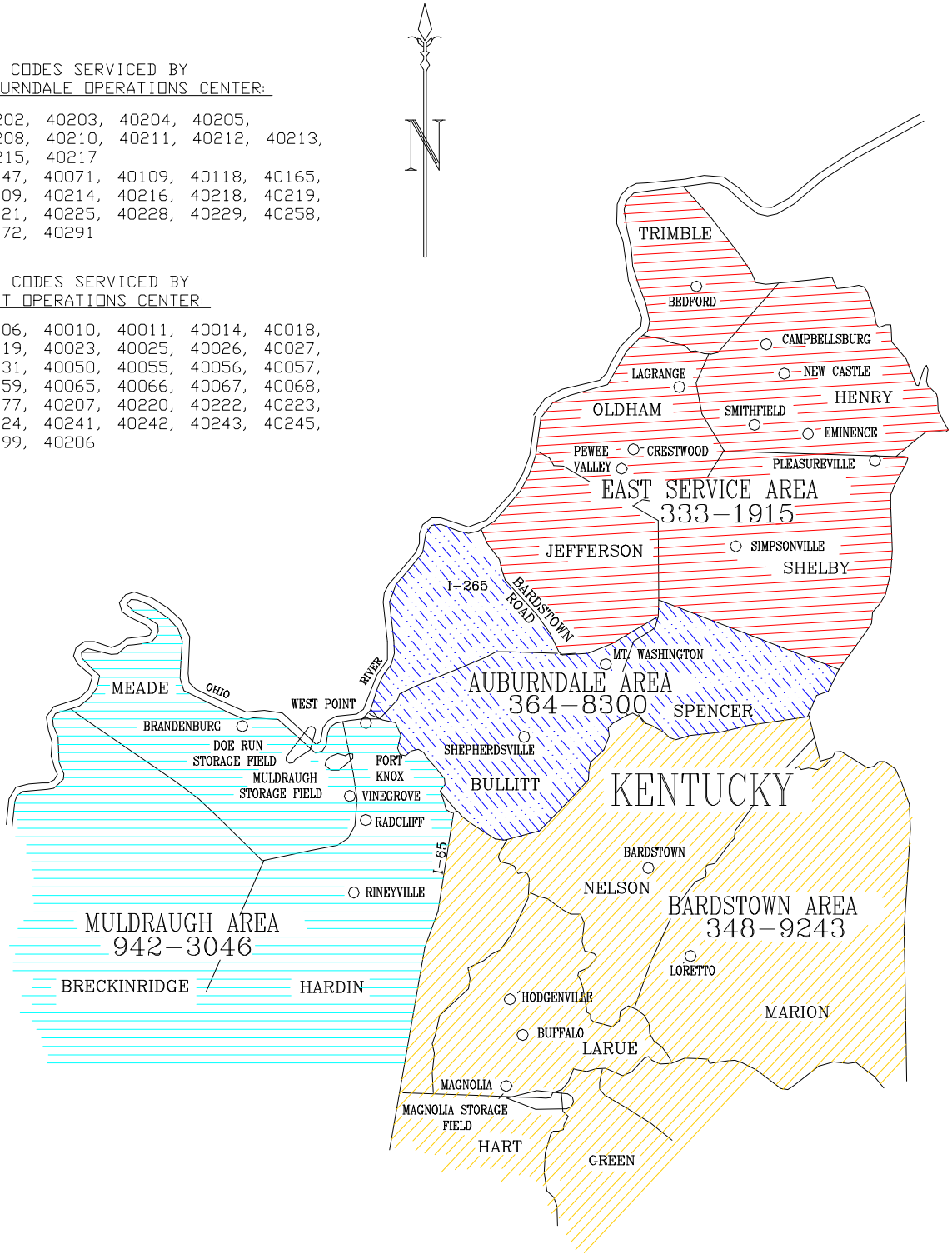
ZIP CODES SERVICED BY
AUBURNDALE OPERATIONS CENTER:

40202, 40203, 40204, 40205,
40208, 40210, 40211, 40212, 40213,
40215, 40217
40047, 40071, 40109, 40118, 40165,
40209, 40214, 40216, 40218, 40219,
40221, 40225, 40228, 40229, 40258,
40272, 40291

ZIP CODES SERVICED BY
EAST OPERATIONS CENTER:

40006, 40010, 40011, 40014, 40018,
40019, 40023, 40025, 40026, 40027,
40031, 40050, 40055, 40056, 40057,
40059, 40065, 40066, 40067, 40068,
40077, 40207, 40220, 40222, 40223,
40224, 40241, 40242, 40243, 40245,
40299, 40206



Distribution Operations LG&E Louisville Gas & Electric Company	Title: OPERATIONAL CENTERS BY ZIP CODES	Job# GAOP - PO - 003		Revision:	
		Date: 9/18/02	Drawn By: CLARK	Scale: None	Sheet: 1 of 1

On receipt of a blasting plan or blasting parameters, LG&E will evaluate the blasting plan or blasting parameters to ensure the safety of the affected pipeline(s) and to determine the necessary precautionary measures. When blasting operations are planned within 200 feet of a LG&E pipeline, LG&E will also witness the blasting operation and perform pre- and post-blast inspections.

In addition to the above notice, LG&E should be notified at a minimum of five (5) working days prior to the blasting operations. This notification will allow LG&E sufficient time to take precautionary measures for the protection of its pipeline(s). Precautionary measures include evaluating the blasting plan or blasting parameters, conducting leakage surveys, performing valve maintenance, scheduling of personnel to witness the blasting operations, and taking other measures as deem appropriate by LG&E.

Finally, LG&E should be notified twenty-four (24) hours prior to commencement of the blasting operations. This notification will allow LG&E to have a representative on site during the blasting operations.

Blasting Operation Information

To perform its evaluation, LG&E needs the blasting information listed below. This information can be provided in a blasting plan or submitted separately as blasting parameters.

1. The maximum charge weight per delay (lbs.).
2. The minimum distance from LG&E's pipeline (feet).
3. The maximum powder factor (lb/yd^3).
4. The exact location of the blasting operations. (Detail Description)
5. Scheduled date(s) of the blasting operations.
6. Blasting project's name.
7. The blasting company's name.
8. The blasting company's telephone number.
9. The name of the blaster(s).
10. The blaster's license number.
11. The blaster's telephone number, if applicable.
12. The type and name of explosive.
13. The manufacture of the explosive.
14. The weight strength of the explosive (cal/gm).
15. The specific gravity of the explosive.
16. The number of holes, burden and minimum hole spacing (feet).
17. Diameter, depth, and layout of the holes.
18. Type of matting, if used.

19. Type of delay.
20. Delay interval. (ms)
21. Total number of delays.
22. Number of dynamite sticks per delay.
23. Number of holes per delay.
24. Type of material to be blasted.
25. Method of installation of the dynamite.
26. Method of detonation.

LG&E's Provisions for Monitoring

LG&E's provisions for monitoring the blasting operations includes the following:

(a) To have representative(s) on site to perform the following:

(1) To inspect and check all facilities and appurtenances to ensure safe conditions after the each blasting sequence.
(2) To monitor the drilling of each hole and the loading of explosive to verify compliance with the agreement letter.
(3) To provide immediate response in the event of an emergency.
(4) To record the date, the time of day, the measured perpendicular distances between the pipeline and the nearest charge, blasting parameters (e.g., charge weight per delay, hole spacing, delay interval, type of explosive, energy release, etc.) and seismographs results.
(5) To prohibit further blasting and have a leakage survey performed, if the agreement between the blasting company and LG&E is violated.
(6) To initiate LG&E's Gas Emergency Operating Procedures in the event of damage to LG&E's facilities.
(7) To monitor the operating pressure of its pipelines to ensure that unexpected abnormal operation does not occur as a result of the blasting operations.

(b) To conduct a leakage survey over the pipeline prior to the blasting operations, after each blast sequence, and after the area has been restored to normal conditions. The leakage survey will be conducted on all facilities that are in the affected blast area for a distance considered adequate by LG&E. At a minimum, the leakage survey will be conducted for a distance of 300 feet in all directions.

(c) To continue surveillance for a reasonable period of time for settlement of backfilled excavations and for damage caused by other related construction activity.

Documentation

1. For all parties that submit either a blasting plan or blasting parameters, LG&E will send them an agreement letter that stipulates the agreement between the parties. At minimum, the agreement letter will include the following:

    a. Maximum charge weight per delay with the corresponding minimum distance from LG&E pipeline(s).
    b. The blasting parameters in addition to the charge weight per delay and distance.
    c. The schedule for the blasting operation.
    d. Specifications for notification of actual blasting commencement.
    e. Requirements for submitting new blasting parameters.
    f. LG&E's project manager and representative and their contact information.
    g. LG&E's provisions for monitoring the involved pipeline(s).
    h. LG&E's provisions for damages to LG&E facilities and/or recovery of loss revenues as the result of agreement letter violations.

2. For all parties that submit either a blasting plan or blasting parameters, LG&E requires a copy of the blaster's blasting report or the blasting report information submitted separately. A blasting report typically contains the following minimum data:

    a. Name of company or contractor.
    b. Exact location of the blast, date and time of detonation.
    c. Name, signature and license number of blaster in charge.
    d. Type of material blasted.
    e. Number of holes, burden and spacing.
    f. Diameter and depth of holes.
    g. Types of explosive used.
    h. Total amount of explosives used.
    i. Maximum amount of explosives per delay period of eight (8) milliseconds or greater.
    j. Method of firing and type of circuit.
    k. Direction, distance in feet, and identification of the nearest dwelling house, public building, school, church, commercial or institutional building neither owned nor leased by the person conduction the blasting.
    l. Weather conditions.
    m. Type and height or length of stemming.
    n. A statement as to whether mats or other protections against flyrock were used.
    o. Type of delay electric blasting caps used and delay periods used.

p. The person taking the seismograph reading shall accurately indicate exact location of seismograph if used and shall also show the distance of seismograph from blast.

q. Seismograph records, where record:

   1. Name of person and firm analyzing the seismograph record.
   2. Seismograph reading.

r. Maximum number of hole per delay period of eight (8) milliseconds or greater.

s. Sketch of blast pattern including number of holes, burden and spacing distance delay pattern, and if decking is used, a hole profile.

LG&E A SUBSIDIARY OF LG&E ENERGY	**AOP** GAS APPROVED OPERATING POLICIES	
Subject: **PIPELINE OPERATIONS**	AOP Number: **GAOP – PO – 003**	Effective Date: **October 9, 2002**
Policy: **BLASTING IN THE VICINITY OF PIPELINES**		**Distribution Operations**

SECTION 1 –PURPOSE

1.1 This policy is to ensure that blasting activities in the vicinity of natural gas pipelines will not affect operations or create unsafe conditions.

SECTION 2 – SCOPE

2.1 This policy provides guidelines of how close or how much explosive charge can be permitted in the vicinity of natural gas pipelines. In addition, the policy provides guidelines on the allowable permitted operating pressure.

2.2 This policy is applicable to all natural gas pipelines operated by the Louisville Gas and Electric Company. Whereas the requirements stated within are generally applied to mains or transmission lines that cannot conveniently be shut down, they are applicable to any part of the LG&E's natural gas system.

2.3 This policy is for blasting activities not performed by LG&E.

2.4. This policy takes into account the pipeline operating conditions, the strength of the pipe, and the stresses caused by blasting activities.

SECTION 3 – REFERENCES

3.1 State Regulations, Company Procedures, and Industry Guidelines

3.1.1 Kentucky Administrative Regulations (KAR) Title 805 KAR Chapter 4, Division of Explosives and Blasting.
3.1.2 Kentucky Revised Statues (KRS) Title 28 KRS Chapter 351.00.
3.1.3 CFR, Part 192.317, Protection from hazards, and Part 192.614, Damage Prevention Program
3.1.4 Related Company Procedures/Policies:
- Gas Emergency Operating Procedures (GEOP)
- Pipeline Right-Of-Way

3.1.5 Related Company Guidelines:
- Guidelines for Blasting In The Vicinity of Natural Gas Pipelines

3.1.6 Natural Gas Industry Related Guidelines:
- "Recent Research Results in the Analysis of Pipeline Response to Buried Explosive Detonations" – Janice K. Means, Michigan Wisconsin Pipe Line Company, AGA, Operating Section Proceedings.
- "Blasting Adjacent To In-Service Gas Pipelines" – Alan K. Lambeth, Texas Eastern Transmission Corporation, AGA, May 1993.
- AGA Gas Engineering and Operating Practices (GEOP), Chapter 6, Blasting Effects.

Dir., Distribution Operations	Dir., Distribution Operations	Dir., Distribution Operations
Dir., Asset Management	Manager, Operating Policy	

- AGA, GPTC Guide for Gas Transmission and Distribution Piping Systems: 1998 – 2000, Guide Material Appendix G – 192 – 16, Substructure Damage Prevention Guidelines (Blasting Operations)
- "Surface Mine Blasting Near Pressurized Transmission Pipelines", David E. Siskind, Mark S. Stagg, John E. Wiegand, and David L. Schulz, U.S. Bureau of Mines, Report of Investigations 9523, 1994.

3.16 Blasting Industry Related Guidelines:

- BMC The Blasting Primer – A Study Guide For Students of Explosive Engineering, James T. Ludwiczak, 1984

SECTION 4 –RESPONSIBILITIES

4.1 LG&E's Responsibility

4.1.1 General

a. LG&E does not have the responsibility of dictating the acceptable charge weights to a third party performing blasting operations. However, LG&E does have the responsibility of suggesting a minimum distance from its pipeline(s) given a charge weight. In cases, where the calculated permitted operating pressure is lower than the actual operating pressure, LG&E will need to take appropriate measures to ensure the safety of its pipeline system (refer to Section 6.6.1).

b. LG&E has the responsibility of determining the design factor of safety. The design factor of safety should be determined as an allowable percentage of SMYS based upon pipe specifications, consequences of failure, type of pipeline girth and seam welds, pipeline operating history, known and historical defects/corrosion, in-line inspection tools records, site and soil conditions, and other information regarding the integrity of the pipeline.

4.1.2 Asset Management

The Asset Management's Operating Policy and Standards section shall have the responsibility for revising the requirements of this Policy. Revisions to this policy shall be reviewed and approved by the Directors of Asset Management and Distribution Operations.

4.1.3 Operations Centers and Gas Storage

a. The Operations Center and Gas Storage shall have the responsibility of identifying critical facilities that may be affected. The identification of facilities should include conducting a field review with the blasting contractor to determine what precautions should be taken to protect LG&E's facilities.

b. The Operations Center and Gas Storage shall have responsibility of evaluating the purposed blasting operation and preparing the agreement letter.

c. The Operations Center and Gas Storage shall have the responsibility of inspecting its facilities both before and after the blasting operation.

d. The Operations Center and Gas Storage shall have responsibility for ensuring provisions are made to temporary protect and support LG&E's facilities.

e. The Operations Center and Gas Storage shall have the responsibility of activating LG&E's Gas Emergency Operating Procedures (GEOP), if deemed necessary.

4.2 Blasting Contractor's Responsibility

4.2.1 The blasting contractor shall be responsible for notify LG&E of their intention to perform blasting activities in the vicinity of LG&E's facilities, at least five (5) working days in advance. This time is needed for LG&E to perform blasting analysis, leakage survey, valve maintenance, etc.

4.2.2 The blasting contractor shall be responsible for ensuring that measures for the safe control of explosives has been taken.

4.2.3 The blasting contractor shall be responsible for ensuring that the blaster is licensed in the state of Kentucky.

4.2.4 The blasting contractor shall be responsible for keeping an accurate up-to-date record of explosives, blasting agents, and blasting supplies used in a blast. In addition, the blasting contractor shall be responsible for keeping an accurate running inventory of explosives and blasting supplies stored on the job.

4.3 State's Responsibility

4.3.1 Department of Mines and Minerals is responsible to promulgate rules and administrative regulations (i.e., Kentucky Administrative Regulations (KAR)) for the Kentucky Revised Statutes (KRS).

4.3.2 Department of Mines and Minerals' Division of Explosives and Blasting is responsible for all aspects of explosives and blasting within the state of Kentucky.

SECTION 5 –DISCUSSION

5.1 Regulatory Accountability

5.1.1 Pipeline Operators

Part 192.317 (a) requires that operators "take all practicable steps to protect each transmission line or [distribution] main from … hazards that may cause the pipeline … to sustain abnormal loads." In addition, Part 192.614 (c) (6) (ii) requires "inspection of pipelines when the operator has reason to believe that their pipeline could be damaged by excavation activities". "In the case of blasting, any inspection must include leak surveys."

5.1.2 Blasting Operations – Dwellings (e.g., commercial or institutional building, etc.)

a. 805 KAR 4:020 states "[i]n all blasting operations, … the maximum peak particle velocity of the ground motion in any direction shall not exceed two (2) inches per second at the immediate location …". In addition, the regulations state that "for distances less than 300 feet [from the dwelling to be protected] the following table will be used:

Actual Distance In Feet	**Pounds Per Delay Interval of 8 Milliseconds or Greater**
5 – 10	1/8 lb.
11 - 15	¼ 1b.
16 - 20	½ lb.
21 - 25	¾ lb.
26 - 30	1.0 lb.
31 - 300	1 lb. Plus 1/8 lb. for each foot of distance above 300 feet

Less than five (5) feet the total charge should not exceed one-eighth (1/8) pound".

5.1.3 Blasting Operations – Pipelines

a. 805 KAR 4:075 (14) states that "[b]lasting operations in the proximity of … utility services, or other services or structures shall not be carried on until the operators and/owners have been notified at least twenty-four (24) hours in advance and measures for safe control have been taken".

b. 28 KAS 351.330 (9) states "[w]hen blasting operations … are conducted within the vicinity of a pipeline or public utility, the blaster or person in charge of the blasting operations shall take due precautionary measures for the protection of the pipeline or utility, and shall give adequate notice to the owner or his agent that such blasting operations are intended. The blaster shall be subject to regulations promulgated by the department [Department of Mines and Minerals] concerning such a blasting operations".

c. 28 KAS 351.330 (16) states "[n]o person shall use explosives in such a manner that safety to persons or property is threatened".

d. 805 KAR 4:020 (3) states "[n]o two (2) consecutive subcharges within any charge shall be separated by a delay time of less than eight (8) milliseconds".

5.1.4 Blaster's Records

805 KAR 4:050 states that "a record of each blast shall be kept. All records including seismograph reports shall be retained at least five (5) years and shall be available for inspection by the Department of Mines and Minerals and shall contain the following minimum data:

a. Name of company or contractor.
b. Exact location of the blast, date and time of detonation.
c. Name, signature and license number of blaster in charge.
d. Type of material blasted.
e. Number of holes, burden and spacing.
f. Diameter and depth of holes.
g. Types of explosive used.
h. Total amount of explosives used.
i. Maximum amount of explosives per delay period of eight (8) milliseconds or greater.
j. Method of firing and type of circuit.
k. Direction, distance in feet, and identification of the nearest dwelling house, public building, school, church, commercial or institutional building neither owned nor leased by the person conduction the blasting.
l. Weather conditions.
m. Type and height or length of stemming.
n. A statement as to whether mats or other protections against flyrock were used.
o. Type of delay electric blasting caps used and delay periods used.
p. The person taking the seismograph reading shall accurately indicate exact location of seismograph if used and shall also show the distance of seismograph from blast.
q. Seismograph records, where record:

    1. Name of person and firm analyzing the seismograph record.
    2. Seismograph reading.

r. Maximum number of holer per delay period of eight (8) milliseconds or greater.
s. Sketch of blast pattern including number of holes, burden and spacing distance delay pattern, and if decking is used, a hole profile.

5.2 Blasting Operations

5.2.1 In rocky terrain, constructing large projects without blasting is not practical. Although alternatives to blasting exist, such as hoe rams (tractor-mounted jackhammers) and rock splitting chemicals, they are not practical and/or economical for larger projects.

5.2.2 Blasting activities may be associated with mining operations, quarry excavations, trench excavation for new pipelines, seismic surveys, or highway or other types of construction.

5.2.3 If the delay time between blast is at least eight milliseconds, the vibration effects of individual explosions are not cumulative.

5.2.4 In general, the effect of blasting depends primarily on the explosive energy release, the distance from the pipeline, and the physical parameters of the pipe. The effects on the pipe depend on its material, condition, operating pressure, and consequences of failure.

5.3 Stresses

5.3.1 When blasting operations are in the vicinity of pipelines, the two stresses that are involved consist of circumferential stress from the blasting operations and hoop stress from the internal operating pressure of the pipeline. The total stress allowed is determined by superimposing the stress caused by the blasting upon the stress caused by the internal pressure.

5.3.2 The total stress allowed should be based upon the pipeline specifications, consequences of failure, type of pipeline girth and seam welds, tested stress level, operating conditions and history, site and soil conditions, defect and corrosion history, and any other factors that might influence the pipeline's susceptibility to damage. Cast iron, threaded, or coupled pipelines should receive special consideration. The blasting contractor should be encouraged to utilize charges of smaller magnitude in these circumstances.

5.4 Criteria

5.4.1 Charge Weights Criteria

(a) This policy uses a criterion based upon the explosive charge weights, maximum operating pressure, and minimum distance from blast hole to the pipeline to determine the acceptable maximum stress as a result of blasting.

(b) According to Texas Eastern Transmission Corporation, the charge weight criteria is much more applicable to pipeline installations than a particle velocity criterion. Texas Eastern Transmission Corporation developed this criteria based upon extensive research and field verification on a major construction project.

5.4.2 Particle Velocity Criteria

(a) While particle velocity may be the best criterion for predicting the probability of damage to dwellings, the particle velocity criterion was not selected because it is not proactive. Since the results are not obtained until the blast has been completed, this criterion does not allow for the prevention of any damage if the vibration levels exceed the limit. In addition, the particle velocity criterion is normally used for aboveground structures rather than underground facilities and is overly conservative for properly constructed natural gas pipelines. KYPSC limits particle velocity to two (2) inches per second (ips). Natural gas pipelines can withstand higher velocities.

(b) While the monitoring of particle velocities may not be necessary for pipelines, it is necessary for protection of buildings and other aboveground structures in the vicinity of the blasting operations.

(c) According to Texas Eastern Transmission Corporation, the particle velocity criteria has been inconsistent from one blast site to the next blast site based upon correlation between charge weights and peak particle velocities.

SECTION 6 – POLICY

6.1 Advance Planning

6.1.1 If practical, LG&E should identify and become acquainted with personnel of the agencies in their area who issue blasting permits and have jurisdiction over blasters and blasting operations.

6.1.2 If the blasting operation is to be bid, LG&E should perform the following:

a. Encourage inclusion of LG&E's facilities on the project plans.
b. Inform the project originator of the potential hazards and liabilities that could be incurred through blasting operations.
c. Attempt to resolve conflicts between the proposed design and LG&E's facilities. Refer to Section 6.4, Evaluation of the Proposed Blasting Operations.
d. Encourage inclusion of provisions for the compliance with the laws, codes, and regulations of the jurisdictional authorities.

6.1.3 If deemed necessary, LG&E should make provisions for temporary protection and support of underground facilities.

6.2 Notifications

6.2.1 Individuals receiving telephone notification calls shall inform the notifying party that a minimum notice of five (5) working days is required for blasting operations. This time is needed for LG&E to perform blasting analysis, leakage survey, valve maintenance, etc.

6.2.2 Individuals receiving telephone notification calls shall request a blasting plan. The blasting plan should be submitted to the Operations Center or Gas Storage engineer for analysis.

