



CALL NO. 101

CONTRACT ID. 171258

PIKE COUNTY

FED/STATE PROJECT NUMBER NHPP 0806 (48)

DESCRIPTION US 460

WORK TYPE GRADE, DRAIN & SURFACE WITH BRIDGE

PRIMARY COMPLETION DATE 320 WORKING DAYS

LETTING DATE: December 08,2017

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN STANDARD TIME December 08,2017. Bids will be publicly announced at 10:00 AM EASTERN STANDARD TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 6.50%

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

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 12

CONTRACT ID - 171258

NHPP 0806 (48)

COUNTY - PIKE

PCN - DE09804601758

NHPP 0806 (48)

US 460 PIKEVILLE TO VA STATE LINE; US 460 / KY 80 AT BEAVER CREEK NEAR BEAVER BOTTOM (SECTION 7A-2) RAMP 2, A DISTANCE OF 01.89 MILES.GRADE, DRAIN & SURFACE WITH BRIDGE SYP NO. 12-00263.74.
GEOGRAPHIC COORDINATES LATITUDE 37:19:24.00 LONGITUDE 82:22:32.00

COMPLETION DATE(S):

320 WORKING Days

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 Expedite Bidding Program available on the Internet web site of the Department of Highways, Division of Construction Procurement. (www.transportation.ky.gov/construction-procurement)

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.

SPECIAL NOTE FOR COMPOSITE OFFSET BLOCKS

Contrary to the Standard Drawings (2016 edition) the Cabinet will allow 6" composite offset blocks in lieu of wooden offset blocks, except as specified on proprietary end treatments and crash cushions. The composite blocks shall be selected from the Cabinet's List of Approved Materials.

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.

06/01/16

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 certainty whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the 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 out the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- 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.

FUEL AND ASPHALT PAY ADJUSTMENT

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

ASPHALT PAVEMENT RIDE QUALITY CATEGORY A

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

OPTION A

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

Item # 12-263.74 US 460, Section 7A-2, Ramp 2 and KY 80 Reconstruction Special Notes

1) John Moore Branch Excess Material Site

All excess material will be placed in the John Moore Branch Excess Material Site. The fill is to be placed as shown in the plans. Contractor shall not deviate from this plan without the written permission of the Resident Engineer.

The waste area will also be used by another contractor for an adjoining section of US 460. Contractor shall not waste between John Moore Branch Stations 50+00 to 63+00 until the work by the adjoining contractor is complete.

All fill material shall be placed in controlled lifts.

2) Coordination of Contractors

There will be additional projects under construction in the vicinity of this project. The contractors that get those projects will need to cross a portion of this project to access their locations and for the delivery of materials. Please refer to 105.06 in the KYTC Standard Specifications for Road and Bridge Construction.

3) KY 80 Bridge over Beaver Creek

The sidewalk on the KY 80 bridge over Beaver Creek is not to be constructed. Verify with resident before construction of the KY 80 bridge begins. Contractor shall modify the plans to remove the sidewalk and submit to Resident for approval. Also, a conduit for the hi-mast lighting is to be placed in the barrier wall of the bridge. This is not included in the plans. Contractor shall coordinate with Resident to install conduit in wall of bridge.

4) Hi-Mast Lighting and Signs

Contractor shall verify the location of the final signs and hi-mast lights with the Branch Manager of Engineering Support (via the Resident Engineer) before installation.

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 36 inches 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 (inches)	AASHTO Nominal Diameter (inches)	Max. Deflection Limit (inches)	
		5.0%	10.0%
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:

$$\% \text{ Deflection} = [(AASHTO \text{ Nominal Diameter} - D2) / AASHTO \text{ Nominal Diameter}] \times 100\%$$

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:

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

SPECIAL NOTE

For Tree Removal

**Pike County
US 460 Reconstruction—Section 7A2 Ramp at Beaver Creek
Item No. 12-263.74**

**NO CLEARING OF TREES 5 INCHES OR GREATER
(DIAMETER BREAST HEIGHT) FROM
APRIL 1- OCTOBER 14**

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



Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

County: Pike Item No.: 12-263.74

Federal Project No.: NHPP 0806 (048)

Project Description:

PIKEVILLE TO VA. STATE LINE; US 460/KY 80 AT BEAVER CREEK NEAR BEAVER BOTTOM (SECTION 7A-2), RAMP 2, GRADE, DRAIN AND SURFACING.

Roadway Classification: Urban Rural
 Local Collector Arterial Interstate

ADT (current) 4722 KY80 AM Peak Current NA PM Peak Current NA % Trucks 16

Project Designation: Significant Other: Traffic on KY-80 does not meet significant req.

Traffic Control Plan Design:

Taper and Diversion Design Speeds 45 MPH

Minimum Lane Width 10' Minimum Shoulder Width NA

Minimum Bridge Width 29.5'

Minimum Radius NA Maximum Grade NA

Minimum Taper Length 100' Minimum Intersection Level of Service NA

Existing Traffic Queue Lengths NA Projected Traffic Queue Lengths NA

Comments:

See MOT sheets in Roadway Plans.



Kentucky Transportation Cabinet
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TRAFFIC MANAGEMENT PLAN

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Item No. 12-263.74

Discussion:

1) Public Information Plan	
a) Prepare with assistance from <input type="checkbox"/> KYTC or <input checked="" type="checkbox"/> <u>Since this project is not significant, no formal PIP is prepared. All normal advisories with respect to construction and road closures will be followed.</u>	
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. 12-263.74

2) Temporary Traffic Control Plan (For Each Phase of Construction)	
Phase I	
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 NA	Payment for Traffic Control*
g) Evaluation of User Costs and Incentives/Disincentives NA	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:	
See MOT sheets.	
Phase 1 – Maintain traffic on existing roadways and perform all grade and drain operations on the north side of KY80. Construct the bridge over Beaver Creek in part-width fashion as indicated in the structure plans. Construct the tie to KY1373 and provide a temporary intersection to existing KY80 at the direction and approval of the Engineer. Pave the north side of proposed KY80 to top base course with the north shoulder to full depth pavement as indicated in the plans.	



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Item No. 12-263.74

2) Temporary Traffic Control Plan (For Each Phase of Construction)	
Phase II	
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 NA	Payment for Traffic Control*
g) Evaluation of User Costs and Incentives/Disincentives NA	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:	
See MOT sheets. Phase II – Shift traffic to the newly constructed KY80 Pavement and complete construction on the south side of the road. Pave to top base course.	



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Division of Highway Design
TRAFFIC MANAGEMENT PLAN

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Item No. 12-263.74

2) Temporary Traffic Control Plan (For Each Phase of Construction)	
Phase III	
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 NA	Payment for Traffic Control*
g) Evaluation of User Costs and Incentives/Disincentives NA	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:	
See MOT sheets in roadway plans. Phase III – Shift traffic to the full width of KY80 and complete final surface course, signing, and striping under traffic.	





Kentucky Transportation Cabinet
Division of Highway Design
TRAFFIC MANAGEMENT PLAN

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Item No. 12-263.74

APPROVAL:

 11/3/2017

Project Manager Date


 11/3/17


Project Delivery and Preservation Manager Date

 11/3/17

Engineering Support Manager Date

FHWA Representative Date

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

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

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION			
ITEM #		COUNTY		PROJECT # (STATE)		PROJECT # (FEDERAL)	
12-263.74		Pike		FD52 098 5122107R		APD 80-6(12)	
PROJECT DESCRIPTION							
(US 460/ KY80 @ Beaver Creek near Beaver Bottom Drain & Surfacing)							
<input checked="" type="checkbox"/>	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.							
<input type="checkbox"/>	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.							
<input type="checkbox"/>	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							
<input type="checkbox"/>	Condition # 3 (Additional Right of Way Required with Exception)						
The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.							
Total Number of Parcels on Project				EXCEPTION (S) Parcel #		ANTICIPATED DATE OF POSSESSION WITH EXPLANATION	
Number of Parcels That Have Been Acquired							
Signed Deed							
Condemnation							
Signed ROE							
Notes/ Comments (Use Additional Sheet if necessary)							
LPA RW Project Manager				Right of Way Supervisor			
Printed Name				Printed Name	Joe Tackett		
Signature				Signature	<i>Joe Tackett</i>		
Date				Date	10-26-2017		
Right of Way Director				FHWA			
Printed Name	<i>DM Loy</i>			Printed Name			
Signature	<i>DM Loy</i>			Signature			
Date	<i>03NOV17</i>			Date			

UTILITIES AND RAIL CERTIFICATION NOTE

Pike County
ACAPD 0806 013
FD52 098 S1221 OSU
PIKEVILLE TO VA. STATE LINE; US460/KY80 FROM KY-80 AT BEAVER CREEK TO RIGHT FORK OF BEAVER
CREEK
ITEM NUMBER: 12-263.70

GENERAL PROJECT NOTE ON UTILITY PROTECTION

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

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

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

UTILITIES AND RAIL CERTIFICATION NOTE

Pike County
ACAPD 0806 013
FD52 098 S1221 05U
PIKEVILLE TO VA. STATE LINE; US460/KY80 FROM KY-80 AT BEAVER CREEK TO RIGHT FORK OF BEAVER
CREEK
ITEM NUMBER: 12-263.70

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

The City of Elkhorn City has an 8 inch waterline located within project limits. Line has been relocated with exception of waterline relocation to be made part of road contract for bridge at approximate station 88+15.45 of KY 80.

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

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

Not Applicable

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

Kentucky Power – Electric have approximately (7) Seven poles and electric wire to be removed. Expected completion date January 1, 2018.

AT&T KY - Telephone – has service drops to remove after KY Power is completed removing their wire. Expected completion date January 7, 2018.

Suddenlink Communications – Cable - has service drops to remove after KY Power is completed removing their wire. Expected completion date January 7, 2018.

UTILITIES AND RAIL CERTIFICATION NOTE

Pike County
ACAPD 0806 013
FDS2 098 51221 05U
PIKEVILLE TO VA. STATE LINE; US460/KY80 FROM KY-80 AT BEAVER CREEK TO RIGHT FORK OF BEAVER
CREEK
ITEM NUMBER: 12-263.70

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

The City of Elkhorn City has an 8 inch waterline to be relocated as part of the road contract. This line is to be relocated in the vicinity of a proposed retention pond to be constructed on next section of US 460 project (12-263.73). An on-site meeting will be required with the following invited to attend: City of Elkhorn City representative or their consultant (Summit Engineering), Project Manager (John Michael Johnson), D-12 Utilities and the resident engineer for D-12 Construction to discuss final placement of line. Final quantities and location of line are subject to change.

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

- No Rail Involvement Rail Involved Rail Adjacent

UTILITIES AND RAIL CERTIFICATION NOTE

Pike County
 ACAPD 0806 013
 FDS2 098 51221 OSU
 PIKEVILLE TO VA. STATE LINE; US460/KY80 FROM KY-80 AT BEAVER CREEK TO RIGHT FORK OF BEAVER
 CREEK
 ITEM NUMBER: 12-263.70

AREA FACILITY OWNER CONTACT LIST

Facility Owner	Address	Contact Name	Phone	Email
Kentucky Power - Electric	32222 Kevin lane Ashland KY 41701	Bill Johnson	606-437-3823	wmjohnson@aep.com
AT&T - KY - Telephone	29 Willis Branch Prestonsburg KY 41653	Jack Salyer	606-424-9328	js2299@att.com
City of Elkhorn City - Water	395 S Patty Loveless Drive Elkhorn City KY 41522	Mike Taylor	606-754-5080	elkhorncityhall@bellsouth.net
Suddenlink Comm.	PO Box 1220, 4038 Teays Valley Road, Scott Depot WV 25560	Rusty Pauley	304-654-1137	Franklin.pauley@suddenlink.com

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

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

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

PROTECTION OF EXISTING UTILITIES

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

PREQUALIFIED UTILITY CONTRACTORS

Some utility owners may require contractors that perform relocation work on their respective facilities as a part of the road contract be prequalified or preapproved by the utility owner. Those utility owners with a prequalification or preapproval requirement are as follows:

1. *Ronnie Mullins & Sons, Inc. – P.O. Box 427, Elkhorn City, Kentucky 41522, Bonnie Mullins – 606-754-8969*
2. *AGrade Construction, Inc. – P.O. Box 1227, 102 Cougar Drive, Elkhorn City, Kentucky 41522, Mary Anne Belcher – 606 - 369-5044*
3. *Bear Traxx, Inc. – 1225 Isaac Park Road, Louisa Kentucky, Dwight Keaton – 606-673-1179*

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

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

CONTRACT ADMINISTRATION RELATIVE TO UTILITY WORK

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

SUBMITTALS AND CORRESPONDENCE

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

ENGINEER

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

INSPECTOR OR RESIDENT PROJECT REPRESENTATIVE

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

NOTICE TO UTILITY OWNERS OF THE START OF WORK

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

UTILITY SHUTDOWNS

The Contractor shall not shut down any active and in-service mains, utility lines or services for any reason unless specifically given permission to do so by the utility owner. The opening and closing of valves and operating of other active utility facilities for main, utility line or utility service 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 ENCASUREMENT CONCRETE Includes all labor, equipment, excavation, concrete, reinforcing steel, backfill, restoration, and etc., to construct the concrete encasement of the water main as shown on the plans, and in accordance with the specifications and standard drawings. Payment under this item shall be in addition to the carrier pipe as paid under separate bid items. Carrier pipe is not included in this bid item. Any and all concrete encasement shall be paid under one bid item included in the contract regardless of the size of the carrier pipe or the volume of concrete or steel reinforcement as specified in the plans and specifications. No separate bid items will be established for size variations. Measurement of pay quantity shall be from end of concrete to end of concrete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER LINE RELOCATION PROJECT

**CITY OF ELKHORN CITY
ELKHORN CITY, KY
KY 80 AND KY 1373**

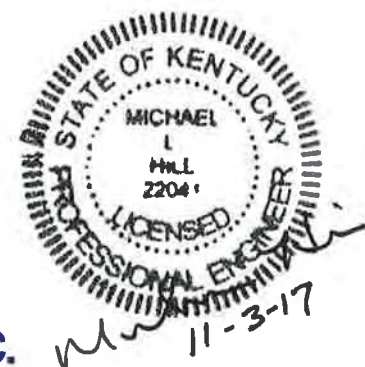
Item No. 12-263.74

NOVEMBER 2017

17-469

TECHNICAL SPECIFICATIONS

**PREPARED BY
SUMMIT ENGINEERING, INC.**



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TECHNICAL SPECIFICATIONS
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SECTION I
TECHNICAL SPECIFICATIONS
SPECIAL PROVISIONS

1.1 SCOPE

This specification sets forth OWNER'S special project requirements which are UNIQUE to this project. All requirements of this section shall be considered as integral parts of the successful completion of the Project. All items discussed herein are considered incidental to the overall accomplishment of the Project and no separate payment shall be made for these items.

1.2 CONFLICTING ELEMENTS

In the event of a conflict between the elements of the Contract Documents, the MORE STRINGENT REQUIREMENT ON THE CONTRACTOR SHALL GOVERN.

1.3 COMMUNICATIONS

1.3.1 The CONTRACTOR shall coordinate all work through the ENGINEER.

1.3.2 The CONTRACTOR shall notify the OWNER and ENGINEER at least 10 calendar days prior to any construction activity at the site.

1.4 WORKING HOURS

Working hours shall be defined by KYTC.

- THE END -

SECTION II
TECHNICAL SPECIFICATIONS
GENERAL PROVISIONS

2.1 SCOPE

This section of the technical specifications is prepared to establish general requirements applicable to the entire Project. All items discussed herein are considered incidental to the overall accomplishment of the Project and no separate payment shall be made for these items.

2.2 IDENTIFICATION OF PARTIES

OWNER - **City of Elkhorn City.** The OWNER owns and is responsible for the completed water facilities.

ENGINEER - Registered professional engineer designated by OWNER to provide design, construction inspection, and certification services.

CONTRACTOR- The OWNER approved contractor is responsible under contract to KYTC to furnish labor, equipment, etc. to complete the work specified herein.

KYTC- Entity regulating the roadway project and funding the Utility Relocation.

2.3 RECORD DRAWINGS

The CONTRACTOR shall furnish record drawings in accordance with the requirements of the 'Submittals' section of these specifications.

2.4 EXISTING UTILITIES AND UNDERGROUND FACILITIES

Attention is called to the presence of existing utilities and underground facilities. The CONTRACTOR is solely responsible to accurately locate, and avoid damage to, all existing utilities and underground facilities.

2.5 CONSTRUCTION PHOTOGRAPHS

2.5.1 The term "photograph" as used herein refers to a photographic view, including similar exposures taken to assure the usefulness of the photographic record. All photographs shall be taken in color, not black and white.

2.5.2 The CONTRACTOR shall photograph the project limits prior to construction. The same views shall be re-photographed upon completion of all construction activities. In lieu of photography, CONTRACTOR may opt to video the project limits. The CONTRACTOR shall furnish the ENGINEER two copies of the video cassettes for a completeness review. NO WORK CAN BE PERFORMED UNTIL THE ENGINEER HAS BEEN FURNISHED THE PRE-CONSTRUCTION PHOTOGRAPHS AND/OR VIDEOS.

2.6 TESTING

The cost of all testing shall be borne by the CONTRACTOR unless directed otherwise.

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2.7 INSTALLATION REQUIREMENTS

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as suggested by the respective manufacturers, unless otherwise specified herein.

2.8 PROOF OF COMPLIANCE

See Quality Control - Section IV

2.9 REPAIR OF DAMAGE

Any damage done to structures, fills, roadways, or other areas shall be repaired at the CONTRACTOR'S expense before final payment is made.

2.10 PROJECT LIMITS

The CONTRACTOR shall be responsible for satisfying himself as to the construction limits for the project. The CONTRACTOR shall not establish work, storage, or staging areas outside the project limits, unless otherwise directed or approved by the ENGINEER.

- THE END -

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SECTION III
TECHNICAL SPECIFICATIONS

SUBMITTALS

3.1 SCOPE

This specification sets forth the procedure to be employed in submitting and processing all CONTRACTOR submittals.

3.2 SHOP DRAWINGS

3.2.1 The CONTRACTOR shall submit for the review of the ENGINEER Shop Drawings for all fabricated work and for all manufactured items required to be furnished in the Contract in accordance with the General Conditions and as specified herein. Shop Drawings shall be submitted in sufficient time to allow at least twenty-one (21) calendar days after receipt of the Shop Drawings from the CONTRACTOR for checking and processing by the ENGINEER.

3.2.2 ENGINEER's review of the CONTRACTOR's drawings shall be considered as a gratuitous service, given as assistance to the CONTRACTOR in interpreting the requirements of the Contract, and in no way shall it relieve the CONTRACTOR of any of his responsibilities under the Contract. Any fabrication, erection, setting or other Work done in advance of the receipt of Shop Drawings returned by the ENGINEER and noted as "No Exception Taken" or "Make Corrections as Noted" shall be entirely at the CONTRACTOR's risk. The ENGINEER's review will be confined to general arrangement and compliance with the design concept and Specifications only, and will not be for the purpose of checking dimensions, weights, clearances, fitting, tolerances, interferences, coordination of trades, etc.

3.2.3 Unless otherwise stated elsewhere in the Contract Drawings, a total of six (6) copies of all reviewed Shop Drawings shall be furnished to the ENGINEER for his use in accordance with the following sequence of operations:

- A) Initially six copies and one (1) reproducible copy shall be submitted to the Engineer for review. The ENGINEER will return one (1) copy and the reproducible copy to the CONTRACTOR after review.
- B) When Shop Drawings are returned for correction, they shall be immediately corrected and resubmitted for review as described above, and such procedures will not be considered as grounds for delay in completing the Work.
- C) Shop Drawings submitted by subcontractors shall be sent directly to the CONTRACTOR for preliminary checking. The CONTRACTOR shall be responsible for their submission to the ENGINEER at the proper time so as to prevent delays in delivery of materials.
- D) The CONTRACTOR shall thoroughly check all subcontractor's Shop Drawings as regards to measurements, sizes of members, materials and details to satisfy himself that they conform to the intent of the Specifications. Drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors by the CONTRACTOR for correction before submitting them to the ENGINEER. Before submission, the CONTRACTOR shall mark (stamp) the drawings as being checked and approved by him, dated and signed. The CONTRACTOR's approval (stamp) shall constitute a representation that all quantities, dimensions, field construction

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criteria, materials, catalog numbers, performance criteria and similar data have been verified and that, in his opinion, the submittal fully meets the requirements of the Contract Documents and the scope of work involved. Shop Drawings that are not stamped will not be reviewed.

- E) All details on Shop Drawings submitted for review shall clearly show the relation of the various parts and where the Work depends upon field measurements, such measurements shall be obtained by the CONTRACTOR and noted on the Shop Drawings before being submitted to the ENGINEER for review.
- F) All submissions shall be properly referenced to indicate clearly the specification section, location, service and function of each particular item. All submissions for one item or group of related items shall be complete. The ENGINEER reserves the right to reject manufacturer's publications in the form of catalogues, pamphlets, or other data sheets when they are submitted in lieu of prepared Shop Drawings. Such submissions shall specifically indicate the item for which approval is requested. Identification of items shall be made in ink, and submissions showing only general information are not acceptable.
- G) If the Shop Drawings contain any departures from the Contract requirements, specific mention thereof shall be made in the CONTRACTOR's letter of transmittal. Where such departures require revisions to layouts or structural changes to the Work, the CONTRACTOR shall, at his own expense, prepare and submit for approval revised layout and structural drawings. Such drawings shall be of the size approved by the ENGINEER.
- H) All shop drawings shall be in English.

3.3 RECORD DRAWINGS

3.3.1 The Record Drawings shall consist of the Contract Drawings (3 mil mylar, updated to 'As Built' conditions) and the approved Shop Drawings in reproducible form (3 mil mylar) and shall be submitted to the ENGINEER at any time upon request during construction, but no later than the Final Inspection.

3.3.2 Contract Drawings shall be legibly marked to record actual construction including:

- A) All deviations in location or elevation of any underground installation from that shown on the Contract Drawings.
- B) Any significant changes in above ground installation from approved Shop Drawings or Contract Drawings.
- C) No such deviations from the Contract Drawings or approved Shop Drawings shall be made without approval by the ENGINEER.

3.3.3 Specifications and addenda shall be legibly marked up to record:

- A) Manufacturer, trade name, catalog number, and Supplier of each product and item of equipment actually installed.
- B) Changes made by Change Order or Field Order.

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C) Other matters not originally specified.

3.3.4 Shop Drawings shall be legibly annotated to record changes made after review.

3.3.5 Reproducible Record Drawings shall be submitted in accordance with the General Conditions, Supplementary Conditions, and General Requirements.