6.2.3 If a blasting plan is not available, those individuals receiving the notification calls should obtain the following information:

- Key contact persons (landowner(s), contractor(s), blaster, etc.).
- How they can be reached (e.g., telephone no.).
- Location of the blasting site(s).
- The reason for the blasting operation.
- The type of explosive to be used.
- How the explosives are to be used.
- The date of the blasting operation(s).

To simplify matters, this information has been incorporated into the form, Blasting Notification Report, in Appendix A. Upon completion, this form should be forward to the Operations Center or Gas Storage engineer for analysis.

6.2.4 Based upon the analysis, an on-site preblasting meeting may need to be scheduled.

6.2.5 Once the analysis is completed, an agreement letter shall be sent to the notifying party. Refer to Section 6.4.3.

6.3 Obtaining the Blasting Plan

6.3.1 When blasting operations are to occur within 500 feet of an in-service transmission pipeline and 300 feet of an in-service distribution pipeline, a blasting plan should be obtained from the party responsible for the blasting, and an analysis should be performed to evaluate the affect on the pipeline.

6.3.2 The blasting plan should be requested with sufficient time (at a minimum of one week) to allow for evaluation, witnessing the blasting operations, leakage surveys, valve maintenance, etc.

6.3.3 The blasting plan should have the following information:

- Nature of the blasting activities
- Date(s) and time(s) of the blast(s)
- Location(s) of the blast(s) and distance from LG&E's pipeline and/or facilities.
- Rock configuration, relative elevations, and direction of throw (for evaluation of the degree of confinement)
- Hole size, spacing, depth and layout
- Type of explosive and specific energy release (i.e., weight strength), in calories per gram
- Total weight of explosives
- Delay interval
- Maximum charge weight per delay
- Protective measures, methods and/or materials to be used
- Restoration Procedures

6.4 Evaluation of the Proposed Blasting Operations

6.4.1 Definitions

a. General

Definitions that are quoted are referenced accordingly.

- " Ammonium Nitrate (AN)" is the most commonly used oxidizer in explosives and blasting agents. Its formula is NH_4NO_3. (BMC The Blasting Primer, James Ludwiczak)

- " AN/FO" means a blasting agent consisting of ammonium nitrate and fuel oil. (BMC The Blasting Primer, James Ludwiczak)

- "Blasting operation" means the use of explosives in the blasting of stone, rock, or ore or any other natural formation. (KRS 351.310 Definitions)

- "Blaster" means an individual licensed from Kentucky's Department of Mines and Minerals to fire or detonate explosives for blasting operations. (KRS 351.310 Definitions)

- "Blasting agent" means any material or mixture consisting of a fuel and oxidizer used for blasting, but not classified an explosive and in which none of the ingredients is classified as an explosive provide the furnished (mixed) product cannot be detonated with a No. 8 test blasting cap when confined. (KAR 4:005 Definitions)

- "Blast area" means the area in which explosives loading and blasting operations are being conducted. (KAR 4:005 Definitions)

- "Bulk strength" means the strength of a cartridge (i.e., stick) of explosive or blasting agents in relations to the same sized cartridge of straight nitroglycerin dynamite (NG). For example, one cartridge of ammonium dynamite marked 40% bulk strength has the same strength as one cartridge of 40% nitroglycerin dynamite, even though they may not weigh the same. (BMC The Blasting Primer, James Ludwiczak)

- "Burden" means the distance from an explosive charge to the nearest free or open face. (BMC The Blasting Primer, James Ludwiczak)

- "Cap sensitivity" means the sensitivity of an explosive to initiation, expressed in terms of an IME No. 8 test detonator or a fraction thereof. (BMC The Blasting Primer, James Ludwiczak)

- "Charge weight per delay" means a quantity of explosive or equivalent that is to be detonated with a period of five (5) seconds. (KRS 351.310 Definitions)

- "Delay blasting" means that separate charges are detonated at different times, rather than simultaneously by the use of delay detonators or connectors. (BMC The Blasting Primer, James Ludwiczak)

- "Electric delay blasting cap" means caps designed to detonate at a predetermined period of time after energy is applied to the ignition system, usually 25 millisecond ($25/1000^{th}$ of a second) apart. (KAR 4:005 Definitions)

- "Flyrock" means dirt, mud, stone, fragmented rock or other material that is displaced from the blast site by being thrown in the air or cast along the ground. (KAR 4:005 Definitions)

- "High explosives" means any material that will detonate when initiated by a No. 8 test blasting cap and where the chemical reaction proceeds at supersonic velocities and produces high temperature, high pressure gases and an associated shock wave. (KAR 4:005 Definitions) Generally, high explosives are better at fragmenting rock than low explosives. Dynamites are example of high explosives.

- "Mat" means a material use to cover a blast to hold down any possible flying material (i.e., flyrock). The mat is usually made of woven wire cable or rubber (e.g., old tires). (BMC The Blasting Primer, James Ludwiczak)

- "Overburden" means the material lying on top of the rock to be blasted, usually dirt and gravel. (BMC The Blasting Primer, James Ludwiczak)

- "Oxidizer" means an ingredient in an explosive or blasting agent that supplies oxygen to combine with the fuel to form gaseous or solid products of detonation. Ammonium nitrate is the most common oxidizer used in commercial explosives. (BMC The Blasting Primer, James Ludwiczak)

- "Particle velocity" means the velocity at which a particle of ground vibrates when excited by a seismic wave (i.e., blast). (BMC The Blasting Primer, James Ludwiczak)

- "Powder factor" means the amount of explosives necessary to break one cubic yard of rock. (BMC The Blasting Primer, James Ludwiczak)

- "Seismograph" means an instrument that measures and supplies a permanent record of ground vibrations caused by blasting. (BMC The Blasting Primer, James Ludwiczak)

- "Weight strength" means a rating that compares the strength of a given weight of explosives with an equivalent weight of straight nitroglycerin (NG) dynamite, or other explosive standard, expressed as a percentage. (BMC The Blasting Primer, James Ludwiczak)

b. Terms that are used in the equations for the evaluation of a blasting operation are listed below. These terms and corresponding equations are quoted from the paper, "Blasting Adjacent to In-Service Gas Pipelines" by Alan K. Lambeth.

- OD = Outside diameter of the pipeline (inches)

- E = Young's Modulus of Elasticity
  = $29.5 * 10^6$ psi (Steel)
  = $14 * 10^6$ psi (Cast Iron)

- F_C = Confinement factor,
  - When blasting is conducted with free faces in the rock that allow the rock to move laterally away from the blast (e.g., strip mining or removal of overburden), $F_C = 1.0$
  - When blasting is conducted in confined rock formations where lateral movement of the rock during blasting is restricted (e.g., a trench for pipeline construction), $F_C = 2.0$
- F_D = Design factor of safety for steel pipe,
  - The allowable percentage of the design pressure (e.g., 0.50, 0.375, .025) that the LG&E considers to be safe for the combined stresses from operating conditions and blasting operations.
  - $F_D = (F \cdot E \cdot T) \cdot F_{PS}$

    Where
    - F = Class Location Design Factor
    - E = Longitudinal Joint Factor
    - T = Temperature Derating Factor
    - F_{PS} = Pipe Safety Factor

      Where

      Parameters to consider in determining the Pipe Safety Factor, F_{PS}, include the following:
      - Pipeline material, e.g., cast iron
      - Pipe condition, e.g., no cathodic protection, leaks, etc.
      - Pipe Joint, e.g., mechanical joints
      - % SMYS, e.g., $\geq$ 30%
      - Age of the pipeline
      - Consequences of failure
      - Etc.
- D = Minimum offset distance (feet). The minimum offset distance is perpendicular distance (ft) from the centerline of the in-service pipeline to the nearest explosive charge.

  The following items should also be considered when selecting a value of "D":
  - For deep blasts, the distance from the deepest part of the charge loading may need to be used for the value of "D" when determining the worst case for F_H.

    Where a row of charges include different values of "D" and "w" at various offsets, and iteration process may be necessary to determine the combination which will result in the highest stress.
- H = Distance from the center of the in-service pipeline (ft) to the ground surface or free face in the direction opposite from the center of the blasting charges. See "D" for additional considerations.
- F_H = Soil backing factor for deep blasts,
  - For $\frac{D}{H} \leq 4$, $F_H = 1.0$

- For $\frac{D}{H} > 4$, $F_H = \frac{H}{D} + \frac{(d_P \cdot t)}{12 d_S \cdot D}$

  Where

  - δ_P = Density of pipe material, ≈ 490 lbs/ft^3 for steel
  - δ_S =Density of soil or rock located between the blast and the pipeline (Note: A higher value is more conservative.),
    - Soil typically ranges from 100 to 120 lb/ft^3
    - Rock typically ranges from 140 to 250 lb/ft^3

- F_L = Factor for large explosive weight per delay at great distance from pipeline, i.e., greater than 200 feet,
  - For D ≤ 200 feet, F_L = 1.0
  - For D > 200 feet, F_L = [(D – 200) * 0.009] + 1
- w = Maximum charge weight per delay (lbs.). See "D" for considerations in selecting the value of "w".
- F_P = Factor required to compensate for high powder factor.

  Note: The powder factor is the weight of explosive divided by the volume of rock to be removed. Generally, the powder factor should be approximately 3.5 lbs/yd^3 or less. In utility construction, the powder factor may vary from 1.0 lbs/yd^3 in wide trenches with easy shooting to 4.0 lbs/yd^3 in narrow trenches with hard shooting. Higher powder factors are believed to cause greater ground vibrations and higher stresses in the pipe.

  - For powder factor > 3.5 lbs/yd^3, F_P = Powder factor ÷ 3.5
  - For powder factor ≥ 2.0 and ≤ 3.5 lbs/yd^3, F_P = 1.0
  - For powder factor < 2.0 lbs/yd^3, F_P = (2 ÷ Powder factor) $^{0.5}$

  (Except that a value of F_P = 1.0 should be used for blasting conducted with open faced relief surfaces)

  The following items should be considered when calculating the powder factor:

  - The depth of subdrilling beneath the intended rock removal or the thickness of any overburden placed over the rock to contain the blast should not be included in the calculated volume of rock to be blasted.
  - Since charge weights and hole depth may vary from hole to hole, the area of the blast with the highest loading concentration should be used for the calculations. The form provided in Attachment 2 can be used for calculating the powder factor.

- F_W = Safety factor applied to the charge weight to account for blasting that is not conducted for the benefit of or under the control of LG&E, or is not under the supervision of a LG&E representative. If blasting is
  - For work performed by others or not supervised by LG&E, F_W = 1.2

- n_S = Specific energy release (i.e., weight strength) of the explosive (cal/gm) comparison with the base of 900 cal/gam for Ammonium Nitrate Mixed with Fuel Oil (ANFO) explosive
- P = Maximum permitted operating pressure (psig) for a given value of "w", or actual operating pressure where an allowable value of "w" is being calculated. "P" should be based upon the point along the pressure gradient where blasting will occur.
- SMYS = Specified minimum yield strength of existing pipeline
- t = Wall thickness of existing pipeline (inches)
- σ = Stress imposed on a pipeline by blasting vibrations for a given value of "w", or allowable increase in stress where an allowable value of "w" is being calculated.

6.4.2 The blasting operation should be evaluated to determine the potential impact on the pipeline by calculating the following: 1) the additional stress caused as a result of the blasting operation (σ), 2) the maximum permitted operating pressure (P), and 3) the maximum allowable charge weight per delay (w).

(a) Calculating the Additional Stress Caused by Blasting Operations

The following equation should be used to estimate the additional stress (σ) caused by blasting.

$$s = F_c \cdot F_P \cdot F_L \cdot 4.44 \cdot E \cdot \left\{ \frac{w \cdot F_w \cdot n_s / 900}{(E \cdot t \cdot F_H)^{0.5} \cdot D^{2.5}} \right\}^{0.77}$$

(b) Calculating Maximum Permitted Operating Pressure

The following equation should be used to determined the maximum permitted operating pressure (P) for the blasting pipe stress (σ) calculated above.

$$P = \frac{2 \cdot t \cdot [(F_D \cdot SMYS) - s]}{OD}$$ - For Steel Pipelines

where,

OD = Outside Diameter of the Steel Pipe

$$P = \frac{2 \cdot [(F_D \cdot S) - s]}{(SDR - 1)}$$ - For PE Pipelines

where,

F_D = Design factor for PE pipe, For natural gas distribution, the design factor is 0.32 for all Class Locations (1,2, 3 and 4)
S = Long-term hydrostatic strength (or hydrostatic design basis) of the PE pipe material
SDR = Standard Dimension Ratio (i.e., Pipe average outside diameter divided by Pipe minimum wall)

This permitted operating pressure applies to the point on the operating pressure gradient nearest to the blast at the time of the blast.

(c) Calculating the Maximum Allowable Charge Weight Per Delay

If the actual operating pressure is greater than the calculated maximum permitted operating pressure (P) (from Section 6.4.2 (b)), the maximum allowable charge weight per delay and/or minimum offset distance should be calculated that will not affect operations. The following equation should be used to determine the maximum allowable charge weight per delay (w).

$$w = \frac{D^{2.5}\left(E \cdot t \cdot F_H\right)^{0.5}}{F_w \cdot {}^{n_s}\!/_{900}} \left\{ \frac{s}{F_c \cdot F_P \cdot F_L \cdot 4.44 \cdot E} \right\}^{1.3}$$

where,

$$s = \left(F_D \cdot SMYS\right) - \frac{\left(P \cdot OD\right)}{2 \cdot t}$$ - For Steel Pipelines

$$s = \left(0.32 \cdot S\right) - \frac{\left(P \cdot \left(SDR - 1\right)\right)}{2}$$ - For PE Pipelines

and

P = Actual Operating Pressure

(d) Calculating the Minimum Offset Distance

If the actual operating pressure is greater than the calculated maximum permitted operating pressure (P) (from Section 6.4.2 (b)), the maximum allowable charge weight per delay and/or minimum offset distance should be calculated that will not affect operations. The following equation should be used to determine the minimum offset distance (D).

$$D = \frac{w \cdot F_w \cdot {}^{n_s}\!/_{900}}{\left\{ \frac{s}{F_c \cdot F_P \cdot F_L \cdot 4.44 \cdot E} \right\}^{1.30} \left(E \cdot t \cdot F_H\right)^{0.5}}$$

where,

$$s = \left(F_D \cdot SMYS\right) - \frac{\left(P \cdot OD\right)}{2t}$$ - For Steel Pipelines

$$s = \left(0.32 \cdot S\right) - \frac{\left(P \cdot \left(SDR - 1\right)\right)}{2}$$ - For PE Pipelines

and

P = Actual Operating Pressure

(e) In addition to the calculation performed in (a), (b), (c) and (d), the following items should be considered:

1. A minimum hole spacing of three (3) feet should be used where the sensitivity of the explosives is not known. This spacing should prevent simultaneous ignition of adjacent holes where the delay caps were planned to fire at different intervals.

2. As a precaution, the delay interval should be limited to a range of 17 ms to 35 ms.

3. The powder factor should be limited to 3.5 lb/yd^3.

4. **Blasting operations should not be allowed in the pipeline's right-of-way**.

5. If deemed necessary, the operating pressure should be reduced during the blasting operations as a precaution.

(f) The engineer performing the evaluation will need to gather the following information:

1. Pipeline Diameter (Steel Pipe)
2. Wall Thickness (Steel Pipe)
3. SMYS (Steel Pipe)
4. S (PE Pipe)
5. SDR (PE Pipe)
6. Class Location (Steel Pipe)
7. Pipe specifications (Steel Pipe)
8. Gas Temperature (Steel Pipe)
9. Operating Pressure (Steel & PE Pipe)
10. Condition As Known – The condition as known is used to determine the pipe safety factor, $F_{PS.}$ (Steel Pipe)

6.4.3 Agreement Letter

(a) An agreement letter should be sent to all parties that has either submitted a blasting plan and/or notified LG&E of blasting operations.

(b) The agreement letter shall include the following:

1. Minimum distance for the given charge weight per delay.
2. LG&E's guidelines, as stipulated in Section 6.4.2 (e).
3. Specifications for notification of actual blasting commencement.
4. Requirements for submitting additional blasting parameters.
5. An indemnification requirement and a disclaimer of LG&E's responsibilities in the event of an accident.
6. Provisions for damages to LG&E facilities and/or recovery of loss revenues as the result of agreement letter violations.
7. Provisions for monitoring the involved pipeline(s).

(c) The agreement letter should be reviewed by the Legal department.

6.5 On-site Preblasting Meetings

6.5.1 If the proposed blasting operation is considered to be of a serious nature, LG&E should encourage the scheduling of on-site preblasting meetings. Accordingly, LG&E should attend all on-site preblasting meetings where blasting activities may effect LG&E's facilities.

(a) The following individuals, at minimum, should be in attendance: 1) Blaster, 2) Contractor(s), Landowner(s) (if applicable), LG&E Designated Representative (typically the field inspector), and LG&E Designated Project Manager (typically, the person responsible for evaluating the blasting operations).

(b) The purpose of the on-site preblasting meeting is as follows:

1. Establish an amiable and cooperative relationship between all concerned parties.
2. Demonstrate concern to the blaster and others that blasting near natural gas facilities is a serious undertaking and should be executed with the utmost care and compliance with state regulations.
3. Obtain the optimum and, if possible, minimum blasting parameters acceptable to the blaster to perform the proposed task.

4. Advise the blaster and others of LG&E's policy regarding blasting and related activities near its facilities.
5. Familiarize LG&E personnel with the blasting area and its relationship to the location of the affected pipeline(s).

(c) This meeting can be held prior to, or after the receipt of, a proposed blasting plan.

6.5.2 LG&E should obtain the following information:

(a) A compressive review of the plans and specifications.
(b) Blasting and construction schedules and deadlines.
(c) Provisions for additional blasting and construction meetings.
(d) Size and type of explosive charge.
(e) Responsibilities of the various parties.
(f) Inspections requirements.
(g) Compliance criteria.
(h) Restoration procedures.
(i) Contact information, e.g., landowner(s), contractor(s), blaster, etc.
(j) Precautions to minimize potential hazards during blasting and restoration operations.

6.5.3 LG&E should discuss the following:

(a) The type, condition, and size of the pipelines.
(b) System pressure.
(c) Approximate depth of facilities.
(d) An acceptable charge weight given a minimum distance from an in-service pipeline or a minimum distance from an in-service pipeline given a charge weight.
(e) Operating pressure and stress level if the pipeline will remain in service during blasting operations.
(f) Whether the pipeline will remain in service during the blasting operations.

6.6 Evaluation Considerations

6.6.1 Maximum Permitted Operating Pressure During Blasting

(a) The maximum permitted operating pressure in the pipeline during blasting operations shall be determined per Section 6.4.2 (b). This pressure or less shall be maintained while blasting is in progress.

(b) If actual operating pressure is greater than maximum permitted operating pressure, the blasting plan shall be limited by performing one of the following:

- Lower the charge weights per the blasting plan to the maximum allowable charge weights as determined per Section 6.4.2 (c).
- Increase the minimum offset distance from the blast holes to the pipeline as determined per Section 6.4.2 (d).

6.6.2 Precautions If Blasting Plan Cannot Be Limited

(a) If the blasting plan cannot be limited to a level where the maximum permitted operating pressure per Section 6.4.2 (b) is greater than the actual operating pressure, the actual operating pressure should be reduced to the maximum permitted operating pressure prior to blasting operations to ensure the safety of the pipeline.

(b) If the actual operating pressure will need to be reduced, the appropriate LG&E management and operating personnel shall be notified.

6.6.3 Notifying Gas Control

(a) Gas Control shall be notified for all blasting operations in the vicinity of transmission and high pressure distribution lines.

(b) If the maximum permitted operating pressure per Section 6.4.2 (b) is less than the actual operating pressure, arrangements should be made with Gas Control to temporary reduce the actual operating pressure prior to blasting activities. This reduced pressure may have to be maintained for several days since operating pressures may not reasonably be varied several times per day for each blast sequence.

(c) The exact location of the blasting site should be given to Gas Control.

6.7 Prior to the Beginning of Blasting Operation

6.7.1 Leakage Survey

Prior to blasting operations, a leakage survey should be conducted on all facilities that are in the affected blast area for a distance considered adequate by the Operations Center or Gas Storage. At a minimum, the leakage survey should be conducted for a distance of 300 feet in all directions.

6.7.2 Valves

(a) All valves in the area affected by the blasting operation should be located and made accessible.

(b) All valves in the area affected by the blasting operation should greased to ensure proper shutoff, if applicable.

(c) Valve keys shall be available to facilitate quick shutdown.

6.7.3 LG&E Designated Project Manager

(a) Upon notification of blasting activities, the appropriate Operations Center or Gas Storage Operation should arrange for a LG&E employee to be LG&E's designated project manager.

(b) LG&E's designated project manager shall be responsible for either conducting or coordinating the evaluation of the blasting plan or blasting parameters. The blasting plan or blasting parameters should be evaluated by an engineer.

(c) LG&E's designated project manager shall provide to the designated representative the powder factor, specific energy release (i.e., weight strength), operating pressure and other variables upon which the blasting operation was evaluated upon. This information is necessary for monitoring the blasting operations and for responding to any changes in the parameters.

(c) If deemed necessary by LG&E's designated project manager, a tabulation of acceptable charge weights per delay should be set up to allow the blast plan to be evaluated in the field, when multiple blasts will be required at varying offsets. This tabulation will eliminate the need to calculate the stresses and operating conditions for each individual blast. The tabulation should be developed by first establishing an allowable stress level that can be added to the pipeline operating stress and then determining the charge weights that will produce this stress level at various offsets to the pipeline.

6.7.4 LG&E Designated Representative

(a) Upon notification of blasting operations, the appropriate Operations Center or Gas Storage Operation should arrange for a LG&E employee to be LG&E's designated representative.

(b) LG&E's designated representative responsibilities may include the following:

1. Being on site to observe blasting operations.
2. Marking the pipeline location and pertinent distances from the pipeline(s).
3. Monitoring the drilling of each hole and the loading of explosive to verify compliance with the criterion.

6.7.5 Internal Communication

(a) For blasting operations in the vicinity of pipelines that may have potential impact upon operation of the system, the appropriate management and operating personnel shall be notified.

(b) Gas Control should be contacted at least 24 hours in advance of blasting operations in the vicinity of transmission and high pressure distribution lines.

6.8 Monitoring of Blasting Operations

6.8.1 LG&E's Designated Representative

(a) LG&E's designated representative responsibilities may include the following:

1. Being present during the blasting operations to make an inspection of the affect pipeline after the detonation occurs and to provide an immediate response in the event of an emergency.

2. Record the date, the time of day, the measured perpendicular distances between the pipeline and the nearest charge, and blasting parameters (e.g., charge weight per delay, hole spacing, delay interval, type of explosive, energy release (i.e., weight strength), etc.). In addition, if seismographs are used, record the seismograph data after every blast or obtain a copy of seismograph data. To simplify matters, this information has been incorporated into the form, Daily Blasting Report, in Appendix B. Upon completion, this form should be forward to the Operations Center or Gas Storage engineer for review.
3. Prohibit further blasting and have a leakage survey performed, if LG&E's guidelines are violated.
4. Initiate LG&E's GEOP in the event of damage to LG&E's facilities.

(b) LG&E's designated representative shall maintain close contact with the blaster during blasting operations for the following purposes:

1. To ensure the safety of the LG&E's personnel involved with the blasting operations.
2. To inform the blaster of any problems that may develop affecting LG&E's facilities.
3. To coordinate any movement of LG&E's personnel into and out of the blast area.
4. To verify when blasting operations are completed.