- THE END -

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SECTION IV
TECHNICAL SPECIFICATIONS
QUALITY CONTROL

4.1 CODES, STANDARDS AND INDUSTRY SPECIFICATIONS

- A) Material or operations specified by reference to published specifications of a manufacturer, testing agency, society, association or other published standards shall comply with requirements in latest revisions thereof and amendments or supplements thereto in effect on date of Advertisement for Bidders.
- B) Discrepancies between referenced codes, standards, specifications and Contract Documents shall be governed by the latter unless written interpretation is obtained from ENGINEER.
- C) Material or work specified by reference to conform to a standard, code, law, or regulation shall be governed by Contract Document when they exceed requirements of such references; referenced standards shall govern when they exceed Contract Documents.
- D) Proof of Compliance:

Whenever Contract Documents require that a product be in accordance with Federal Specification, ASTM designation, ANSI specification, or other association standard, at ENGINEER'S request, CONTRACTOR shall present an affidavit from manufacturer certifying that product complies therewith. Where requested or specified, submit supporting test data to substantiate.

4.2 MANUFACTURER'S DIRECTIONS

Utilize manufactured articles, materials and equipment as directed by manufacturers unless herein specified to contrary. Discrepancy between an installation required by Contract Documents and manufacturer's instructions and recommendations shall be resolved by ENGINEER before work may proceed. In all cases, the more stringent requirements shall govern.

4.3 TESTING

- A) All testing (when required) will be in accordance with the pertinent codes and regulations and with selected standards of the American Society for Testing and Materials.
- B) The OWNER will select the testing laboratories.
- C) The CONTRACTOR will bear the cost of all testing unless directed otherwise.

- THE END -

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SECTION V
TECHNICAL SPECIFICATIONS
TEMPORARY FACILITIES

5.1 MATERIAL STORAGE

All CONTRACTORS must make arrangements for his/her staging areas and areas of material storage.

5.2 SANITARY FACILITIES

ALL CONTRACTORS shall provide and maintain all necessary sanitary facilities at the site, in accordance with all applicable regulations, and shall properly remove same at completion of the project.

5.3 UTILITIES

The CONTRACTOR is responsible for obtaining any temporary utility services required for construction, i.e.: electric.

- THE END -

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SECTION VI
TECHNICAL SPECIFICATIONS
CONNECTIONS OF EXISTING WATER LINES

6.1 SCOPE

This work shall consist of furnishing and installing all necessary materials to connect existing water mains to new water mains. The connections will be both “cold” (valve off existing service) and “hot” (maintain existing service). In general, it is expected that most connections will be cold as the objective is to leave a good system in good working order with a minimum of “saddles”.

Connection of new water mains to existing water lines that are properly stubbed for connection will **NOT** be considered for payment under this section.

6.2 SUBMITTALS

6.2.1 Submit five copies of documentation substantiating manufacturer’s compliance with these specifications.

6.3 MATERIALS

6.3.1 Tapping Sleeves: The tapping sleeve shall be of full circle clamp type construction of the appropriate diameter and approved by the manufacturer for use with the existing pipe encountered. The tapping branch of the sleeve shall be mechanical joint. The CONTRACTOR shall verify that the rated pressure class of the tapping sleeve exceeds the working pressure of the water line. Valves used in tapping operations shall be as specified in the valve section of these specifications except that the seat rings shall be of large diameter to permit entry of the tapping machine cutters.

6.3.2 Bends and Fittings: Bends and fittings shall be ductile iron, mechanical joint conforming to the requirements of Section IX of these specifications.

6.4 INSTALLATION

Installation shall be made as directed in the Design Drawings or as indicated in the manufacturer’s literature. The CONTRACTOR shall make every possible effort to minimize any interruption in water service for existing customers. The CONTRACTOR must satisfy the following conditions prior to proceeding with the connection:

- a. The ENGINEER shall have accepted the new pipe line as in-place, suitably pressure tested, suitably disinfected, and ready for service.
- b. All water outages must be approved by the OWNER. The CONTRACTOR shall have provided both the OWNER and the ENGINEER at least 72 hours advance written notice of the scheduled date for the water outage and connection. This notice should advise the OWNER to schedule personnel to terminate service in the affected pipe reach and to notify customers of the pending outage.

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- c. The CONTRACTOR shall have all necessary bends, fittings, glands, adapters, etc. on-site on the date notice of the impending connections is forwarded to the ENGINEER.
- d. Connections to existing water lines may only be made on Monday, Tuesday, and Wednesday. No connections to existing water lines shall be scheduled for Thursday, Friday, Saturday, or Sunday.

All pipe bends and fittings shall be restrained using a steel tiebolt joint restraint system (Star SuperStar system, or equal). The number of restraints employed per mechanical joint shall be based on the manufacturer's load tables for the ambient system pressure. Installation shall be made as directed in the Design Drawings or as indicated in manufacturer's literature.

- THE END -

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SECTION VII
TECHNICAL SPECIFICATIONS
WATER LINES AND FITTINGS

7.1 SCOPE

This work shall consist of furnishing, installing, testing, and disinfecting potable water line pipes of various diameters.

7.1.1. Quality Assurance/Submittals

7.1.1.1 Submit five copies of documentation to substantiate pipe material's compliance with these specifications.

7.1.1.2 Submit five copies of CONTRACTOR'S Bedding and Backfilling Plan. At a minimum the plan shall:

- a. Identify/acknowledge the segments of pipe line to be backfilled using "open", "gravel", and "paved" criteria,
- b. Include a representative Proctor Curve for the backfill material for all significant sections of pipe line to be backfilled using "paved" criteria (curve to be prepared and sealed by a geotechnical engineer registered in the State of Kentucky - curve not required if CONTRACTOR backfills entire trench with fine crushed stone),
- c. Include quarry's material certification for all aggregates utilized for bedding, haunching, and initial protective backfill, and
- d. Include name and qualifications of CONTRACTOR'S nuclear density technician (technician must be a full time employee of CONTRACTOR, spot checks by a sub-contracting testing firm are not acceptable).

7.1.1.3 Submit five copies of each pressure test performed within 48 hours of test completion. Documentation to include quantity of water used and pressure charts from recording pressure gage.

7.1.1.4 Submit five copies of documentation for each disinfection of each pipe reach within 7 days of collection of samples. Documentation to include form of chlorine applied, method of application, quantity of make-up water used, quantity of residual chlorine concentration one hour after dosing, residual chlorine concentration 24 hours after dosing, point of disposal of waters of chlorination, method of de-chlorination, quantity of flushing water supplied, and results of bacteriological examination of water samples.

7.2 MATERIALS

7.2.1 General: The contractor shall use materials that are compatible with the existing system and conform with the plans and specifications.

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7.2.2 Ductile Iron Pipe, Fittings and Joints: Ductile iron pipe shall conform to the latest AWWA Specifications C151 (ANSI A21-51) with standard thickness as designated in AWWA C150. Thickness class shall be 350 unless noted otherwise on the plans by the ENGINEER.

The interior of the pipe shall be cement-mortar lined with bituminous seal coat in accordance with AWWA C104 (ANSI A21.4). Thickness of the lining shall be as set forth in Sec. 4-10-1 of the aforementioned specifications unless otherwise directed by the OWNER. The exterior of all pipe, unless otherwise specified, shall receive either a coal tar or asphalt base coating a minimum of one mil thick.

Where ductile iron pipe is to be installed in corrosive soil conditions, the pipe shall be protected by an eight mil thick polyethylene encasement meeting the requirements of ANSI A21.5. Such corrosive soils include but are not limited to salt marshes, saturated alkaline soils, cinder fills, areas of decaying vegetation, and waste dumps.

Bends and fittings shall be Mechanical Joint Compact Ductile Iron fittings, conforming to AWWA Specifications C153 for short body iron fittings. Fittings shall be tar-coated outside and shall receive the standard cement lining with bituminous seal coat on the inside as specified for the ductile iron pipe.

Joints shall be of the push-on (AWWA C111), mechanical joint (AWWA C111), restrained mechanical joint, or ball and socket type as called for in the Plans. Bells for push-on type joints shall have an annular recess in the pipe socket to accommodate a single rubber gasket. Plain ends shall be suitably beveled to permit easy entry into the bell. The gasket is locked in place against displacement as the joint is assembled.

Mechanical joints shall be bolted and of the stuffing box type and shall consist of a bell with exterior flange and interior recess for the sealing gasket, a pipe or fitting plain end, a sealing gasket, a follower gland, tee-head bolts and hexagon nuts. A restrained mechanical joint is a mechanical joint with a ductile iron retainer gland equal to a Clow F-1058 retainer gland or the Megalug Series 1100 joint restraint.

Joints for all bends and fittings for buried service shall be restrained mechanical joint type only (AWWA C111). Flanged joint pipe shall be used in vaults, pits and above ground service installation. Flanged joint pipe may not be used for buried service.

7.2.3 Polyvinyl Chloride Pipe, Fittings and Joints: PVC water pipe shall conform, at a minimum, to ASTM Specifications D-2241, and shall be pressure class 250. The pipe furnished under ASTM A-2241 shall have a standard dimension ratio not to exceed SDR 17, and shall be rated to a working pressure of at least 250 psi at 73.4°F.

Fittings shall be cast iron Mechanical Joint Class 250 conforming to AWWA Specifications C110 for short body cast iron fittings. Fittings shall be tar-coated outside, and shall receive the standard cement lining with bituminous seal coal on the inside as specified for the ductile iron pipe.

Joints shall be of the push-on type conforming to ASTM D3139 and F477 requirements for elastometric-gasket joints. All jointing material and lubricants shall be non-toxic.

(SEE SECTION 7.2.1 IN REGARDS TO PIPE MATERIAL)

7.2.4 Pipe Bedding: Pipe bedding stone shall be durable crushed limestone meeting the

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requirements of Section 805 of the Current Edition of the Kentucky Department of Highways publication "Standard Specifications for Road and Bridge Construction."

7.2.5 Geotextile Type III: Geotextiles shall be woven or non-woven geotextile fabrics meeting the material and strength requirements for Type III fabrics as set forth in Section 215 of the Current Edition of the Kentucky Department of Highways publication "Standard Specifications for Road and Bridge Construction."

7.3 INSTALLATION

7.3.1 Trench Excavation: Unless specifically directed otherwise by the ENGINEER, not more than 500 feet of trench shall be opened ahead of the pipe laying work of any crew and not more than 500 feet of open ditch shall be left behind the pipe laying work of any one crew.

All backfilled ditches shall be maintained in such a manner that they will offer no hazard to the passage of traffic. The convenience of the traveling public and property owners abutting shall be taken into consideration. All public or private drives shall be taken into consideration and shall be promptly backfilled or bridged. Excavated materials shall be disposed of so as to cause the least interference.

Trenches in which pipes are to be laid shall be excavated in open cut to the depths shown on the approved plans. The minimum allowable trench width shall not be less than the outside diameter of the pipe plus eight inches. Where rock is encountered, it shall be removed to a minimum depth of six inches below the pipe bells.

Unless specifically authorized by the ENGINEER, trenches shall in no case be excavated or permitted to become wider than two feet six inches plus the nominal diameter of the pipe at the level of or below the top of the pipe. If the trench does become wider than two feet six inches at the level of or below the top of the pipe, special precautions may be necessary, such as providing compacted granular fill up to the top of the pipe or providing pipe with additional crushing strength as determined by the ENGINEER. This determination shall take into account the actual trench loads that may result and the strength of the pipe being used.

All excavated materials shall be placed a minimum of two feet back from the edge of the trench.

Where conditions exist that may be conducive to slides or cave-ins, proper and adequate sheeting, shoring and bracing shall be installed (See Section 9.3.1.2) to provide safe working conditions and to prevent damage of work.

Trenches shall be kept free of water during the laying of pipe and until the pipeline has been backfilled.

7.3.1.1 Obstructions: In cases where storm sewers, gas lines, water lines, telephone lines, and other utilities, or other underground structures are encountered, they shall not be displaced or molested unless necessary, in which case they shall be replaced in as good condition as found as quickly as possible.

The CONTRACTOR shall notify the utility companies 48 hours prior to excavation adjacent to their facilities.

7.3.1.2 Shoring, Sheeting and Bracing: Where unstable material is encountered or where

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the depth of excavation in earth exceeds six feet, the sides of the trench or excavation shall be supported by substantial sheeting, bracing and shoring, or the sides sloped to the angle of repose. Sloping the sides of the ditch to the angle of repose will not be permitted in streets, roads, narrow rights-of-way or other constructed areas unless otherwise specified. The design and installation of all sheetings, sheet piling, bracing and shoring shall be based on computations of pressure exerted by the materials to be retained under construction conditions. Adequate and proper shoring of all excavations shall be the entire responsibility of the CONTRACTOR; however, the ENGINEER may require the submission of shoring plans (accompanied by the supporting computations) for review prior to the CONTRACTOR undertaking any portion of the work.

Foundations adjacent to where the excavation is to be made below the depth of existing foundation, shall be supported by shoring, bracing or underpinning as long as the excavation shall remain open, or thereafter if required to insure the stability of the structure supported by the foundation, and the CONTRACTOR shall be held strictly responsible for any damage to said foundation.

Solid sheeting will be required for wet or unstable material. It shall consist of continuous vertical sheet piling of timber or steel with suitable walls and braces.

Care shall be taken to avoid excessive backfill loads on the completed pipelines, and the requirements that the width of the ditch at the level of the crown of the pipe be not more than two feet six inches plus the nominal diameters of the pipe shall, as set out in Section 9.3 hereinbefore, be strictly observed.

Trench sheeting shall not be removed until sufficient backfill has been placed to protect the pipe.

All sheeting, planking, timbering, bracing and bridging shall be placed, renewed and maintained as long as necessary.

7.3.1.3 Blasting: Blasting operations on this project are prohibited.

7.3.2 Pipe Bedding: In all cases the foundation for pipes shall be prepared so that the entire load of the backfill on top of the pipe will be carried on the barrel of the pipe and insofar as possible where bell and spigot pipe are involved so that none of the load will be carried on the bells.

Where undercutting and granular bedding are involved, the depth at the bottom of the bells of the pipe will be at least four inches above the bottom of the trench as excavated.

Supporting of pipe shall be as set out hereinbefore, and in no case shall the supporting of pipe on blocks be permitted. The Design Drawings present typical approved bedding methods.

7.3.2.1 Earth Foundation: All pipe shall be laid on a six inch bed of granular material to provide continuous support for the lower section of the pipe. Granular bedding shall be #9 crushed stone. Granular bedding shall be mechanically compacted prior to pipe placement.

7.3.2.2 Rock Foundation: If the trench bottom is in rock the excavation shall be undercut to a minimum depth of six inches below the bottom of the pipe. The pipe shall be laid on a bed of granular material to provide continuous support for the lower section of the pipe. Granular bedding shall be #9 crushed stone. Granular bedding shall be mechanically

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compacted prior to pipe placement.

7.3.2.3 Special Bedding: In wet, yielding mucky locations where pipe is in danger of sinking below grade or floating out of line or grade, or where backfill materials are of such a fluid nature that such movements of the pipe might take place during the placing of the backfill, the ENGINEER may order "Special Pipe Bedding." When the ENGINEER orders "Special Pipe Bedding" (in writing), the CONTRACTOR shall:

- a. overexcavate the mucky subgrade to the depth directed,
- b. install a Type III geotextile as illustrated in the detail drawings,
- c. backfill the geotextile with bedding stone, and
- d. overlap the geotextile envelope in accordance with the detail drawings.

It is to be expressly understood that "Special Pipe Bedding" may only be employed upon written order of the ENGINEER.

7.3.3 Laying Pipe: All pipe shall be laid with ends abutting and true to line and grade as shown on the plans. Supporting of pipe shall be as specified under "Pipe Bedding" hereinbefore and in no case will the supporting of pipes on blocks be permitted.

Fittings for the water mains shall be provided and placed as and where directed by the ENGINEER or shown on the plans. All open ends of pipes and of branches shall be sealed or plugged.

Before each piece of pipe is lowered into the trench, it shall be thoroughly inspected to insure it being clean. Any piece of pipe or fitting which is known to be defective shall not be laid or placed in the lines. Any defective pipe or fitting discovered after the pipe is laid shall be removed and replaced with a satisfactory pipe or fitting. In case a length of pipe is cut to fit in a line, it shall be so cut as to leave a smooth end at right angles to the longitudinal axis of the pipe.

Granular bedding material as specified hereinbefore, shall be used to correct irregularities in the earth trench subgrade.

The interior of the pipe, as the work progresses, shall be clean. When laying of any pipe is stopped for any reason, the exposed end of such pipe shall be closed with a watertight plug fitted into the pipe bell, so as to exclude earth or other material.

No backfilling (except for securing pipe in place) over pipe will be allowed until the ENGINEER, or his representative has made an inspection of the joints, alignment and grade in the section laid, but such inspection shall not relieve the CONTRACTOR of further liability in case of defective joints, misalignment caused by backfilling and other such deficiencies that are noted later.

7.3.4 Jointing Pipe: The pipe joints described shall be installed in accordance with the manufacturer's recommendations.

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7.3.5 Backfilling Pipeline Trenches: All backfilling shall be accomplished in accordance with the details of this section and the project plans. Any variances must be approved in writing by the ENGINEER.

Before final acceptance, the CONTRACTOR will be required to level off all trenches or to bring the trench up to the level of the surrounding terrain. The CONTRACTOR shall also remove from roadways, rights-of-way and/or private property all excess earth or other materials resulting from construction.

When the pipe trench crosses a street or roadway, the CONTRACTOR shall be responsible for maintaining the trench surface in a level condition at proper pavement grade at all times.

In all cases walking or working on the completed pipelines except as may be necessary in tamping or backfilling will not be permitted until the trench has been backfilled to a point one foot above the top of the pipe. The filling of the trench and the tamping of the backfill shall be carried on simultaneously on both sides of the pipe in such a manner that the completed pipeline will not be disturbed and injurious side pressures do not occur.

In all cases the pipe bedding and haunching shall be #9 crushed stone. The pipe bedding shall be mechanically tamped prior to placement of the pipe. The pipe bedding shall be thoroughly compacted taking care not to damage the pipe.

7.3.5.1 Method "A" Backfilling in Open Terrain: Backfilling of pipeline trenches in open terrain shall be accomplished in the following manner:

In all cases the lower portion of the trench, from the pipe bedding to the springline (centerline) of the pipe shall be backfilled with #9 crushed stone. This stone shall be carefully and thoroughly compacted.

The portion of the trench from the springline of the pipe to a point 6 inches above the pipe shall be backfilled in six inch lifts with #9 crushed stone. Each lift shall be hand tamped taking care not to damage the pipe.

The portion of the trench from a point 6 inches above the top of the pipe to the ground surface shall be backfilled in six (6) inch lifts with material which is free from $\frac{3}{4}$ " or larger rock. Incorporation of rock having a volume exceeding one-half cubic foot is prohibited. The backfill shall be mechanically tamped in six inch lifts to 95 percent of standard Proctor Density (ASTM D-698).

7.3.5.2 Method "B" Backfilling Under Graveled Areas: Backfilling of pipeline trenches under existing and proposed graveled parking lots, driveways, etc. shall be accomplished in the following manner:

The pipe bedding and haunching shall be placed and compacted as described in Paragraph 7.3.5.1. The lower portion of the trench from the pipe springline to a point 6 inches above the pipe, shall be backfilled and lightly tamped with #9 crushed stone as described in Paragraph 7.3.5.1. The portion of the trench from a point 6 inches above the pipe to a point 6 inches below the ground surface shall then be backfilled with available material in six (6) inch lifts. Each lift shall be compacted to 100 percent of Standard Proctor Density (ASTM D-698) at a moisture content within two percent of optimum. The final 6 inches of the trench backfill shall be thoroughly compacted dense graded aggregate.

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7.3.5.3 Method "C" Backfilling Under Paved Areas: Backfilling of pipeline trenches under existing and proposed sidewalks, streets, proposed streets, and driveways shall be accomplished in the following manner:

The pipe bedding and haunching shall be placed and compacted as described in Paragraph 7.3.5.1. The lower portion of the trench from the pipe springline to a point 6 inches above the pipe, shall be backfilled and lightly tamped with #9 crushed stone as described in Paragraph 7.3.5.1. The portion of the trench from a point 6 inches above the pipe to a point 6 inches below the ground surface shall then be backfilled with #9 crushed stone in six inch (6) lifts. Each lift shall be compacted to 100 percent of Standard Proctor Density (ASTM D-698) at a moisture content within two percent of optimum.

The upper portion of the trench from a point six inches below the bottom of the existing or proposed pavement or concrete sub-slab may be backfilled with a base course of dense graded aggregate which shall be maintained flush with the pavement surface for at least 30 days prior to placement of the final surface. The excess dense graded aggregate shall be removed concurrently with the placement of the final pavement surface.

7.3.5.4 Settlement of Trenches: Wherever pipe lines are in, or across, driveways and streets, the CONTRACTOR shall be responsible for any trench settlement which occurs within these rights-of-way within one year from the time of final acceptance of the work. If paving shall require replacement because of trench settlement within this time, it shall be replaced by the CONTRACTOR. Repair of settlement damage shall meet the approval of the appropriate governing body.

7.3.5.5 Pavement Replacement: Pavement replacement shall be performed in accordance with the applicable section of these Technical Specifications.

7.4 TESTING OF LINES

On all projects involving the installation of water pipeline, the finished work shall comply with the provisions listed below, or similar requirements which will ensure equal or better results:

- a) All water mains shall be given a hydrostatic test. Test pressure shall be a minimum of 150 psi, 50 psi above the standard operating pressure (to be supplied by the ENGINEER), or 67% of the pipe rating, whichever is greater. Test pressure shall not vary by more than ± 10 psi for the duration of the test. Leakage shall not be greater than that determined by the following formula: 1 gallon per inch of pipe diameter per mile per 24 hours.
- b) All test waters shall be potable water obtained from the "Public Utility" chosen by the OWNER. Withdrawals of water from the "Public Utility" system must be both authorized and metered. The "Public Utility" will bill the CONTRACTOR for all waters used in accordance with its current leak adjustment rate.
- c) Where practicable, pipelines shall be tested between line valves or plugs in

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lengths of not more one mile. The OWNER may allow testing in longer sections on a case by case basis.

- d) Duration of test shall be no less than two (2) hours.
- e) Where leaks are evident on the surface where joints are covered, the joints shall be recaulked, repoured, bolts retightened or relaid, and leakage minimized regardless of total leakage as shown by test.
- f) All pipe fittings and other materials found to be defective under test shall be removed, repaired or replaced at the discretion of the OWNER.
- g) Lines which fail to meet test requirements shall be repaired and retested as necessary until test requirements are complied with.
- h) The CONTRACTOR shall furnish a recording pressure gauge for the pressure and leakage test. Charts shall become the property of the OWNER at conclusion of test.

7.5 DISINFECTION OF WATER LINES

The new potable water lines shall not be placed in service, either temporarily or permanently, until they have been thoroughly disinfected by the Continuous Feed Method as set forth in the latest edition of AWWA Specification C-651. Specification C-651 is reproduced in the Reference Section of this Contract Document in its entirety.

The following requirements apply to the disinfection activity:

- a) All flushing and test waters shall be potable water obtained from the "Public Utility" that is chosen by the OWNER. Withdrawals of water from the "Public Utility" system must be both authorized and metered. The "Public Utility" will bill the CONTRACTOR for all waters used in accordance with its current leak adjustment rate.
- b) The Tablet and Slug Method of disinfection may not be used.
- c) The water lines shall be flushed prior to disinfection. Flush waters may be discharged to the nearest storm drain or surface water way in a controlled manner which will not result in environmental damage.
- d) The CONTRACTOR shall have a chlorine test kit in his possession for purposes of monitoring the disinfection dose.
- e) The free chlorine residual immediately after chlorine dosing shall be 50 mg/l. The free chlorine residual 24 hours after chlorine dosing shall not be less than 25 mg/l.
- f) The heavily chlorinated waters of disinfection shall be neutralized with an approved neutralizing agent prior to discharge.
- g) After disinfection and flushing, and before the water main is placed in service, bacteriological samples shall be collected and analyzed in accordance with the requirements of the Kentucky Department for Natural Resources and Environmental Protection. The new

TS-VII-9

line may not be connected to the system until the samples have been approved.

-- THE END --

TS-VIII-1

SECTION VIII
TECHNICAL SPECIFICATIONS
GATE VALVES

8.1 SCOPE

This work shall consist of furnishing and installing gate valves of various diameters for potable water lines.

8.1.A QUALITY ASSURANCE/SUBMITTALS

8.1.A.1 Submit five copies of manufacturer's certification of compliance with applicable AWWA specifications. Certificate to be signed by corporate officer having authority to legally bind the company.

8.2 MATERIALS

8.2.1 Gate Valves: All gate valves shall be iron body, nonrising stem, fully bronze mounted (Mueller or approved equal). VALVES INSTALLED IN PVC WATER LINES SHALL BE RATED FOR WORKING WATER PRESSURES OF 250 PSI. VALVES INSTALLED IN DUCTILE IRON WATER LINES SHALL BE RATED FOR WORKING WATER PRESSURES OF 250 PSI UNLESS OTHERWISE NOTED ON PLANS. Valves shall be of standard manufacture and of the highest quality both as to materials and workmanship.

Gate valves larger than 12" shall be of resilient, parallel seat construction conforming to AWWA C500-80. Gate valves 12" and smaller shall be of resilient seat construction conforming to AWWA C509-80.

All gate valves for "below ground" service shall be furnished with mechanical joint end connections. Gate valves for "above ground" (or pit) installations shall be furnished with flanged end connections.

All gate valves shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working water pressure cast on the body of the valve.

Each gate valve for "below ground" service shall be installed in a vertical position with a valve box, as shown in the Design Drawings. Gate valves set with boxes shall be provided with a two inch square operating nut and shall be opened by turning to the left (counterclockwise). Each gate valve for "above ground" (or pit) installations shall be furnished with a hand wheel operator.

8.2.2 Valve Box and Cover: The valve box and cover shall be of cast iron construction and shall be engraved with the word "water".

8.2.3 Valve Marker: Each valve assembly shall be delineated by a valve marker as detailed in the Drawings. The marker shall consist of a 3" yellow PE pipe embedded vertically adjacent to the valve. The marker shall include a weatherproof label identifying the valve owner and provide an emergency phone number for the owner.

8.2.4 Plug: If the gate valve is to be installed at the end of a line the CONTRACTOR shall provide one full joint of ductile iron pipe with cap beyond the valve.

TS-VIII-2

8.3 INSTALLATION

Trenching, bedding, and backfilling requirements for gate valves shall conform to the installation requirements for water lines and fittings. The base of the valve shall be anchored in concrete as shown in the Design Drawings. The valve box shall be installed vertically, centered over the stem of the operating nut. The valve box base shall be placed at least two inches above the flanged joint of the valve cover. The top of the operating nut should be no higher than the hub or upper part of the valve box base where it connects to the center section.

-- THE END --

TS-IX-1

SECTION IX

TECHNICAL SPECIFICATIONS

FLUSH HYDRANTS AND BLOW-OFF VALVES

9.1 SCOPE

Provide all labor, tools, materials, and equipment to furnish and install new flush hydrants and blow-off valves as shown on the plans.

9.2 QUALITY ASSURANCE/SUBMITTALS

9.2.1 All hydrants shall be approved by the City of Elkhorn City. The City of Elkhorn City prefers Mueller A423 hydrants to minimize handling of spare parts. Equal hydrants will be considered/evaluated by the Fire Department (especially if repair parts are interchangeable).

9.3 MATERIALS

9.3.1 Hydrant: Hydrants shall conform in all respects to the latest edition of AWWA C502. Hydrant barrel shall have a safety breakage feature above the ground line. All hydrants shall have 6 inch mechanical joint shoe connections, two 2-1/2 inch discharge nozzles and one 4-1/2 inch pumper nozzle with caps fitted with cap chains. Connection threads and operating nuts shall conform to National Standard specifications as adopted by National Board of Fire Underwriters.

Operating nut shall be 1-1/2 inches, and shall open left (counterclockwise). Main valve shall have 5-1/4 inch full opening and be of the compression type opening against water pressure so that the valve remains closed should the barrel be broken off.

Hydrant shall be fully bronze mounted. Main valve shall have a threaded bronze seat ring assembly of such design that it is easily removable by unscrewing from a threaded bronze drain ring. Bronze drain ring shall have multiple ports providing positive automatic drainage as the main valve is opened or closed.

Drainage waterways shall be completely bronze to prevent rust or corrosion.

Operating stem shall be equipped with anti-friction thrust bearing to reduce operating torque and assure easy opening. Stop shall be provided to limit stem travel. Stem threads shall be enclosed in a permanently sealed lubricant reservoir protected from weather and waterway with O-ring seals.

Hydrants shall be designed for 300 psi working pressure and shop tested to 350 psi pressure with main valve both opened and closed. Under test the valve shall not leak, the automatic drains shall function and there shall be no leakage into the bonnet.

9.3.2 Blow-off: The blow off hydrant shall be equal to an Eclipse No. 2 post hydrant. A 4" resilient wedge gate valve conforming to the requirements of the valving section of these Specifications shall be installed upstream of each post hydrant as illustrated in the detail drawings.

TS-IX-2

9.4 INSTALLATION

9.4.1 Hydrants shall have the interior cleaned of all foreign matter prior to installation.

9.4.2 Hydrants shall be set plumb with not less than three cubic feet of crushed stone and backed with at least one cubic foot of Class "C" concrete or equivalent. Additionally, ¾" diameter stainless bridle rod collars or megalug restrained joint gland shall be employed for restraint. The hydrant drain holes shall be thoroughly inspected prior to placement of the crushed stone.

9.4.3 A gate valve must be installed in the service lateral of all hydrants and blowoffs.

9.4.4 The hydrants shall be installed with the pumper nozzle facing the main route of access. The vertical distance from the pumper nozzle to the ground shall be 18 inches.

9.4.5 All hydrant parts shall be inspected in open and closed position to verify working conditions prior to backfilling.

9.4.6 Hydrants and blow-offs shall not be set in the flow line of a ditch or drainage way.

9.4.7 Blow-offs shall be installed in accordance with the details presented in the Design Drawings.

- THE END -

SECTION X
TECHNICAL SPECIFICATIONS
BORE AND/OR ENCASE

10.1 SCOPE

This work shall consist of furnishing and installing steel encasement pipes for potable water and sanitary sewer lines by boring, jacking, or open cut methods.

10.1.A Quality Assurance/Submittals

10.1.A.1 Submit five copies of certified mill test report on steel encasement pipe.

10.2 GENERAL

The CONTRACTOR shall comply with the previously obtained permits and approvals for completion of this work. Copies of the permits and/or approvals are reproduced in the Permits section of this document.

10.3 MATERIALS

10.3.1 Encasement Pipe: Encasement pipe shall be steel, plain end, uncoated, unwrapped, have continuously welded joints and have a yield point strength of 35,000 psi and conform to AWWA Specifications C200. The minimum wall thickness of the pipe shall be as indicated in the Detail Drawings.

In general, the inside diameter of the encasement pipe shall be 4 inches greater than the largest outside diameter of the carrier pipe. The Detail Drawings provide a table from which required encasement pipe diameters may be derived.

Field welding of encasement pipe shall be performed by a certified welder in accordance with the requirements of AWWA Specification C206-82.

10.3.2 Grout: Grout used to seal the annulus between the excavation and the encasement pipe shall be a 1 to 2 Portland Cement Grout meeting the requirements of Section 601 of the publication Standard Specifications for Road and Bridge Construction (1983 Edition, Kentucky Transportation Cabinet, Department of Highways).

10.3.3 Casing Skids: Casing skids shall be equal to stainless steel casing spacers. Spacer shall consist of a bolt on T-304 stainless steel shell with runners of ultra high molecular weight polymer.

10.4 INSTALLATION - BORE AND JACK

No distinction shall be made between boring through earth or boring through rock. The CONTRACTOR shall conduct his own investigation of subsurface conditions and shall base his bid on his own findings.

The jacking will be allowed in one direction only. The installation procedure must provide for the placement of the encasement pipe concurrently with the removal of the soil.

Grouting between the excavation and the encasement pipe will be required if ordered by the ENGINEER or if, for any reason, the excavation exceeds one (1) inch larger than the outside diameter of the liner. Grout holes shall be provided in the tunnel lining with a spacing not to exceed

four and one-half (4.5) feet measured longitudinally. The location of the holes shall be varied around the periphery of the encasement pipe to suit field conditions which will permit the proper grouting sequence to insure complete filling of void spaces outside the encasement pipe. The CONTRACTOR shall fill all the void space outside the encasement pipe with portland cement grout. The machine used for grouting shall permit the application of a pressure up to seventy-five (75) pounds per square inch in excess of any external water pressure. A gage shall be provided which will accurately indicate working pressure and this gage shall be carefully watched during grouting operations. The pressure shall at no time be allowed to exceed that considered safe or which would distort the encasement pipe. Grout pipes shall be one and one-half (1½) inches inside diameter.

The carrier pipe shall be installed after the encasement pipe is in place. The installation of the carrier pipe shall be in accordance with the manufacturer's specifications using casing skids as shown in the Detail Sheets of the Design Drawings. After the carrier pipe has been installed, inspected, and tested as specified, both ends of the encasement pipe shall be closed with a removable, water-tight "boot" in a manner acceptable to the OWNER.

10.5 INSTALLATION - OPEN CUT

Where the encasement pipe is placed in open cut, the encasement pipe trenching, bedding, laying, and backfilling shall conform to the requirements of the applicable sections of these Specifications. The carrier pipe shall be installed after the encasement pipe is in place. The installation of the carrier pipe shall be in accordance with the manufacturer's specification using casing skids as shown in the Detail Sheets of the Design Drawings. After the carrier pipe has been installed, inspected, and tested as specified, both ends of the cover pipe shall be closed with a removable, watertight "boot" in a manner acceptable to the OWNER.

- THE END -

SPECIAL NOTE

Filing of eNOI for KPDES Construction Stormwater Permit

County: Pike

Route: US 460 / KY 80

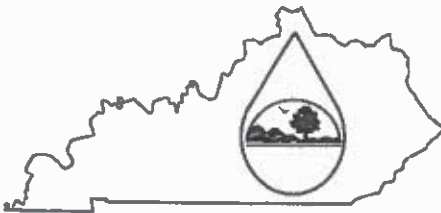
Item No.: 12-263.74

KDOW Submittal ID:

Project Description: Construct Ramp 2 and Reconstruct KY 80

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

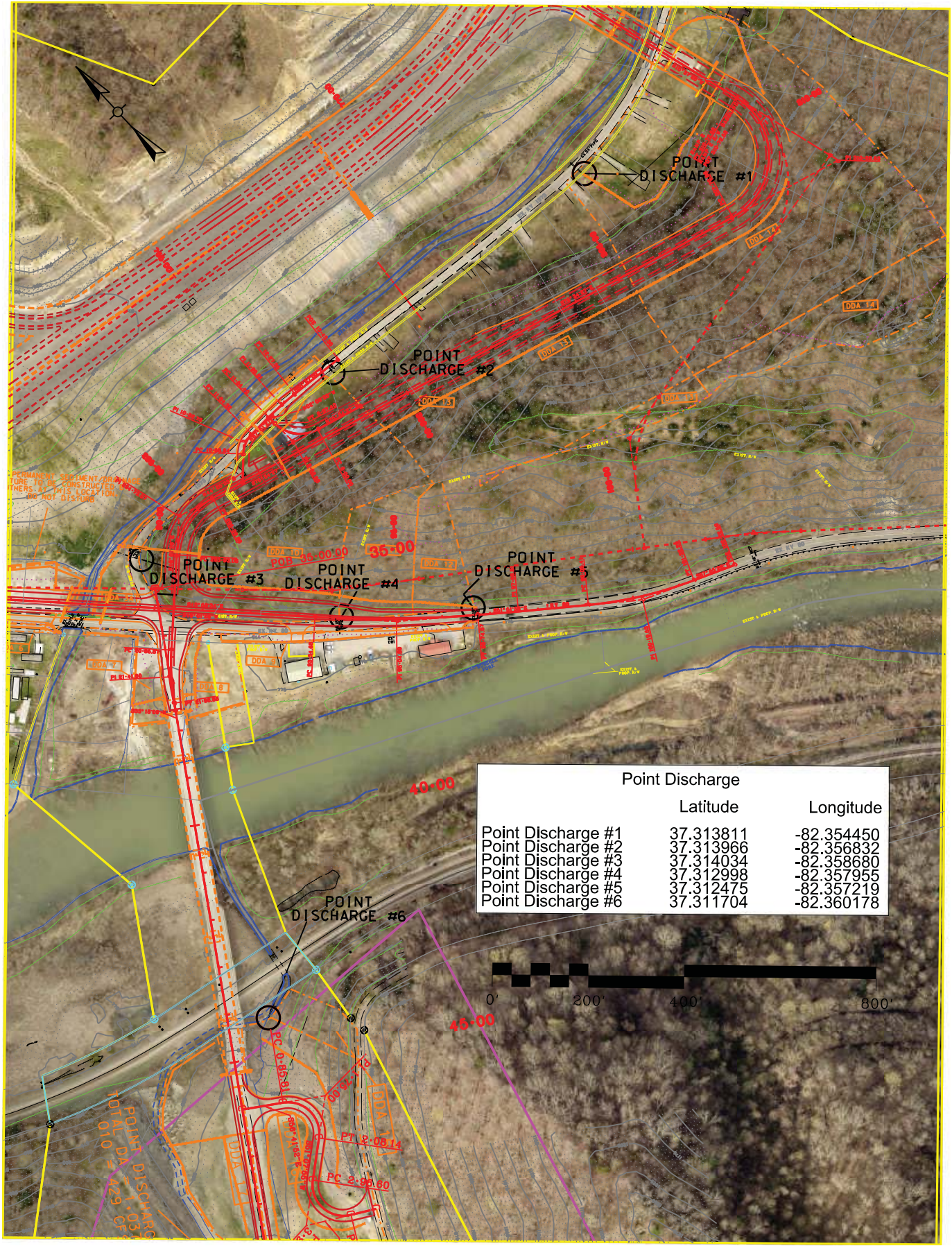
If there are any questions regarding this note, please contact David Waldner, Director, Division of Environmental Analysis, TCOB, 200 Mero Street, Frankfort, KY 40622, Phone: (502) 564-7250.

	<h2 style="text-align: center;">KENTUCKY POLLUTION DISCHARGE ELIMINATION SYSTEM (KPDES)</h2> <p style="text-align: center;">Notice of Intent (NOI) for coverage of Storm Water Discharge Associated with Construction Activities Under the KPDES Storm Water General Permit KYR100000</p> <p style="text-align: center;">Click here for Instructions (Controls/KPDES_FormKYR10_Instructions.htm)</p> <p style="text-align: center; font-size: small;">Click here to obtain information and a copy of the KPDES General Permit. (http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf)</p> <p style="text-align: center; font-size: x-small;">(*) indicates a required field, (✓) indicates a field may be required based on user input or is an optionally required field</p>
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Reason for Submittal (*) Application for New Permit Coverage ▾	Agency Interest ID Agency Interest ID	Permit Number:(✓) KPDES Permit Number
If change to existing permit coverage is requested, describe the changes for which modification of coverage is being sought.(✓)		
ELIGIBILITY: Stormwater discharges associated with construction activities disturbing individually one (1) acre or more, including, in the case of a common plan of development, contiguous construction activities that cumulatively equal one (1) acre or more of disturbance.		
EXCLUSIONS: The following are excluded from coverage under this general permit: 1) Are conducted at or on properties that have obtained an individual KPDES permit for the discharge of other wastewaters which requires the development and implementation of a Best Management Practices (BMP) plan; 2) Any operation that the DOW determines an individual permit would better address the discharges from that operation; 3) Any project that discharges to an Impaired Water listed in the most recent Integrated Report, §305(b) as impaired for sediment and for which an approved TMDL has been developed.		
SECTION I – FACILITY OPERATOR INFORMATION (PERMITTEE)		
Company Name:(✓) KYTC District 12	First Name:(✓) Mary	M.I.: W
Last Name:(✓) Holbrook	Mailing Address (*) 109 Loraine Street	City:(*) Pikeville
State:(*) Kentucky ▾	Zip (*) 41501	eMail Address (*) MaryW.Holbrook@ky.gov
Business Phone (*) 606-433-7791	Alternate Phone Phone	
SECTION II – GENERAL SITE LOCATION INFORMATION		
Project Name (*) PCN ##-###. SYP Item Number: 12-263.74	Status of Owner/Operator(*) State Government ▾	SIC Code(*) 1611 Highway and Street ▾
Company Name (✓) KYTC District 12	First Name (✓) Mary	M.I.: W
Last Name (✓) Holbrook	Site Physical Address (*) 17319 KY HWY 80 E	
City (*) Elkhorn City	State:(*) Kentucky ▾	Zip (*) 41522
County (*) Pike ▾	Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal) 37.313663	Longitude(decimal degrees)(*) -82.358919
SECTION III – SPECIFIC SITE ACTIVITY INFORMATION (7)		
Project Description (*) US 480, construct Ramp #2 at Beaver Creek, including two bridges and reconstruct a portion of KY 80 Section 7A-2		
a. For single projects provide the following information		
Total Number of Acres in Project:(✓)	Total Number of Acres Disturbed:(✓)	

42	26.5																																																							
Anticipated Start Date (✓) <input type="text"/>	Anticipated Completion Date:(✓) <input type="text"/>																																																							
b. For common plans of development provide the following information																																																								
Total Number of Acres in Project:(✓) # Acre(s) <input type="text"/>	Total Number of Acres Disturbed (✓) # Acre(s) <input type="text"/>																																																							
Number of Individual lots in development, If applicable:(✓) # lot(s) <input type="text"/>	Number of lots in development:(✓) # lot(s) <input type="text"/>																																																							
Total acreage of lots intended to be developed:(✓) Project Acres <input type="text"/>	Number of acres intended to be disturbed at any one time (✓) Disturbed Acres <input type="text"/>																																																							
Anticipated Start Date:(✓) <input type="text"/>	Anticipated Completion Date:(✓) <input type="text"/>																																																							
List Building Contractor(s) at the time of Application (*)																																																								
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Discharge Point(s):																																																								
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SECTION VI – WILL THE PROJECT REQUIRE CONSTRUCTION ACTIVITIES IN A WATER BODY OR THE RIPARIAN ZONE?																																																								
Will the project require construction activities in a water body or the riparian zone?:(*)	Yes <input type="text"/>																																																							
If Yes, describe scope of activity: (✓)	Project will include bridges and culverts, as well as waste area																																																							
Is a Clean Water Act 404 permit required?: (*)	Yes <input type="text"/>																																																							
Is a Clean Water Act 401 Water Quality Certification required?:(*)	Yes <input type="text"/>																																																							
SECTION VII – NOI PREPARER INFORMATION																																																								

First Name: (*) John	M.I.: M	Last Name: (*) Johnson	Company Name: (*) KYTC District 12	
Mailing Address: (*) 109 Loraine Street		City: (*) Pikeville	State: (*) Kentucky	Zip: (*) 41501
eMail Address: (*) JohnM.Johnson@ky.gov		Business Phone: (*) 606-433-7791	Alternate Phone: Phone	
SECTION VIII -- ATTACHMENTS				
Facility Location Map: (*)		<input type="button" value="Upload file"/>		
Supplemental Information:		<input type="button" value="Upload file"/>		
SECTION IX -- CERTIFICATION				
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations				
Signature: (*) Signature		Title: (*) Chief District Engineer		
First Name: (*) Mary	M.I.: W	Last Name: (*) Holbrook		
eMail Address: (*) MaryW.Holbrook@ky.gov	Business Phone: (*) 606-433-7791	Alternate Phone: Phone	Signature Date: (*) Date	
<input type="button" value="Click to Save Values for Future Retrieval"/> <input type="button" value="Click to Submit to DEP"/>				



KyTC BMP Plan for Project PCN ## - #####



Kentucky Transportation Cabinet

Highway District 12

And

_____ **(2), Construction**

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

Groundwater protection plan

For Highway Construction Activities

For

**US 460, Section 7A-2
KY 80 and Ramp 2 in Pike County.**

Project: PCN ## - #####

SYP Item Number: 12-263.74

KyTC BMP Plan for Project PCN ## -

Project information

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

1. Owner – Kentucky Transportation Cabinet, District 12
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) 17319 KY Hwy 80 E, Elkhorn City, KY 41522
6. Latitude/Longitude (project mid-point) 37.313663, -82.358919
7. County (project mid-point) Pike
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KyTC BMP Plan for Project PCN ## -

A. Site description:

1. Nature of Construction Activity (from letting project description) **US 460, Construct Ramp #2 at Beaver Creek, including a bridge over Beaver Creek and reconstruct a portion of KY 80, including a bridge over Beaver Creek**
2. Order of major soil disturbing activities **(2) and (3)**
3. Projected volume of material to be moved **1,133,640 cubic yards**
4. Estimate of total project area (acres) **42 acres**
5. Estimate of area to be disturbed (acres) **26.5 acres**
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. **No additional data.**
7. Data describing existing soil condition **No additional data.**
8. Data describing existing discharge water quality (if any) **No additional data**
9. Receiving water name **Beaver Creek and Russell Fork of Big Sandy River**
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:

KyTC BMP Plan for Project PCN ## -

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

B. Sediment and Erosion Control Measures:

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

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

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

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- 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:

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- 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 : None

C. Other Control Measures

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

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

3. Hazardous Waste

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

4. Spill Prevention

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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.

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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

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- appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
 - The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
 - Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.
 - The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
 - Spills of products will be cleaned up promptly. Wastes from spill clean up will be disposed in accordance with appropriate regulations.

D. Other State and Local Plans

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. **None**

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. **None**

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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 70 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

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

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

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

H. Groundwater Protection Plan (3)

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

- Contractors statement: (3)

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

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

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

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

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

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

_____ 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);

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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.)

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Sub-Contractor Certification

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

Subcontractor

Name:
Address:
Address:

Phone:

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

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

Signed _____ title _____, _____
Typed or printed name¹ 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.