6.8.2 The Operations Center or Gas Storage will verify that all of the following circumstances are met:

(a) The recommendations as a result of Section 6.4 are fulfilled.
(b) Blasting operations are not in the pipeline's right-of-way.
(c) Blasting operations will not cause damage to LG&E's facilities.

6.8.3 A leakage survey should be conducted after each blast sequence, if deemed necessary by the Operations Center or Gas Storage.

6.8.4 Gas Control will monitor the pressure of transmission and high pressure pipelines to ensure that actual operating pressure does not exceed the maximum permitted operating pressure per Section 6.4.2 (b).

6.8.5 Gas Control will monitor the pressure of transmission and high pressure pipelines to ensure that unexpected abnormal operation does not occur as a result of the blasting operations.

6.8.6 If the pipeline is damage as a result of the blasting operation, LG&E shall take appropriate action including notifying the blaster and implementing the GEOP if necessary.

6.9 After Blasting Operations Have Been Completed

6.9.1 A leakage survey should be conducted after the blast area has been restored to normal conditions.

6.9.2 Inspect and check all facilities and appurtenances to ensure safe conditions.

6.9.3 Backfill should be restored to provide adequate support and cover, if applicable.

6.9.4 LG&E should continue surveillance for a reasonable period of time for settlement of backfilled excavations and for damage caused by other related construction activity.

SECTION 7 - SAFETY

7.1 Company Safety Manual

All applicable requirements of the current revision of the company safety manual shall be met. This includes hearing conservation, eye protection, and use of required personal protection equipment.

7.2 Leakage surveys and inspections shall not be conducted until the blaster determines that there is no danger to personnel in the blast area due to blasting operations.

SECTION 8 – ENVIRONMENTAL

8.1 Not applicable to this policy.

SECTION 9 – TRAINING AND QUALIFICATIONS

9.1 Not applicable to this policy.

SECTION 10 –EQUIPMENT

10.1 Spreadsheet

A Microsoft Excel spreadsheet has been developed to assist in the evaluation of the blasting plan. The spreadsheet calculates the additional stress caused by blasting (σ), the maximum permitted operating pressure (P), the maximum allowable charge weight (w), and the minimum offset distance from a blast hole to the pipeline (D). A copy (or the location) of the spreadsheet can be obtained from The Asset Management's Operating Policy and Standards section.

SECTION 11 – RECORD KEEPING

11.1 Retain records of items discussed during preblasting meetings that directly impact operations and safety of LG&E's facilities.

11.2 Retain copies of the blasting plan and evaluation of the blasting plan.

11.3 Retain all records of the inspection and leakage surveys.

11.4 All records should be kept for the life of the facility that is in the vicinity of the blasting operations.

LG&E ENERGY CORP., GAS AOP PO – 003, EFFECTIVE 10/9/2002.

Appendix A – Blasting Notification Report

Today's Date _____ Proposed Blasting Date _____

Name of Blaster or Agent _____ Telephone No. _____ (O)

Contractor _____ _____ (C)

Address _____

Project _____

Reason for the Blasting Operations _____

Proposed Perpendicular Distance From Pipeline To Nearest Charge _____ Feet

Location

Area Discription _____

_____

_____

City _____ County _____

Explosive Parameters

Type of Explosive _____ Proposed Charge Weight Per Delay _____ lbs.

(If sticks of dynamite are used):

Stick Dimensions _____ No. of Sticks Per Delay _____

Method of Installation _____

_____

Method of Detonation (Include Delay Times) _____

_____

Additional Information

_____

_____

Prepared By: _____

Appendix B – Agreement Letter

Louisville Gas & Electric Company's
Agreement Letter For
_____ Blasting Project
In the Vicinity of LG&E's _____ Pipeline

1. For the given maximum charge weight per delay of _____ lbs., the minimum distance from Louisville Gas & Electric Company (LG&E)'s _____" pipeline shall be _____ feet. The distance shall be measured from the nearest charge to the pipeline.

2. The blasting parameters in addition to the charge weight per delay and distance are as follows:

   (a) The contractor's name is _____.
   (b) The blaster's name is _____.
   (c) The blaster's license number is _____.
   (d) The type of explosive is _____ (Explosive manufacturer's Name).
   (e) The specific energy (i.e., weight strength) of the explosive is _____ cal/gm.
   (f) The specific gravity is _____.
   (g) The type of delay is _____.
   (h) The minimum hole spacing shall be _____ feet.
   (i) The delay interval shall be _____ ms.
   (j) The powder factor shall be _____ lb/yd^3.

3. The blasting operation is scheduled for _____ or from _____ to _____.

4. LG&E's Project Manager and Project Representative are as follows:

   (a) Project Manager – Name, Title, Department
   Telephone No. _____
   Pager No. _____
   Mobile No._____

   (b) Project Representative – Name, Title, Department
   Telephone No. _____
   Pager No. _____
   Mobile No._____

5. If the blasting parameters should change, the contractor and/or blaster shall submit the new blasting parameters to LG&E's Project Manager for review.

6. All communication during the blasting operations should be addressed to LG&E's Project Representative.

7. If the pipeline's backfill is reduced, it shall be restored at a minimum depth of _____ (_) feet to provide adequate support and cover.

8. Prior to the commencement of the blasting operations, _____ shall give a twenty-four hour notice to LG&E's Project Manager.

LG&E ENERGY CORP., GAS AOP PO – 003, EFFECTIVE 10/9/2002.

9. LG&E's provisions for monitoring the blasting operations shall include the follow:

(a) To have representative(s) on site to perform the following:

(1) To inspect and check all facilities and appurtenances to ensure safe conditions after the each blasting sequence.
(2) To monitor the drilling of each hole and the loading of explosive to verify compliance with the Agreement Letter.
(3) To provide immediate response in the event of an emergency.
(4) To record the date, the time of day, the measured perpendicular distances between the pipeline and the nearest charge, blasting parameters (e.g., charge weight per delay, hole spacing, delay interval, type of explosive, energy release, etc.) and seismographs results.
(5) To prohibit further blasting and have a leakage survey performed, if this Agreement Letter is violated.
(6) To initiate LG&E's Gas Emergency Operating Procedures in the event of damage to LG&E's facilities.
(7) To monitor the operating pressure of its pipelines to ensure that unexpected abnormal operation does not occur as a result of the blasting operations.

(b) To conduct a leakage survey over the pipeline prior the blasting operations, after each blast sequence, and after the area has been restored to normal conditions. The leakage survey will be conducted on all LG&E facilities that are in the affected blast area for a distance considered adequate by LG&E. At minimum, the leakage survey will be conducted for a distance of 300 feet in all directions.

(c) To continue surveillance for a reasonable period of time for settlement of backfilled excavations and for damage caused by other related construction activity.

10. _____ shall be liable for damages to LG&E facilities (and for LG&E's loss revenues that results from this damage) as the result of violations from this Agreement Letter.

Agreed By:

Name, Title

Signature

Date

LG&E ENERGY CORP., GAS AOP PO – 003, EFFECTIVE 10/9/2002.

Example - Agreement Letter

Louisville Gas & Electric Company's
Agreement Letter For
Little Springs Farm Subdivision Blasting Project
In the Vicinity of LG&E's 12" Calvary Pipeline

1. For the given maximum charge weight per delay of 5 lbs., the minimum distance from Louisville Gas & Electric Company (LG&E)'s 12" pipeline shall be 15 feet. The distance shall be measured from the nearest charge to the pipeline.

2. For the given maximum charge weight per delay of 2 lbs., the minimum distance from Louisville Gas & Electric Company (LG&E)'s 12" pipeline shall be 10 feet. The distance shall be measured from the nearest charge to the pipeline.

3. The blasting parameters in addition to the charge weight per delay and distance are as follows:

   (a) The contractor's name is McConahy & Stucker Drilling & Blasting Services, Inc.
   (b) The blasters' names are Tim Willis and Doug Vance.
   (c) The blasters' license numbers are 9464 (Willis) and 10154 (Vance).
   (d) The type of explosive is 60% Extra Gel Dynamite (Austin Powder Company).
   (e) The specific energy (i.e., weight strength) of the explosive is 913 cal/gm.
   (f) The specific gravity is 1.34.
   (g) The type of delay is EZ – DET.
   (h) The minimum hole spacing shall be 3 feet.
   (i) The delay interval shall be 25 ms.
   (j) The powder factor shall be 3.5 lb/yd^3.

4. The blasting operation is scheduled from September 16, 2002 to September 27, 2002.

5. LG&E's Project Manager and Project Representative are as follows:

   (a) Project Manager - Malcolm Stephens, Group Leader – Asset Management -Gas
   Telephone No. (502) 627-3153
   Pager No. (502) 332-9260

   (b) Project Representative – Charlie Roberts
   Telephone No. (502) 364-8554
   Mobile No. (207) 547-0214

6. If the blasting parameters should change, the contractor and/or blaster shall submit the new blasting parameters to LG&E's Project Manager for review.

7. All communication during the blasting operations should be addressed to LG&E's Project Representative.

8. If the pipeline's backfill is reduced, it shall be restored at a minimum depth of three (3) feet to provide adequate support and cover.

LG&E ENERGY CORP., GAS AOP PO – 003, EFFECTIVE 10/9/2002.

9. LG&E's provisions for monitoring the blasting operations shall include the following:

   (a) To have representative(s) on site to perform the following:

   (1) To inspect and check all facilities and appurtenances to ensure safe conditions after the each blasting sequence.
   (2) To monitor the drilling of each hole and the loading of explosive to verify compliance with the agreement.
   (3) To provide immediate response in the event of an emergency.
   (4) To record the date, the time of day, the measured perpendicular distances between the pipeline and the nearest charge, blasting parameters (e.g., charge weight per delay, hole spacing, delay interval, type of explosive, energy release, etc.) and seismographs results.
   (5) To prohibit further blasting and have a leakage survey performed, if this Agreement Letter is violated.
   (6) To initiate the LG&E's Gas Emergency Operating Procedures in the event of damage to LG&E's facilities.
   (7) To monitor the operating pressure of its pipelines to ensure that unexpected abnormal operation does not occur as a result of the blasting operations.

   (b) To conduct a leakage survey over the pipeline prior the blasting operations, after each blast sequence, and after the area has been restored to normal conditions. The leakage survey will be conducted on all LG&E facilities that are in the affected blast area for a distance considered adequate by LG&E. At minimum, the leakage survey will be conducted for a distance of 300 feet in all directions.

   (c) To continue surveillance for a reasonable period of time for settlement of backfilled excavations and for damage caused by other related construction activity.

10. McConahy & Stucker Drilling & Blasting Services, Inc. shall be liable for damages to LG&E facilities (and for LG&E's loss revenues that results from this damage) as the result of violations from this Agreement Letter.

Agreed By:

Name, Title

Signature

Date

LG&E ENERGY CORP., GAS AOP PO – 003, EFFECTIVE 10/9/2002.

Appendix C – Daily Blasting Report

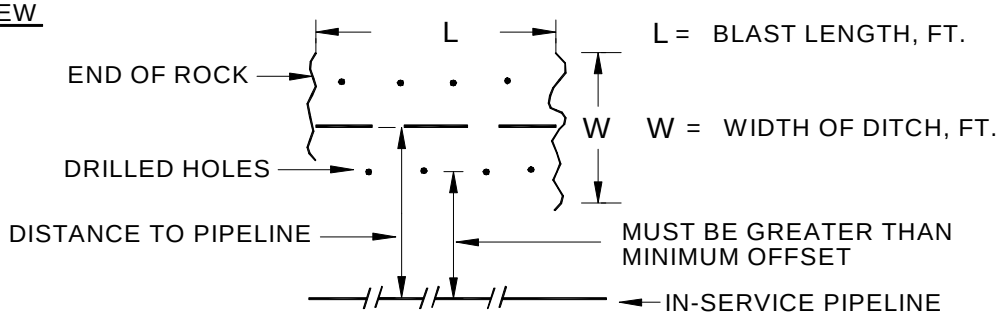
DAILY BLASTING REPORT

PROJECT:			DATE:	TIME: AM/PM	
CONTRACTOR:					
BLASTER NAME:			LICENSE NO.:		
BLAST DATA					
DISTANCE FROM PIPELINE TO NEAREST CHARGE:	MATERIAL TO BE BLASTED:		TYPE OF MATTING:		
TYPE OF EXPLOSIVE:		WEIGHT STRENGTH (CAL/GM):			
TYPE OF DELAY:		DELAY INTERVAL:			
HOLE SPACING		TOTAL NO. OF DELAYS:			
TOTAL NO. OF HOLES:		CHARGE WEIGHT PER DELAY			
FROM PAGE 2:		SHOT NO.			
		1	2	3	4	5
1. CUBIC YARDS OF ROCK IN SHOT:						
2. TOTAL LBS. OF EXPLOSIVE:						
3. POWDER FACTOR:						
SEISMOGRAPHIC DATA					
TESTING FIRM:		OPERATOR:			
INSTRUMENT NO.	LOCATION		PART. VELOCITY (IPS)		
COMMENTS:					
Company Respresentative					
Print:					
Signature:					

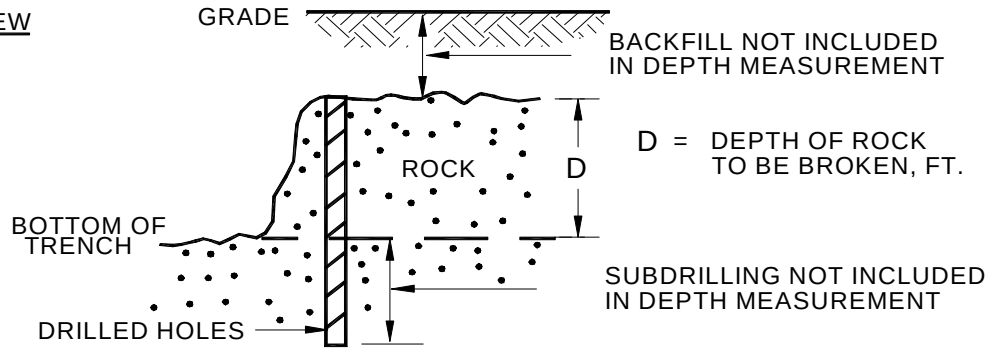
LG&E ENERGY CORP., GAS AOP PO – 003, EFFECTIVE 10/9/2002.

1. DETERMINE CUBIC YARDS OF ROCK IN SHOT:

TOP VIEW



SIDE VIEW



YD^3 = (WIDTH * HEIGHT * DEPTH) / 27

YD^3 = _____ x _____ x _____ / 27 = _____

2. DETERMINE LBS. OF EXPLOSIVE USED:

DIMENSIONS OF EXPLOSIVE (STICKS)

DIAMETER	=	_____	Inches
LENGTH	=	_____	Inches
SPECIFIC GRAVITY OF EXPLOSIVE	=	_____	
WEIGHT STRENGTH OF EXPLOSIVE	=	_____	Cal/Gm

LBS. OF EXPLOSIVE STICK = $(\text{DIAMETER})^2$ x LENGTH x SPECIFIC GRAVITY x WEIGHT STRENGTH x CONVERSATION FACTOR

LBS./STICK = (_____) ^{2} x _____ x _____ x _____ x 0.0000315 = _____

LBS OF EXPLOSIVE IN SHOT = LBS./STICK x NO. STICKS

LBS OF EXPLOSIVE IN SHOT = _____ x _____ = _____ LBS

3. DETERMINE POWDER FACTOR:

POWDER FACTOR = LBS OF EXPLOSIVE IN SHOT (FROM 2 ABOVE) / YD^3s OF ROCK IN SHOT (FROM 1 ABOVE)

POWDER FACTOR = _____ / _____ = _____ LBS/YD^3

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. Those utility owners with a prequalification or preapproval requirement are as follows:

Louisville Water Company

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

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

CONTRACT ADMINISTRATION RELATIVE TO UTILITY WORK

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

SUBMITTALS AND CORRESPONDENCE

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

ENGINEER

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

INSPECTOR OR RESIDENT PROJECT REPRESENTATIVE

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

NOTICE TO UTILITY OWNERS OF THE START OF WORK

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

UTILITY SHUTDOWNS

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

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

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

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

or corporation stop and/or capping or plugging the tap, digging down on a sewer tap at the main and plugging or capping the tap, digging down on a service line or lateral at a location shown on the plans or agreeable to the engineer and capping or plugging, or performing any other work necessary to abandon the service or lateral to satisfactorily accomplish the final utility relocation.

STATIONS AND DISTANCES

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

RESTORATION

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

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

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

MATERIAL

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

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

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

SECURITY OF SUPPLIED MATERIALS

If any utility materials are to be supplied by the utility owner, it will be the responsibility of the utility contractor to secure all utility owner supplied materials after delivery to the project site. The utility

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

Standard Water Bid Item Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SUPPLEMENTARY SPECIFICATIONS
BULLITT COUNTY, I-65 AND OHM DRIVE CONNECTOR
WATER MAIN REPLACEMENT PROJECT
LWC PROJECT

PROJECT SUMMARY

The referenced project consists of the installation of; **1,625 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), **2,833 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), and **386 +/-** linear feet of various size steel casing pipes (using traditional trench installation techniques). Also included with the project is the transfer, renewal, relocation or discontinue of **3 +/-** customer services, **2 +/-** Fire Hydrant removal and installations, all cut and plugs, all appurtenances including restoration on and along Project Limits as stated above.

SCOPE OF WORK

1. Supply and install **1505 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), supply and Install **120 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe and supply and install **120+/-** linear feet (LF) of 20" steel casing pipe (using traditional trench installation techniques) (see sheet 3 of 15).

2. Supply and Install **90 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe. Supply and install **60+/-** linear feet of 24" steel casing pipe (using traditional trench installation techniques) (see sheet 5 of 15).

3. Supply and Install **151 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe. Supply and install **106+/-** linear feet (LF) of 24" steel casing pipe (using traditional trench installation techniques). (see sheet 6 of 15).

4. Supply and Install **325 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main. (see sheet 8 of 15).

5. Supply and install **2167 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), supply and Install **100 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe and supply and install **100+/-** linear feet (LF) of 24" steel casing pipe (using traditional trench installation techniques) (see sheets 10 & 12 of 15).

6. Remove **2 +/-** fire hydrant and Install **2 +/-** fire hydrants. Fire hydrants may be checked out of Louisville Water warehouse

7. Transfer, renew, relocate and/or discontinue **3 +/-** customer services,

8. Supply and install **all** associated appurtenances, including valves, bends, connections, gripper (restraint) glands, frame and lids. Air release and vacuum valves shall be Golden Anderson air and vacuum valve or approved equal, size 2-inch.

9. Provide traffic control including policing, barricades, signs, warning devices, flaggers, etc.

10. Site Restoration and cleanup work.

11. Installation of sedimentation and erosion control measures per appropriate state/local standards including submittal of control plan and obtaining all necessary permits and approval.

12. Perform all site work, utility relocations, and all other work required to complete the project.

13. Normal work shall be based on KYTC and/or City of Shepherdsville permits. In some cases, the permitting authorities restrict work hours from 9am to 3pm. Longer hours may be applied for upon request but all work must adhere to the final permitted hours and conditions. No additional payment will be made if the permitting authorities restrict work hours.

PREQUALIFICATION CONDITIONS

14. The contracting firm that is to supply and install the 12-inch and 16-inch diameter ductile iron pipe, whether acting as the general contractor of the KTC or as acting as a subcontractor, must be prequalified by the LWC in the category of “4”-16” Iron Pipe” and in the monetary amount, in said category, of at least $500,000.

15. The contracting firm(s) that is (are) to install the services and the fire hydrants whether acting as the general contractor of the KTC or as acting as a subcontractor, must be prequalified by the LWC in the respective category.

16. The LWC contact for inquiries about prequalification status is Ms. Carol Lyons: phone, 502-569-3600, Ext. 2239; Fax 502-569-0815.

17. The contracting firm assigned to install the ductile iron water main need not be the same as the contracting firm assigned to install the service and fire hydrant installation aspects of work.

GENERAL INFORMATION

18. 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: **No exceptions**

TRAFFIC CONTROL

19. A road permit will be required for work performed within the ROW limits. The contractor shall submit traffic control plans to the LWC Project Manager prior to permit submittal. The permits will be obtained by the LWC Project Manager prior at the start of work. A minimum of 15 working days advance notice of the need for a permit shall be provided to the LWC Project Manager. Copies of these permits, along with the approved traffic control plan, shall be onsite, readily available, legible, and prominently displayed in all construction vehicles used at the project site. No construction work shall start until these permits are obtained and provided to the contractor by LWC.

20. Traffic control plans will be required by permitting authorities and shall be provided by the contractor to LWC prior to the permit request. The plan shall be drafted utilizing “RapidPlan” software or approved equal and shall be in accordance with the KYTC regulations and templates. Hand drawn plans, sketches and notes will not be accepted. The contractor shall also submit a project schedule for all streets, at time of permit request. The traffic control plan along with permit dates from the project schedule, will be submitted by LWC to the respective agencies with the requested permit.

21. Traffic control shall be provided by the Contractor in accordance with the Manual for Uniform Traffic Control Devices (MUTCD).

22. Specific traffic control signage referencing lane blockages, detours, flaggers, etc. shall be removed from the site or covered when not in use. Signs that provide general messages such as “Construction Ahead” shall be left in place throughout the completion of this project.

23. The Contractor shall be responsible for establishing temporary “No Parking” zones. The zones shall be confined to the immediate work area and appropriate transition zones, and shall be limited in duration to the length of time work is actually performed in that area.

24. All construction vehicles shall be legally parked. Privately owned vehicles including vehicles owned by the construction crew shall not be parked in the "No Parking" zones.

VIDEO RECORDING / PRECONSTRUCTION PICTURES

25. Please refer to section 1.06 of the LWC Technical Specifications 2008 for Video Recording. In addition, video recording shall be provided in digital format on a USB flash drive prior to start of construction.

26. Preconstruction pictures shall be provided by the contractor to the LWC Project Manager prior to construction. The pictures shall be placed in a binder and appropriately labeled for easy reference. A minimum of one picture shall be provided for each property that is impacted by construction. The contractor shall utilize Kentuckiana Seismic or approved equal for this task.

SITE WORK

27. Utility locations shown on the plans are 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.

COORDINATE SHUTOFFS FOR CRITICAL MAINS

28. Contractor shall coordinate shutoffs affecting critical mains, with customers, for their approval of date and times. If necessary, contractor shall provide port-a-pots and work with inspector to provide necessary bottled water during shutoff period.

RETURN OF USED HYDRANTS

29. 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.

30. 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

31. Excavation on this project shall be unclassified.

32. Rock shall be removed using mechanical methods (backhoe, hoe ram, or rock trenching machine). Blasting shall not be permitted.

CUSTOMER SERVICES

33. All existing 5/8" services shall be renewed with ¾" service line.

34. All double setter meters shall be relocated. Each service shall be renewed and installed with its own meter vault.

35. Contractor shall not use couplings while installing service lines under paved areas. Full length of service line shall be installed under paved surfaces.

36. The renewal/relocation of lead services shall require the contractor to identify the property line location, which is usually a few feet away from the meter vault, and excavate the service line. If the property line connection is not found, the contractor shall seek permission from the property owner to excavate on private property. The contractor shall continue to excavate up to 10 foot beyond the suspected property line location onto private property in an effort to find the connection and determine the customer's service line material.

    LWC Inspector will verify the service line material on the customer side of the property line connection.