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>

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

2.0 MATERIALS.

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

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

2.2 Sign and Controls. All signs must:

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

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

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

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

2.3 Power.

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

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

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

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

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

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

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

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

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

Effective June 15, 2012

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SPECIAL NOTE FOR ROADBED STABILIZATION AT BRIDGE ENDS

This Special Note will apply where 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. Due to the wet and yielding embankments commonly encountered at bridge ends, undercut the existing roadbed within the limits the Contract specifies and backfill.

2.0 MATERIALS.

2.1 Geotextile Fabric. Furnish Type III fabric conforming to Section 843.

3.0 CONSTRUCTION. After removing the existing pavement and base, undercut the existing roadbed under the traffic lanes and shoulders as the Engineer directs. The minimum undercut shall be one foot, except undercut depth may be reduced where rock embankment constructed principally of limestone is encountered. Place geotextile fabric in the bottom and against the sides and ends of the undercut. The Department will not require a minimum lap between adjacent sheets of geotextile fabric for the longitudinal joint under the pavement centerline. Backfill the undercut with one or more of the following materials;

- 1) Crushed limestone size No. 1, 2, 23, or 57; or
- 2) Layered composition of several limestone sizes, with larger sizes on the bottom.

Use Dense Graded Aggregate (DGA), Crushed Stone Base (CSB), or Stabilized Aggregate Base (SAB) in the top 4 inches, and only in the top 4 inches, of the backfill.

Place geotextile fabric between the coarse backfill material and the 4-inch upper layer.

Compact the backfill material by "walking down" with equipment, or other methods the Engineer approves. See attached drawing for details of backfill placement and drainage.

Waste all removed materials, not used for purposes the Contract or Engineer specifies or permits, off the right-of-way at no expense to the Department.

4.0 MEASUREMENT.

4.1 Removing Pavement. The Department will measure the quantity in square yards. The Department will consider the pavement to include existing pavement, existing asphalt patching, and existing DGA base.

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4.2 Roadway Excavation. The Department will measure the quantity in cubic yards.

4.3 Backfilling Undercut. The Department will measure the quantity in cubic yards. The Department will not measure coarse aggregate for payment and will consider it incidental to this item of work.

4.4 Perforated Pipe. The Department will measure the quantity in linear feet.

4.5 Non-Perforated Pipe. The Department will measure the quantity in linear feet.

4.6 Geotextile Fabric, Type III. The Department will measure the quantity in square yards.

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

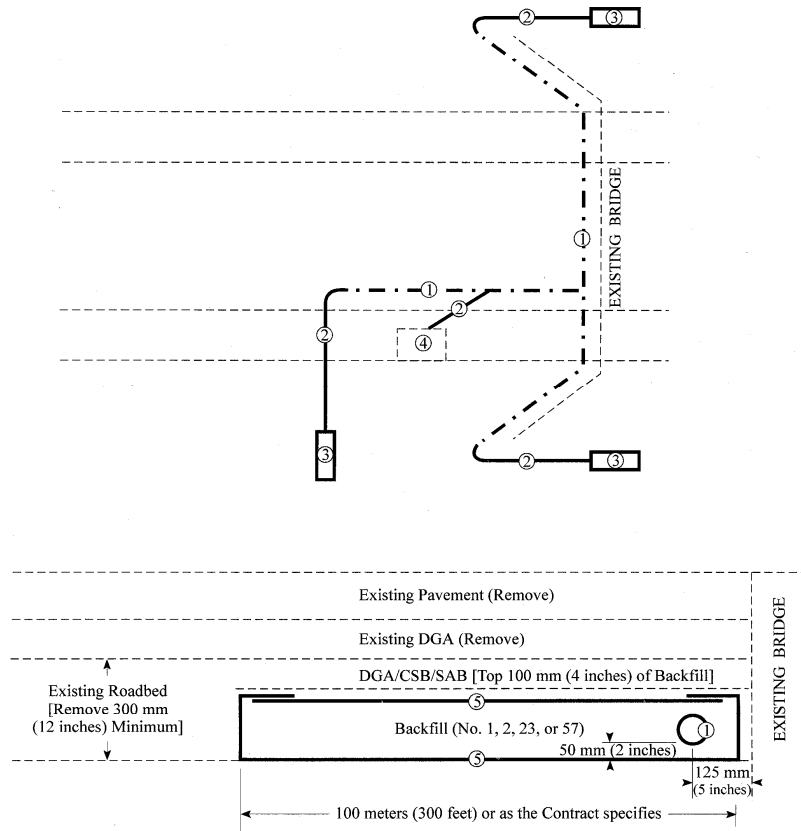
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02091	Removing Pavement	Square Yard
01000	Perforated Pipe - 4 inches	Linear Foot
01010	Non-Perforated Pipe, 4 inches	Linear Foot
02235	Backfilling Undercut	Cubic Yard
02598	Fabric - Geotextile Type III	Square Yard

The Department will consider payment as full compensation for all work required in this note.

June 15, 2012

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**BRIDGE END DRAINAGE AND STABILIZATION
(DETAILS)**



NOTES

Contrary to Section 705 of the Standard Specifications, use only coarse aggregate for trench backfill.

Slope all pipe to drain to the outside. Provide a 1:24 (1/2":1') or greater slope for the outlet pipe.

The Department may require additional transverse drains within the stabilization area.

LEGEND

- ① 100-mm (4-inch) Perforated Pipe
- ② 100-mm (4-inch) Non-perforated Pipe
- ③ Perforated Pipe Headwall
- ④ Existing Box Inlet
- ⑤ Geotextile Fabric, Type III

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SPECIAL NOTE FOR DRILLED SHAFTS

1.0 DESCRIPTION. Furnish all equipment, materials and labor necessary for constructing reinforced concrete drilled shafts in cylindrically excavated holes according to the details shown on the plans or as the Engineer directs. Construct the shaft to the lines and dimensions shown on the plans, 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 Concrete. Use Class A Modified concrete unless otherwise shown on the plans. The slump at the time of placement shall be 6.5 to 9.5 inches, the coarse aggregate shall be size 67, 68, 78, 8 or 9M, and the water/cementitious material ratio shall not exceed 0.45. Include water reducing and retarding admixtures. Type F high range water reducers used in combination with retarding admixtures or Type G high range water reducers fully meeting trial batch requirements are permitted and Class F fly ash is permitted in conformance with Section 601. Design the mix such that the concrete slump exceeds 4 inches at 4 hours after batching. If the estimated concrete transport, plus time to complete placement, exceeds 4 hours, design the concrete to have a slump that exceeds 4 inches or more for the greater time after batching and demonstrate that the slump requirement can be achieved after the extended time period using a trial batch.

Perform trial batches prior to beginning drilled shaft construction in order to demonstrate the adequacy of the proposed concrete mix. Demonstrate that the mix to be used will meet the requirements for temperature, slump, air content, water/cementitious material ratio, and compressive strength. Use the ingredients, proportions and equipment (including batching, mixing, and delivery) to be used on the project. Make at least 2 independent consecutive trial batches of 3 cubic yards each using the same mix proportions and meeting all specification requirements for mix design approval. Submit a report containing these results for slump, air content, water/cement ratio, temperature, and compressive strength and mix proportions for each trial batch to the Engineer for review and approval. Failure to demonstrate the adequacy of the concrete mix, methods, or equipment to the Engineer is cause for the Engineer to require appropriate alterations in concrete mix, equipment, and/or method by the Contractor to eliminate unsatisfactory results. Perform additional trial batches required to demonstrate the adequacy of the concrete mix, method, or equipment.

2.2 Steel Reinforcement. Provide Grade 60 deformed bars conforming to Section 811 of the Standard Specifications. Rail steel is permitted for straight bars only. Place according to Section 602 of the Standard Specifications, this Special Note, and the plans. Use non-corrosive centering devices and feet to maintain the specified reinforcement clearances.

2.3 Casings. Provide casing meeting the requirements of ASTM A 252 Grade 2 or better unless otherwise specified. Ensure casing is smooth, clean, watertight, true and straight, and of ample strength to withstand handling, installation, and extraction stresses and the pressure of both concrete and the surrounding earth materials. Ensure the outside diameter of casing is not less than the specified diameter of shaft.

Use only continuous casings. Cut off the casing at the prescribed elevation and trim to within tolerances prior to acceptance. Extend casing into bedrock a sufficient distance to stabilize the shaft excavation against collapse, excessive deformation, and/or flow of water if required and/or shown on the plans.

Install from the work platform continuous casing meeting the design thickness requirements, but not less than 3/8 inch, to the elevations shown on the plans. When drilled

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shafts are located in open water areas, extend casings above the water elevation to the plan tip elevation to protect the shaft concrete from water action during concrete placement and curing. All casing is permanent unless temporary casing is specified in the contract drawings or documents. Permanent casing is incidental to the applicable drilled shaft unit bid price unless noted otherwise in the contract. Temporary casing may be required for drilled shafts not socketed into bedrock. If temporary surface casings are used, extend each casing up to the work platform. Remove all temporary surface casing prior to final acceptance unless otherwise permitted by the Central Office Construction Engineer.

Ensure casing splices have full penetration butt welds conforming to the current edition of AWS D1.1 with no exterior or interior splice plates and produce true and straight casing.

2.4 Slurry. When slurry is to be used for installation of the Drilled Shaft, submit a detailed plan for its use and disposal. The plan should include, but not be limited to the following:

- 1) Material properties
- 2) Mixing requirements and procedures
- 3) Testing requirements
- 4) Placement procedures
- 5) Disposal techniques

Obtain the Central Office Division of Construction's approval for the slurry use and disposal plan before installing drilled shafts.

2.5 Tremies. Provide tremies of sufficient length, weight, and diameter to discharge concrete at the shaft base elevation. Ensure the tremie diameter is least 6 times the maximum size coarse aggregate to be used in the concrete mix and no less than 10 inches. Provide adequate wall thickness to prevent crimping or sharp bends that restrict concrete placement. Support tremies used for depositing concrete in a dry drilled shaft excavation so that the free fall of the concrete does not cause the shaft excavation to cave or slough. Maintain a clean and smooth tremie surface to permit both flow of concrete and unimpeded withdrawal during concrete placement. Do not allow any aluminum parts to contact the concrete. Construct tremies used to deposit concrete for wet excavations so that they are watertight and will readily discharge concrete.

2.6 Concrete Pumps. Provide pump lines with a minimum diameter of 5 inches and watertight joints.

2.7 Drop Chutes. Do not use aluminum drop chutes.

3.0 CONSTRUCTION.

3.1 Preconstruction.

3.1.1 Prequalification. The Department will require prequalification by the Division of Construction Procurement before accepting a bid for the construction of Drilled Shafts.

3.1.2 Pre-Bid Inspection. Inspect both the project site and all subsurface information, including any soil or rock samples, prior to submitting a bid. Contact the Geotechnical Branch (502-564-2374) to schedule a viewing of the subsurface information. Failure to inspect the project site and view the

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subsurface information will result in the forfeiture of the right to file a claim based on site conditions and may result in disqualification from the project.

3.1.3 Drilled Shaft Installation Plan. Upon request, the Department will review a Drilled Shaft Installation Plan. Submit the plan no later than 45 calendar days prior to constructing drilled shafts. Items covered in this plan should include, but not be limited to the following:

- 1) Name and experience record of jobsite drilled shaft superintendent and foremen in charge of drilled shaft operations for each shift.
- 2) List and size of proposed equipment including cranes, drills, augers, bailing buckets, final cleaning equipment, de-sanding equipment, slurry pumps, core sampling equipment, tremies or concrete pumps, casings, etc.
- 3) Details of overall construction operation sequence and the sequence of shaft construction in the bents or groups.
- 4) Details of shaft excavation methods including methods to over-ream or roughen shaft walls, if necessary.
- 5) Details of slurry when the use of slurry is anticipated. Include methods to mix, circulate, and de-sand the proposed slurry. Provide details of proposed testing, test methods, sampling methods, and test equipment.
- 6) Details of proposed methods to clean shaft and inside of casing after initial excavation.
- 7) Details of reinforcement handling, lifting, and placement including support and method to center in shaft. Also include rebar cage support during concrete placement and temporary casing removal.
- 8) Details of concrete placement including procedures for concrete tremie or pump. Include initial placement, raising during placement, and overfilling of the shaft to expel contaminated concrete.
- 9) Required submittals including shop drawings and concrete design mixes.
- 10) Other information shown in the plans or requested by the Engineer.
- 11) Special considerations for wet construction.
- 12) Details of environmental control procedures to protect the environment from discharge of excavation spoil, slurry (natural and mineral), and concrete over-pour.

The Division of Construction will review the submitted procedure and provide comments and recommendations. The Contractor is responsible for satisfactory construction and ultimate performance of the Drilled Shaft.

3.2 General Construction. Construct drilled shafts as indicated in the plans or described in this Special Note by either the dry or wet method. When the plans describe a particular method of construction, use this method unless the Engineer permits otherwise. When the plans do not describe a particular method, propose a method on the basis of its suitability to the site conditions. Approval of this proposed method is contingent upon the satisfactory results of the technique shaft.

The construction of the first drilled shaft or technique shaft will be used to determine if the methods and equipment used by the contractor are sufficient to produce a completed shaft meeting the requirements of the plans and specifications. Ability to control dimensions and alignment of excavations within tolerances; to seal the casing into impervious materials; to prevent caving or deterioration of subsurface materials by the use of slurry or other means; to

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properly clean the completed shaft excavation; to construct excavations in open water areas when required by the plans; to establish methods for boring or over-reaming when required by the plans; to determine the elevation of ground water; to satisfactorily handle, lift, place, and support the reinforcement cage; to satisfactorily place concrete meeting the specifications within the prescribed time frame; and to satisfactorily execute any other necessary construction operations will be evaluated during construction of the first shaft(s). Revise the methods and equipment as necessary at any time during the construction of the first shaft when unable to satisfactorily carry out any of the necessary operations described above or unable to control the dimensions and alignment of the shaft excavation within tolerances. Accurately locate technique so they may be used in the finished structure unless directed otherwise in the contract document or by the Engineer.

If at any time the Contractor fails to satisfactorily demonstrate, to the satisfaction of the Engineer, the adequacy of methods or equipment and alterations are required, additional technique shafts will be required at no additional cost to the Department and with no extension of contract time. Additional technique shafts shall be located as near as possible to the proposed production shafts but in a location as not to interfere with other construction activities. Once approval has been given to construct production shafts, no changes will be permitted in the methods or equipment used to construct the satisfactory shaft without written approval of the Engineer.

Do not make a claim against the Department for costs of construction delays, or any materials, labor, or equipment that may be necessary due to the Contractor's failure to furnish drilled shafts of a length sufficient to obtain the required bearing values, or for variations in length due to subsurface conditions that may be encountered. Soundings, boring logs, soil profiles, or other subsurface data included in the Contract documents are used by the Department for design and making preliminary estimates of quantities and should be used only at the risk of the Contractor for determining equipment, materials, or labor necessary for drilling shafts as required by the contract.

When necessary, set temporary removable surface casing. Use surface casing of sufficient length to prevent caving of the surface soils and to aid in maintaining shaft position and alignment. Pre-drilling with slurry and/or over-reaming to the outside diameter of the casing may be required to install the surface casing at some sites.

Provide equipment capable of constructing shafts to the deepest shaft depth shown in the plans plus 15 feet, 20 percent greater than the longest shaft (measured from the ground or water surface to the tip of the shaft), or 3 times the shaft diameter, whichever is greater. Blasting excavation methods are not permitted.

Use permanent casing unless otherwise noted in the Contract. Place casing as shown on the plans before beginning excavation. If full penetration cannot be attained, the Engineer may direct that excavation through the casing be accomplished and the casing advanced until reaching the plan tip elevation. In some cases, over-reaming to the outside diameter of the casing may be required before placing the casing. Cut off the casing at the prescribed elevation and leave the remainder of the casing in place. Do not use vibratory hammers for casing installation within 50 feet of shafts that have been completed less than 24 hours.

3.2.1 Dry Construction Method. Use the dry construction method only at sites where the ground water table and soil conditions (generally stiff to hard clays or rock above the water table) make it feasible to construct the shaft in a relatively dry excavation and where the sides and bottom of the shaft are stable and may be visually inspected by the Engineer prior to placing the concrete. The dry construction method consists of drilling the shaft excavation, removing accumulated seepage water and loose material from the excavation, and placing the shaft concrete in a relatively dry excavation.

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3.2.2 Wet Construction Method. Use the wet construction method at all sites where it is impractical to excavate by the dry method. The wet construction method consists of drilling the shaft excavation below the water table, keeping the shaft filled with water (including natural slurry formed during the drilling process) or slurry as defined in part 2.4 of this Special Note, desanding and cleaning the slurry as required, final cleaning of the excavation by means of a bailing bucket, air lift, submersible pump or other approved devices and placing the shaft concrete (with a tremie or concrete pump beginning at the shaft bottom) which displaces the water or slurry as concrete is placed.

Where drilled shafts are located in open water areas, construct the shafts by the wet method using casings extending from above water elevation to the plan casing tip elevation to protect the shaft concrete from water action during placement and curing. Install the casing in a manner that will produce a positive seal at the bottom of the casing.

3.3 Slurry. When the Contractor elects to use slurry, adjust construction operations so that the slurry is in contact with the bottom 5 feet of the shaft for less than 4 hours unless the Engineer approves otherwise. If the 4-hour limit is exceeded, over-ream the bottom 5 feet of shaft.

3.4 Cleaning. Over-reaming, cleaning, or wire brushing the sidewalls of the shaft excavation and permanent casings may be necessary to remove the depth of softening or to remove excessive slurry cake buildup as indicated by sidewall samples or other test methods employed by the Engineer. Over-ream around the perimeter of the excavation a minimum depth of 1/2 inch and maximum depth of 3 inches.

3.5 Subsurface Exploration. Take subsurface exploration borings when shown on the plans or as the Engineer directs to determine the character of the material that the shaft extends through and the material directly below the shaft excavation. Complete subsurface exploration borings prior to beginning excavation for any drilled shaft in a group. Unless directed otherwise, extend subsurface exploration borings a minimum depth of 3 shaft diameters but not less than 10 feet below the bottom of the anticipated tip of drilled shaft excavation as shown on the plans. For subsurface exploration borings where soil sampling is required use thin-wall tube samples and perform standard penetration tests according to the Department's current Geotechnical Manual. When shafts extend into bedrock, soil samples are not required unless otherwise specified. Perform rock core drilling according to the Department's Geotechnical Manual. When the Engineer directs, perform additional subsurface exploration borings prior to drilled shaft construction. Measure soil samples and/or rock cores and visually identify and describe them on the subsurface log according to the Department's current Geotechnical Manual. Subsurface exploration borings must be performed by contractors/consultants prequalified by the Department's Division of Professional Services for Geotechnical Drilling Services at the time that field work begins.

The Engineer or geotechnical branch representative may be on-site during the subsurface exploration process to evaluate the soil and/or rock core samples. The Engineer or geotechnical branch representative will determine the need to extend the borings to depths greater than the depths previously specified. Handle, label, identify, and store soil and/or rock samples according to the Department's current Geotechnical Manual and deliver them with the subsurface logs to the geotechnical branch's rock core lab in Frankfort within 24-hours of completing the borings, unless directed otherwise.

The Engineer will inspect the soil samples and/or cores and determine the final depth of required excavation (final drilled shaft tip elevation) based on evaluation of the material's suitability. The Engineer will establish the final tip elevations for shaft locations, other than

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those for which subsurface exploration borings have been performed, based on the results of the subsurface exploration. Within 15 calendar days after completion of the subsurface exploration borings, the Engineer will notify the contractor of the final tip elevations for shaft locations.

3.6 Excavations. The plans indicate the expected depths, the top of shaft elevations, and the estimated bottom of shaft elevations between which the drilled shaft are to be constructed. Drilled shafts may be extended deeper when the Engineer determines that the material encountered while drilling the shaft excavation is unsuitable and/or is not the same as anticipated in the design of the drilled shaft. Drilled shafts may be shortened when the Engineer determines the material encountered is better than that anticipated.

Begin drilled shaft excavation the excavation, excavation inspection, reinforcement placement, and concrete placement can be completed as one continuous operation. Do not construct new shafts within 24 hours adjacent to recently completed shafts if the center-to-center spacing is less than 3 shaft diameters.

Dispose of excavated material removed from the shaft according to the Standard Specifications or the contract documents.

Do not allow workmen to enter the shaft excavation for any reason unless both a suitable casing has been installed and adequate safety equipment and procedures have been provided to the workmen entering the excavation. Recommended Procedures for the Entry of Drilled Shaft Foundation Excavations, prepared by ADSC: The International Association of Foundation Drilling provides guideline recommendations for down-hole entry of drilled excavations.

3.7 Obstructions. Remove subsurface obstructions at drilled shaft locations. Such obstructions may include man-made materials such as old concrete foundations or natural materials such as boulders. Blasting is not permitted.

3.8 Inspections of Excavations. Provide equipment for checking the dimensions and alignment of each shaft excavation. Determine the dimensions and alignment of the shaft excavation under the observation and direction of the Engineer. Provide equipment necessary to verify shaft cleanliness for the method of inspection selected by the Engineer.

Measure final shaft depths with a weighted tape or other approved methods after final cleaning. Ensure the base of each shaft has less than ½ inch of sediment at the time of concrete placement. For dry excavations, do not allow the depth of water to exceed 3 inches for tremie or pump methods of concrete placement. Verify shaft cleanliness to the Engineer using direct visual inspection or other method the Engineers determines acceptable. Video camera or underwater inspection procedures may be used if specified in the plans. Inspect the side surfaces of rock sockets to ensure they are rough and of such condition to ensure bond between the shaft concrete and the rock. Calipers, bent rods, or other devices may be used to inspect the diameter and roughness of rock sockets. When the Engineer directs, mechanically roughen surfaces found to be smooth.

3.9 Reinforcing Steel Cage Fabrication and Placement. Assemble the reinforcing steel cage, consisting of longitudinal bars, ties, spirals, cage stiffener bars, spacers, centering devices, and other necessary appurtenances and place as a prefabricated unit immediately after the shaft excavation is inspected and accepted, and just prior to concrete placement.

Tie the reinforcing steel with 100 percent double-wire ties and provide support so that it will remain within allowable tolerances for position. Locate splices as shown on the plans. Splice no more than 50 percent of the longitudinal reinforcing within 2-lap splice lengths of any location or within 3 feet of the splice location if approved mechanical connectors are used. All splices are to be in accordance with plan details. Use bands, temporary cross ties,

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etc. as required to provide a reinforcement cage of sufficient rigidity to prevent racking, permanent deformations, etc. during installation.

Use concrete centering devices or other approved non-corrosive centering devices at sufficient intervals along the length of the reinforcement cage to ensure concentric spacing for the entire cage length. As a minimum, provide a set of non-corrosive centering devices at intervals not exceeding 5 feet throughout the length of the shaft. When the size of the longitudinal reinforcement exceeds one inch in diameter the minimum spacing may be increased to 10 feet. As a minimum, provide a set of centering devices within 2 feet of the top and 2 feet of the bottom of the shaft. In addition provide one set of centering devices 2 feet above and 2 feet below each change in shaft diameter. Provide feet (bottom supports) at the bottom of the shaft on vertical bars. As a minimum, provide non-corrosive centering devices at 60 degree intervals around the circumference of the shaft to maintain the required reinforcement clearances. Ensure the centering devices maintain the specified annular clearance between the outside of the reinforcing cage and the side of the excavated hole or casing.

Concrete centering devices and feet will be constructed of concrete equal in quality and durability to the concrete specified for the shaft. Use epoxy coated centering devices fabricated from reinforcing steel. Use feet (bottom supports) of adequate size and number to assure the rebar cage is the proper distance above the bottom as determined by part 3.11 3) of this Special Note. The feet are not intended to support the weight of the cage. In the event that the shaft has been excavated below the anticipated tip elevation, extend the reinforcing cage at the tip (low) end by lap splices, mechanical connectors, or welded splices conforming to the Standard Specifications. In this instance, splices need not be staggered and 100 percent of the reinforcing bars may be spliced at a given location. The bottom 12 inches of the shaft may not be reinforced when below plan tip elevation.

During concrete placement, support the reinforcing cage at or near the top of shaft such that the concrete feet are positioned approximately one inch above the bottom of shaft excavation. Not sooner than 24 hours after the completion of concrete placement, remove temporary supports. Provide the needed equipment, including extra cranes if necessary, to provide this cage support.

Prior to placing the reinforcement cage, demonstrate to the satisfaction of the Engineer that the fabrication and handling methods to be used will result in a reinforcing cage placed in the proper position, with the proper clearances, and without permanent bending, squashing, or racking of the reinforcement cage. During this demonstration bring the cage to an upright position, lower into a shaft excavation, and support as if for concrete placement.

Check the elevation of the top of the reinforcing cage before and after the concrete is placed. If the reinforcing cage is not maintained within the specified tolerances, correct to the satisfaction of the Engineer. Do not construct additional shafts until the contractor has modified his reinforcing cage support to obtain the required tolerances.

3.10 Concrete Placement. Place concrete according to the applicable portions of the Standard Specifications and with the requirements set forth herein. Do not apply the provisions of the Special Note 6U for Structural Mass Concrete.

Place concrete as soon as practical after reinforcing steel placement but no later than 4 hours after completion of the shaft excavation. Place concrete continuously from the bottom to above the top elevation of the shaft. For shafts that extend above ground or water surface, place concrete continuously after the shaft is full until good quality concrete is evident at the top of the shaft. Form any portion of the shaft above ground with a removable form or other approved method to the dimensions shown on the plans.

For shafts constructed in the wet with the top of the shaft below the water surface and below top of casing, place concrete to approximately one shaft diameter but no less than 2 feet above the top of shaft elevation. Remove contaminated concrete and deleterious material, as

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determined by the Engineer, accumulated above the top of shaft elevation immediately after completing concrete placement. Deleterious material and contaminated concrete may be airlifted under a head of water or slurry provided that the head is maintained at or near the exterior water surface elevation. Carefully remove any concrete remaining above plan top of shaft after curing and excess casing removal.

Place concrete either by free fall, through a tremie, or concrete pump. Use the free fall placement method in dry holes only. The maximum height of free fall placement is 20 feet. Do not allow concrete placed by free fall to contact either the reinforcing cage or hole sidewall. Drop chutes may be used to direct concrete to the base during free fall placement.

Place concrete in the shaft in one continuous operation. Maintain a minimum slump of 4 inches or more throughout the placement for 4 hours after batching. Adjust approved admixtures in the concrete mix for the conditions encountered on the job so that the concrete remains in a workable plastic state throughout the placement. Perform slump loss tests to demonstrate that the concrete will maintain a 4-inch or greater slump for a period of time equal to the estimated transport plus the 2-hour placement time, but not less than 4 hours.

When the Engineer determines the concrete placement methods and/or equipment during construction of any technique and/or production shafts to be inadequate, make appropriate alterations to eliminate unsatisfactory results.

Drilled shafts not meeting the concrete placement requirements of this Special Note or contract plans are unacceptable. Correct all unacceptable completed shafts to the satisfaction of the Engineer.

3.10.1 Tremie Placement. Tremies may be used for concrete placement in either wet or dry holes. Extend the tremie to the shaft base elevation before starting underwater placement. Valves, bottom plates, or plugs may be used only if concrete discharge can begin approximately 2 inches above the excavation bottom. Remove plugs from the excavation unless otherwise approved by the Engineer. Maintain tremie discharge at or near the bottom of excavation as long as practical during concrete placement. Immerse tremie discharge end as deep as practical in the concrete but not less than 10 feet.

If at any time during the concrete pour the tremie line orifice is removed from the fluid concrete column and discharges concrete above the rising concrete surface, the entire drilled shaft is considered defective. In such case, remove the reinforcing cage and concrete, complete any necessary sidewall cleaning or over-reaming as directed by the Engineer, and repour the shaft.

3.10.2 Pumped Concrete. Concrete pumps and lines may be used for concrete placement in either wet or dry excavations. Do not begin concrete placement until the pump line discharge orifice is at the shaft base elevation.

For wet excavations, use a plug or similar device to separate the concrete from the fluid in the hole until pumping begins. Remove the plug unless otherwise approved by the engineer.

Ensure the discharge orifice remains at least 10 feet below the surface of the fluid concrete. When lifting the pump line during concrete placement, reduce the line pressure until the orifice has been repositioned at a higher level in the excavation.

If at any time during the concrete pour the pump line orifice is removed from the fluid concrete column and discharges concrete above the rising concrete level, the Department will consider the shaft defective. In such case, remove the reinforcing cage and concrete, complete any necessary sidewall cleaning or over-reaming as the Engineer directs, and repour the shaft.

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3.10.3 Drop Chutes. Drop chutes may be used to direct placement of free fall concrete in excavations where the maximum depth of water does not exceed one inch. Do not use the free fall method of placement in wet excavations. Concrete may be placed through either a hopper at the top of the tube or side openings as the drop chute is retrieved during concrete placement. Reduce the height of free fall and/or reduce the rate of concrete flow into the excavation if the concrete placement causes the shaft excavation to cave or slough, or if the concrete strikes the reinforcing cage or sidewall. When the Engineer determines free fall placement cannot be accomplished satisfactorily, use either tremie or pumping to accomplish the pour.

3.11 Construction Tolerances. The following construction tolerances apply to drilled shafts unless otherwise stated in the contract document:

- 1) Construct drilled shaft within 3 inches of plan position in the horizontal plane at the top of the shaft.
- 2) Do not vary the vertical alignment of a shaft excavation from the plan alignment by more than 1/4 inch per foot of depth or 6 inches total.
- 3) Maintain the top of the reinforcing steel cage no more than 6 inches above and no more than 3 inches below plan position.
- 4) All casing diameters shown on the plans refer to O.D. (outside diameter) dimensions. The casing dimensions are subject to American Pipe Institute tolerances applicable to regular steel pipe. A casing larger in diameter than shown in the plans may be used, at no additional cost, with prior approval by the Department.
- 5) Maintain the top of shaft concrete within ± 3 inches from the plan top of shaft elevation, measured after excess shaft concrete has been removed.
- 6) Design excavation equipment and methods so that the completed shaft excavation will have a planar bottom. Maintain the cutting edges of excavation equipment normal to the vertical axis of the equipment within a tolerance of $\pm 3/8$ inch per foot of diameter. The tip elevation of the shaft has a tolerance of ± 6 inches from final shaft tip elevation unless otherwise specified in the plans.

Drilled shaft excavations and completed shafts not constructed within the required tolerances are unacceptable. Correct all unacceptable shaft excavations and completed shafts to the satisfaction of the Engineer. When a shaft excavation is completed with unacceptable tolerances, present corrective measures designed by a registered Professional Engineer for approval.

4.0 MEASUREMENT.

4.1 Drilled Shafts. The Department will not measure for payment any trial batches required to demonstrate the adequacy of the concrete mix, method, or equipment; concrete required to fill an oversized casing or oversized excavation; obstruction removal; over-reaming or sidewall cleaning; inspection work or inspection equipment; materials or work necessary, including engineering analyses and redesign, to alter unacceptable work methods or to complete corrections for unacceptable work; and will consider them incidental to the Drilled Shaft. Unless noted otherwise in the contract documents, casing is incidental to the drilled shaft.

4.1.1 Drilled Shaft, Common. The Department will measure the length, in linear feet, of drilled shaft above the top of rock elevation shown on the plans. The

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Department will consider this quantity Drilled Shaft, Common regardless of the character of material actually encountered.

4.1.2 Drilled Shafts, Solid Rock. The Department will measure the length, in linear feet, of drilled shaft below the top of rock elevation shown on plans. The Department will consider this quantity Drilled Shafts, Solid Rock regardless of the character of material actually encountered during excavation.

4.2 Technique Shaft. The Department will pay for technique shaft at the contract unit price per each as detailed on the plans or as directed by the Engineer. This will constitute full compensation for all costs incurred during installation as described herein for 'Drilled Shaft' or in the contract documents. No additional compensation beyond the number of technique shafts allowed for in the plans will be permitted for additional technique shafts required because of failure to demonstrate adequacy of methods.

4.3 Rock Coring and Rock Sounding. The Department will measure Rock Sounding and Rock Coring shown on the plans, as specified in part 3.5 of this Special Note, and as the Engineer directs, in linear feet to the nearest 0.1-foot. If soil samples are specified in the contract documents they will be incidental to the unit price bid for Rock Sounding. The Department will not measure or pay for subsurface exploration performed deeper than the elevations indicated on the plans and/or in this Special Note, unless directed by the Engineer, and will consider it incidental to these items of work. Additionally, the Department will consider all mobilization, equipment, labor, incidental items, and operations necessary to complete the boring operations incidental to these items of work.

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
----	Drilled Shaft, Diameter*, Common	Linear Foot
----	Drilled Shaft, Diameter*, Solid Rock	Linear Foot
----	Technique Shaft	Each
20745ED	Rock Sounding	Linear Foot
20746ED	Rock Coring	Linear Foot

* See Plan Sheets for sizes of shafts.

The Department will consider payment as full compensation for all work required in this note.

June 15, 2012

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.

11D

When an errant blast or fly rock causes damage to or blocks a road or conveyance adjacent to the roadway, remove all debris from the roadway as quickly as practicable and perform any necessary repairs. Additionally, when specified in the Contract, the Department will apply a penalty.

Report all blasting accidents to the Division of Mine Reclamation and Enforcement, Explosives and Blasting Branch at 502-564-2340.

4.0 MEASUREMENT AND PAYMENT. The Department will not measure this work for payment and will consider all items contained in this note to be incidental to either Roadway Excavation or Embankment-in-Place, as applicable. However, if the Engineer directs in writing slope changes, then the Department will pay for the second presplitting operation as Extra Work.

The Department will measure for payment material lying outside the typical section due to seams, broken formations, or earth pockets, including any earth overburden removed with this material, only when the work is performed under authorized adjustments.

The Department will not measure for payment any extra material excavated because of the drill holes being offset outside the designated slope lines.

The Department will not measure for payment any material necessary to be removed due to the inefficient or faulty blasting practices.

June 15, 2012

SPECIAL NOTE FOR BARCODE LABEL ON PERMANENT SIGNS

1.0 DESCRIPTION. Install barcode label on sheeting signs. Section references herein are to the Department’s 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:

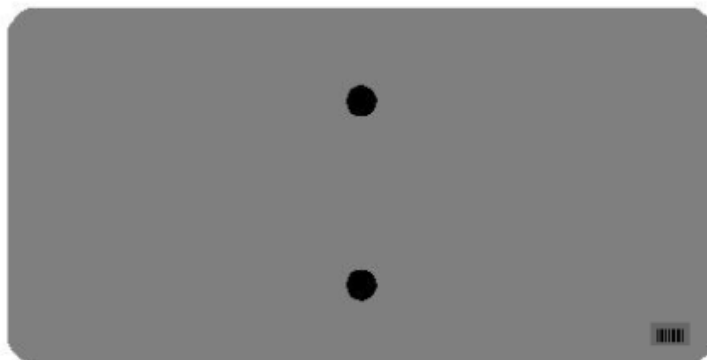
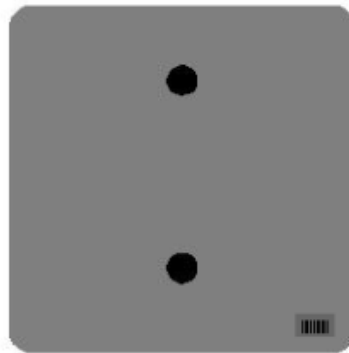
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24631EC	Barcode Sign Inventory	Each

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

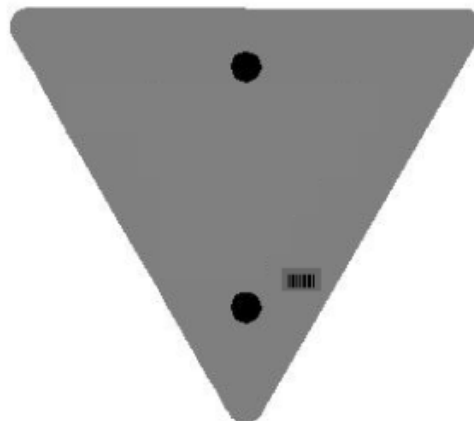
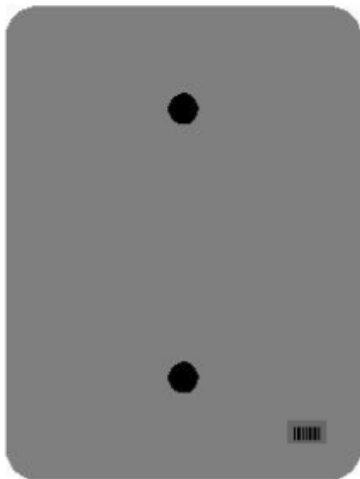
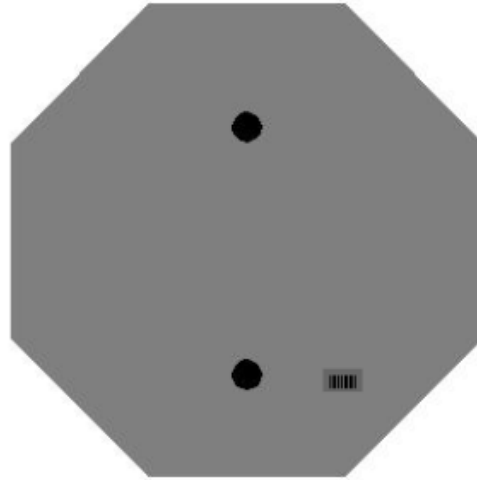
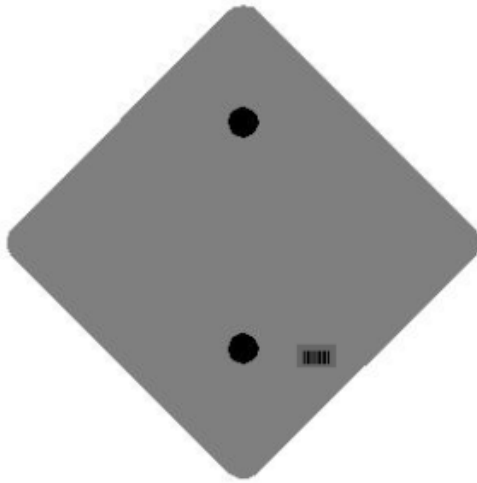
One Sign Post



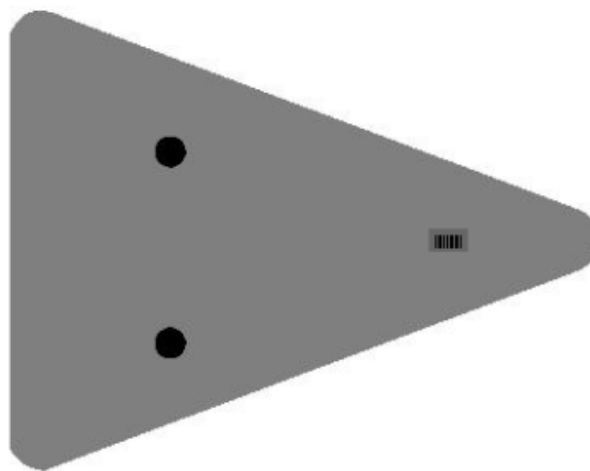
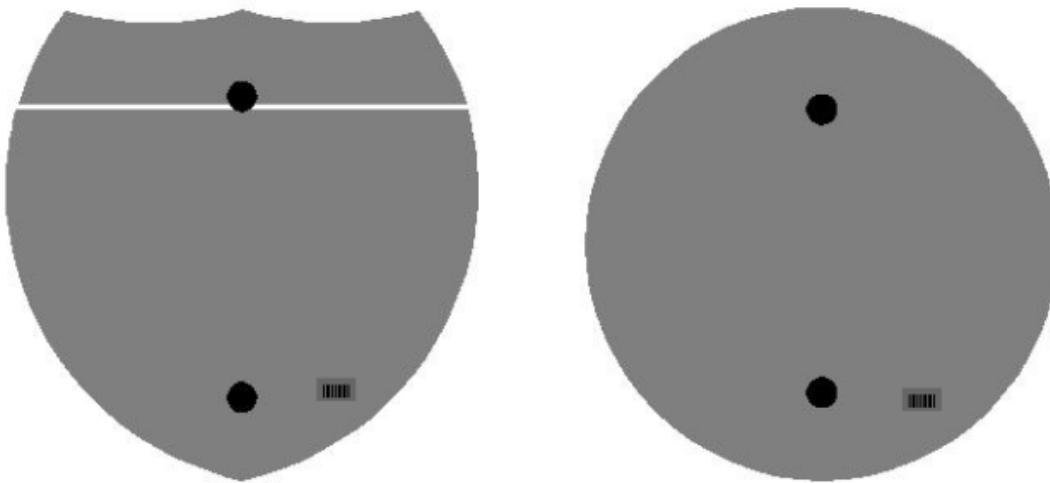
↑
2" Wide Post



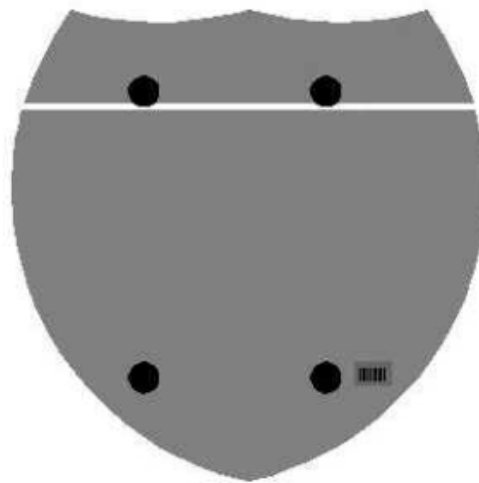
One Sign Post



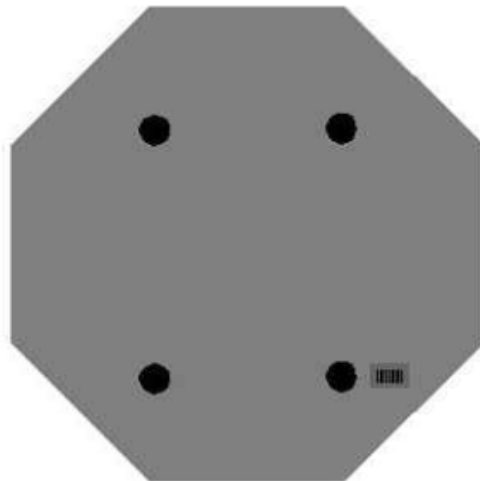
One Sign Post



Double Sign Post



Interstate
Shield

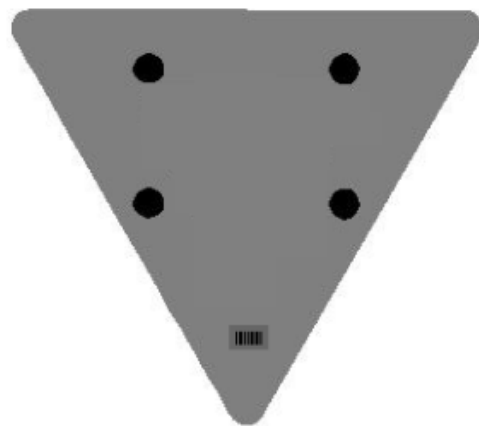


48" Stop

2 Post Signs



↑
2" Wide Post



SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE

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

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide an adhesive conforming to the following requirements:

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

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

2.2. Equipment.

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

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

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

3. CONSTRUCTION.

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

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

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

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's certification to the Engineer stating the material conforms to all requirements herein prior to use.

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

4. MEASUREMENT. The Department will measure the quantity of Pavement Joint Adhesive in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of Pavement Joint Adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the Pavement Joint Adhesive.
5. PAYMENT. The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

11N

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

Code
20071EC

Pay Item
Joint Adhesive

Pay Unit
Linear Foot

May 7, 2014

SPECIAL PROVISION FOR EMBANKMENT AT BRIDGE END BENT STRUCTURES

This Special Provision will apply when indicated on the plans or in the proposal. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, Current Edition.

1.0 DESCRIPTION. Construct a soil, granular, or rock embankment with soil, granular or cohesive pile core and place structure granular backfill, as the Plans require. Construct the embankment according to the requirements of this Special Provision, the Plans, Standard Drawing RGX 100 and 105, and the Standard Specifications, Current Edition.

2.0 MATERIALS.

2.1 Granular Embankment. Conform to Subsection 805.10. When Granular Embankment materials are erodible or unstable according to Subsection 805.03.04, use the Special Construction Methods found in 3.2 of the Special Provision.

2.2 Rock Embankment. Provide durable rock from roadway excavation that consists principally of Unweathered Limestone, Durable Shale (SDI equal to or greater than 95 according to KM 64-513), or Durable Sandstone.

2.3 Pile Core. Provide a pile core in the area of the embankments where deep foundations are to be installed unless otherwise specified. The Pile Core is the zone indicated on Standard Drawings RGX 100 and 105 designated as Pile Core. Material control of the pile core area during embankment construction is always required. Proper Pile Core construction is required for installation of foundation elements such as drilled or driven piles or drilled shafts. The type of material used to construct the pile core is as directed in the plans or below. Typically, the pile core area will be constructed from the same material used to construct the surrounding embankment. Pile Core can be classified as one of three types:

A) Pile Core - Conform to Section 206 of the Standard Specifications. Provide pile core material consisting of the same material as the adjacent embankment except the material in the pile core area shall be free of boulders or particle sizes larger than 4 inches in any dimension or any other obstructions that may hinder pile driving operations. If the pile core material hinders pile driving operations, take the appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

B) Granular Pile Core. Granular pile core is required only when specified in the plans. Select a gradation of durable rock to facilitate pile driving that conforms to Subsection 805.11. If granular pile core material hinders pile driving operations, take appropriate means necessary to reach the required pile tip elevation, at no expense to the Department.