    If the material on the customer side is not lead, then the Contractor shall renew/relocate the entire LWC service line from the main to the customer's connection.

    If the material on the customer side is lead, then LWC Inspector will contact the customer to make them aware of the replacement work to be completed by LWC and the existence of lead on the customer's side of the service line. The LWC Inspector shall also inquire if customer is willing to replace the customer's lead service line.

    a) If the customer is willing to replace their private lead service line, the Contractor will coordinate the renewal/relocation of LWC's lead service line with the customer's plumber.

    b) If the customer is not willing to replace their lead service line and the service is to be renewed, then the contractor shall only renew the service from the water main to the meter vault. This shall be noted on the Installation Data Sheet.

c) If the customer is not willing to replace their lead service line and the service is to be relocated, then the contractor will replace the entire LWC lead service line from the main to the customer's connection and install a dielectric between the end of the new LWC service tail piece and the Customer's lead service line. The dielectric will be composed of a 24" section of like diameter Schedule 80 PVC pipe and a plastic universal transition coupling (supplied by LWC). If the customer's service line is less than 10 feet in length as measured from the building to the dielectric connection, then LWC will retain a licensed electrician to install an appropriate grounding system before service is relocated.

37. All service lines within the limits of the project either shown or not shown on the plans must be protected. The contractor using a licensed plumber must repair all damaged service lines at no addition cost to LWC.

FLUSHING OF LEAD SERVICES

38. The Contractor shall be responsible for proper disposal of the flushed water to make sure the water is directed to drainage line. Contractor shall use caution not to flood the customer's yard

WORK SCHEDULE

39. LWC observes designated holidays. No work shall be performed during the holiday periods. All equipment, personnel, and materials shall be removed from the work area. All excavations shall be backfilled and restored. All street cuts shall be paved or patched.

40. Normal work hours shall be limited to approved permit hours. 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.

41. 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. 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.

EROSION CONTROL MEASURES

42. An erosion control plan is required for this project. An erosion control plan shall be prepared by the contractor and submitted to KYTC/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 LWC specifications. The contractor is responsible for making all erosion control modifications within the

project limits required by KYTC/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 KYTC/ LWC, or any other permitting authority.

43. 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

44. 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.

    Waterline locates are for the contactor's reference only. The contractor shall field locate all water mains, services and appurtenances prior to starting project by digging, vacuum excavating, probing, etc. If in the course of construction, the contractor damages any existing water main, then the contractor shall stop work and repair damaged water main, services, etc, before proceeding with project. If the contractor is not pre-qualified to perform the repair, then the project manager will assign a contractor and the project contractor will be responsible to pay the invoice(s) and materials for that repair.

45. 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.

46. The Contractor is cautioned that some large trees are located within the project alignment. Care will be required to minimize damage to trees and tree root systems. Excavations that encounter roots should be backfilled as soon as possible. Severed roots more than 2-inches in diameter shall be cut straight at an undamaged portion, maintained in a moist condition and then buried as soon as possible. Excavated soil shall not be placed within the dripline of any tree.

47. When installing main within the dripline of any tree with a diameter of 6 inches or larger, the root system shall be bored. The cost of the tree bore shall be

considered incidental to the installation of the pipeline, and no extra compensation will be provided. All tree root systems that require boring shall be bored a minimum of 20 feet; 10 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.

48. Removal, cutting into asbestos-cement or transite (AC) pipe, tapping AC main or similar work for this project, shall be performed by the Contractor, with qualified personnel, and shall be in compliance with all OSHA requirement. Contractor may submit a written request to the project manager to utilize Louisville Water personnel for this work. The project manager may or may not approve this request based on the availability of Louisville Water resources. In either case contractor will be responsible for the cost of the above work. If Louisville Water personnel completes the work, then the contractor will be billed for the work.

49. If the edge of trench is running parallel and is less than 3.0' from the edge of asphalt, then the trench shall be backfilled as per std. detail as if constructed under pavement, using compacted granular backfill up to within 8" of final grade.

RESTORATION

50. Contractor shall work on no more than two sites at a time. At least one site must be fully restored with the exception of milling and paving before the Contractor begins working on the next site (this work includes yard, sidewalk and curb restoration and patching of all road cuts).

51. Unless otherwise noted on the Project Plans, surface restoration of grassy areas shall consist of sod restoration. The type of sod used shall match the existing grass. Prior to the placement of sod, the Contractor shall place top soil on the disturbed area, remove all rock, and level the area to match existing grade.

52. Areas that have landscaping shall be replaced with like materials (mulch, plants, etc.). The Contractor shall contact each customer with landscaping to be disturbed to discuss options of removing it prior to construction and replacing it. The LWC general warranty period shall apply to this work.

53. Private Irrigation Lines, when encountered, shall be protected during construction. If these lines are damaged, the contractor shall hire a qualified licensed plumber to repair the damaged lines at no additional cost to LWC.

54. When sidewalk removal is necessary, the disturbed sidewalk and curbs shall be restored per the LWC standard specification except when they are within a designated historic area or the existing sidewalk has an exposed aggregate or similar finish. These areas shall be restored utilizing historic concrete mix. All

historic concrete shall be a sand-grout mix design per Louisville Metro design specification which is shown below:

Louisville Metro Public Works - Manual of Specifications and Standard January 2015

Section 02400 Concrete Curb & Gutter, Driveways, Sidewalks, and Other Miscellaneous Concrete Page 02400-5

2.2.2 MATERIALS

Materials used in this construction shall meet the following requirements:

Sand-Grout Concrete Mix Design		
Mix ID: 6-1/2 bag grout – 4,000 psi		
	Weights/Volumes per Cubic Yard (Saturated, Surface-Dry)	Yield, Cu. Ft.
Type 1 Portland Cements (lbs.)	640	3.21
Class F Fly Ash (lbs.)	110	0.70
Class A Sand (lbs.)	2,729	17.02
Water (lbs.) (Gal.-US)	295 (35.3 lbs./Cu. Yd.)	4.73
Total Air (%)	5.0 ± 1.0	1.35
Total		27.0
Add Mixture		
Russ Tech. Finishease NC, (oz.)	29.60	
Air Entrain		
Russ Tech, RSA-10 (ox.-US)	5.9	
Water/Cement Ration (lbs.)	0.40	
Slump	4.00	
Concrete Unit Weight (lbs./cu. Ft.)	139.4	

Compensation for free and negative moisture will be made at the time of batching.

55. All historic mix concrete must be installed with a washed finish.

56. Sidewalks and curbs shall be replaced full width from existing joint to joint (partial replacement is not acceptable). All sidewalk construction and replacement shall meet the American Disabilities Act Specifications and requirements. Sidewalks shall be replaced per City of Shepherdsville Public Works Specifications.

57. All concrete driveways that are damaged by construction or specified for replacement on the plans shall be replaced in their entirety to the nearest existing construction joint. Concrete thickness and strength shall be per LWC standard specifications. The style shall match the existing driveway. The limits of repair, style of concrete and type of concrete for each driveway shall be approved by the LWC Project Manager prior to installation. The LWC Project Manager may modify

thickness, style, type and limits of repair based on field conditions and property owner consultation which shall be installed by the contractor at no additional cost to LWC.

58. All asphalt driveways shall be restored via a utility cut, as approved by the LWC Project Manager and property owner. Asphalt thickness and strength shall be installed per LWC standard specifications. Asphalt driveway replacement shall be completed from edge of pavement to edge of right-of-way. The LWC Project Manager may modify thickness, style, type and limits of repair based on field conditions and property owner consultation which shall be installed by the contractor at no additional cost to LWC.

SCHEDULE OF VALUES

59. A Schedule of Values shall be submitted in accordance with section 1.03 of the Terms and Conditions. The schedule is not limited to but shall include the following:
- Minimum 6% of the total contract pricing restoration line item.
- Maximum 6% of the total contract pricing mobilization line item.
- Minimum 2% of the total contract pricing demobilization line item.

PAVEMENT RESTORATION

60. Trench backfill and compaction shall be completed in accordance with one of the methods in the following chart:

Trench Backfill and Compaction Requirements Beneath Pavements

Category		Maximum Loose Lift Thickness (inches)				Maximum Number of Passes[2]	Example Models[3]
		Manufactured Sand	Pit Run Sand	Dense Graded Aggregate	No. 57 Stone		
I	Lightweight Vibratory Plate Compactors (100 - 200lbs)[1]	8	8	6	8	3	Wacker-Neuson WP 1540; MBW GP18
II	Medium Weight Vibratory Plate Compactors (220 - 660lbs)[1]	12	12	9	12	3	MultiQuip MWH206GH; MBW GPR77H
III	Heavyweight Vibratory Plate Compactors (>660lbs)[1,4]	18	18	12	18	3	Wacker-Neuson BPU 4045A; MBW GPR135H
IV	Smooth Drum Vibratory Rollers[4]	12	12	9	12	3	Wacker-Neuson RTLx with Smooth Drum Attachment
V	Equipment Mounted Compactors[4]	24	24	24	24	3	Allied 1000B; Caterpillar CVP 110

[1]Weight range provided is the operating weight of the equipment during compaction.

[2]The minimum number of passes shall be applied across the full trench width. For example, a 30-inch wide trench compacted with a 22-inch wide lightweight plate compactor will require 6 total passes per lift.

[3]Example models listed are not inclusive. Each manufacturer has multiple models that meet the requirements for each weight category, any of which the contractor may utilize.

[4]For categories III, IV and V, the manufacturers of both the compactors and the pipe should be consulted to determine the minimum amount of cover required over the pipe to prevent damage.

61. All trench cuts made in pavement shall be backfilled with DGA. Pavement cuts shall include 1-foot cutbacks that are a minimum 8-inch deep. Cutbacks shall be made after the trench is backfilled with DGA. The contractor is responsible for maintaining the DGA trench with cold patch for smooth rideability if it is opened to traffic. Concrete restoration shall occur within 14 days of the utility cut. A minimum 8-inch concrete cap shall be placed over the backfill material, keyed into the cutback and made flush with existing pavement grade. Concrete shall be floated and broom finished for smooth rideability. The contractor will be permitted to leave 4-foot DGA with cold patch gaps at service locations for longer than 14 days. The contractor is responsible for maintaining these gaps for smooth rideability. The entire area shall be restored via mill and pave, unless stated otherwise, from edge of pavement to edge of pavement for all pavement areas disturbed, in accordance with KYTC standard specifications.

MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

August 13, 2018

Danny Peake
Kentucky Transportation Cabinet (KYTC)
200 Mero St
Frankfort, KY 40622

Re: Letter of Permission No.: 2018-060-7
New I-65 Interchange (MP 114.4) Project
AI No.: 81900; Activity ID: APE20180002
KYTC Item No.: 5-538.00
USACE ID No.: LRL-2018-634-ncc
Unnamed Tributaries to Long Lick Creek,
Unnamed Tributaries to Buffalo Run, and
Wetlands
Bullitt County, Kentucky

Dear Mr. Peake:

This letter transmits to you a copy of our General Water Quality Certification for the Letter of Permission Authorizing Transportation Projects for the Kentucky Transportation Cabinet – New I-65 Interchange (MP 114.4) Project in Bullitt County, Kentucky, in accordance with plans included in the "Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification" received July 17, 2018 and the additional information received via email August 3,2018, including impacts to 13,628 linear feet of ephemeral stream, 2,225 linear feet of intermittent stream, and 0.543 acres of wetland. Compensatory mitigation will be accomplished through purchasing 11,225 stream AMUs and 1 wetland AMUs through the Kentucky Department of Fish and Wildlife Resources (KDFWR) Stream and Wetland In-lieu Fee (ILF) Fund. A receipt of purchase must be submitted to the Kentucky 401 Water Quality Certification Section before construction begins.

An individual Water Quality Certification is not necessary for this activity provided that this project has satisfies the Transportation Letter of Permission from the U.S. Army Corps of Engineers (Letter of Permission for Transportation Projects, Corps ID No. LRL-2006-259, issued October 03, 2007 and revised October 28, 2010) and all conditions of the attached General Water Quality Certification - Letter of Permission Authorizing Transportation Projects are met.

Although an Individual WQC is not needed, other permits from the Division of Water may be required. If the project will disturb one acre or more of land, or is part of a larger common plan of development or sale that will ultimately disturb one acre or more of land, a Kentucky Pollution Discharge Elimination System (KPDES) stormwater permit shall be required from the Surface Water Permits Branch. This permit requires the development of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must include erosion prevention and sediment control measures. Contact: Surface Water Permits Branch (SWPB) Support (502-564-3410 or SWPBSupport@ky.gov)

All future correspondence on this project must reference **AI No. 81900**. If you should have any questions concerning this letter, please contact Samantha Vogeler of my staff, at (502) 782-6995 or Samantha.Vogeler@ky.gov.

Sincerely,

Elizabeth Harrod, Supervisor
Water Quality Certification Section

Attachment
cc: Adam Michels, KYTC: Frankfort (via email: Adam.Michels@ky.gov)
Dave Harmon, KYTC: Frankfort (via email: Dave.Harmon@ky.gov)
Norma Condra, USACE: Louisville (via email: Norma.C.Condra@uasce.army.mil)
Lee Andrews, USFWS: Frankfort (via email: kentuckyes@fws.gov)
Dale Booth, Salt River Basin Coordinator (via email: Dale.Booth@ky.gov)
Neil Guthals, Redwing Ecological Services, Inc. (via email: nguthals@redwingeco.com)

Matthew G. Bevin
Governor

Charles G. Snavely
Secretary

ENERGY AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

General Certification -- Letter of Permission Authorizing Transportation Projects (LRL-2006-259-pgj- Date: 28 Oct 2010)

This general certification is issued February 26, 2016, by the Kentucky Division of Water, 401 Water Quality Certification Program in conformity with the requirements of Sections 301, 302, 304, 306 and 401, as amended (33 U.S.C. §1341), of the Clean Water Act, as well as Kentucky Statute KRS 224.16-050 and Kentucky Administrative Regulations Title 401, Chapter 9 and 10.

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

In addition to all the restrictions and conditions of the U.S. Army Corps of Engineers, Louisville District Letter of Permission Issuance (LRL-2006-259-pgj) hereby incorporated into this general certification (included herein), the following 401 Water Quality Certification criteria applies to all transportation projects certified under a Certified Letter of Permission issued by the Kentucky Division of Water, 401 Water Quality Certification Program:

1. The activity will not qualify for this general certification if it is proposed to occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Water.

2. The activity will not qualify for this general certification if it is proposed to occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) stream and/or wetland mitigation sites permitted by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

Certification of Transportation Letter of Permission
Page 2

3. The Kentucky Division of Water may require an individual certification for any project if the project is likely to have adverse impacts to water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
4. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:

- The proposed relocation of an existing stream or channel will be designed and constructed to ensure the stability of the relocated stream or channel. Stream habitat enhancements, such as bioengineering methods and/or best management practices for protecting water quality will be considered, on a case-by-case basis, during the design process. Documentation must be provided if stream habitat enhancements will not be used for the proposed stream relocation.

- Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that state water quality are maintained (401 KAR Chapter 10).

- Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without notifying the Kentucky Division of Water. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to, upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.

- Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.

- Removal of riparian vegetation in the right-of-way shall be limited to that necessary.

- To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.

- Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it should be performed in low-flow or no-flow instances or in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.

Certification of Transportation Letter of Permission
Page 3

- Fill shall not be of such composition that it will adversely affect the biological, chemical, or physical properties of the receiving waters and associated water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.

- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the public supply system when such work will be done.

- Should evidence of stream and/or wetland pollution impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Environmental Response Team (ERT) shall be notified immediately by calling 1-800-928-2380 or 502-564-2380.

This general certification does not have an expiration date, however if the need for changes develop or if the U.S. Army Corps of Engineers, Louisville District makes modifications to the Letter of Permission (LRL-2006-259-pgj- Date: 28 Oct 2010) then a certification modification may be issued. Non-compliance with the conditions of this general certification or failure to maintain Kentucky state water quality standards may result in civil penalties.

MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
Department for Environmental Protection

AARON B. KEATLEY
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

ATTENTION APPLICANT

If your project involves one or more of the following activities, you may need more than one permit from the Kentucky Division of Water.

***building in a floodplain *road culvert in a stream**
***streambank stabilization *stream cleanout**
***utility line crossing a stream**
***construction sites greater than 1 acre**

- **Construction sites greater than 1 acre will require the filing of a Notice of Intent to be covered under the KPDES General Stormwater Permit. This permit requires the creation of an erosion control plan.**
  Contact: Surface Water Permits Branch (SWPB) Support at SWPBSupport@ky.gov

- **Projects that involve filling in the floodplain will require a floodplain construction permit from the Water Resources Branch.**
  Contact: Ron Dutta at (502) 782-6941

- **Projects that involve work IN a stream, such as bank stabilization, road culverts, utility line crossings, and stream alteration will require a floodplain permit and a Water Quality Certification from the Division of Water.**
  Contact: Elizabeth Harrod at (502) 782-6700

A complete listing of environmental programs administered by the Kentucky Department for Environmental Protection is available from Pete Goodmann by calling (502) 782-6956.

GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION

1. The Kentucky Division of Water may require submission of a formal application for an Individual Certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.

2. Nationwide permits issued by the U.S. Army Corps of Engineers for projects in Outstanding State Resource Waters, Cold Water Aquatic Habitats, and Exceptional Waters as defined by 401 KAR 10:026 shall require individual water quality certifications.

3. Projects requiring in-stream stormwater detention/retention basins shall require individual water quality certifications.

4. Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur.

5. Sediment and erosion control measures (e.g., check-dams, silt fencing, or hay bales) shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, placement shall not be conducted in such a manner that may cause instability of streams that are adjacent to, upstream, or downstream of the structures. All sediment and erosion control measures shall be removed and the natural grade restored prior to withdrawal from the site.

6. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.

7. To the maximum extent practicable, all in-stream work under this certification shall be performed during low flow.

8. Heavy equipment (e.g. bulldozers, backhoes, draglines, etc.), if required for this project, should not be used or operated within the stream channel. In those instances where such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize re-suspension of sediments and disturbance to the channel, banks, or riparian vegetation.

9. If there are water supply intakes located downstream that may be affected by increased turbidity, the permittee shall notify the operator when work will be performed.

10. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.

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

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P.O. BOX 59
LOUISVILLE KY 40201-0059
FAX: (502) 315-6677
http://www.lrl.usace.army.mil/

August 27, 2018

Regulatory Division
South Branch (RDS)
ID No. LRL-2018-634-ncc

Mr. Adam Michels
Kentucky Transportation Cabinet, DEA
200 Mero Street
Frankfort, Kentucky 40622

Dear Mr. Michels:

This is in regard to your application for a Department of the Army (DA) permit concerning a proposal to construct a new interchange on I-65 that would connect KY 61 in the west to Cedar Grove Industrial Park in the east. The project would span approximately 1.4 miles perpendicular to I-65, and would include a two-span bridge that spans I-65. The new interchange would be located to the south of Exit 116 (I-65/KY 480 Interchange) and to the north of Exit 112 (I-65/KY 245 Interchange) near Shepherdsville, Bullitt County, Kentucky. We have reviewed your application and have made the following determinations: the work is minor in nature, will not have a significant impact on the environment, and should encounter no opposition.

Based on these determinations, your proposed work satisfies the Letter of Permission criteria, as specified in our regulations. Therefore, you are authorized, in accordance with 33 USC 403, to place fill material into approximately 13,628 linear feet of unnamed ephemeral tributaries, and 2,225 linear feet of unnamed intermittent tributaries of Long Lick Creek and Buffalo Run (respectively), and 0.54 acre of wetland. This permission is granted with the following Special Conditions:

a. The project shall be constructed in accordance with the plans included in the July 17, 2018 application for KYTC Item No. 5-538.00 and all subsequent information received regarding changes to the original submittal.

b. To compensate for the removal of 77.43 acres of "Known Summer 1" habitat for the Indiana bat and NLEB, the permittee shall comply with the processes identified in the 2015 Interim Programmatic Agreement for Forest Dwelling Bats between the Federal Highway Administration (FHWA), KYTC, and the USFWS Kentucky Field Office.

c. To compensate for stream impacts, KYTC shall provide a receipt from the KDFWR Stream and Wetland Mitigation In-Lieu Fee Program for the purchase of 11,225 stream AMUs and 1.3 wetland AMU. AMUs must be purchased prior to the discharge of fill into "waters of the U.S." The Corps ID number LRL-2018-634-ncc must accompany the payment. Inquiries regarding credit purchase may be made directly to KDFWR by calling Mr. Clifford Scott (502) 564-5101, by email at Clifford.scott@ky.gov, or in writing at Kentucky Department of Fish and Wildlife Resources, Division of Fisheries, #1 Sportsman's Lane, Frankfort, Kentucky 40601.

d. The time limit for completing the work authorized ends on **August 27, 2023**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration **at least 1 month** before the above date is reached.

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

f. You must agree to comply with the enclosed General Conditions.

This authorization will be effective as soon as we receive your signed acceptance of these conditions. Please sign and date the duplicate copy of this letter in the space provided and return the signed copy in the enclosed envelope. Note that we also perform periodic inspections to ensure compliance with our permit conditions and appropriate Federal laws.

Copies of this letter will be sent to the appropriate coordinating agencies (see enclosure for addresses).

FOR THE DISTRICT ENGINEER:

for David Baldridge
Chief, South Branch
Regulatory Division

Enclosures

(I accept the conditions of this authorization):

Kentucky Transportation Cabinet

8-28-18
Date

COORDINATING AGENCIES

Mr. Duncan Powell
USEPA, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8960

Mr. Lee Andrews
U.S. Fish & Wildlife Service
JC Watts Federal Building
330 West Broadway, Room 265
Frankfort, KY 40601

Ms. Stephanie Hayes
Kentucky Energy & Environment Cabinet
Division of Water
300 Sower Boulevard, 3rd Floor
Frankfort, KY 40601

Mr. Craig Potts
Executive Director
State Historic Preservation Officer
Kentucky Heritage Council
300 Washington Street
Frankfort, KY 40601

Mr. Gregory Johnson, Commissioner
Kentucky Department of Fish and Wildlife Resources
#1 Sportsman's Lane
Frankfort, KY 40601

GENERAL CONDITIONS:

1. Discharges of dredged or fill material into "waters of the U.S." must be minimized or avoided to the maximum extent practicable at the project site (i.e. on-site). In determining the minimal impact threshold, the Districts will consider the direct, secondary, and cumulative impacts of the fill or work and any mitigation measures.

2. The permittee shall provide a mitigation/monitoring plan for impacts resulting from the placement of fill into "waters of the U.S." in excess of 300 linear feet of intermittent or perennial stream; the filling of greater than 0.10 acre (4,356 sq. feet) of waters of the U.S; or work causing more than minimal effects, to compensate for impacts to the "waters of the U.S." These impact thresholds are applied for each crossing. When mitigation is required, the permittee will develop the mitigation site concurrently with, or in advance of, the site construction unless the Corps determines on a project specific basis that it is not practical to do so. This will ensure that aquatic functions are not lost for long periods of time (e.g. temporal loss) which could adversely affect water quality and wildlife. The requirement for conservation easements or deed restrictions will be determined on a project specific basis.

3. The permittee shall ensure that sedimentation and soil erosion control measures are in place prior to commencement of construction activities. These measures will remain in place and be properly maintained throughout construction. Sedimentation and soil control measures shall include the installation of straw bale barriers, silt fencing and/or other approved methods to control sedimentation and erosion. Sedimentation and erosion controls will not be placed in "waters of the U.S." except if specifically approved by the District.