C) Cohesive Pile Core. Cohesive Pile Core is required only when specified in the plans. Conform to Section 206 of the Standard Specifications and use soil with at least 50 percent passing a No. 4 sieve having a minimum Plasticity Index (PI) of 10. In addition, keep the cohesive pile core free of boulders, larger than 4 inches in any dimension, or any other obstructions, which would interfere with drilling operations. If cohesive pile core material interferes with drilling operations, take appropriate means necessary to maintain

excavation stability, at no expense to the Department.

2.4 Structure Granular Backfill. Conform to Subsection 805.11

2.5 Geotextile Fabric. Conform to Type I or Type IV in Section 214 and 843.

3.0 CONSTRUCTION.

3.1 General. Construct roadway embankments at end bents according to Section 206 and in accordance with the Special Provision, the Plans, and Standard Drawings for the full embankment section. In some instances, granular or rock embankment will be required for embankment construction for stability purposes, but this special provision does not prevent the use of soil when appropriate. Refer to the plans for specific details regarding material requirements for embankment construction.

Place and compact the pile core and structure granular backfill according to the applicable density requirements for the project. If the embankment and pile core are dissimilar materials (i.e., a granular pile core is used with a soil embankment or a cohesive pile core is used with a granular embankment), a Geotextile Fabric, Type IV, will be required between the pile core and embankment in accordance with Sections 214 and 843 of the Standard Specifications.

When granular or rock embankment is required for embankment construction, conform to the general requirements of Subsection 206.03.02 B. In addition, place the material in no greater than 2-foot loose lifts and compact with a vibrating smooth wheel roller capable of producing a minimum centrifugal force of 15 tons. Apply these requirements to the full width of the embankment for a distance of half the embankment height or 50 feet, whichever is greater, as shown on Standard Drawing RGX-105.

When using granular pile core, install 8-inch perforated underdrain pipe at or near the elevation of the original ground in the approximate locations depicted on the standard drawing, and as the Engineer directs, to ensure positive drainage of the embankment. Wrap the perforated pipe with a fabric of a type recommended by the pipe manufacturer.

After constructing the embankment, excavate for the end bent cap, drive piling, install shafts or other foundation elements, place the mortar bed, construct the end bent, and complete the embankment to finish grade according to the construction sequence shown on the Plans or Standard Drawings and as specified hereinafter.

Certain projects may require widening of existing embankments and the removal of substructures. Construct embankment according to the plans. Substructure removal shall be completed according to the plans and Section 203. Excavation may be required at the existing embankment in order to place the structure granular backfill as shown in the Standard Drawings.

After piles are driven or shafts installed (see design drawings), slope the bottom of the excavation towards the ends of the trench as noted on the plans for drainage. Using a separate pour, place concrete mortar, or any class concrete, to provide a base for forming and placing the cap. Place side forms for the end bent after the mortar has set sufficiently to support workmen and forms without being disturbed.

Install 4-inch perforated pipe in accordance with the plans and Standard Drawings. In the event slope protection extends above the elevation of the perforated pipe, extend the pipe through the slope protection.

After placing the end bent cap and achieving required concrete cylinder strengths, remove adjacent forms and fill the excavation with compacted structure granular backfill material (maximum 1' loose lifts) to the level of the berm prior to placing beams for the bridge. Place Type IV geotextile fabric between embankment material and structure granular backfill. After completing the end bent backwall, or after completing the span end

wall, place the compacted structure granular backfill (maximum 1' loose lifts) to subgrade elevation. If the original excavation is enlarged, fill the entire volume with compacted structure granular backfill (maximum 1' loose lifts) at no expense to the Department. Do not place backfill before removing adjacent form work. Place structure granular backfill material in trench ditches at the ends of the excavation. Place Geotextile Fabric, Type IV over the surface of the compacted structure granular backfill prior to placing aggregate base course.

Tamp the backfill with hand tampers, pneumatic tampers, or other means approved by the Engineer. Thoroughly compact the backfill under the overhanging portions of the structure to ensure that the backfill is in intimate contact with the sides of the structure.

Do not apply seeding, sodding, or other vegetation to the exposed granular embankment.

3.2 Special Construction Methods. Erodible or unstable materials may erode even when protected by riprap or channel lining; use the special construction method described below when using these materials.

Use fine aggregates or friable sandstone granular embankment at "dry land" structures only. Do not use them at stream crossings or locations subject to flood waters.

For erodible or unstable materials having 50 percent or more passing the No. 4 sieve, protect with geotextile fabric. Extend the fabric from the original ground to the top of slope over the entire area of the embankment slopes on each side of, and in front of, the end bent. Cover the fabric with at least 12 inches of non-erodible material.

For erodible or unstable materials having less than 50 percent passing a No. 4 sieve, cover with at least 12 inches of non-erodible material.

Where erodible or unstable granular embankment will be protected by riprap or channel lining, place Type IV geotextile fabric between the embankment and the specified slope protection.

4.0 MEASUREMENT.

4.1 Granular Embankment. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure for payment any Granular Embankment that is not called for in the plans.

The Department will not measure for payment any special construction caused by using erodible or unstable materials and will consider it incidental to the Granular Embankment regardless of whether the erodible or unstable material was specified or permitted.

4.2 Rock Embankment. The Department will not measure for payment any rock embankment and will consider it incidental to roadway excavation or embankment in place, as applicable. Rock embankments will be constructed using granular embankment on projects where there is no available rock present within the excavation limits of the project.

4.3 Pile Core. Pile core will be measured and paid under roadway excavation or embankment in place, as applicable. The Department will not measure the pile core for separate payment. The Department will not measure for payment the 8-inch perforated underdrain pipe and will consider it incidental to the Pile Core.

4.4 Structure Granular Backfill. The Department will measure the quantity in cubic yards using the plan quantity, increased or decreased by authorized adjustments as specified in Section 204. The Department will not measure any additional material required for backfill outside the limits shown on the Plans and Standard Drawings for payment and will

consider it incidental to the work.

The Department will not measure for payment the 4-inch perforated underdrain pipe and will consider it incidental to the Structure Granular Backfill.

4.5 Geotextile Fabric. The Department will not measure the quantity of fabric used for separating dissimilar materials when constructing the embankment and pile core and will consider it incidental to embankment construction.

The Department will not measure for payment the Geotextile Fabric used to separate the Structure Granular Backfill from the embankment and aggregate base course and will consider it incidental to Structure Granular Backfill.

The Department will not measure for payment the Geotextile Fabric required for construction with erodible or unstable materials and will consider it incidental to embankment construction.

4.6 End Bent. The Department will measure the quantities according to the Contract. The Department will not measure furnishing and placing the 2-inch mortar or concrete bed for payment and will consider it incidental to the end bent construction.

4.7 Structure Excavation. The Department will not measure structure excavation on new embankments for payment and will consider it incidental to the Structure Granular Backfill or Concrete as applicable.

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

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02223	Granular Embankment	Cubic Yards
02231	Structure Granular Backfill	Cubic Yards

The Department will consider payment as full compensation for all work required in this provision.

September 16, 2016

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

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

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

ATTACHMENTS

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

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

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

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS**

**EMPLOYMENT REQUIREMENTS
RELATING TO
NONDISCRIMINATION OF EMPLOYEES
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)**

**AN ACT OF THE KENTUCKY GENERAL ASSEMBLY
TO PREVENT DISCRIMINATION IN EMPLOYMENT**

**KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

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: KY170187 01/06/2017 KY187

Superseded General Decision Number: KY20160187

State: Kentucky

Construction Type: Highway

Counties: Adair, Barren, Bell, Breathitt, Casey, Clay, Clinton, Cumberland, Estill, Floyd, Garrard, Green, Harlan, Hart, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lincoln, Magoffin, Martin, McCreary, Menifee, Metcalfe, Monroe, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Russell, Taylor, Wayne, Whitley and Wolfe Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.20 for calendar year 2017 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 \$10.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017

SUKY2015-047 10/20/2015

	Rates	Fringes
BOILERMAKER.....	\$ 24.65	12.94
BRICKLAYER		
Bricklayer.....	\$ 22.90	8.50
Stone Mason.....	\$ 21.50	8.50
CARPENTER		
Carpenter.....	\$ 24.90	14.50

Piledriver.....	\$ 24.55	14.50
CEMENT MASON.....	\$ 21.25	8.50
ELECTRICIAN		
Electrician.....	\$ 29.36	10.55
Equipment Operator.....	\$ 26.90	10.31
Groundsman.....	\$ 17.79	8.51
Lineman.....	\$ 30.09	10.94

When workmen are required to work from bosum chairs, trusses, stacks, tanks, scaffolds, catwalks, radio and T.V. towers, structural steel (open, unprotected, unfloored raw steel), and bridges or similar hazardous locations where workmen are subject to fall, except where using JLG's and bucket trucks up to 75 feet: Add 25% to workman's base rate for 50 to 75 feet, and add 50% to workman's base rate for over 75 feet.

IRONWORKER.....	\$ 27.56	20.57
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LABORER

Group 1.....	\$ 21.80	12.36
Group 2.....	\$ 22.05	12.36
Group 3.....	\$ 22.10	12.36
Group 4.....	\$ 22.70	12.36

GROUP 1: Aging and Curing of Concrete (Any Mode or Method), Asbestos Abatement Worker, Asphalt Plant Laborers, Asphalt Laborers, Batch Truck Dumpers, Carpenter Tenders, Cement Mason Tenders, Cleaning of Machines, Concrete Laborers, Demolition Laborers, Dredging Laborers, Drill Tender, Environmental Laborer - Nuclear, Radiation, Toxic and Hazardous Waste - Level D, Flagmen, Grade Checkers, All Hand Digging and Hand Back Filling, Highway Marker Placers, Landscaping Laborers, Mesh Handlers and Placers, Puddler, Railroad Laborers, Rip-rap and Grouters, Right of Way Laborers, Sign, Guard Rail and Fence Installers (All Types), Signalmen, Sound Barrier Installer, Storm and Sanitary Sewer Laborers, Swampers, Truck Spotters and Dumpers, Wrecking of Concrete Forms, General Cleanup

GROUP 2: Batter Board Men (Sanitary and Storm Sewer), Brickmason Tenders, Mortar Mixer Operator, Scaffold Builders, Burner and Welder, Bushammers, Chain Saw Operator, Concrete Saw Operators, Deckhand Scow Man, Dry Cement Handlers, Environmental Laborers - Nuclear, Radiation, Toxic and Hazardous Waste - Level C, Forklift Operators for Masonry, Form Setters, Green Concrete Cutting, Hand Operated Grouter and Grinder Machine Operator, Jack Hammers, Lead Paint Abatement, Pavement Breakers, Paving Joint Machine, Pipe Layers - Laser Operators (Non-metallic), Plastic Pipe Fusion, Power Driven Georgia Buggy and Wheel Barrow, Power Post Hole

Diggers, Precast Manhole Setters, Walk-behind Tampers, Walk-behind Trenchers, Sand Blasters, Concrete Chippers, Surface Grinders, Vibrator Operators, Wagon Drillers

GROUP 3: Air Track Driller (All Types), Asphalt Luteman and Rakers, Gunnite Nozzleman, Gunnite Operators and Mixers, Grout Pump Operator, Powderman and Blaster, Side Rail Setters, Rail Paved Ditches, Screw Operators, Tunnel Laborers (Free Air), Water Blasters

GROUP 4: Caisson Workers (Free Air), Cement Finishers, Environmental Laborer - Nuclear, Radiation, Toxic and Hazardous Waste - Level A and B, miners and Drillers (Free Air), Tunnel Blasters, and Tunnel Mockers (Free Air), Directional and Horizontal Boring, Air Track Drillers (All Types), Powder Man and Blasters, Troxler and Concrete Tester if Laborer is Utilized

PAINTER

All Excluding Bridges.....	\$ 19.92	9.57
Bridges.....	\$ 23.92	10.07

PLUMBER.....	\$ 22.52	7.80
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POWER EQUIPMENT OPERATOR:

Group 1.....	\$ 29.95	14.40
Group 2.....	\$ 29.95	14.40
Group 3.....	\$ 27.26	14.40
Group 4.....	\$ 26.96	14.40

GROUP 1: Auto Patrol, Batch Plant, Bituminous Paver, Cable-Way, Clamshell, Concrete Mixer (21 cu ft or over), Concrete Pump, Crane, Crusher Plant, Derrick, Derrick Boat, Ditching and Trenching Machine, Dragline, Dredge Engineer, Elevator (regardless of ownership when used for hoisting any building material), Elevating Grader and all types of Loaders, Hoe-type Machine, Hoisting Engine, Locomotive, LeTourneau or Carry-all Scoop, Bulldozer, Mechanic, Orangepeel Bucket, Piledriver, Power Blade, Roller (Bituminous), Roller (Earth), Roller (Rock), Scarifier, Shovel, Tractor Shovel, Truck Crane, Well Point, Winch Truck, Push Dozer, Grout Pump, High Lift, Fork Lift (regardless of lift height), all types of Boom Cats, Multiple Operator, Core Drill, Tow or Push Boat, A-Frame Winch Truck, Concrete Paver, Grade-All, Hoist, Hyster, Material Pump, Pumpcrete, Ross Carrier, Sheepfoot, Sideboom, Throttle-Valve Man, Rotary Drill, Power Generator, Mucking Machine, Rock Spreader attached to Equipment, Scoopmobile, KeCal Loader, Tower Cranes, (French, German and other types), Hydrocrane, Tugger, Backfiller Gurries, Self-propelled Compactor, Self-Contained Hydraulic Percussion Drill

GROUP 2: All Air Compressors (200 cu ft/min or greater), Bituminous Mixer, Concrete Mixer (21 cu. ft. or over), Welding Machine, Form Grader, Tractor (50 hp and over), Bull Float, Finish Machine, Outboard Motor Boat, Brakeman, Mechanic Tender, Whirly Oiler, Tract-air, Road Widening Trencher, Articulating Trucks

GROUP 3: Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4: Bituminous Distributor, Cement Gun, Conveyor, Mud Jack, Paving Joint Machine, Pump, Tamping Machine, Tractor (under 50 hp), Vibrator, Oiler, Air Compressor (under 200 cu ft per minute), Concrete Saw, Burlap and Curing Machine, Hydro Seeder, Power Form Handling Equipment, Deckhand Oiler, Hydraulic Post Driver

SHEET METAL WORKER.....\$ 20.40 7.80

TRUCK DRIVER

Driver (3 Tons and Over),		
Driver (Truck Mounted		
Rotary Drill).....\$ 23.74		14.50
Driver (3 Tons and Under),		
Tire Changer and Truck		
Mechanic Tender.....\$ 23.53		14.50
Driver (Semi-Trailer or		
Pole Trailer), Driver		
(Dump Truck, Tandem Axle),		
Driver of Distributor.....\$ 23.40		14.50
Driver on Mixer Trucks		
(All Types).....\$ 23.45		14.50
Driver on Pavement Breakers.\$ 23.55		14.50
Driver, Euclid and Other		
Heavy Earth Moving		
Equipment and Low Boy.....\$ 24.31		14.50
Driver, Winch Truck and A-		
Frame when used in		
Transporting Materials.....\$ 23.30		14.50
Greaser on Greasing		
Facilities.....\$ 24.40		14.50
Truck Mechanic.....\$ 23.50		14.50
Truck Tender and		
Warehouseman.....\$ 23.20		14.50

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
2.5%	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 Pike 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

PROPOSAL BID ITEMS

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Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	19,777.00	TON		\$	
0020	00100		ASPHALT SEAL AGGREGATE	179.90	TON		\$	
0030	00103		ASPHALT SEAL COAT	21.58	TON		\$	
0040	00212		CL2 ASPH BASE 1.00D PG64-22	2,949.00	TON		\$	
0050	00214		CL3 ASPH BASE 1.00D PG64-22	12,370.00	TON		\$	
0060	00301		CL2 ASPH SURF 0.38D PG64-22	938.00	TON		\$	
0070	00388		CL3 ASPH SURF 0.38B PG64-22	2,334.00	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0080	00078		CRUSHED AGGREGATE SIZE NO 2	7.00	TON		\$	
0090	01000		PERFORATED PIPE-4 IN	445.00	LF		\$	
0100	01001		PERFORATED PIPE-6 IN	400.00	LF		\$	
0110	01010		NON-PERFORATED PIPE-4 IN	294.00	LF		\$	
0120	01011		NON-PERFORATED PIPE-6 IN	20.00	LF		\$	
0130	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		\$	
0140	01020		PERF PIPE HEADWALL TY 1-4 IN	2.00	EACH		\$	
0150	01024		PERF PIPE HEADWALL TY 2-4 IN	1.00	EACH		\$	
0160	01028		PERF PIPE HEADWALL TY 3-4 IN	2.00	EACH		\$	
0170	01032		PERF PIPE HEADWALL TY 4-4 IN	1.00	EACH		\$	
0180	01033		PERF PIPE HEADWALL TY 4-6 IN	1.00	EACH		\$	
0190	01691		FLUME INLET TYPE 2	3.00	EACH		\$	
0200	01891		ISLAND HEADER CURB TYPE 2	116.00	LF		\$	
0210	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	30.00	EACH		\$	
0220	01990		DELINEATOR FOR BARRIER WALL-B/W	40.00	EACH		\$	
0230	02003		RELOCATE TEMP CONC BARRIER	2,000.00	LF		\$	
0240	02014		BARRICADE-TYPE III	8.00	EACH		\$	
0250	02159		TEMP DITCH	5,245.00	LF		\$	
0260	02160		CLEAN TEMP DITCH	2,623.00	LF		\$	
0270	02200		ROADWAY EXCAVATION	1,129,131.00	CUYD		\$	
0280	02242		WATER (FOR DUST CONTROL)	25.00	MGAL		\$	
0290	02351		GUARDRAIL-STEEL W BEAM-S FACE	1,550.00	LF		\$	
0300	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	8.00	EACH		\$	
0310	02367		GUARDRAIL END TREATMENT TYPE 1	5.00	EACH		\$	
0320	02369		GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH		\$	
0330	02371		GUARDRAIL END TREATMENT TYPE 7	2.00	EACH		\$	
0340	02381		REMOVE GUARDRAIL	367.00	LF		\$	
0350	02391		GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH		\$	
0360	02429		RIGHT-OF-WAY MONUMENT TYPE 1	29.00	EACH		\$	
0370	02432		WITNESS POST	15.00	EACH		\$	
0380	02488		CHANNEL LINING CLASS IV	21,799.00	CUYD		\$	
0390	02545		CLEARING AND GRUBBING (APPROXIMATELY 26.5 ACRES)	1.00	LS		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0400	02562		TEMPORARY SIGNS	293.00	SQFT		\$	
0410	02585		EDGE KEY	93.00	LF		\$	
0420	02599		FABRIC-GEOTEXTILE TYPE IV	902.00	SQYD		\$	
0430	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0440	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0450	02696		SHOULDER RUMBLE STRIPS	2,980.00	LF		\$	
0460	02701		TEMP SILT FENCE	5,245.00	LF		\$	
0470	02703		SILT TRAP TYPE A	84.00	EACH		\$	
0480	02704		SILT TRAP TYPE B	84.00	EACH		\$	
0490	02705		SILT TRAP TYPE C	84.00	EACH		\$	
0500	02706		CLEAN SILT TRAP TYPE A	84.00	EACH		\$	
0510	02707		CLEAN SILT TRAP TYPE B	84.00	EACH		\$	
0520	02708		CLEAN SILT TRAP TYPE C	84.00	EACH		\$	
0530	02711		SEDIMENTATION BASIN	3,000.00	CUYD		\$	
0540	02712		CLEAN SEDIMENTATION BASIN	3,000.00	CUYD		\$	
0550	02720		SIDEWALK-4 IN CONCRETE	23.00	SQYD		\$	
0560	02726		STAKING	1.00	LS		\$	
0570	02731		REMOVE STRUCTURE (KY 80 TRIPLE 10' X 8' RCBC)	1.00	LS		\$	
0580	02898		RELOCATE CRASH CUSHION	4.00	EACH		\$	
0590	03171		CONCRETE BARRIER WALL TYPE 9T	2,000.00	LF		\$	
0600	05950		EROSION CONTROL BLANKET	5,000.00	SQYD		\$	
0610	05952		TEMP MULCH	270,570.00	SQYD		\$	
0620	05953		TEMP SEEDING AND PROTECTION	202,928.00	SQYD		\$	
0630	05963		INITIAL FERTILIZER	10.31	TON		\$	
0640	05964		20-10-10 FERTILIZER	17.20	TON		\$	
0650	05985		SEEDING AND PROTECTION	327,445.00	SQYD		\$	
0660	05992		AGRICULTURAL LIMESTONE	206.12	TON		\$	
0670	06510		PAVE STRIPING-TEMP PAINT-4 IN	3,450.00	LF		\$	
0680	06515		PAVE STRIPING-PERM PAINT-6 IN	11,170.00	LF		\$	
0690	06568		PAVE MARKING-THERMO STOP BAR-24IN	93.00	LF		\$	
0700	06574		PAVE MARKING-THERMO CURV ARROW	17.00	EACH		\$	
0710	08901		CRASH CUSHION TY VI CLASS BT TL2	4.00	EACH		\$	
0720	10020NS		FUEL ADJUSTMENT	231,369.00	DOLL	\$1.00	\$	\$231,369.00
0730	10030NS		ASPHALT ADJUSTMENT	72,769.00	DOLL	\$1.00	\$	\$72,769.00
0740	20071EC		JOINT ADHESIVE	25,640.00	LF		\$	
0750	20191ED		OBJECT MARKER TY 3	5.00	EACH		\$	
0760	20911ED		HIGH SLUMP 3000 PSI GROUT	779.00	CUYD		\$	
0770	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE	1.00	LS		\$	
0780	24814EC		PIPELINE INSPECTION	470.00	LF		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0790	00440		ENTRANCE PIPE-15 IN	100.00	LF		\$	
0800	00460		CULVERT PIPE-12 IN	21.00	LF		\$	
0810	00462		CULVERT PIPE-18 IN	70.00	LF		\$	
0820	00522		STORM SEWER PIPE-18 IN	65.00	LF		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0830	00524		STORM SEWER PIPE-24 IN	3.00	LF		\$	
0840	00526		STORM SEWER PIPE-30 IN	196.00	LF		\$	
0850	00528		STORM SEWER PIPE-36 IN	76.00	LF		\$	
0860	01200		PIPE CULVERT HEADWALL-12 IN	1.00	EACH		\$	
0870	01204		PIPE CULVERT HEADWALL-18 IN	2.00	EACH		\$	
0880	01210		PIPE CULVERT HEADWALL-30 IN	1.00	EACH		\$	
0890	01212		PIPE CULVERT HEADWALL-36 IN	1.00	EACH		\$	
0900	01450		S & F BOX INLET-OUTLET-18 IN	1.00	EACH		\$	
0910	01490		DROP BOX INLET TYPE 1	2.00	EACH		\$	
0920	01493		DROP BOX INLET TYPE 2	3.00	EACH		\$	
0930	01559		DROP BOX INLET TYPE 13G	1.00	EACH		\$	
0940	01577		DROP BOX INLET TYPE 14	1.00	EACH		\$	
0950	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	717.00	SQYD	\$2.00	\$	\$1,434.00