4. The permittee shall ensure that areas disturbed by any construction activity, including channel and stream banks, are immediately stabilized and revegetated with a combination of non-invasive plants (grasses, legumes and shrubs) which are compatible with the affected area and will not compete with native vegetation.

5. The permittee shall ensure that no in-stream construction activity is performed during periods of high stream flow or during the fish spawning season (April 1 through June 30) without first contacting the Kentucky Department of Fish and Wildlife Resources (KDFWR) for their expertise on impacts to the fishery resource. Additionally, the discharge of dredged and/or fill material in known waterfowl breeding and wintering areas must be avoided to the maximum extent practicable.

6. The permittee will ensure that the activity authorized will not disrupt movement of those aquatic species indigenous to the waterbody, including those species which normally migrate through the area, unless the activity's specific purpose is to impound water.

7. The permittee shall ensure that all construction equipment is refueled and maintained on an upland site away from existing streams, drainageways and wetland areas. Heavy equipment working in wetlands must be placed on mats or other measures must be taken to minimize soil disturbance.

8. The permittee must comply with any case specific special conditions added by the Corps or by the State Section 401 Water Quality Certification (WQC). The conditions imposed in the State Section 401 WQC are also conditions of this LOP.

9. The permittee shall ensure that no activity authorized by the LOP may cause more than a minimal adverse effect on navigation.

10. The permittee shall ensure proper maintenance of any structure or fill authorized by the LOP, in good condition and in conformance with the terms and conditions of the LOP, including maintenance to ensure public safety. The permittee is not relieved of this requirement if the permitted activity is abandoned, although the permittee may make a good faith transfer to a third party. Should the permittee wish to cease to maintain the authorized activity or desire to abandon it without a good faith transfer, the permittee must obtain a modification to the LOP from the Corps, which may require restoration of the area.

11. The permittee shall not perform any work within any Wild and Scenic Rivers or in any river officially designated as a "study river" for possible inclusion in the system, unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity authorized by the LOP will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal Land Management agency in the area (e.g. U.S. Forest Service, Bureau of Land Management, the National Parks Service, or the U.S. Fish and Wildlife Service).

12. The permittee shall not perform any work under the LOP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act, or which is likely to destroy or adversely modify the critical habitat of such species. The permittee shall notify the Corps and coordinate the proposed action with the USFWS to determine if any listed species or critical habitat might be affected and/or adversely modified by the proposed work. No activity is authorized under the LOP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed. At the direction of the Corps, the permittee shall complete the necessary consultation with the USFWS, satisfying the requirements of Section 7(a)(2) of the Endangered Species Act. The permittee shall not begin work until notified by the District Engineer that the requirements of the Endangered Species Act have been satisfied and that the activity is authorized. Authorization of an activity under the LOP does not authorize the "take" of a threatened or endangered species as defined under the Federal Endangered Species Act. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. Fish and Wildlife Service, both lethal and non-lethal "takes" of protected species are in violation of the Endangered Species Act.

Obligations under Section 7 of the Act must be reconsidered by the Corps Districts if (1) new information reveals impacts of the proposed action may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during consultation, or (3) new species are listed or critical habitat designated that might be affected

by the proposed action.

13. The permittee shall not perform any activity under the LOP which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The permittee must notify the District Engineer if the activity authorized by the LOP may affect any historic properties listed, determined to be eligible or which the permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin construction until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the Kentucky Heritage Council.

If the permittee discovers any previously unknown historic or archaeological remains while accomplishing the activity authorized by the LOP, work must be immediately stopped and this office immediately notified regarding the discovery. The District will initiate the Federal, Tribal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

14. The permittee shall not perform any work under the LOP where the discharge of dredged and/or fill material will occur in the proximity of a public water supply intake.

15. No activity, including structures or work in "waters of the U.S." or discharges of dredged or fill material may consist of unsuitable materials (e.g. trash, debris, car bodies, asphalt, etc.) and that materials used for construction or discharge must be free from toxic pollutants in toxic amounts.

16. The permittee shall, to the maximum extent practicable, design the project to maintain pre-construction downstream flow conditions. Furthermore, the work must not permanently restrict or impede the passage of normal or expected high flows and the structure or discharge of fill must withstand expected high flows. The project must provide, to the maximum extent practicable, for retaining excess flows from the site and for establishing flow rates from the site similar to pre-construction conditions.

17. The permittee shall ensure that all temporary fills, authorized under the LOP, be removed in their entirety and the affected areas returned to pre-construction elevation.

18. Representatives from the Corps of Engineers and/or the State of Kentucky may inspect any authorized activity or mitigation site at any time deemed necessary to ensure compliance with the terms and conditions of the LOP, Section 401 WQC, and applicable laws.

19. All work authorized by this LOP must be completed within five years after the date of the Corps authorization letter. If you find you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least three months before the expiration date.

20. The permittee, after completion of work under the LOP, shall submit a signed certification letter regarding the completed work and required mitigation, if applicable. The certification letter will include a statement that the work was done in accordance with the LOP authorization including compliance with all general and special conditions and completion of mitigation work.

21. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of the LOP.

22. For Section 10 waters, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
REGULATORY DIVISION
P. O. BOX 59
LOUISVILLE, KY 40201-0059
(502) 315-6733
COMPLETION REPORT

COE ID No. LRL-_____ **Date.** _____

Permittee Name: _____
Corporate Name: _____
Address: _____
_____
_____
City State Zip Code
Telephone No. _____

Agent Name: _____
Corporate Name: _____
Address: _____
_____
_____
City State Zip Code
Telephone No. _____

Location Description: _____
_____
_____

County _____ **State** _____

Linear Feet of Stream Impact: _____ **Acres of Wetland Impact:** _____

Has all the work on this project been completed according to plans, specifications, and conditions of the permit? Yes_____ No_____

If not, explain: _____
_____
_____
_____
_____
_____
_____
_____

_____
Permittee Signature

MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ANTHONY R. HATTON
COMMISSIONER

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

July 10, 2018

Charles Berger
KYTC District 5
8310 Westport Rd
Louisville, KY 40242

Re: KYR10 Coverage Acknowledgment
KPDES No.: KYR10M713
Item no. 5-538.00 - New I-65 Interchange between K
Permit Type: Construction
AI ID: 81900
Bullitt County, Kentucky

Dear Charles Berger:

The discharges associated with the Notice of Intent you submitted have been approved for coverage under the "Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Storm Water Discharges Associated with Construction Activities (KYR100000)" master general permit. Your coverage becomes effective on the date of this letter, and will automatically terminate two years from the effective date of your coverage unless an extension is requested prior to the termination date, until the KYR100000 master general permit expires on November 30, 2019, or the Division of Water revokes coverage, whichever comes first. During this period of coverage all discharges shall comply with the conditions of the KYR100000 master general permit. This permit and links to the eNOI (and permit coverage extension) and eNOT forms can be found on our website:

http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf.

Any questions concerning the general permit and its requirements should be directed to me at 502-782-7048 or email me at Justina.Bascombe@ky.gov

Construction Site GPS Coordinates: 37.960278 , -85.693889
Receiving Water: Buffalo Run

Sincerely,

Justina Bascombe

Justina Bascombe
Surface Water Permits Branch
Division of Water

Kentucky Transportation Cabinet

Highway District __ (1)

And

_____(2), Construction

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

Groundwater protection plan

For Highway Construction Activities

For

[Project Description](1)

Project: CID ## -

Revised 3/4/2016

Project information

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

1. Owner – Kentucky Transportation Cabinet, District 5 (1)

2. Resident Engineer: (2)

3. Contractor name: (2)
   Address: (2)

   Phone number: (2)
   Contact: (2)
   Contractors agent responsible for compliance with the KPDES permit requirements (3):

4. Project Control Number (2)

5. Route (Address) – I-65

6. Latitude/Longitude (project mid-point) – 37/57/38 N, 85/41/38

7. County (project mid-point) - Bullitt

8. Project start date (date work will begin): (2)

9. Projected completion date: (2)

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

A. Site description:

1. Nature of Construction Activity (from letting project description) – Construction of new I-65 interchange at MP 114

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

3. Projected volume of material to be moved – 1,429,700 Cu. Yd.

4. Estimate of total project area (acres) – 106.16 Ac.

5. Estimate of area to be disturbed (acres) – 86.50 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.(1)

7. Data describing existing soil condition – Refer to Geotechnical Notes in the plan set and Geotechnical Report. (1) & (2)

8. Data describing existing discharge water quality (if any) – Refer to Geotechnical Notes in the plan set and Geotechnical Report. (1) & (2)

9. Receiving water name – Buffalo Run(1)

10. TMDLs and Pollutants of Concern in Receiving Waters: (1 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)

B. Sediment and Erosion Control Measures:

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

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

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as “Do Not Disturb” until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP’s shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. <u>All DDA’s will have adequate BMP’s in place before being disturbed.</u>

3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:

   - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.
   - At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants.

Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.

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

- Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probably changes include:
  - Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
  - Permanent Seeding and Protection
  - Placing Sod
  - Planting trees and/or shrubs where they are included in the project
- BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are : Areas of New Albany Shale uncovered during construction are to be capped with clay soil (classification CL or CH).(1)

C. Other Control Measures

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

2. Waste Materials

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

3. Hazardous Waste

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

4. Spill Prevention

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

- **Good Housekeeping:**

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

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

- **Hazardous Products:**

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

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

The following product-specific practices will be followed onsite:

- **Petroleum Products:**

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

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

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

- **Fertilizers:**

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

- **Paints:**

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

- **Concrete Truck Washout:**

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

- **Spill Control Practices**

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

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contract with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

D. Other State and Local Plans

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

E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.

- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.

- Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for

the purpose of post construction storm water management with specific guidance for any non-routine maintenance. (1)

F. Inspections

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

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

G. Non – Storm Water discharges

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

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

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

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

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

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

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

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

(a) General information about this project is covered in the Project information;
(b) Activities that require a groundwater protection plan have been identified above;
(c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
(d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
(e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job function(s). Training will be accomplished within one week of employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.
(f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections
(g) Certification (see signature page.)

KyTC BMP Plan for Project CID ## -

Contractor and Resident Engineer Plan certification

The contractor that is responsible for implementing this BMP plan is identified in the Project Information section of this plan.

The following certification applies to all parties that are signatory to this BMP plan:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, this plan complies with the requirements of 401 KAR 5:037. By this certification, the undersigned state that the individuals signing the plan have reviewed the terms of the plan and will implement its provisions as they pertain to ground water protection.

Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

Signed _____title_____, _____
Typed or printed name[2] signature

(3) Signed _____title_____, _____
Typed or printed name[1] signature

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

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

Sub-Contractor Certification

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

Subcontractor

Name:
Address:
Address:

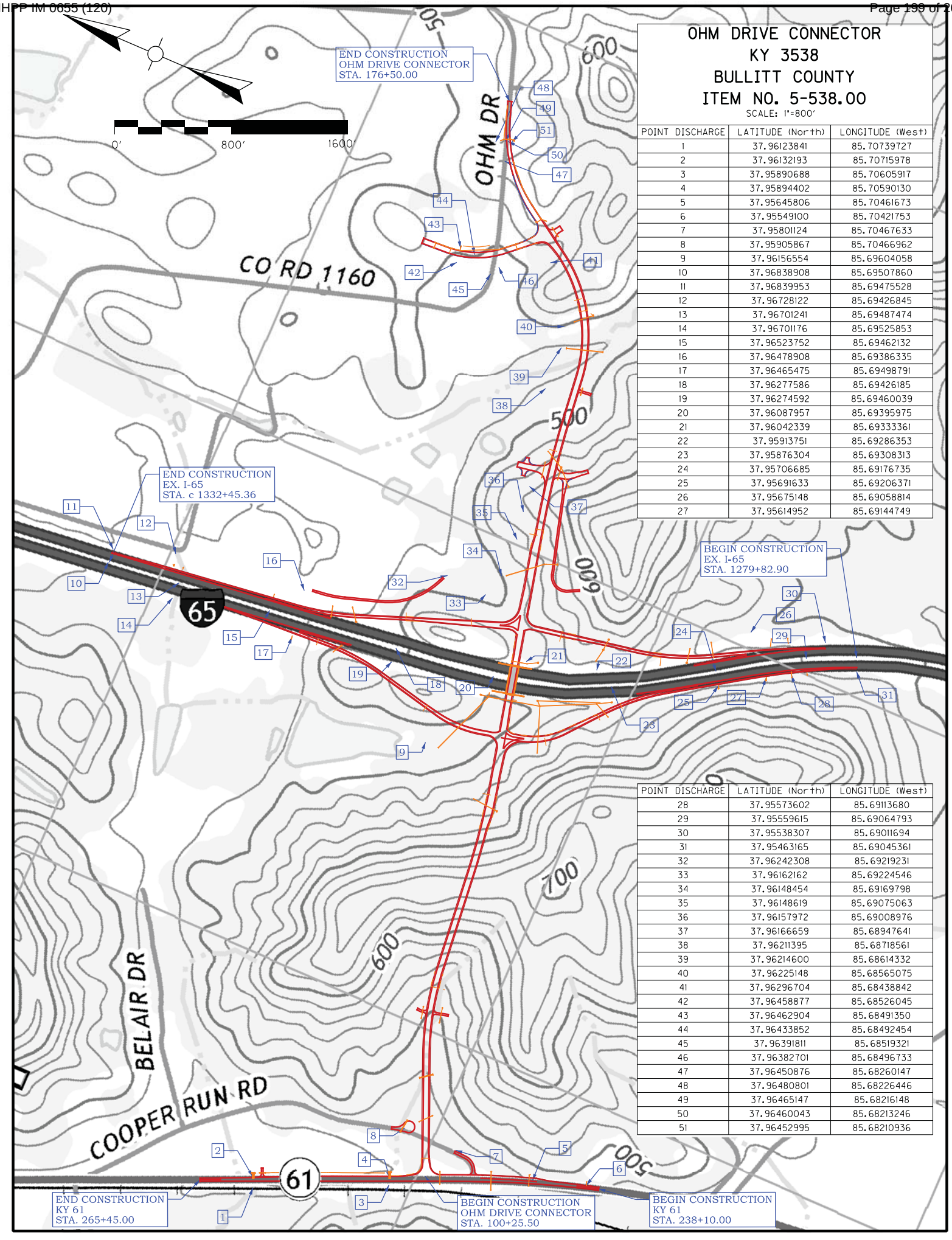
Phone:

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

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

Signed _____title_____, _____
Typed or printed name[1] signature

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



OHM DRIVE CONNECTOR
KY 3538
BULLITT COUNTY
ITEM NO. 5-538.00

SCALE: 1"=800'

POINT DISCHARGE	LATITUDE (North)	LONGITUDE (West)
1	37.96123841	85.70739727
2	37.96132193	85.70715978
3	37.95890688	85.70605917
4	37.95894402	85.70590130
5	37.95645806	85.70461673
6	37.95549100	85.70421753
7	37.95801124	85.70467633
8	37.95905867	85.70466962
9	37.96156554	85.69604058
10	37.96838908	85.69507860
11	37.96839953	85.69475528
12	37.96728122	85.69426845
13	37.96701241	85.69487474
14	37.96701176	85.69525853
15	37.96523752	85.69462132
16	37.96478908	85.69386335
17	37.96465475	85.69498791
18	37.96277586	85.69426185
19	37.96274592	85.69460039
20	37.96087957	85.69395975
21	37.96042339	85.69333361
22	37.95913751	85.69286353
23	37.95876304	85.69308313
24	37.95706685	85.69176735
25	37.95691633	85.69206371
26	37.95675148	85.69058814
27	37.95614952	85.69144749

POINT DISCHARGE	LATITUDE (North)	LONGITUDE (West)
28	37.95573602	85.69113680
29	37.95559615	85.69064793
30	37.95538307	85.69011694
31	37.95463165	85.69045361
32	37.96242308	85.69219231
33	37.96162162	85.69224546
34	37.96148454	85.69169798
35	37.96148619	85.69075063
36	37.96157972	85.69008976
37	37.96166659	85.68947641
38	37.96211395	85.68718561
39	37.96214600	85.68614332
40	37.96225148	85.68565075
41	37.96296704	85.68438842
42	37.96458877	85.68526045
43	37.96462904	85.68491350
44	37.96433852	85.68492454
45	37.96391811	85.68519321
46	37.96382701	85.68496733
47	37.96450876	85.68260147
48	37.96480801	85.68226446
49	37.96465147	85.68216148
50	37.96460043	85.68213246
51	37.96452995	85.68210936

KENTUCKY TRANSPORTATION CABINET
COMMUNICATING ALL PROMISES (CAP)
ACTIVE

Item No. 5 - 538 **Project Mgr.** ky\chuck.berger

County BULLITT **Route** I-65

CAP #	Date of Promise	Promise made to:	Location of Promise
1	18-JUL-18	D-5 Right-of-Way Section	Parcel 1 - Edwin & Nellene Ratliff

CAP Description

Property owner to retain trees felled on purchased tract prior to 4/27/18 and has until 9/1/18 to remove said felled trees from the property.

Item 5-538.00
Bullitt County
I-65 New Interchange @ MP 114
SPECIAL NOTE FOR PRE-BID CONFERENCE

The Department will conduct a Pre-Bid Conference of the subject project on **Tuesday, October 9th, 2018 at 1:00 PM EDT at:**

Kentucky Department of Highways
District 5
8310 Westport Road
Louisville, KY 40242
Phone: (502) 210-5400

Any company that is interested in bidding on the subject project or being part of a joint venture must be represented at the conference by at least **one person of sufficient authority to bind the company**. No individual can represent more than one company. At the conference a roster will be taken of the representatives present. **Only companies represented at the conference will be eligible to have their bids opened at the date of letting.**

The purpose of the conference is to familiarize all prospective bidders with the contract requirements of the contract.

Department of Highways officials present at the conference will answer questions concerning the projects.

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 2012* and *Standard Drawings, Edition of 2016.*

SUPPLEMENTAL SPECIFICATIONS

The contractor shall use the Supplemental Specifications that are effective at the time of letting. The Supplemental Specifications can be found at the following link:

http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx

1I

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

1I

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

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

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

2.3 Power.

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

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

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

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

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

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

1I

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

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

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

11D

SPECIAL NOTE FOR ROCK BLASTING

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. This work consists of fracturing rock and constructing stable final rock cut faces using presplit blasting and production blasting techniques.

2.0 MATERIALS. Deliver, store, and use explosives according to the manufacturer's recommendations and applicable laws. Do not use explosives outside their recommended use date. Verify date of manufacture and provide copies of the technical data sheets (TDS) and material safety data sheets (MSDS) to the Engineer. Explosives and initiating devices include, but are not necessarily limited to, dynamite and other high explosives, slurries, water gels, emulsions, blasting agents, initiating explosives, detonators, blasting caps, and detonating cord.

3.0 CONSTRUCTION. Furnish copies or other proof of all-applicable permits and licenses. Comply with Federal, State, and local regulations on the purchase, transportation, storage, and use of explosive material. Regulations include but are not limited to the following:

1) KRS 351.310 through 351.9901.
2) 805 KAR 4:005 through 4:165
3) Applicable rules and regulations issued by the Office of Mine Safety and Licensing.
4) Safety and health. OSHA, 29 CFR Part 1926, Subpart U.
5) Storage, security, and accountability. Bureau of Alcohol, Tobacco, and Firearms (BATF), 27 CFR Part 181.
6) Shipment. DOT, 49 CFR Parts 171-179, 390-397.

3.1 Blaster-in-Charge. Designate in writing a blaster-in-charge and any proposed alternates for the position. Submit documentation showing the blaster-in-charge, and alternates, have a valid Kentucky blaster's license. Ensure the blaster-in-charge or approved alternate is present at all times during blasting operations.

3.2 **Blasting Plans.** Blasting plans and reports are for quality control and record keeping purposes. Blasting reports are to be signed by the blaster-in-charge or the alternate blaster-in-charge. The general review and acceptance of blasting plans does not relieve the Contractor of the responsibility whatsoever for conformance to regulations or for obtaining the required results. All blasting plans shall be submitted to the Engineer. The Engineer will be responsible for submitting the plan to the Central Office Division of Construction and the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at the following address: 2 Hudson Hollow, Frankfort, Kentucky, 40601.

A) General Blasting Plan. Submit a general blasting plan for acceptance at least 15 working days before drilling operations begin. Include, as a minimum, the following safety and procedural details:

1) Working procedures and safety precautions for storing, transporting, handling, detonating explosives. Include direction on pre and post blast audible procedures, methods of addressing misfires, and methods of addressing inclement weather, including lightning.
2) Proposed product selection for both dry and wet holes. Furnish Manufacturer's TDS and MSDS for all explosives, primers, initiators, and other blasting devices.
3) Proposed initiation and delay methods.
4) Proposed format for providing all the required information for the site specific blasting shot reports.

B) Preblast Meeting. Prior to drilling operations, conduct a preblast meeting to discuss safety and traffic control issues and any site specific conditions that will need to be addressed. Ensure, at a minimum, that the Engineer or lead inspector, Superintendent, blaster-in-charge, and all personnel involved in the blasting operation are present. Site specific conditions include blast techniques; communication procedures; contingency plans and equipment for dealing with errant blast material. The conditions of the General Blasting plan will be discussed at this meeting. Record all revisions and additions made to the blasting plan and obtain written concurrence by the blaster-in-charge. Provide a copy of the signed blast plan to the Engineer along with the sign in sheet from the preblast meeting.

3.3 Preblast Condition Survey and Vibration Monitoring and Control. Before blasting, arrange for a preblast condition survey of nearby buildings, structures, or utilities, within 500 feet of the blast or that could be at risk from blasting damage. Provide the Engineer a listing of all properties surveyed and any owners denying entry or failing to respond. Notify the Engineer and occupants of buildings at risk at least 24 hours before blasting.

Limit ground vibrations and airblast to levels that will not exceed limits of 805 KAR 4:005 through 4:165. More restrictive levels may be specified in the Contract.

Size all blast designs based on vibration, distance to nearest building or utility, blast site geometry, atmospheric conditions and other factors. Ground vibrations are to be controlled according to the blasting standards and scaled distance formulas in 805 KAR 4:020 or by the use of seismographs as allowed in 805 KAR 4:030. The Department will require seismographs at the nearest allowable location to the protected site when blasting occurs within 500 feet of buildings, structures, or utilities.

3.4 Blasting. Drill and blast at the designated slope lines according to the blasting plan. Perform presplitting to obtain smooth faces in the rock and shale formations. Perform the presplitting before blasting and excavating the interior portion of the specified cross section at any location. The Department may allow blasting for fall benches and haul roads prior to presplitting when blasting is a sufficient distance from the final slope and results are satisfactory to the Engineer. Use the types of explosives and blasting accessories necessary to obtain the required results.

Free blast holes of obstructions for their entire depth. Place charges without caving the blast hole walls. Stem the upper portion of all blast holes with dry sand or other granular material passing the 3/8-inch sieve. Dry drill cuttings are acceptable for stemming when blasts are more than 800 feet from the nearest dwelling.

Stop traffic during blasting operations when blasting near any road and ensure traffic does not pass through the Danger Zone. The blaster-in-charge will define the Danger Zone prior to each blast. Ensure traffic is stopped outside the Danger Zone, and in no case within 800 feet of the blast location.

Following a blast, stop work in the entire blast area, and check for misfires before allowing worker to return to excavate the rock.

Remove or stabilize all cut face rock that is loose, hanging, or potentially dangerous. Leave minor irregularities or surface variations in place if they do not create a hazard. Drill the next lift only after the cleanup work and stabilization work is complete.

When blasting operations cause fracturing of the final rock face, repair or stabilize it in an approved manner at no cost to the Department.

Halt blasting operations in areas where any of the following occur:

1) Slopes are unstable;
2) Slopes exceed tolerances or overhangs are created;
3) Backslope damage occurs;
4) Safety of the public is jeopardized;
5) Property or natural features are endangered;
6) Fly rock is generated; or
7) Excessive ground or airblast vibrations occur in an area where damage to buildings, structures, or utilities is possible.
8) The Engineer determines that materials have become unsuitable for blasting

Blasting operations may continue at a reasonable distance from the problem area or in areas where the problems do not exist. Make the necessary modifications to the blasting operations and perform a test blast to demonstrate resolution of the problem.

A) Drill Logs. Maintain a layout drawing designating hole numbers with corresponding drill logs and provide a copy of this information to the blaster prior to loading the hole. Ensure the individual hole logs completed by the driller(s) show their name; date drilled; total depth drilled; and depths and descriptions of significant conditions encountered during drilling that may affect loading such as water, voids, changes in rock type.

B) Presplitting. Conduct presplitting operations in conformance with Subsection 204.03.04 of the Standard Specifications for Road and Bridge Construction.

3.5 Shot Report. Maintain all shot reports on site for review by the Department. Within one day after a blast, complete a shot report according to the record keeping requirements of 805 KAR 4:050. Include all results from airblast and seismograph monitoring.

3.6 Unacceptable Blasting. When unacceptable blasting occurs, the Department will halt all blasting operations. Blasting will not resume until the Department completes its investigation and all concerns are addressed. A blast is unacceptable when it results in fragmentation beyond the final rock face, fly rock, excessive vibration or airblast, overbreak, damage to the final rock face or overhang. Assume the cost for all resulting damages to private and public property and hold the Department harmless.

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When an errant blast or fly rock causes damage to or blocks a road or conveyance adjacent to the roadway, remove all debris from the roadway as quickly as practicable and perform any necessary repairs. Additionally, when specified in the Contract, the Department will apply a penalty.

Report all blasting accidents to the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at 502-564-2340.

4.0 MEASUREMENT AND PAYMENT. The Department will not measure this work for payment and will consider all items contained in this note to be incidental to either Roadway Excavation or Embankment-in-Place, as applicable. However, if the Engineer directs in writing slope changes, then the Department will pay for the second presplitting operation as Extra Work.

The Department will measure for payment material lying outside the typical section due to seams, broken formations, or earth pockets, including any earth overburden removed with this material, only when the work is performed under authorized adjustments.

The Department will not measure for payment any extra material excavated because of the drill holes being offset outside the designated slope lines.

The Department will not measure for payment any material necessary to be removed due to the inefficient or faulty blasting practices.

June 15, 2012

11F

SPECIAL NOTE FOR TURF REINFORCING MAT

1.0 DESCRIPTION. Install turf reinforcement mat at locations specified in the Contract or as the Engineer directs. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

2.0 MATERIALS.

2.1 Turf Reinforcement Mat (TRM). Use a Turf Reinforcement Mat defined as permanent rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a three-dimensional matrix of sufficient thickness and from the Department's List of Approved Materials. Mats must be 100% UV stabilized materials. For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting exclusively. Ensure product labels clearly show the manufacturer or supplier name, style name, and roll number. Ensure labeling, shipment and storage follows ASTM D-4873. The Department will require manufacturer to provide TRMs that are machine constructed web of mechanically or melt bonded nondegradable fibers entangled to form a three dimensional matrix. The Department will require all long term performance property values in table below to be based on non degradable portion of the matting alone. Approved methods include polymer welding, thermal or polymer fusion, or placement of fibers between two high strength biaxially oriented nets mechanically bound by parallel stitching with polyolefin thread. Ensure that mats designated in the plans as Type 4 mats, are not to be manufactured from discontinuous or loosely held together by stitching or glued netting or composites. Type 4 mats shall be composed of geosynthetic matrix that exhibits a very high interlock and reinforcement capacities with both soil and root systems and with high tensile modulus. The Department will require manufacturer to use materials chemically and biologically inert to the natural soil environments conditions. Ensure the blanket is smolder resistant without the use of chemical additives. When stored, maintain the protective wrapping and elevate the mats off the ground to protect them from damage. The Department will not specify these materials for use in heavily acidic coal seam areas or other areas with soil problems that would severally limit vegetation growth.

A) Dimensions. Ensure TRMs are furnished in strips with a minimum width of 4 feet and length of 50 feet.
B) Weight. Ensure that all mat types have a minimum mass per unit area of 7 ounces per square yard according to ASTM D 6566.
C) Performance Testing: The Department will require AASHTO's NTPEP index testing. The Department will also require the manufacturer to perform internal MARV testing at a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory for tensile strength, tensile elongation, mass per unit area, and thickness once every 24,000 yds of production or whatever rate is required to ensure 97.7% confidence under ASTM D4439& 4354. The Department will require Full scale testing for slope and channel applications shear stress shall be done under ASTM D 6459, ASTM D 6460-07 procedures.

2.2 Classifications

The basis for selection of the type of mat required will be based on the long term shear stress level of the mat of the channel in question or the degree of slope to protect and will be designated in the contract. The Type 4 mats are to be used at structural backfills protecting critical

structures, utility cuts, areas where vehicles may be expected to traverse the mat, channels with large heavy drift, and where higher factors of safety, very steep slopes and/or durability concerns are needed as determined by project team and designer and will be specified in the plans by designer.

Turf Reinforcement Matting					
Properties[1]	Type 1	Type 2	Type 3	Type 4	Test Method
Minimum tensile Strength lbs/ft	125	150	175	3000 by 1500	ASTM D6818[2]
UV stability (minimum % tensile retention)	80	80	80	90	ASTM D4355[3] (1000-hr exposure)
Minimum thickness (inches)	0.25	0.25	0.25	0.40	ASTM D6525
Slopes applications	2H:1V or flatter	1.5H:1V or flatter	1H:1V or flatter	1 H: 1V or greater	
Shear stress lbs/ft^2 Channel applications	6.0[4]	8.0[4]	10.0[4]	12.0[4]	ASTM D6459 ASTM D6460-07

[1] For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting alone.
[2]Minimum Average Roll Values for tensile strength of sample material machine direction.
[3]Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.
[4]Maximum permissible shear design values based on short-term (0.5 hr) vegetated data obtained by full scale flume testing ASTM D6459, D6460-07. Based on nondegradable components exclusively. Testing will be done at Independent Hydraulics Facility such as Colorado State University hydraulics laboratory, Utah State University hydraulics laboratory, Texas Transportation Institute (TTI) hydraulics and erosion control laboratory.

2.3 Quality Assurance Sampling, Testing, and Acceptance

A) Provide TRM listed on the Department's List of Approved Materials. Prior to inclusion on the LAM, the manufacturer of TRM must meet the physical and performance criteria as outlined in the specification and submit a Letter Certifying compliance of the product under the above ASTM testing procedures and including a copy of report from Full Scale Independent Hydraulics Facility that Fully Vegetated Shear Stress meets shear stress requirements tested under D6459 and D6460-07.

B) Contractors will provide a Letter of Certification from Manufacturer stating the product name, manufacturer, and that the product MARV product unit testing results meets Department criteria. Provide Letters once per project and for each product.

C) Acceptance shall be in accordance with ASTM D-4759 based on testing performed by a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory using Procedure A of ASTM D-4354.

Current mats meeting the above criteria are shown on the Department's List of Approved Materials.

2.4 Fasteners. When the mat manufacturer does not specify a specific fastener, use steel wire U-shaped staples with a minimum diameter of 0.09 inches (11 gauge), a minimum width of one inch and a minimum length of 12 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils as directed by Engineer or Manufacturer's Representative. Provide staples with colored tops when requested by the Engineer.

3.0 CONSTRUCTION. When requested by the Engineer, provide a Manufacturer's Representative on-site to oversee and approve the initial installation of the mat. When requested by the Engineer, provide a letter from the Manufacturer approving the installation. When there is a conflict between the Department's criteria and the Manufacturer's criteria, construct using the more restrictive. The Engineer and Manufacturer's Representative must approve all alternate installation methods prior to execution. Construct according to the Manufacturer's recommendations and the following as minimum installation technique:

3.1 Site Preparation. Grade areas to be treated with matting and compact. Remove large rocks, soil clods, vegetation, roots, and other sharp objects that could keep the mat from intimate contact with subgrade. Prepare seedbed by loosening the top 2 to 3 inch of soil.

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

4.0 MEASUREMENT. The Department will measure the quantity of Turf Reinforcement Mat by the square yard of surface covered. The Department will not measure preparation of the bed, providing a Manufacturer's Representative, topsoil, or seeding for payment and will consider them incidental to the Turf Reinforcement Mat. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Turf Reinforcement Mat. Seeding and protection will be an incidental item.

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

Code	Pay Item	Pay Unit
23274EN11F	Turf Reinforcement Mat 1	Square Yard
23275EN11F	Turf Reinforcement Mat 2	Square Yard
23276EN11F	Turf Reinforcement Mat 3	Square Yard
23277EN11F	Turf Reinforcement Mat 4	Square Yard

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

1.0 DESCRIPTION. Install barcode label on sheeting signs. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

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

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

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

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

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

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

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

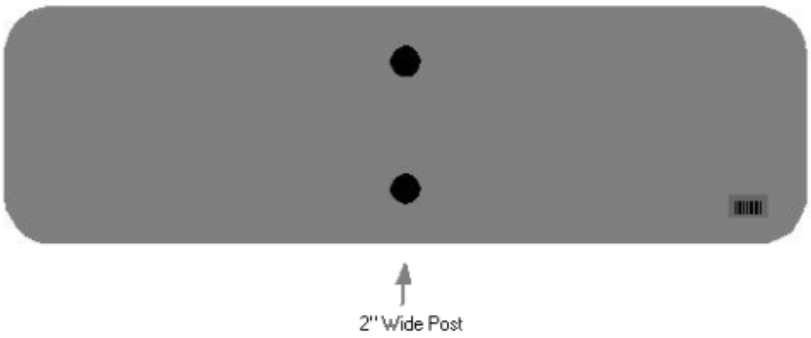
The installation of the permanent sign will be measured in accordance to Section 715.

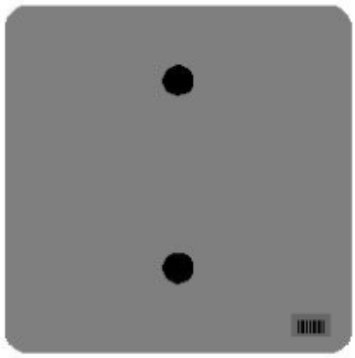
5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
24631EC	Barcode Sign Inventory	Each

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

One Sign Post





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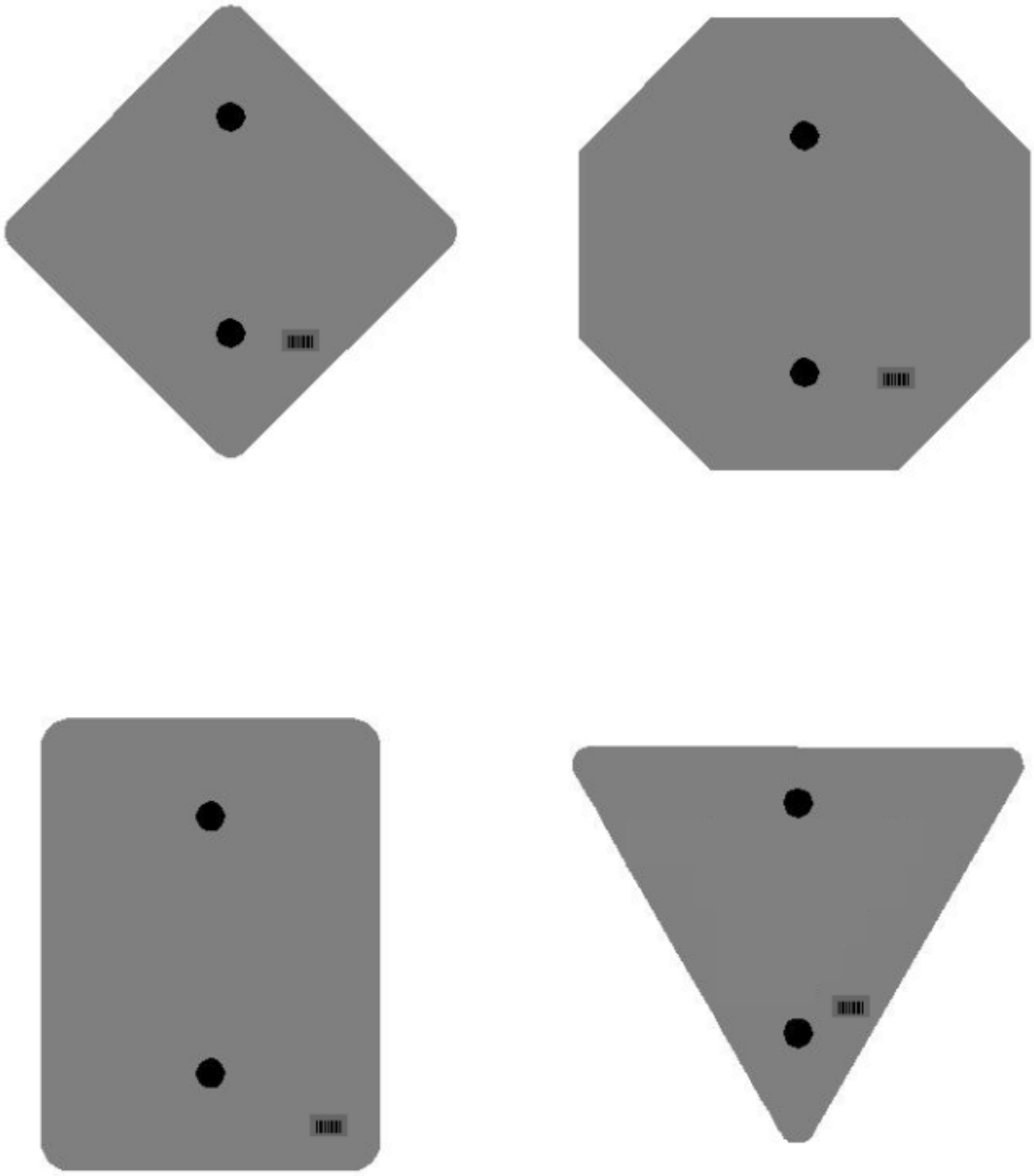

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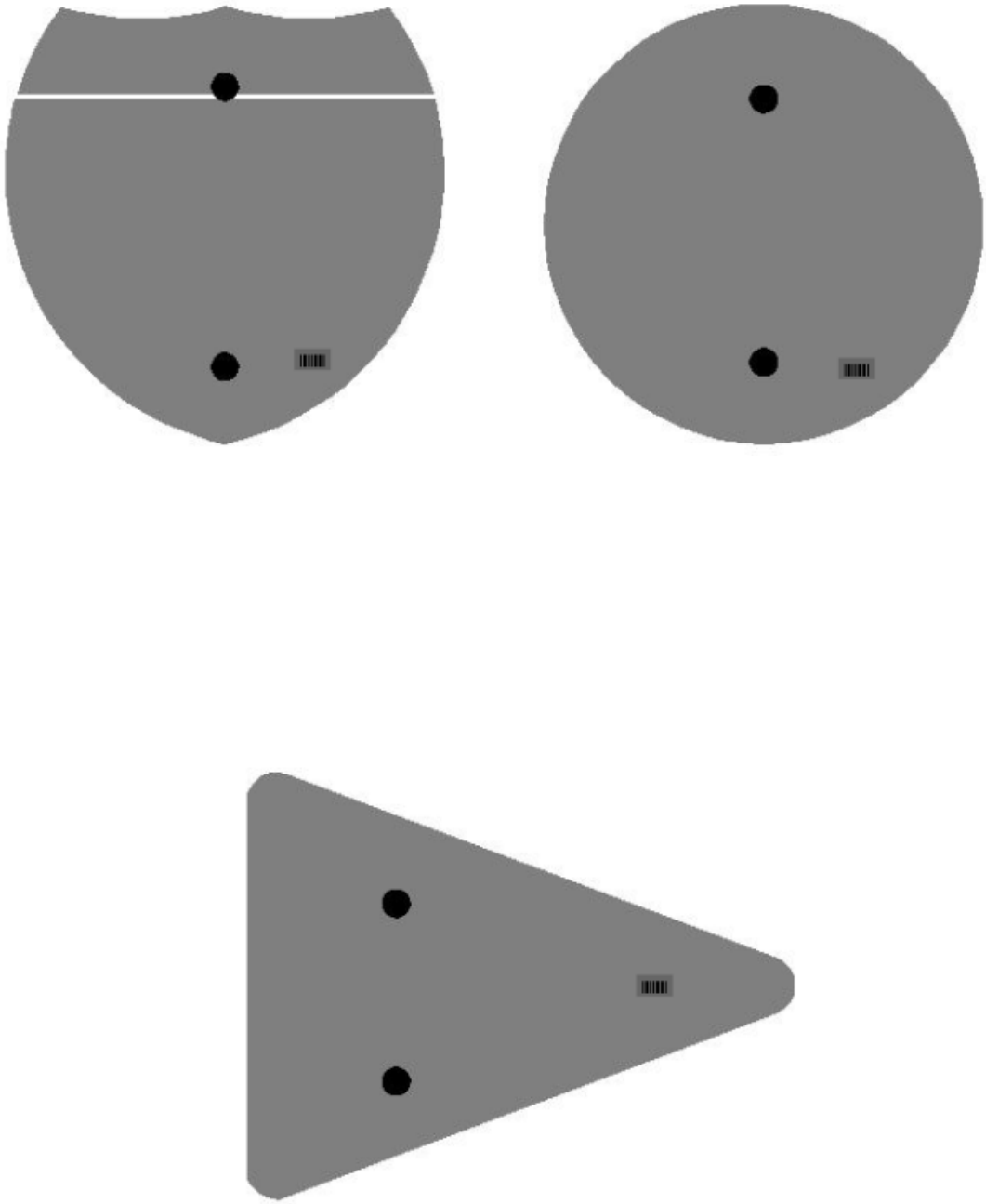
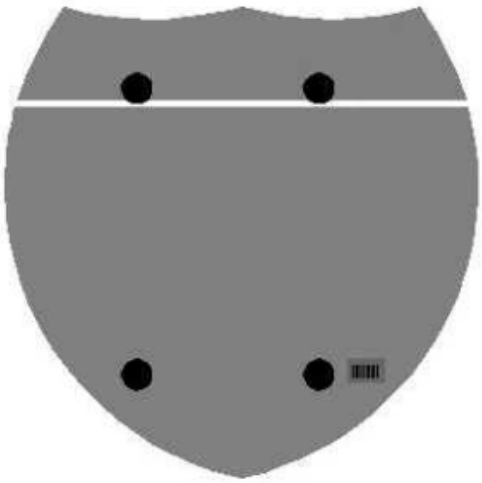
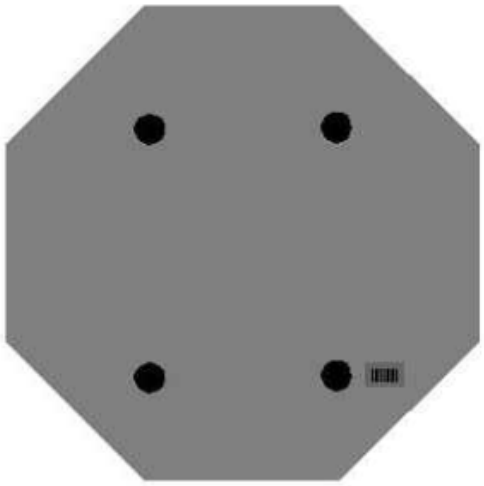


Double Sign Post

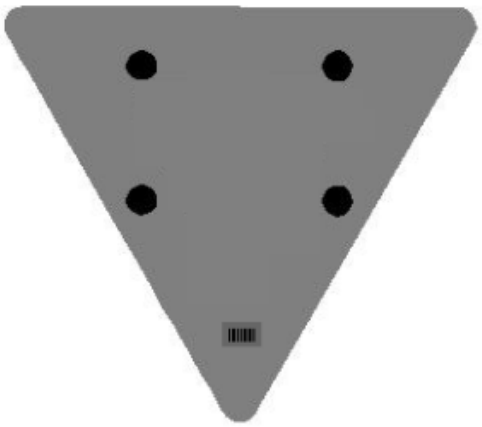


Interstate
Shield



48" Stop

2 Post Signs



11N

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 ^{o} 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.

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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 º F (Pa•s)			3.0-3.4	2.5-2.9	2.0-2.4	≤1.9
ASTM D 3236	4.0-10.0	3.5-10.5	10.6-11.0	11.1-11.5	11.6-12.0	≥ 12.1
Cone Penetration, 77 º F			54-56	51-53	48-50	≤ 47
ASTM D 5329	60-100	57-103	104-106	107-109	110-112	≥ 113
Flow, 140 º 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 º F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 º F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, º F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 º 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 º F (cm) ASTM D 113	≥ 30.0	≥ 29.0	28.0-28.9	27.0-27.9	26.0-26.9	≤ 25.9

Code	Pay Item	Pay Unit
20071EC	Joint Adhesive	Linear Foot

May 7, 2014

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (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).

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.

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.

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).

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.

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.

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.

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 contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 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.

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.

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 contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

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 administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:

    a. withholding payments to the contractor under the contract until the contractor complies; and/or
    b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

a) The date of leaving office or termination of employment; or
b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

General Decision Number: KY180100 10/05/2018 KY100

Superseded General Decision Number: KY20170100

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: Under Executive Order (EO) 13658, an hourly minimum wage of $10.35 for calendar year 2018 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.35 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 calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018
1	01/19/2018
2	03/23/2018
3	04/20/2018
4	06/01/2018
5	06/15/2018
6	06/22/2018
7	07/13/2018
8	08/17/2018
9	10/05/2018

BRIN0004-003 06/01/2017

BRECKENRIDGE COUNTY

	Rates	Fringes

BRICKLAYER.....$ 26.80 12.38

BRKY0001-005 06/01/2017

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

	Rates	Fringes
BRICKLAYER	$ 26.80	12.38

BRKY0002-006 06/01/2017

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 27.81	13.01

BRKY0007-004 06/01/2017

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

	Rates	Fringes
BRICKLAYER	$ 32.98	19.02

BRKY0017-004 06/01/2017

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

	Rates	Fringes
BRICKLAYER	$ 26.47	12.76

CARP0064-001 05/01/2015

	Rates	Fringes
CARPENTER	$ 27.50	16.06
Diver	$ 41.63	16.06
PILEDRIVERMAN	$ 27.75	16.06

ELEC0212-008 06/04/2018

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 28.39	18.98

ELEC0212-014 11/27/2017

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician	$ 23.55	11.26

ELEC0317-012 06/01/2018

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
ELECTRICIAN (Wiremen)		
Cable Splicer	$ 32.68	18.13
Electrician	$ 33.75	20.03

ELEC0369-007 05/30/2018

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	$ 31.66	17.01

ELEC0575-002 05/28/2018

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 32.45	16.43

ENGI0181-018 07/01/2017

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 31.95	15.15
GROUP 2	$ 29.09	15.15
GROUP 3	$ 29.54	15.15
GROUP 4	$ 28.77	15.15

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting

Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Conrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points; & Whirley Oiler

GROUP 3 - All Off Road Material Handling Equipment, including Articulating Dump Trucks; Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine; Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler; Paving Joint Machine; Power Form Handling Equipment; Pump; Roller (Earth); Steerman; Tamping Machine; Tractor (Under 50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling leads equals or exceeds 150 ft. - $1.00 over Group 1 rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID 10%
ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT WORK.