Section: 0004 - BRIDGE - KY 80 OVER BEAVER CREEK - DWG. 25226

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0960	02231		STRUCTURE GRANULAR BACKFILL	270.00	CUYD		\$	
0970	02611		HANDRAIL-TYPE A-1	85.10	LF		\$	
0980	02998		MASONRY COATING	376.40	SQYD		\$	
0990	03299		ARMORED EDGE FOR CONCRETE	107.70	LF		\$	
1000	08019		CYCLOPEAN STONE RIP RAP	388.00	TON		\$	
1010	08033		TEST PILES	41.00	LF		\$	
1020	08046		PILES-STEEL HP12X53	217.00	LF		\$	
1030	08094		PILE POINTS-12 IN	16.00	EACH		\$	
1040	08100		CONCRETE-CLASS A	56.40	CUYD		\$	
1050	08104		CONCRETE-CLASS AA	239.10	CUYD		\$	
1060	08150		STEEL REINFORCEMENT	6,432.00	LB		\$	
1070	08151		STEEL REINFORCEMENT-EPOXY COATED	42,115.00	LB		\$	
1080	08633		PRECAST PC I BEAM TYPE 3	668.00	LF		\$	
1090	21532ED		RAIL SYSTEM TYPE III	85.10	LF		\$	

Section: 0005 - BRIDGE - RAMP 2 OVER KY 1373 & BEAVER CREEK - DWG. 27671

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1100	02231		STRUCTURE GRANULAR BACKFILL	1,107.00	CUYD		\$	
1110	02998		MASONRY COATING	2,101.00	SQYD		\$	
1120	03299		ARMORED EDGE FOR CONCRETE	120.00	LF		\$	
1130	08001		STRUCTURE EXCAVATION-COMMON	137.00	CUYD		\$	
1140	08002		STRUCTURE EXCAV-SOLID ROCK	980.00	CUYD		\$	
1150	08020		CRUSHED AGGREGATE SLOPE PROT	708.00	TON		\$	
1160	08033		TEST PILES	63.00	LF		\$	
1170	08046		PILES-STEEL HP12X53	584.00	LF		\$	
1180	08094		PILE POINTS-12 IN	11.00	EACH		\$	
1190	08100		CONCRETE-CLASS A	496.00	CUYD		\$	
1200	08104		CONCRETE-CLASS AA	782.00	CUYD		\$	
1210	08150		STEEL REINFORCEMENT	72,948.00	LB		\$	
1220	08151		STEEL REINFORCEMENT-EPOXY COATED	187,293.00	LB		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1230	08160		STRUCTURAL STEEL (APPROXIMATELY 1,220 LBS)	1.00	LS		\$	
1240	08500		APPROACH SLAB	167.00	SQYD		\$	
1250	08637		PRECAST PC I BEAM TYPE 7	616.00	LF		\$	
1260	20743ED		DRILLED SHAFT 54 IN-SOLID ROCK	33.00	LF		\$	
1270	20744ED		DRILLED SHAFT 60 IN-COMMON	51.00	LF		\$	
1280	21532ED		RAIL SYSTEM TYPE III	621.00	LF		\$	
1290	23953EC		BEAM ERECTION	14.00	EACH		\$	

Section: 0006 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1300	06406		SBM ALUM SHEET SIGNS .080 IN	201.00	SQFT		\$	
1310	06407		SBM ALUM SHEET SIGNS .125 IN	35.00	SQFT		\$	
1320	06410		STEEL POST TYPE 1	578.00	LF		\$	
1330	24631EC		BARCODE SIGN INVENTORY	60.00	EACH		\$	

Section: 0007 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1340	04714		POLE 120 FT MTG HT HIGH MAST	4.00	EACH		\$	
1350	04761		LIGHTING CONTROL EQUIPMENT	1.00	EACH		\$	
1360	04797		CONDUIT-3 IN	300.00	LF		\$	
1370	04800		MARKER	5.00	EACH		\$	
1380	04820		TRENCHING AND BACKFILLING	2,235.00	LF		\$	
1390	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	6.00	EACH		\$	
1400	21543EN		BORE AND JACK CONDUIT	200.00	LF		\$	
1410	23161EN		POLE BASE-HIGH MAST	38.00	CUYD		\$	
1420	24749EC		HIGH MAST LED LUMINAIRE	24.00	EACH		\$	
1430	24851EC		CABLE-NO. 10/3C DUCTED	3,419.00	LF		\$	

Section: 0008 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1440	14003		W CAP EXISTING MAIN	2.00	EACH		\$	
1450	14008		W ENCASMENT STEEL BORED RANGE 3	85.00	LF		\$	
1460	14014		W ENCASMENT STEEL OPEN CUT RANGE 3	35.00	LF		\$	
1470	14019		W FIRE HYDRANT ASSEMBLY	1.00	EACH		\$	
1480	14037		W PIPE DUCTILE IRON 08 INCH	25.00	LF		\$	
1490	14060		W PIPE PVC 08 INCH	1,035.00	LF		\$	
1500	14095		W TIE-IN 08 INCH	2.00	EACH		\$	
1510	14106		W VALVE 08 INCH	4.00	EACH		\$	
1520	14144		W LINE MARKER	6.00	EACH		\$	
1530	23667EC		WATER MAIN CREEK CROSSING	25.00	LF		\$	

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Section: 0009 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1540	02568		MOBILIZATION	1.00	LS		\$	
1550	02569		DEMOBILIZATION	1.00	LS		\$	



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/>
December 20, 2011

12-263.65

Section 6 LOP

expires 12/31/2017

Operations Division
Regulatory Branch (South)
ID No. LRL-2011-934

Mr. David Waldner
Director
Kentucky Transportation Cabinet
Division of Environmental Analysis
200 Mero Street
Frankfort, Kentucky 40622

21,101.92 EIU5
21,101.92 EIU5

Dear Mr. Waldner:

This is in regard to your application for a Department of the Army (DA) permit dated October 25, 2011, concerning a plan to realign Section 6 of U.S. 460 (KYTC Item 12-263.65) near Elkhorn City, in Pike County, Kentucky. We have reviewed your application and submitted information, 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 (LOP) criteria, as specified in our regulations and the procedures outlined in the LOP No. 200600259-pgj, issued on October 3, 2007. Therefore, you are authorized, in accordance with Section 404 of the Clean Water Act (CWA), to fill a total of 35,693 linear feet of stream and 0.411 acre of wetland. The impacts associated with the roadway construction include 947 linear feet of ephemeral stream, 9,208 linear feet intermittent stream and 9,290 linear feet of perennial stream impacts. The impacts associated with the excess material site include 0.411 acre of wetland, 4,180 linear feet of ephemeral stream, 9,884 linear feet intermittent stream and 2,184 linear feet of perennial stream impacts. Impacts would occur within Laurel Branch and unnamed tributaries, Pond Creek and unnamed tributaries, Jessie Branch and unnamed tributaries, Dunleary Hollow and unnamed tributaries, and an unnamed tributary of Russell Fork in the Upper Levisa Watershed. This permission is granted with the following conditions:

- 1) The project shall be constructed in accordance with plans included in the October 25, 2011 application for Kentucky Transportation Cabinet, Item No. 12-0263.65 for Department of the Army Permit.
- 2) You shall install and maintain adequate erosion/sedimentation controls around all disturbed earthen areas until such time as those areas have been stabilized and revegetated.

- 3) You shall provide receipt from the Kentucky Department of Fish and Wildlife Resources Stream and Wetland Mitigation Program for the purchase (21,101.92) Ecological Integrity Units (EIUs) or (\$8,356,363.49). Credits must be purchased prior to the discharge of fill into "waters of the United States".
- 4) You shall provide receipt from the Kentucky Department of Fish and Wildlife Resources Stream and Wetland Mitigation Program for the purchase 0.99 acres Adjusted Mitigation Unit (AMUs) or (\$29,592.00). Credits must be purchased prior to the discharge of fill into "waters of the United States".
- 5) The time limit for completing the work authorized ends on December 31, 2017. 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.
- 6) Upon completion of construction you are to notify the District Engineer. The enclosed Completion Report form must be completed and returned to this office.
- 7) 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.

This letter contains a proffered permit for your proposed project. If you object to these decisions, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the Lakes and Rivers Division Office at the following address.

Ms. Pauline Thorndike
Great Lakes and Ohio River Division
CELRD-CM-O
PO Box 1159
Cincinnati, OH 45201-1159
(513) 684-6212

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division

Office within **60 days** of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **February 20, 2012**.

It is not necessary to submit an RFA form to the Division office if you do not object to the decision in this letter.

Copies of this letter will be sent to the appropriate coordinating agencies (see enclosure for addresses).

FOR THE DISTRICT ENGINEER:



Todd Hagman
Project Manager
Regulatory Branch

Enclosures

(I accept the conditions of this authorization):



Kentucky Transportation Cabinet

1/3/12

Date

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.

Addresses for Coordinating Agencies

Ms. Stephanie Fulton, Ecologist
USEPA, Region IV
Water Protection Division Wetlands
& Marine Regulatory Section
Sam Nunn Atlanta Federal Center Mail Code 9T25
61 Forsyth Street, SW
Atlanta, GA 30303

Mr. Virgil Lee Andrews, Field Supervisor
U.S. Fish & Wildlife Service
J.C. Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601

Ms. Sandra Gruzesky, Director
Kentucky Energy & Environment Cabinet
Division of Water
200 Fair Oaks, 4th Floor
Frankfort, KY 40601

Dr. Jon Gassett, Commissioner
Ky. Dept. of Fish and Wildlife Resources
#1 Game Farm Road
Frankfort, KY 40601

Mr. Mark Dennen
Executive Director
State Historic Preservation Officer
Kentucky Heritage Council
300 Washington Street
Frankfort, KY 40601

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Kentucky Transportation Cabinet		File Number: LRL-2011-934	Date: 12/20/2011
Attached is:			See Section below
X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL	C	
	APPROVED JURISDICTIONAL DETERMINATION	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

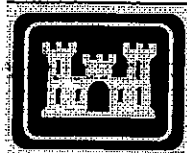
Todd Hagman
US Army Corps of Engineers – Louisville District
PO Box 59
Louisville, KY 40201-0059
(502) 315-6683

If you only have questions regarding the appeal process you may also contact:

Ms. Pauline Thorndike
US Army Corps of Engineers – Great Lakes and Ohio River Div
CELRD-PDS-O
550 Main Street, Rm 10032
Cincinnati, OH 45201-3222
(513) 684-6212

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<p>_____ Signature of appellant or agent.</p>	<p>Date:</p>	<p>Telephone number:</p>
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**U S Army USACE
of Engineers
Huntington District**

Public Notice

In reply refer to Public Notice No. 2004000681 Issuance Date: March 28, 2005

Stream: Beaver Creek

Closing Date: April 26, 2005

Please address all comments and inquiries to:

U.S. Army USACE of Engineers, Huntington District

ATTN: CELRH-OR-F Public Notice No. (reference above)

502 Eighth Street

Huntington, West Virginia 25701-2070

Phone: (304) 399-5710

PUBLIC NOTICE: The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you will participate in this process.

REGULATORY PROGRAM: Since its early history, the U.S. Army Corps of Engineers (Corps) has played an important role in the development of the nation's water resources. Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the Corps Regulatory Program.

SECTION 10: The Corps is directed by Congress under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) to regulate all work or structures in or affecting the course, condition or capacity of navigable waters of the United States (U.S.). The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

SECTION 404: The Corps is directed by Congress under Section 404 of the Clean Water Act (33 USC 1344) to regulate the discharge of dredged and fill material into all waters of the United States, including wetlands. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

TO WHOM IT MAY CONCERN: The following application has been submitted for a Department of the Army Permit under the provisions of Section 404 of the Clean Water Act. This notice serves as the Corps of Engineers' request to the Kentucky Division of Water and the Virginia Division of Environmental Quality to act on Section 401 Water Quality Certification for the following application.

APPLICANT: Kentucky Transportation Cabinet
Department of Highways
State Office Building, 10th Floor
Frankfort, Kentucky 40622

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LOCATION: The project is located in Beaver Creek, Russell Fork, Stonecoal Fork, Mud Lick Creek, House Log Fork, Wolfpen Branch, School House Branch, Grassy Creek and their unnamed tributaries, near Beaver Creek Bottom, Pike County Kentucky to Buchanan and Dickenson County Line in Virginia.

DESCRIPTION: The portion of the project located in Kentucky, would involve the discharge of dredged or fill material into waters of the United States in conjunction with the reconstruction of US-460. The project would include the placement of approximately 19 culverts, three bridges and the construction of four waste sites. The culverts would impact 5,018 linear feet of ephemeral streams and 1,813 linear feet of intermittent streams. Stream fills and relocations would impact 347 linear feet of perennial, 7,066 linear feet of intermittent and 3,128 linear feet of ephemeral stream. The four waste sites would cover 14,265 feet of intermittent and 4,998 linear feet of ephemeral stream. Detailed descriptions of proposed impacts are listed in Attachment A.

In order to compensate for adverse impact to waters of the U. S. the applicant has proposed to pay \$5,581,252.34 as an in-lieu fee contribution to the Kentucky Department of Fish and Wildlife Stream Restoration Fund. This payment amount was calculated based on an assessment of project impacts in accordance with the Eastern Kentucky Stream Protocol. The applicant has indicated that upon or near project completion, on-site mitigation opportunities may become available based on the final location and configuration of proposed spoil sites. In the event such mitigation opportunities are identified, the applicant would re-evaluate the overall mitigation requirements and would suggest the in-lieu fee payment be reduced to reflect the outstanding mitigation debt not offset by on-site compensation. Because the details associated with the potential for on-site mitigation projects are not yet available, the applicant has proposed to defer the in-lieu fee contribution until the end of project construction.

The proposed project extends into Virginia. The Norfolk and Huntington Corps Districts have coordinated and the Huntington District has assumed jurisdiction for this section of the project. The portion of the project located in Virginia, would involve the discharge of dredged or fill material into 729 linear feet of ephemeral stream and 839 linear feet of perennial stream. Approximately 0.30 acre of waters of the U.S. would be impacted by the project in Virginia. Plans of the proposed work are attached to this notice. A compensatory mitigation plan is currently being developed to offset adverse impacts to waters of the U.S in Virginia.

WATER QUALITY CERTIFICATION: A Section 401 Water Quality Certification is required for this project. It is the applicant's responsibility to obtain certifications from the Kentucky Division of Water and the Virginia Division of Environmental Quality.

HISTORIC AND CULTURAL RESOURCES: The National Register of Historic Places has been consulted and it has been determined there are no properties currently listed on the register in the area affected by the proposed project. A copy of this public notice will be sent to the State Historic Preservation Offices for their review. Comments concerning archeological sensitivity of a project area should be based upon collected data.

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ENDANGERED AND THREATENED SPECIES: The Huntington District has consulted the most recently available information and has determined the project is not likely to affect the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat of such species which has been determined to be critical. This public notice serves as a request to the U.S. Fish and Wildlife Service for any additional information they may have on whether any listed or proposed to be listed endangered or threatened species may be present in the area which would be affected by the activity, pursuant to Section 7(c) of the Endangered Species Act of 1972 (as amended).

PUBLIC INTEREST REVIEW AND COMMENT: This application will be reviewed in accordance with 33 CFR 320-331, the Regulatory Program of the U. S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U. S. Environmental Protection Agency pursuant to Section 404(b)(1) of the CWA. The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit that reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the proposal will be considered including the cumulative effects thereof; of those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act.

Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Written statements on these factors received in this office on or before the expiration date of this public notice will become a part of the record and will be considered in the final determination. A permit will be granted unless its issuance is found to be contrary to the public interest.

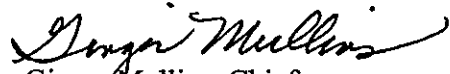
SOLICITATION OF COMMENTS: The public notice is being distributed to all known interested persons in order to assist in developing fact upon which a decision by the District Engineer may be based. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition. Any person who has an interest that may be

adversely affected by the issuance of a permit may request a public hearing. The request must be submitted in writing to the District Engineer on or before the expiration date of this notice and must clearly set forth the interest which may be adversely affected and the manner in which the interest may be adversely affected by the activity.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before the close of the comment period listed on page one of this Public Notice. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to

U.S. Army Corps of Engineers
ATTN: CELRH-OR-F Public Notice No. 200400681
502 Eighth Street
Huntington, West Virginia 25701-2070

If you have any questions concerning this public notice, please call Mrs. Sarah M. Workman of the South Regulatory Section at 304-399-5710.


Ginger Mullins, Chief
Regulatory Branch

(K, VA)

SUMMARY OF SECTION 404 IMPACTS

US 460, Sections 7, 8, and 9V

Pike County, Kentucky

The *Eastern Kentucky Stream Assessment Protocol* was used to assess stream impacts that will result from the project. The following is a summary of stream impacts for Sections 7 and 8 of the proposed project. A footprint of Section 9V showing the proposed beginning and end of the project is included. The design of Section 9V is in the preliminary stages and performing a detailed stream assessment to determine stream impacts is not possible.

The opportunity for on-site mitigation for this project is very limited due mainly to the very steep terrain throughout the project. Therefore, mitigation for the impacts on Sections 7 and 8 will be in the form of an in-lieu fee payment to the Kentucky Division of Fish and Wildlife Resources. The Stream Assessment Report for the project includes calculations of the proposed in-lieu fee based on the *In-Lieu Fee Compensatory Mitigation Calculator (version 2002.8)*.

Bridges and Culverts:

1. KY 80, Sta. 59+00 – Construct a 9 ft. (2.7 m) by 4 ft. (1.2 m) RCBC, 61 ft. (18.6 m) in length with 20 ft. (6.1 m) of inlet channel improvements and 18 ft. (5.5 m) of outlet channel improvements. (**Sheet 1 and 2**). The watershed is 132.7 acres (53.7 ha). This impacts 221 ft. (67.4 m) of existing stream. Field investigations indicate this is an intermittent stream and is an unnamed tributary of Russell Fork. Impact to waters of the U.S. is 0.02 acres (0.008 ha).
2. KY 80, Sta. 77+50 – Construct a 10 ft. (3.0 m) by 4 ft. (1.2 m) RCBC, 73 ft. (22.2 m) in length with 10 ft. (3.0 m) of inlet channel improvements and 145 ft. (44.2 m) of outlet channel improvements. (**Sheet 3 and 4**). The watershed is 106.4 acres (43 ha). This impacts 470 ft. (143.3 m) of existing stream. Field investigations indicate this is an ephemeral stream and is an unnamed tributary of Russell Fork. Impact to waters of the U.S. is 0.05 acres (0.02 ha).
3. Ramp 1, Sta. 205+25 – Construct a 8 ft. (2.4 m) by 4 ft. (1.2 m) RCBC, 76 ft. (23.2 m) in length with 30 ft. (9.1 m) of inlet channel improvements and 20 ft. (6.1 m) of outlet channel improvements. (**Sheet 3 and 5**). The watershed is 100.5 acres (40.7 ha). This impacts 229 ft. (69.8 m) of existing stream. Field investigations indicate this is ephemeral stream and is an unnamed tributary of Russell Fork. Impact to waters of the U.S. is 0.02 acres (0.009 ha).
4. KY 80, Sta. 88+35 to Sta. 89+20 – Construct a single-span bridge, 85 ft. (25.9 m) in length over Beaver Creek (**Sheet 6 and 7**). The drainage area at the bridge is 6.23 mi² (1614 ha). No channel work is proposed on the stream. There is no fill below ordinary high water and no permanent impacts to water are expected. If a temporary crossing is needed during construction, it will be the responsibility of the contractor to apply for approval.
5. Ramp 2, Sta. 310+72.50 to Sta. 314+50 – Construct a three-span bridge, 377.5 ft. (115 m) in length with two piers over Beaver Creek (**Sheet 8 and 9**). The drainage area at the bridge is 6.12 mi² (1585 ha). No channel work is proposed on the stream. Pier 1 is in the floodplain but not within the floodway and neither piers are below normal pool height. There is no fill below ordinary high water and no permanent impacts to water are expected. If a temporary crossing is needed during construction, it will be the responsibility of the contractor to apply for approval.
6. Sta. 769+00 – Construct a 36 in. (900 mm) pipe culvert 148 ft. (45.1 m) in length with 75 ft. (22.9 m) of outlet channel improvements (**Sheet 10 and 11**). This impacts 407 ft. (124.1 m) of existing stream and has a watershed of 11.13 acres (4.5 ha). Field investigations indicate this drainage is ephemeral in nature and is an unnamed tributary of Beaver Creek. The impact to waters of the U.S. is 0.015 acres (0.006 ha).