IRON0044-009 06/01/2018

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	$ 26.76	21.20
Structural	$ 28.17	21.20

IRON0070-006 06/01/2018

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	$ 28.79	22.50

IRON0769-007 06/01/2018

BATH, BOYD, CARTER, ELLIOTT, GREENUP, LEWIS, MONTGOMERY & ROWAN
CLARK (Eastern third, including townships of Bloomingdale, Hunt, Indian Fields, Kiddville, Loglick, Rightangele & Thomson);
FLEMING (Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
MASON (Eastern third, including Townships of Helena, Marshall, Orangeburg, Plumville & Springdale);
NICHOLAS (Eastern eighth, including the Township of Moorefield Sprout)

	Rates	Fringes
IRONWORKER		
ZONE 1	$ 31.67	25.27
ZONE 2	$ 31.67	25.27
ZONE 3	$ 31.67	25.27

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.

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* LABO0189-003 07/01/2018

BATH, BOURBON, BOYD, BOYLE, BRACKEN, CARTER, CLARK, ELLIOTT, FAYETTE, FLEMING, FRANKLIN, GALLATIN, GRANT, GREENUP, HARRISON, JESSAMINE, LEWIS, MADISON, MASON, MERCER, MONTGOMERY, NICHOLAS, OWEN, ROBERTSON, ROWAN, SCOTT, & WOOLFORD COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 23.07	14.21
GROUP 2	$ 23.32	14.21
GROUP 3	$ 23.37	14.21
GROUP 4	$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder;

Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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* LABO0189-008 07/01/2018

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

	Rates	Fringes
Laborers:		
GROUP 1	$ 23.07	14.21
GROUP 2	$ 23.32	14.21
GROUP 3	$ 23.37	14.21
GROUP 4	$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail

Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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* LABO0189-009 07/01/2018

BRECKINRIDGE & GRAYSON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 23.07	14.21
GROUP 2	$ 23.32	14.21
GROUP 3	$ 23.37	14.21
GROUP 4	$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal

Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

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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 12/01/2017

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

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations	$ 33.33	15.45
Power Generating Facilities	$ 30.09	15.45

PLUM0248-003 06/01/2018

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

	Rates	Fringes
Plumber and Steamfitter	$ 36.00	20.23

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 08/01/2018

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	$ 34.62	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

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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 www.dol.gov/whd/govcontracts.

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 Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. 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 Bullitt County.

PART IV

INSURANCE

INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

1) Commercial General Liability-Occurrence form – not less than $2,000,000 General aggregate, $2,000,000 Products & Completed Aggregate, $1,000,000 Personal & Advertising, $1,000,000 each occurrence.

2) Automobile Liability- $1,000,000 per accident

3) Employers Liability:

   a) $100,000 Each Accident Bodily Injury
   b) $500,000 Policy limit Bodily Injury by Disease
   c) $100,000 Each Employee Bodily Injury by Disease

4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
   a) "policy contains no deductible clauses."
   b) "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."

5) KENTUCKY WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART V

BID ITEMS

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PROPOSAL BID ITEMS

Report Date 10/23/18

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	50,971.00	TON		$	
0020	00008		CEMENT STABILIZED ROADBED	92,796.00	SQYD		$	
0029	00013		LIME STABILIZED ROADBED (ADDED: 10-23-18)	23,708.00	SQYD		$	
0030	00014		LIME	296.00	TON		$	
0040	00100		ASPHALT SEAL AGGREGATE	677.00	TON		$	
0050	00103		ASPHALT SEAL COAT	81.00	TON		$	
0060	00194		LEVELING & WEDGING PG76-22	463.00	TON		$	
0070	00214		CL3 ASPH BASE 1.00D PG64-22	15,692.00	TON		$	
0080	00216		CL3 ASPH BASE 1.00D PG76-22	16,277.00	TON		$	
0090	00356		ASPHALT MATERIAL FOR TACK	97.00	TON		$	
0100	00358		ASPHALT CURING SEAL	93.00	TON		$	
0110	00387		CL3 ASPH SURF 0.38B PG76-22	6,659.00	TON		$	
0120	02071		JPC PAVEMENT-11 IN	14,345.00	SQYD		$	
0130	02542		CEMENT	1,737.00	TON		$	
0140	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		$	
0150	02677		ASPHALT PAVE MILLING & TEXTURING	531.00	TON		$	
0160	02702		SAND FOR BLOTTER	232.00	TON		$	
0170	20071EC		JOINT ADHESIVE	61,155.00	LF		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0180	00078		CRUSHED AGGREGATE SIZE NO 2	751.00	TON		$	
0190	01000		PERFORATED PIPE-4 IN	4,650.00	LF		$	
0200	01010		NON-PERFORATED PIPE-4 IN	120.00	LF		$	
0210	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		$	
0220	01024		PERF PIPE HEADWALL TY 2-4 IN	12.00	EACH		$	
0230	01032		PERF PIPE HEADWALL TY 4-4 IN	3.00	EACH		$	
0240	01310		REMOVE PIPE	166.00	LF		$	
0250	01314		PLUG PIPE	10.00	EACH		$	
0260	01585		REMOVE DROP BOX INLET	4.00	EACH		$	
0270	01740		CORED HOLE DRAINAGE BOX CON-4 IN	6.00	EACH		$	
0280	01810		STANDARD CURB AND GUTTER	132.00	LF		$	
0290	01811		STANDARD CURB AND GUTTER MOD	3,731.00	LF		$	
0300	01821		LIP CURB AND GUTTER MOD	55.00	LF		$	
0310	01891		ISLAND HEADER CURB TYPE 2	85.00	LF		$	
0320	01984		DELINEATOR FOR BARRIER - WHITE	120.00	EACH		$	
0330	01985		DELINEATOR FOR BARRIER - YELLOW	17.00	EACH		$	
0340	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	13.00	EACH		$	
0350	01990		DELINEATOR FOR BARRIER WALL-B/W	8.00	EACH		$	
0360	02003		RELOCATE TEMP CONC BARRIER	6,140.00	LF		$	
0370	02014		BARRICADE-TYPE III	44.00	EACH		$	
0380	02159		TEMP DITCH	10,381.00	LF		$	
0390	02200		ROADWAY EXCAVATION	1,429,797.00	CUYD		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	02204		SPECIAL EXCAVATION	7,545.00	CUYD		$	
0405	02223		GRANULAR EMBANKMENT (REVISED: 10-23-18)	39,956.00	CUYD		$	
0410	02242		WATER	4,913.00	MGAL		$	
0420	02262		FENCE-WOVEN WIRE TYPE 1	15,889.00	LF		$	
0430	02265		REMOVE FENCE	5,548.00	LF		$	
0440	02351		GUARDRAIL-STEEL W BEAM-S FACE	700.00	LF		$	
0450	02360		GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH		$	
0460	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	4.00	EACH		$	
0470	02367		GUARDRAIL END TREATMENT TYPE 1	4.00	EACH		$	
0480	02369		GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH		$	
0490	02381		REMOVE GUARDRAIL	2,240.00	LF		$	
0500	02391		GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH		$	
0510	02429		RIGHT-OF-WAY MONUMENT TYPE 1	85.00	EACH		$	
0520	02430		RIGHT-OF-WAY MONUMENT TYPE 1A	1.00	EACH		$	
0530	02432		WITNESS POST	99.00	EACH		$	
0540	02483		CHANNEL LINING CLASS II	6,243.00	TON		$	
0550	02484		CHANNEL LINING CLASS III	5,530.00	TON		$	
0560	02545		CLEARING AND GRUBBING APPROXIMATELY 86 ACRES	1.00	LS		$	
0570	02562		TEMPORARY SIGNS	1,807.00	SQFT		$	
0580	02585		EDGE KEY	145.00	LF		$	
0590	02599		FABRIC-GEOTEXTILE TYPE IV	54,193.00	SQYD		$	
0600	02625		REMOVE HEADWALL	18.00	EACH		$	
0610	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0620	02671		PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH		$	
0625	02692		SETTLEMENT PLATFORM (REVISED: 10-23-18)	1.00	EACH		$	
0630	02696		SHOULDER RUMBLE STRIPS	8,431.00	LF		$	
0640	02697		EDGELINE RUMBLE STRIPS	5,088.00	LF		$	
0650	02701		TEMP SILT FENCE	10,381.00	LF		$	
0660	02703		SILT TRAP TYPE A	135.00	EACH		$	
0670	02704		SILT TRAP TYPE B	135.00	EACH		$	
0680	02705		SILT TRAP TYPE C	135.00	EACH		$	
0690	02706		CLEAN SILT TRAP TYPE A	810.00	EACH		$	
0700	02707		CLEAN SILT TRAP TYPE B	810.00	EACH		$	
0710	02708		CLEAN SILT TRAP TYPE C	810.00	EACH		$	
0720	02710		SCARIFYING AND RESHAPING	480.00	SQYD		$	
0730	02726		STAKING	1.00	LS		$	
0740	02775		ARROW PANEL	4.00	EACH		$	
0750	02929		CRASH CUSHION TYPE IX	2.00	EACH		$	
0760	03171		CONCRETE BARRIER WALL TYPE 9T	8,160.00	LF		$	
0764	03340		STEEL PIPE-2 1/2 IN (REVISED: 10-23-18)	63.00	LF		$	
0767	03343		STEEL PIPE-4 IN (REVISED: 10-23-18)	63.00	LF		$	
0770	05950		EROSION CONTROL BLANKET	21,920.00	SQYD		$	
0780	05952		TEMP MULCH	158,805.00	SQYD		$	
0790	05953		TEMP SEEDING AND PROTECTION	158,805.00	SQYD		$	
0800	05963		INITIAL FERTILIZER	14.00	TON		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0810	05964		20-10-10 FERTILIZER	16.00	TON		$	
0820	05985		SEEDING AND PROTECTION	202,427.00	SQYD		$	
0830	05989		SPECIAL SEEDING CROWN VETCH	115,182.00	SQYD		$	
0840	05992		AGRICULTURAL LIMESTONE	261.00	TON		$	
0850	06401		FLEXIBLE DELINEATOR POST-M/W	204.00	EACH		$	
0860	06404		FLEXIBLE DELINEATOR POST-M/Y	113.00	EACH		$	
0870	06511		PAVE STRIPING-TEMP PAINT-6 IN	30,225.00	LF		$	
0880	06514		PAVE STRIPING-PERM PAINT-4 IN	54,054.00	LF		$	
0890	06515		PAVE STRIPING-PERM PAINT-6 IN	40,177.00	LF		$	
0900	06516		PAVE STRIPING-PERM PAINT-8 IN	271.00	LF		$	
0910	06517		PAVE STRIPING-PERM PAINT-12 IN	5,333.00	LF		$	
0920	06531		PAVE STRIPING REMOVAL-6 IN	30,225.00	LF		$	
0930	06547		PAVE STRIPING-THERMO-12 IN Y	44.00	LF		$	
0940	06568		PAVE MARKING-THERMO STOP BAR-24IN	213.00	LF		$	
0950	06569		PAVE MARKING-THERMO CROSS-HATCH	4,253.00	SQFT		$	
0960	06574		PAVE MARKING-THERMO CURV ARROW	53.00	EACH		$	
0970	06585		PAVEMENT MARKER TY IVA-MW TEMP	509.00	EACH		$	
0980	06600		REMOVE PAVEMENT MARKER TYPE V	286.00	EACH		$	
0990	08100		CONCRETE-CLASS A	11.00	CUYD		$	
1000	08150		STEEL REINFORCEMENT	392.00	LB		$	
1010	08901		CRASH CUSHION TY VI CLASS BT TL2	4.00	EACH		$	
1020	10020NS		FUEL ADJUSTMENT	339,621.00	DOLL	$1.00	$	$339,621.00
1030	10030NS		ASPHALT ADJUSTMENT	152,831.00	DOLL	$1.00	$	$152,831.00
1040	20191ED		OBJECT MARKER TY 3	5.00	EACH		$	
1050	20430ED		SAW CUT	6,121.00	LF		$	
1060	21289ED		LONGITUDINAL EDGE KEY	2,735.00	LF		$	
1070	22664EN		WATER BLASTING EXISTING STRIPE	28,425.00	LF		$	
1080	23274EN11F		TURF REINFORCEMENT MAT 1	560.00	SQYD		$	
1090	24489EC		INLAID PAVEMENT MARKER	1,262.00	EACH		$	
1100	24540		R/W MONUMENT TYPE 3	13.00	EACH		$	
1110	24640ED		OBJECT MARKER TYPE 1	4.00	EACH		$	
1120	24805ED		OBJECT MARKER TYPE 4	3.00	EACH		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1130	00440		ENTRANCE PIPE-15 IN	145.00	LF		$	
1140	00441		ENTRANCE PIPE-18 IN	228.00	LF		$	
1150	00462		CULVERT PIPE-18 IN	254.00	LF		$	
1160	00464		CULVERT PIPE-24 IN	408.00	LF		$	
1170	00466		CULVERT PIPE-30 IN	267.00	LF		$	
1180	00468		CULVERT PIPE-36 IN	20.00	LF		$	
1190	00469		CULVERT PIPE-42 IN	246.00	LF		$	
1200	00492		CULVERT PIPE-24 IN EQUIV	204.00	LF		$	
1210	00496		CULVERT PIPE-36 IN EQUIV	48.00	LF		$	
1220	00521		STORM SEWER PIPE-15 IN	1,763.00	LF		$	
1230	00522		STORM SEWER PIPE-18 IN	1,673.00	LF		$	
1240	00524		STORM SEWER PIPE-24 IN	776.00	LF		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1250	00528		STORM SEWER PIPE-36 IN	839.00	LF		$	
1260	01202		PIPE CULVERT HEADWALL-15 IN	5.00	EACH		$	
1270	01204		PIPE CULVERT HEADWALL-18 IN	12.00	EACH		$	
1280	01208		PIPE CULVERT HEADWALL-24 IN	6.00	EACH		$	
1290	01209		PIPE CULVERT HEADWALL-24 IN EQUIV	2.00	EACH		$	
1300	01210		PIPE CULVERT HEADWALL-30 IN	2.00	EACH		$	
1310	01212		PIPE CULVERT HEADWALL-36 IN	1.00	EACH		$	
1320	01214		PIPE CULVERT HEADWALL-42 IN	2.00	EACH		$	
1330	01422		METAL END SECTION TY 4-24 IN (EQUIV)	2.00	EACH		$	
1340	01423		METAL END SECTION TY 1-36 IN (EQUIV)	4.00	EACH		$	
1350	01432		SLOPED BOX OUTLET TYPE 1-15 IN	1.00	EACH		$	
1360	01433		SLOPED BOX OUTLET TYPE 1-18 IN	2.00	EACH		$	
1370	01443		SLOPED AND PARALLEL HEADWALL-15 IN	2.00	EACH		$	
1380	01450		S & F BOX INLET-OUTLET-18 IN	10.00	EACH		$	
1390	01480		CURB BOX INLET TYPE B	17.00	EACH		$	
1400	01490		DROP BOX INLET TYPE 1	12.00	EACH		$	
1410	01496		DROP BOX INLET TYPE 3	3.00	EACH		$	
1420	01499		DROP BOX INLET TYPE 4	1.00	EACH		$	
1430	01505		DROP BOX INLET TYPE 5B	2.00	EACH		$	
1440	01761		MANHOLE TYPE B	4.00	EACH		$	
1450	01767		MANHOLE TYPE C	2.00	EACH		$	
1460	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	8,419.00	SQYD	$2.00	$	$16,838.00
1470	08100		CONCRETE-CLASS A	14.41	CUYD		$	
1480	08150		STEEL REINFORCEMENT	240.00	LB		$	
1490	24814EC		PIPELINE INSPECTION	5,741.00	LF		$	

Section: 0004 - BRIDGE-27806

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1500	02231		STRUCTURE GRANULAR BACKFILL	276.00	CUYD		$	
1510	02998		MASONRY COATING	1,968.00	SQYD		$	
1520	03299		ARMORED EDGE FOR CONCRETE	108.00	LF		$	
1530	08001		STRUCTURE EXCAVATION-COMMON	144.20	CUYD		$	
1540	08002		STRUCTURE EXCAV-SOLID ROCK	86.80	CUYD		$	
1550	08020		CRUSHED AGGREGATE SLOPE PROT	558.00	TON		$	
1560	08033		TEST PILES	264.00	LF		$	
1570	08046		PILES-STEEL HP12X53	1,382.00	LF		$	
1580	08094		PILE POINTS-12 IN	42.00	EACH		$	
1590	08100		CONCRETE-CLASS A	370.40	CUYD		$	
1600	08104		CONCRETE-CLASS AA	693.00	CUYD		$	
1610	08150		STEEL REINFORCEMENT	59,871.00	LB		$	
1620	08151		STEEL REINFORCEMENT-EPOXY COATED	198,548.00	LB		$	
1630	08634		PRECAST PC I BEAM TYPE 4	2,446.50	LF		$	
1640	21532ED		RAIL SYSTEM TYPE III	708.00	LF		$	

Section: 0005 - BRIDGE-CULVERT 27820

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1650	08003		FOUNDATION PREPARATION	1.00	LS		$	
1660	08100		CONCRETE-CLASS A	26.50	CUYD		$	
1670	08150		STEEL REINFORCEMENT	1,907.00	LB		$	

Section: 0006 - BRIDGE-CULVERT-27821

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1680	08003		FOUNDATION PREPARATION	1.00	LS		$	
1690	08100		CONCRETE-CLASS A	29.50	CUYD		$	
1700	08150		STEEL REINFORCEMENT	2,026.00	LB		$	

Section: 0007 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1710	02006		REMOVE CONCRETE MEDIAN	60.50	LF		$	
1720	06405		SBM ALUMINUM PANEL SIGNS	1,396.00	SQFT		$	
1730	06406		SBM ALUM SHEET SIGNS .080 IN	568.00	SQFT		$	
1740	06407		SBM ALUM SHEET SIGNS .125 IN	762.00	SQFT		$	
1750	06410		STEEL POST TYPE 1	1,783.00	LF		$	
1760	06438		OSS ALUMINUM 80 FT TRUSS	1.00	EACH		$	
1770	06441		GMSS GALV STEEL TYPE C	13,462.00	LB		$	
1780	06448		SIGN BRIDGE ATTACHMENT BRACKET	11.00	EACH		$	
1790	06451		REMOVE SIGN SUPPORT BEAM	19.00	EACH		$	
1800	06490		CLASS A CONCRETE FOR SIGNS	92.00	CUYD		$	
1810	06491		STEEL REINFORCEMENT FOR SIGNS	4,553.00	LB		$	
1820	20418ED		REMOVE & RELOCATE SIGNS	5.00	EACH		$	
1830	20419ND		ROADWAY CROSS SECTION	13.00	EACH		$	
1840	21373ND		REMOVE SIGN	4.00	EACH		$	
1850	21596ND		GMSS TYPE D	4.00	EACH		$	
1860	24631EC		BARCODE SIGN INVENTORY	208.00	EACH		$	

Section: 0008 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1870	04701		POLE 40 FT MTG HT	11.00	EACH		$	
1880	04710		POLE 80 FT MTG HT HIGH MAST	7.00	EACH		$	
1890	04714		POLE 120 FT MTG HT HIGH MAST	6.00	EACH		$	
1900	04724		BRACKET 12 FT	11.00	EACH		$	
1910	04740		POLE BASE	11.00	EACH		$	
1920	04742		POLE BASE-HIGH MAST	13.00	EACH		$	
1930	04750		TRANSFORMER BASE	11.00	EACH		$	
1940	04761		LIGHTING CONTROL EQUIPMENT	2.00	EACH		$	
1950	04780		FUSED CONNECTOR KIT	22.00	EACH		$	
1960	04795		CONDUIT-2 IN	180.00	LF		$	
1970	04797		CONDUIT-3 IN	2,514.00	LF		$	
1980	04800		MARKER	35.00	EACH		$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1990	04811		ELECTRICAL JUNCTION BOX TYPE B	2.00	EACH		$	
2000	04820		TRENCHING AND BACKFILLING	12,754.00	LF		$	
2010	04832		WIRE-NO. 12	5,160.00	LF		$	
2020	04860		CABLE-NO. 8/3C DUCTED	16,657.00	LF		$	
2030	04861		CABLE-NO. 6/3C DUCTED	4,263.00	LF		$	
2040	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	8.00	EACH		$	
2050	20392NS835		ELECTRICAL JUNCTION BOX TYPE C	6.00	EACH		$	
2060	21543EN		BORE AND JACK CONDUIT	2,509.00	LF		$	
2070	24589ED		LED LUMINAIRE	11.00	EACH		$	
2080	24749EC		HIGH MAST LED LUMINAIRE	72.00	EACH		$	

Section: 0009 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2100	14002		W AIR RELEASE VALVE SPECIAL	1.00	EACH		$	
2110	14016		W ENCASEMENT STEEL OPEN CUT RANGE 5	386.00	LF		$	
2120	14019		W FIRE HYDRANT ASSEMBLY	2.00	EACH		$	
2130	14021		W FIRE HYDRANT REMOVE	2.00	EACH		$	
2140	14023		W FLUSHING ASSEMBLY	1.00	EACH		$	
2150	14030		W METER RELOCATE	3.00	EACH		$	
2160	14050		W PIPE DCTL IRON RSTRND JOINT 12 IN	1,625.00	LF		$	
2170	14051		W PIPE DCTL IRON RSTRND JOINT 16 IN	2,833.00	LF		$	
2180	14074		W PLUG EXISTING MAIN	8.00	EACH		$	
2190	14081		W SERVICE RELOCATE	3.00	EACH		$	
2200	14097		W TIE-IN 12 INCH	2.00	EACH		$	
2210	14098		W TIE-IN 16 INCH	8.00	EACH		$	
2220	14108		W VALVE 12 INCH	5.00	EACH		$	
2230	14109		W VALVE 16 INCH	9.00	EACH		$	

Section: 0010 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2240	02568		MOBILIZATION	1.00	LS		$	
2250	02569		DEMOBILIZATION	1.00	LS		$	

SUPPLEMENTARY SPECIFICATIONS
BULLITT COUNTY, I-65 AND OHM DRIVE CONNECTOR
WATER MAIN REPLACEMENT PROJECT
LWC PROJECT

PROJECT SUMMARY

The referenced project consists of the installation of; **1,625 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), **2,833 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), and **386 +/-** linear feet of various size steel casing pipes (using traditional trench installation techniques). Also included with the project is the transfer, renewal, relocation or discontinue of **3 +/-** customer services, **2 +/-** Fire Hydrant removal and installations, all cut and plugs, all appurtenances including restoration on and along Project Limits as stated above.

SCOPE OF WORK

1. Supply and install **1505 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), supply and Install **120 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe and supply and install **120+/-** linear feet (LF) of 20" steel casing pipe (using traditional trench installation techniques) (see sheet 3 of 15).

2. Supply and Install **90 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe. Supply and install **60+/-** linear feet of 24" steel casing pipe (using traditional trench installation techniques) (see sheet 5 of 15).

3. Supply and Install **151 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe. Supply and install **106+/-** linear feet (LF) of 24" steel casing pipe (using traditional trench installation techniques). (see sheet 6 of 15).

4. Supply and Install **325 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main. (see sheet 8 of 15).

5. Supply and install **2167 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques), supply and Install **100 +/-** linear feet of 16-inch Pressure Class 350 restrained joint ductile iron water main using casing spacers inside casing pipe and supply and install **100+/-** linear feet (LF) of 24" steel casing pipe (using traditional trench installation techniques) (see sheets 10 & 12 of 15).

6. Remove **2 +/-** fire hydrant and Install **2 +/-** fire hydrants. Fire hydrants may be checked out of Louisville Water warehouse

7. Transfer, renew, relocate and/or discontinue **3 +/-** customer services,

8. Supply and install **all** associated appurtenances, including valves, bends, connections, gripper (restraint) glands, frame and lids.

9. Provide traffic control including policing, barricades, signs, warning devices, flaggers, etc.

10. Site Restoration and cleanup work.

11. Installation of sedimentation and erosion control measures per appropriate state/local standards including submittal of control plan and obtaining all necessary permits and approval.

12. Perform all site work, utility relocations, and all other work required to complete the project.

13. Normal work shall be based on KYTC and/or City of Shepherdsville permits. In some cases, the permitting authorities restrict work hours from 9am to 3pm. Longer hours may be applied for upon request but all work must adhere to the final permitted hours and conditions. No additional payment will be made if the permitting authorities restrict work hours.

PREQUALIFICATION CONDITIONS

14. The contracting firm that is to supply and install the 12-inch and 16-inch diameter ductile iron pipe, whether acting as the general contractor of the KTC or as acting as a subcontractor, must be prequalified by the LWC in the category of “4”-16” Iron Pipe” and in the monetary amount, in said category, of at least $500,000.

15. The contracting firm(s) that is (are) to install the services and the fire hydrants whether acting as the general contractor of the KTC or as acting as a subcontractor, must be prequalified by the LWC in the respective category.

16. The LWC contact for inquiries about prequalification status is Ms. Carol Lyons: phone, 502-569-3600, Ext. 2239; Fax 502-569-0815.

17. The contracting firm assigned to install the ductile iron water main need not be the same as the contracting firm assigned to install the service and fire hydrant installation aspects of work.

GENERAL INFORMATION

18. 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: **No exceptions**

TRAFFIC CONTROL

19. A road permit will be required for work performed within the ROW limits. The contractor shall submit traffic control plans to the LWC Project Manager prior to permit submittal. The permits will be obtained by the LWC Project Manager prior at the start of work. A minimum of 15 working days advance notice of the need for a permit shall be provided to the LWC Project Manager. Copies of these permits, along with the approved traffic control plan, shall be onsite, readily available, legible, and prominently displayed in all construction vehicles used at the project site. No construction work shall start until these permits are obtained and provided to the contractor by LWC.

20. Traffic control plans will be required by permitting authorities and shall be provided by the contractor to LWC prior to the permit request. The plan shall be drafted utilizing “RapidPlan” software or approved equal and shall be in accordance with the KYTC regulations and templates. Hand drawn plans, sketches and notes will not be accepted. The contractor shall also submit a project schedule for all streets, at time of permit request. The traffic control plan along with permit dates from the project schedule, will be submitted by LWC to the respective agencies with the requested permit.

21. Traffic control shall be provided by the Contractor in accordance with the Manual for Uniform Traffic Control Devices (MUTCD).

22. Specific traffic control signage referencing lane blockages, detours, flaggers, etc. shall be removed from the site or covered when not in use. Signs that provide general messages such as “Construction Ahead” shall be left in place throughout the completion of this project.

23. The Contractor shall be responsible for establishing temporary “No Parking” zones. The zones shall be confined to the immediate work area and appropriate transition zones, and shall be limited in duration to the length of time work is actually performed in that area.

24. All construction vehicles shall be legally parked. Privately owned vehicles including vehicles owned by the construction crew shall not be parked in the “No Parking” zones.

VIDEO RECORDING / PRECONSTRUCTION PICTURES

25. Please refer to section 1.06 of the LWC Technical Specifications 2008 for Video Recording. In addition, video recording shall be provided in digital format on a USB flash drive prior to start of construction.

26. Preconstruction pictures shall be provided by the contractor to the LWC Project Manager prior to construction. The pictures shall be placed in a binder and appropriately labeled for easy reference. A minimum of one picture shall be provided for each property that is impacted by construction. The contractor shall utilize Kentuckiana Seismic or approved equal for this task.

SITE WORK

27. Utility locations shown on the plans are 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.

COORDINATE SHUTOFFS FOR CRITICAL MAINS

28. Contractor shall coordinate shutoffs affecting critical mains, with customers, for their approval of date and times. If necessary, contractor shall provide port-a-pots and work with inspector to provide necessary bottled water during shutoff period.

RETURN OF USED HYDRANTS

29. 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.

30. 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

31. Excavation on this project shall be unclassified.

DUCTILE IRON PIPE AND FITTINGS

32. Ductile iron pipe shall conform to ANSI/AWWA C151/A21.51 and ANSI/AWWA C150/A21.50 latest revision, pressure class 350 for all pipe.

33. All pipe shall be factory restrained joint pipe from acceptable manufacturers as noted in Section 39 below.

34. The interior of the pipe shall be cement-mortar lined with bituminous seal coat in accordance with ANSI/AWWA C104/A21.4, latest revision. Thickness of the lining shall be as set forth in the ANSI/AWWA C104/A21.4 specifications unless otherwise directed by the Engineer. The exterior of all pipe, unless otherwise specified, shall receive either coal tar or asphalt base coating a minimum of 1 mil thick.

35. Each piece of pipe shall bear the manufacturer's name or trademark, the year in which it was produced and the letters "DI" or the word "DUCTILE". Pipe manufacturer shall furnish notarized certificate of compliance to the above AWWA or ANSI specifications.

36. Fittings shall be ductile iron and have mechanical joints in accordance w/ ANSI/AWWA C110/A21.10. Fittings shall have interior cement-mortar lining as specified hereinbefore for the pipe.

37. ALL joints on this project shall be mechanically restrained in accordance with AWWA C111; EBAA Iron, Series 1100 Megalug or approved equal by LWC Project Manager

38. Joints for ductile iron pipe and fittings, as described hereinbefore, shall be rubber-gasket joints and be in accordance with ANSI/AWWA C111/A21.11, latest revision. Joints shall have the same pressure rating as the pipe.

39. Acceptable Manufacturers for pipe and restrained joints include:

    a. U.S. Pipe (TR-Flex)
    b. American (Flex Ring)
    c. McWane (TR-Flex)

40. Acceptable Manufacturers for Couplers and Adapters include:
    a. Dresser
    b. Rockwell

GATE VALVES

41. All Gate Valves shall be Iron body, resilient seat, bronze mounted, mechanical joint ends, nonrising stem, in accordance with AWWA C509, C515 and 2-inch operating nut. Working pressure shall be 350 psi for all gate valves, right hand open (clockwise) rotation.

42. Gate valves shall be fusion bonded epoxy coated per AWWA C116, C550 and NSF61.

43. All Gate Valves shall be Mechanical Joint with coupled gland end (non-friction restraint) and restrained per manufacturer specifications. All line valves shall be treated as dead end for the joint length calculations. All Gate Valves shall be installed per LWC Technical Specifications and Standard Drawings for Pipeline Construction section 6.8 Setting Cast Iron Valves and Fittings and LWC Standard Drawing 1400.

44. Unless otherwise specified or approved by the Project Manager, all newly installed gate valves shall maintain a minimum 12" of cover as measured from the top of ground elevation to the top nut elevation.

45. Acceptable manufacturers include:

    a. Clow
    b. Mueller
    c. American Flow Control
    d. M&H

46. Baits, studs, nuts, washers and screws, internally wetted or exposed: stainless steel, type 304 or 316.

AIR RELEASE VALVES

47. Air release, air/vacuum, and combination air valves shall conform to AWWA C512.

48. Exterior/Interior of air valves shall be coated in accordance with AWWA C550.

49. Air valves shall be factory tested in accordance with AWWA C512.

50. Acceptable Manufacturers include ARI Model D-040 SSB/SS or approved equal by LWC Project Manager.

POLYETHYLENE PIPE WRAP

51. All new ductile iron pipe and fittings shall be encapsulated in two layers of blue polyethylene wrap (Polywrap), with each layer a minimum thickness of 8 millimeters, or an approved equal by LWC Project Manager.

52. Polywrap shall be thoroughly inspected for cuts, rips or tears prior to burial. Small defects may be repaired with polytape. Larger tears and imperfections shall be covered with an additional layer of polywrap.

53. Polywrap shall meet the requirements of ASTM D4976 for material conformance and ASTM D882 for elongation properties.

REQUIRED SUBMITTALS

54. Detailed submittals shall be made to LWC for the following items:

    a. Manufacturers information on all pipe, valves, fittings and appurtenances including product type/model information and supporting technical documentation.
    b. Certified dimensional drawings of all valves, fittings and appurtenances.
    c. Certified dimensional drawings of joints, showing manufacturer's allowable deflection.
    d. Copies of manufacturer's approved installation instructions for the types of joints proposed.
    e. Detailed construction sequencing and schedule for the proposed work affecting LWC facilities.
    f. Schedule of values

CUSTOMER SERVICES

55. Contractor shall not use couplings while installing service lines under paved areas. Full length of service line shall be installed under paved surfaces.

56. The renewal/relocation of lead services shall require the contractor to identify the property line location, which is usually a few feet away from the meter vault, and excavate the service line. If the property line connection is not found, the contractor shall seek permission from the property owner to excavate on private property. The contractor shall continue to excavate up to 10 foot beyond the

suspected property line location onto private property in an effort to find the connection and determine the customer's service line material.

LWC Inspector will verify the service line material on the customer side of the property line connection.

If the material on the customer side is not lead, then the Contractor shall renew/relocate the entire LWC service line from the main to the customer's connection.

If the material on the customer side is lead, then LWC Inspector will contact the customer to make them aware of the replacement work to be completed by LWC and the existence of lead on the customer's side of the service line. The LWC Inspector shall also inquire if customer is willing to replace the customer's lead service line.

a) If the customer is willing to replace their private lead service line, the Contractor will coordinate the renewal/relocation of LWC's lead service line with the customer's plumber.

b) If the customer is not willing to replace their lead service line and the service is to be renewed, then the contractor shall only renew the service from the water main to the meter vault. This shall be noted on the Installation Data Sheet.

c) If the customer is not willing to replace their lead service line and the service is to be relocated, then the contractor will replace the entire LWC lead service line from the main to the customer's connection and install a dielectric between the end of the new LWC service tail piece and the Customer's lead service line. The dielectric will be composed of a 24" section of like diameter Schedule 80 PVC pipe and a plastic universal transition coupling (supplied by LWC). If the customer's service line is less than 10 feet in length as measured from the building to the dielectric connection, then LWC will retain a licensed electrician to install an appropriate grounding system before service is relocated.

57. All service lines within the limits of the project either shown or not shown on the plans must be protected. The contractor using a licensed plumber must repair all damaged service lines at no addition cost to LWC.

WORK SCHEDULE

58. LWC observes designated holidays. No work shall be performed during the holiday periods. All equipment, personnel, and materials shall be removed from the work area. All excavations shall be backfilled and restored. All street cuts shall be paved or patched.

59. Contractor shall work on no more than two sites at a time. At least one site must be fully restored with the exception of milling and paving before the Contractor begins working on the next site (this work includes yard, sidewalk and curb restoration and patching of all road cuts).

60. Normal work hours shall be limited to approved permit hours. 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.

61. 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. 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.

EROSION CONTROL MEASURES

62. An erosion control plan is required for this project. An erosion control plan shall be prepared by the contractor and submitted to KYTC/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 LWC specifications. The contractor is responsible for making all erosion control modifications within the project limits required by KYTC/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 KYTC/ LWC, or any other permitting authority.

63. 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

64. 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.

    Waterline locates are for the contactor's reference only. The contractor shall field locate all water mains, services and appurtenances prior to starting project by digging, vacuum excavating, probing, etc. If in the course of construction, the

contractor damages any existing water main, then the contractor shall stop work and repair damaged water main, services, etc, before proceeding with project. If the contractor is not pre-qualified to perform the repair, then the project manager will assign a contractor and the project contractor will be responsible to pay the invoice(s) and materials for that repair.

65. 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.

66. The Contractor is cautioned that some large trees are located within the project alignment. Care will be required to minimize damage to trees and tree root systems. Excavations that encounter roots should be backfilled as soon as possible. Severed roots more than 2-inches in diameter shall be cut straight at an undamaged portion, maintained in a moist condition and then buried as soon as possible. Excavated soil shall not be placed within the dripline of any tree.

67. When installing main within the dripline of any tree with a diameter of 6 inches or larger, the root system shall be bored. The cost of the tree bore shall be considered incidental to the installation of the pipeline, and no extra compensation will be provided. All tree root systems that require boring shall be bored a minimum of 20 feet; 10 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.

68. Removal, cutting into asbestos-cement or transite (AC) pipe, tapping AC main or similar work for this project, shall be performed by the Contractor, with qualified personnel, and shall be in compliance with all OSHA requirement. Contractor may submit a written request to the project manager to utilize Louisville Water personnel for this work. The project manager may or may not approve this request based on the availability of Louisville Water resources. In either case contractor will be responsible for the cost of the above work. If Louisville Water personnel completes the work, then the contractor will be billed for the work.

69. If the edge of trench is running parallel and is less than 3.0’ from the edge of asphalt, then the trench shall be backfilled as per std. detail as if constructed under pavement, using compacted granular backfill up to within 8” of final grade.

RESTORATION

70. Unless otherwise noted on the Project Plans, surface restoration of grassy areas shall consist of seed/straw and/or erosion control blanket. The type of seed used shall match the existing grass. Prior to the final seeding, the Contractor shall place top soil on the disturbed area, remove all rock, and level the area to match existing grade.

71. Areas that have landscaping shall be replaced with like materials (mulch, plants, etc.). The Contractor shall contact each customer with landscaping to be disturbed to discuss options of removing it prior to construction and replacing it. The LWC general warranty period shall apply to this work.

72. Private Irrigation Lines, when encountered, shall be protected during construction. If these lines are damaged, the contractor shall hire a qualified licensed plumber to repair the damaged lines at no additional cost to LWC.

73. When sidewalk removal is necessary, the disturbed sidewalk and curbs shall be restored per the LWC standard specification except when they are within a designated historic area or the existing sidewalk has an exposed aggregate or similar finish. These areas shall be restored utilizing historic concrete mix. All historic concrete shall be a sand-grout mix design per Louisville Metro design specification which is shown below:

2.2.2 MATERIALS

Materials used in this construction shall meet the following requirements:

Sand-Grout Concrete Mix Design		
Mix ID: 6-1/2 bag grout – 4,000 psi		
	Weights/Volumes per Cubic Yard (Saturated, Surface-Dry)	Yield, Cu. Ft.
Type 1 Portland Cements (lbs.)	640	3.21
Class F Fly Ash (lbs.)	110	0.70
Class A Sand (lbs.)	2,729	17.02
Water (lbs.) (Gal.-US)	295 (35.3 lbs./Cu. Yd.)	4.73
Total Air (%)	5.0 ± 1.0	1.35
Total		27.0
Add Mixture		
Russ Tech. Finishease NC, (oz.)	29.60	
Air Entrain		
Russ Tech, RSA-10 (ox.-US)	5.9	
Water/Cement Ration (lbs.)	0.40	
Slump	4.00	
Concrete Unit Weight (lbs./cu. Ft.)	139.4	

Compensation for free and negative moisture will be made at the time of batching.

74. All historic mix concrete must be installed with a washed finish.

75. Sidewalks and curbs shall be replaced full width from existing joint to joint (partial replacement is not acceptable). All sidewalk construction and replacement shall meet the American Disabilities Act Specifications and requirements. Sidewalks shall be replaced per City of Shepherdsville Public Works Specifications.

76. All concrete driveways that are damaged by construction or specified for replacement on the plans shall be replaced in their entirety to the nearest existing construction joint. Concrete thickness and strength shall be per LWC standard specifications. The style shall match the existing driveway. The limits of repair, style of concrete and type of concrete for each driveway shall be approved by the LWC Project Manager prior to installation. The LWC Project Manager may modify thickness, style, type and limits of repair based on field conditions and property owner consultation which shall be installed by the contractor at no additional cost to LWC.

77. All asphalt driveways shall be restored via a utility cut, as approved by the LWC Project Manager and property owner. Asphalt thickness and strength shall be installed per LWC standard specifications. Asphalt driveway replacement shall be completed from edge of pavement to edge of right-of-way. The LWC Project Manager may modify thickness, style, type and limits of repair based on field conditions and property owner consultation which shall be installed by the contractor at no additional cost to LWC.

SCHEDULE OF VALUES

78. A Schedule of Values shall be submitted. The schedule is not limited to but shall include the following:
    - Minimum 6% of the total contract pricing restoration line item.
    - Maximum 6% of the total contract pricing mobilization line item.
    - Minimum 2% of the total contract pricing demobilization line item.

PAVEMENT RESTORATION

79. Trench backfill and compaction shall be completed in accordance with one of the methods in the following chart:

Trench Backfill and Compaction Requirements Beneath Pavements

Category		Maximum Loose Lift Thickness (inches)				Maximum Number of Passes[2]	Example Models[3]
		Manufactured Sand	Pit Run Sand	Dense Graded Aggregate	No. 57 Stone		
I	Lightweight Vibratory Plate Compactors (100 - 200lbs)[1]	8	8	6	8	3	Wacker-Neuson WP 1540; MBW GP18
II	Medium Weight Vibratory Plate Compactors (220 - 660lbs)[1]	12	12	9	12	3	MultiQuip MWH206GH; MBW GPR77H
III	Heavyweight Vibratory Plate Compactors (>660lbs)[1,4]	18	18	12	18	3	Wacker-Neuson BPU 4045A; MBW GPR135H
IV	Smooth Drum Vibratory Rollers[4]	12	12	9	12	3	Wacker-Neuson RTLx with Smooth Drum Attachment
V	Equipment Mounted Compactors[4]	24	24	24	24	3	Allied 1000B; Caterpillar CVP 110

[1]Weight range provided is the operating weight of the equipment during compaction.

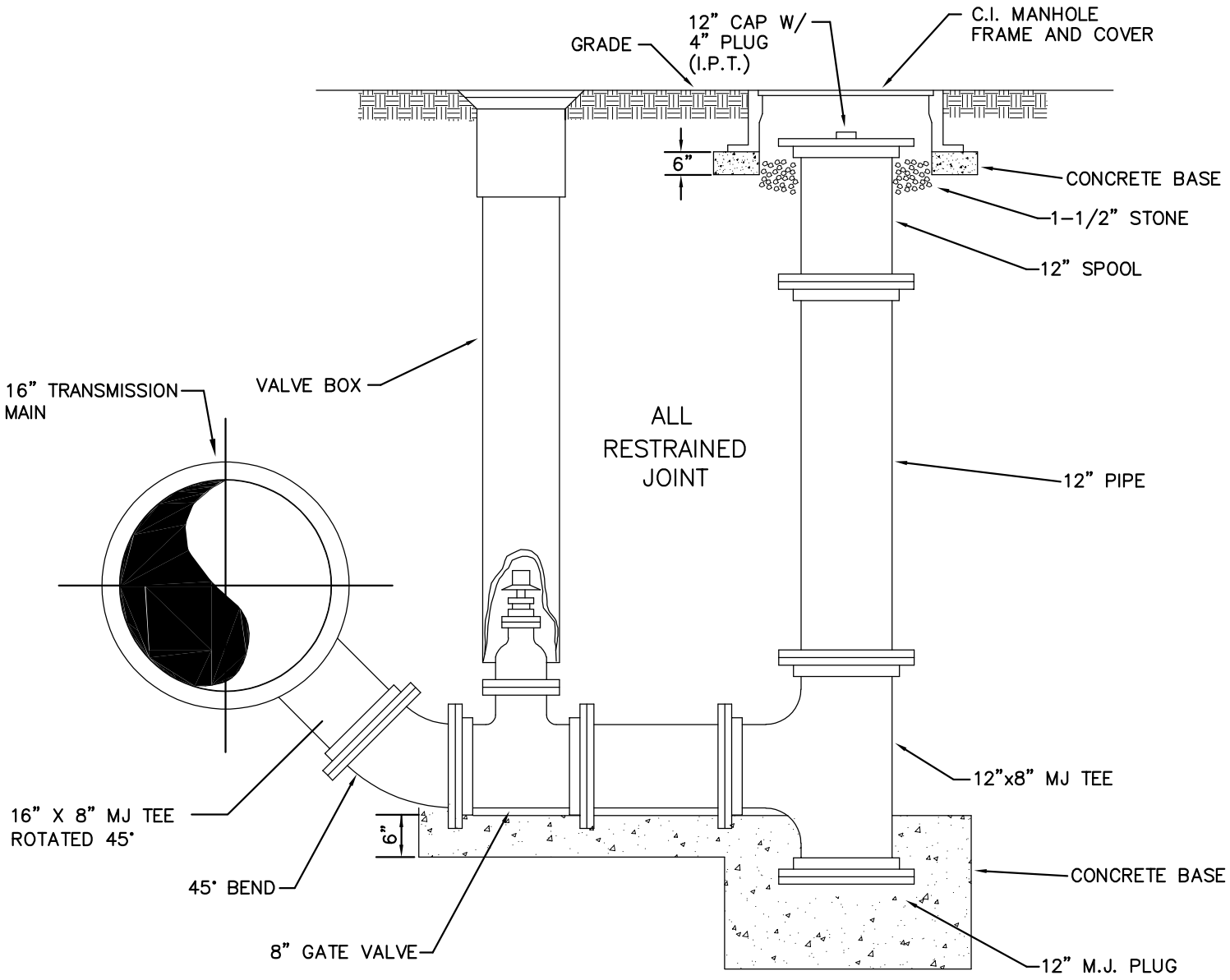
[2]The minimum number of passes shall be applied across the full trench width. For example, a 30-inch wide trench compacted with a 22-inch wide lightweight plate compactor will require 6 total passes per lift.

[3]Example models listed are not inclusive. Each manufacturer has multiple models that meet the requirements for each weight category, any of which the contractor may utilize.

[4]For categories III, IV and V, the manufacturers of both the compactors and the pipe should be consulted to determine the minimum amount of cover required over the pipe to prevent damage.

80. All trench cuts made in pavement shall be backfilled with DGA. Pavement cuts shall include 1-foot cutbacks that are a minimum 8-inch deep. Cutbacks shall be made after the trench is backfilled with DGA. The contractor is responsible for maintaining the DGA trench with cold patch for smooth rideability if it is opened to traffic. Concrete restoration shall occur within 14 days of the utility cut. A minimum 8-inch concrete cap shall be placed over the backfill material, keyed into the cutback and made flush with existing pavement grade. Concrete shall be floated and broom finished for smooth rideability. The contractor will be permitted to leave 4-foot DGA with cold patch gaps at service locations for longer than 14 days. The contractor is responsible for maintaining these gaps for smooth rideability. The entire area shall be restored via mill and pave, unless stated otherwise, from edge of pavement to edge of pavement for all pavement areas disturbed, in accordance with KYTC standard specifications.

END SUPPLEMENTARY SPECIFICATIONS



8" DRAIN/FLUSHING ASSEMBLY (TEE)

8" VALVE AND FITTINGS TO BE USED FOR 8" DRAIN ASSEMBLY

* NOTE: ALL PIPE FITTINGS SHALL BE RESTRAINED