7. Sta. 788+50 – Construct a 36 in. (900 mm) pipe culvert 153 ft. (46.6 m) in length with 50 ft. (15.2 m) of outlet channel improvements (**Sheet 12 and 13**). This impacts 300 ft. (91.4 m) of existing stream and has a watershed of 12.2 acres (4.9 ha). Field investigations indicate this drainage is ephemeral in nature and is an unnamed tributary of Beaver Creek. The impact to waters U.S. is 0.014 acres (0.006 ha).
8. Sta. 807+33 – Construct a 8 ft. (2.4 m) by 4 ft. (1.2 m) RCBC, 200 ft. (61 m) in length with 154 ft. (46.9 m) of inlet channel improvements and 125 ft. (38.1 m) of outlet channel improvements (**Sheet 14 and 15**). The watershed is 95.3 acres (38.6 ha). This impacts 587 ft. (178.9 m) of existing stream. Field investigations indicate this is an intermittent stream and is an unnamed tributary of Beaver Creek. Impact to waters of the U.S. is 0.09 acres (0.04 ha).
9. Sta. 820+20 – Construct a 10 ft. (3.0 m) by 4 ft. (1.2 m) RCBC, 109 ft. (33.2 m) in length with 167 ft. (50.9 m) of inlet channel improvements and 170 ft. (51.8 m) of outlet channel improvements (**Sheet 16, 17, and 18**). The watershed is 148.9 acres (60.3 ha). This impacts 153 ft. (46.6 m) of existing stream. Field investigations indicate this is an intermittent stream and is an unnamed tributary of Beaver Creek. Impact to waters of the U.S. is 0.1 acres (0.04 ha).
10. Sta. 820+84.44, KY 1373 – Construct a 10 ft. (3.0 m) by 4 ft. (1.2 m) RCBC, 37 ft. (11.3 m) in length with 170 ft. (51.8 m) of inlet channel improvements and 74 ft. (22.6 m) of outlet channel improvements (**Sheet 16 and 19**). The inlet channel improvements are also the outlet channel improvements at Sta. 820+20. The watershed is 169.8 acres (68.7 ha). This impacts 153 ft. (46.6 m) of existing stream. Field investigations indicate this is an intermittent stream and is an unnamed tributary of Beaver Creek. Impact to waters of the U.S. is 0.06 acres (0.03 ha).
11. Sta. 49+00 to 52+25 (Beaver Creek Channel Change Stations) – Relocate 347 ft. (106 m) of Beaver Creek, which is a perennial stream (**Sheet 20**). The proposed channel will be 325 ft. (99 m) in length and impact to waters of the U.S. is 0.10 acres (0.04 ha).
12. Sta. 834+86 to 845+76 – Construct a ten-span bridge, 1090 ft (332 m) in length with nine piers that span Beaver Creek for traffic flowing eastbound on US 460 (**Sheet 20, 21, and 22**). The drainage area at the bridge is 4.82 mi² (1,248 ha). During construction 347 ft. (106 m) of existing Beaver Creek will be realigned. The relocation of Beaver Creek will have some negative short-term affects such as increased sediment during construction and possible disruption of normal flow. However, no disruptive, long-term affects on aquatic habitat are anticipated on Beaver Creek. There is no fill below ordinary high water and no piers are below normal pool height. Piers 3, 4, and 5 are within the 100-year floodplain but outside of the proposed 100-year floodway.
13. Sta. 835+45 to 846+85 – Construct a nine-span bridge, 1140 ft (347 m) in length with nine piers that span Beaver Creek for traffic flowing westbound on US 460 (**Sheet 20, 21, and 22**). The drainage area at the bridge is 4.82 mi² (1,248 ha). During construction 347 ft. (106 m) of existing Beaver Creek will be realigned. The relocation of Beaver Creek will have some negative short-term affects such as increased sediment during construction and possible disruption of normal flow. However, no disruptive, long-term affects on aquatic habitat are anticipated on Beaver Creek. There is no fill below ordinary high water and no piers are below normal pool height. Piers 3, 4, and 5 are within the 100-year floodplain but outside of the proposed 100-year floodway.
14. Sta. 500+80 Stonecoal Fork Road – Construct a 30 in. (750 mm) pipe culvert 68.8 ft. (21.0 m) in length (**Sheet 24, 25, and 26**). This impacts 68.8 ft. (21.0 m) of existing stream. Field investigations indicate that Stonecoal Fork is an intermittent stream and is a tributary of Beaver Creek. Stonecoal Fork has a watershed of 321.4 acres (130.1 ha). The impact to waters of the U.S. is 0.005 acres (0.002 ha).
15. Sta. 509+50 Stonecoal Fork Road – Construct a 66 in. (1700 mm) pipe culvert 81.9 ft. (25.0 m) in length (**Sheet 24, 27, and 28**). This impacts 81.9 ft. (25.0 m) of existing stream. Field investigations indicate that Stonecoal Fork is an intermittent stream and a tributary of Beaver Creek. Stonecoal

Fork has a watershed of 321.4 acres (130.1 ha). The impact to waters of the U.S. is 0.01 acres (0.004 ha).

16. Sta. 841+60, KY 1373 Sta. 3+27.38 – Construct a double 8 ft. (2.4 m) by 4 ft. (1.2 m) RCBC, 32 ft. (9.8 m) in length with 49 ft. (14.9 m) of outlet channel improvements. (**Sheet 21, 23, and 24**). A 24'X7'X4.5' (7.3X2.1X1.4 m³) stilling basin is located at the inlet of the double box culvert. The watershed is 321.4 acres (130.1 ha). Field investigations indicate Stonecoal Fork is an intermittent stream and a tributary of Beaver Creek. Impact to waters is 0.01 acres (0.0006 ha).
17. Sta. 859+50 – Construct a 60 in. (1500 mm) pipe culvert 148 ft. (45.1 m) in length (**Sheet 29 and 30**). This impacts 452 ft. (137.8 m) of existing stream. Field investigations indicate this is ephemeral in nature and is an unnamed tributary of Beaver Creek, with a watershed of 31.7 acres (12.8 ha). The impact to waters of the U.S. is 0.02 acres (0.007 ha).
18. Sta. 877+00 to 890+00 – Flow from an unnamed tributary of the Right Fork of Beaver Creek consisting of 557 ft. (169.8 m) of intermittent stream and 247 ft. (75.3 m) of ephemeral streams will be filled in with the flow diverted into flat bottom ditches (**Sheet 31**). Impact to waters of the U.S. is 0.07 acres (0.03 ha).
19. Sta. 882+00 – Construct a 72 in. (1800 mm) pipe culvert 260 ft. (79.2 m) in length with 180 ft. (54.9 m) of outlet channel design (**Sheet 31 and 32**). This impacts 852 ft. (259.7 m) of existing stream. Field investigations indicate this is an intermittent stream and an unnamed tributary of Right Fork of Beaver Creek, with a watershed of 61.9 acres (25.1 ha). The impact to waters of the U.S. is 0.06 acres (0.02 ha).
20. Sta. 906+00 to Sta. 936+00 – A tributary to Wolfpen Branch consisting of 3651 ft. (1112.8 m) of intermittent stream and 1649 ft. (502.6 m) of ephemeral will be filled in with the flow diverted into flat bottom ditches (**Sheet 33**). Impact to waters of the U.S. is 0.45 acres (0.18 ha).
21. Sta. 927+50 – Construct a 60 in. (1500 mm) pipe culvert 528 ft. (160.9 m) in length (**Sheet 33, 34, and 35**). This impacts 969 ft. (295.4 m) of existing stream. Field investigations indicate this is ephemeral in nature and is an unnamed tributary of Wolfpen Branch, with a watershed of 63.7 acres (25.8 ha). The impact to waters of the U.S. is 0.06 acres (0.02 ha).
22. Sta. 950+00, Haul Road Sta. 188+50 – Construct a 54 in. (1400 mm) pipe culvert, 68 ft. (20.7 m) in length (**Sheet 36, 37, and 38**). This impacts 68 ft. (20.7 m) of existing stream. Field investigations indicate Wolfpen Branch is an intermittent stream and a tributary to Grassy Creek, with a watershed of 52.0 acres (21.0 ha). The impact to waters of the U.S. is 0.007 acres (0.003 ha).
23. Sta. 950+00, Haul Road Sta. 192+50 – Construct a 30 in. (750 mm) pipe culvert, 96 ft. (29.3 m) in length (**Sheet 36, 39, and 40**). This impacts 96 ft. (29.3 m) of existing stream. Field investigations indicate Wolfpen Branch is an intermittent stream and a tributary to Grassy Creek, with a watershed of 10.2 acres (4.1 ha). The impact to waters of the U.S. is 0.006 acres (0.002 ha).
24. Sta. 950+00, Haul Road Sta. 198+50 – Construct a 42 in. (1050 mm) pipe culvert, 184 ft. (56.1 m) in length (**Sheet 36, 41, and 42**). This impacts 184 ft. (56.1 m) of existing stream. Field investigations indicate Wolfpen Branch is an intermittent stream and a tributary to Grassy Creek, with a watershed of 13.6 acres (5.5 ha). The impact to waters of the U.S. is 0.01 acres (0.006 ha).
25. Sta. 952+50 – Construct a 8 ft. (2.4 m) by 6 ft. (1.8 m) RCBC, 300 ft. (91.4 m) in length (**Sheet 43 and 44**). The watershed is 224.8 acres (91 ha). This impacts 300 ft. (91.4 m) of existing stream. Field investigations indicate Wolfpen Branch is an intermittent stream and a tributary to Grassy Creek. Impact to waters is 0.06 acres (0.02 ha).

26. Sta. 967+50 to 991+00 – School House Branch, which consists of 2857 ft. (871 m) of intermittent stream and 1082 ft. (329.8 m) of ephemeral stream, will be filled in with the flow diverted into flat bottom ditches (**Sheet 45**). Impact to waters of the U.S. is 0.26 acres (0.11 ha).
27. Sta. 988+00 – Construct a 60 in. (1500 mm) pipe culvert 400 ft. (121.9 m) in length with 183 ft. (55.8 m) of outlet channel design (**Sheet 46 and 47**). This impacts 2191 ft. (667.8 m) of existing stream. Field investigations indicate this drainage is ephemeral in nature and a tributary of Grassy Creek, with a watershed of 42.7 acres (17.3 ha). The impact to waters of the U.S. is 0.07 acres (0.03 ha).
28. Sta. 991+00 to 1020+00 – Footprint of Section 9V (**Sheet 48**).

Waste Site:

1. Sta. 807+00 – the valley of an unnamed tributary of Mud Lick will be filled in with waste materials (rock and soil) generated by the construction of US 460 (**Sheet 14A**). This will result in the filling of 2792 ft. (851 m) of intermittent stream and 242 ft. (74 m) of ephemeral streams. Total volume of excess materials is 820 thousand CY. The impact to waters is 0.43 acres (0.17 ha). These impacts are subject to change upon construction but represent the maximum possible impact to waters of the U.S.
2. Sta. 821+50 – the valley of an unnamed tributary of House Log Fork will be filled in with waste materials (rock and soil) generated by the construction of US 460 (**Sheet 14A**). This will result in the filling of 2602 ft. (793 m) of intermittent stream and 306 ft. (93 m) of ephemeral streams. Total volume of excess materials is 1.7 million CY. The impact to waters is 0.38 acres (0.15 ha).
3. Sta. 837+00 – the valley of an unnamed tributary of Stone Coal Fork will be filled in with waste materials (rock and soil) generated by the construction of US 460 (**Sheet 20 and 20A**). This will result in the filling of 4792 ft. (1460.6 m) of intermittent stream and 1866 ft. (568.8 m) of ephemeral streams. The impact to waters is 0.66 acres (0.27 ha).
4. Sta. 950+00 – the valley of the Wolfpen Branch will be filled with waste materials (rock and soil) generated by the construction of US 460 (**Sheet 36 and 36 A**). This will result in the filling of 3472 ft. (1058.3 m) of intermittent stream, and 2584 ft. (787.6 m) of ephemeral stream. The impact to waters is 0.8 acres (0.32 ha).

SUMMARY OF STREAM IMPACTS

STRUCTURE	LENGTH		WATERSHED		IMPACT TO WATERS OF THE U.S.	
	Feet	Meters	Acres	Hectares	Acres	Hectares
Sta. 59+00, Culvert, inlet and outlet channel improvements	99	30.2	132.7	53.7	0.02	0.008
Sta. 77+50, RCBC, inlet and outlet channel improvements	228	69.5	106.4	43	0.05	0.02
Ramp 1, Sta. 205+25, RCBC, inlet and outlet channel improvements	126	38.4	100.5	40.7	0.02	0.009
Sta. 88+35, KY 80 Bridge	85	25.9	3987	1614	–	–

Ramp 2, Sta. 310+72.50, Bridge	377.5	115.1	3917	1585	--	--
Sta. 769+00, Culvert and outlet channel improvements	223	68.0	11.13	4.5	0.015	0.006
Sta. 788+50, Culvert and outlet channel improvements	203	61.9	12.2	4.9	0.014	0.006
Sta. 807+33, RCBC, inlet and outlet channel improvements	479	146	95.3	38.6	0.09	0.04
Sta. 820+20, RCBC, inlet and outlet channel improvements	446	135.9	148.9	60.3	0.1	0.04
Sta. 820+84.44, KY 1373, RCBC, inlet and outlet channel improvements	281	85.6	169.8	68.7	0.06	0.03
Sta. 834+86 and Sta. 835+45 Beaver Creek Bridge	EB-1090 WB-1140	EB-332.2 WB-347.5	3085	1248	--	--
Sta. 49+00 to 52+25, Channel change	347	106	3085	1248	0.10	0.04
Sta. 500+80 Stone Coal Fork Rd, Culvert	68.8	21.0	321.4	130.1	0.005	0.002
Sta. 509+50 Stone Coal Fork Rd. Culvert	81.9	25.0	321.4	130.1	0.01	0.004
Sta. 841+60, KY 1373 Sta. 3+27.38 Double RCBC with outlet channel improvements and stilling basin	81 7	24.7 2.1	321.4	130.1	0.01	0.0006
Sta. 859+50, Culvert	148	45.1	31.7	12.8	0.02	0.007
Sta. 877+00 to 890+00 Diversion of Tributary to Right Fork of Beaver	Int-557 Eph-247	Int-169.8 Eph-75.3	77.2	31.2	0.07	0.03
Sta. 882+00, Culvert and outlet channel improvements	440	134.1	61.9	25.1	0.06	0.02
Sta. 906+00 to 936+00 Diversion of Tributary to Wolfpen Branch	Int-3651 Eph-1649	Int-1112.8 Eph-502.6	≈140	≈57	0.45	0.18
Sta. 927+50, Culvert	528	160.9	63.7	25.8	0.06	0.02
Sta. 950+00, Haul Rd. Sta. 188+50 Culvert	68	20.7	52	21	0.007	0.003
Sta. 950+00, Haul Rd. Sta. 192+50 Culvert	96	29.3	10.2	4.1	0.006	0.002
Sta. 950+00, Haul Rd. Sta. 198+50 Culvert	184	56.1	13.6	5.5	0.01	0.006
Sta. 952+50, Culvert	300	91.4	224.8	91	0.06	0.02
Sta. 967+50 to 991+00, Diversion of School House Branch	Int-2857 Eph-1082	Int-871 Eph-329.8	130	53	0.26	0.11
Sta. 988+00, Culvert and outlet channel improvements	583	177.7	47	19	0.07	0.03

Sta. 807+00, Excess Material Site Mud Lick Creek	Int-2792 Eph-242	Int-851 Eph-74	--	--	0.43	0.17
821+50, Excess Material Site House Log Fork	Int-2602 Eph-793	Int-306 Eph-93	--	--	0.38	0.15
Sta. 837+00, Excess Material Site Stone Coal Fork	Int-4792 Eph-1866	Int-1460.6 Eph-568.8	321.4	130.1	0.66	0.27
Sta. 950+00, Excess Material Site Wolfpen Branch	Int-3472 Eph-2584	Int-1058.3 Eph-787.6	224.8	91	0.8	0.32

LEGEND:
 * Ephemeral - † Intermittent - V Perennial

US 460 Sections 7, 8 and 9V Permit Application

Calculation of Impact to Waters and Fish below ordinary High Water

Roadway Station, Impact Type, Stream	Name	Length (ft)	Width (ft)	Area (ft ²)	Area (acres)	DEPTH	Volume (ft ³)	Volume (CY)
Sta 69+00 - RCBC, Trib of Russell Fork	T-1	221	11	2431	0.06	3	270	10
Sta 77+50 - RCBC, Trib of Russell Fork	E-1	470	4.5	2115	0.05	1	2115	78
Ramp 1, Sta 205+25, RCBC, Trib of Russell Fork	E-1	229	4.5	1031	0.02	1	1031	38
Sta 769+00, Culvert, Beaver Creek	E-5	407	3.5	1425	0.03	1	1425	53
Sta 788+50, Culvert, Beaver Creek	E-4	300	5.5	1650	0.04	1	1650	61
Sta 807+33, RCBC, Beaver Creek	T-3	587	5.5	3229	0.07	2	6457	239
Sta 820+20, RCBC, Beaver Creek	T-1	153	6.5	840	0.02	4	3360	124
Sta 832+50, Filled, Beaver Creek	E-3	150	3.5	525	0.01	1	525	19
Sta 49+00 to 52+25 - Beaver Creek channel change	V-Sec 2	347	12	4184	0.10	3	12462	453
Sta 859+50, Culvert, Beaver Creek	E-2	452	4.5	1582	0.04	1	8327	297
Sta 882+00, Culvert, Trib to Rgt Beaver Creek	T-2a	852	4.5	3833	0.09	3	11499	426
Sta 877+00 to 890+00, Filled	T-2b	557	4.5	2508	0.06	3	7525	279
Tributary to Rgt Beaver Creek	E-1	247	1.5	370	0.01	1	370	14
Sta 906 to 936, Filled	E-2	684	2.5	1709	0.04	1	1709	63
Tributary to Wolfpen Branch	E-3	241	2	482	0.01	1	482	18
	E-4	386	2	772	0.02	1	772	29
	E-6	226	1.5	339	0.01	1	339	13
	E-7	112	2.5	280	0.01	1	280	10
	T-1a	2033	4.5	9148	0.21	3	27445	1016
	T-1b	1618	4	6473	0.15	4	19420	719
Sta 927+50, Culvert, Tributary to Wolfpen Branch	E-1	234	1.5	351	0.01	1	351	13
	E-5	735	3.5	2572	0.06	1	2572	95
Sta 967+50 to 991+00, Filled	T-Sec 1	1843	3.5	6452	0.15	2	12904	478
School House Branch	T-Sec 2	1014	3	3042	0.07	2	6084	225
	E-1	805	1.5	1208	0.03	1	1208	45
	E-5	277	2	554	0.01	1	554	21
Sta 988+00, Culvert, School House Branch	E-2	681	1	681	0.02	1	681	25
	E-3	350	1.5	525	0.01	1	525	19
	E-4	1160	1.5	1740	0.04	1	1740	64
Sta 807+00, Mud Lick Creek	T-Sec 2	450	5.5	2475	0.06	2	4950	183
Excess Material Site	T-Sec 3	659	5	3295	0.08	2	6590	244
	T-Sec 4	1683	5.5	9257	0.21	2	18513	686
	E-1	242	1	242	0.01	1	242	9
Sta 821+50, House Log Fork	T-Sec 1	1368	5.5	7524	0.17	2	15048	557
Excess Material Site	T-Sec 1A	223	3	689	0.02	2	1338	50
	T-Sec 2	1012	7	7084	0.16	2.5	17710	656
	E-1	142	4	588	0.01	4	2272	84
	E-2	164	3.5	574	0.01	4	2009	74
Sta 837+00, Stonecoal Fork	E-1	787	2.5	1968	0.05	1	1968	73
Excess Material Site	E-2	1079	2	2158	0.05	1	2158	80
	T-Sec 1	3333	5	16665	0.38	3	49995	1852
	T-Sec 2	1459	6.5	8027	0.18	3	24080	892
Sta 950+00, Haul Rd, Wolfpen Branch	T-Sec 1	940	10	9400	0.22	3	28200	1044
Excess Material Site	T-Sec 2	515	5.5	2831	0.06	3	8494	315
	T-Sec 3	835	6.5	5424	0.12	3	16273	603
	T-Sec 4	1182	5	5910	0.14	2	11820	438
	E-8	487	5	2433	0.06	1	2433	90
	E-9	653	3	1960	0.05	1	1960	73
	E-10	807	3.5	2825	0.06	1	2825	105
	E-11	443	1.5	654	0.02	1	654	25
	E-12	194	1.5	291	0.01	1	291	11
	T-2	606	4	2424	0.06	2	4848	180

TOTAL IMPACTS		Intermittent			Ephemeral			Perennial			Total Acres	
	Length	Acres	CY	Length	Acres	CY	Length	Acres	CY	Total	Total	
Culverts	1813	0.24	799	5078	0.31	745	NA	NA	NA	1545	1545	
Fill	7066	0.63	2718	3128	0.14	231	NA	0.10	463	3411	3411	
Excess Material Sites	14285	1.86	7698	4998	0.31	623	NA	NA	NA	8322	8322	

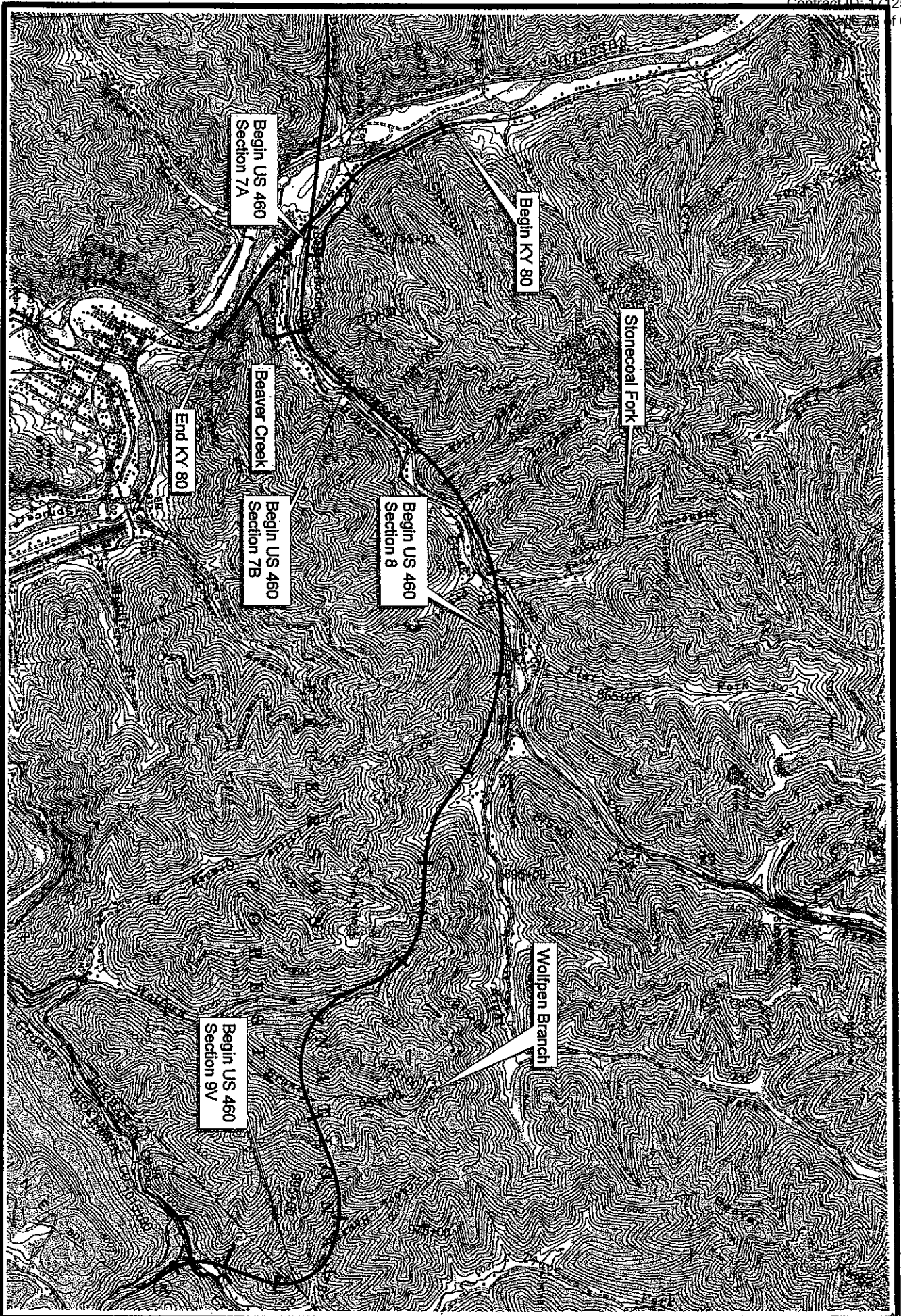
A depth of 1 ft. was used for most ephemeral streams. For the sections of intermittent streams before a pipe culvert, the depth of the pipe culvert was used. Otherwise, the depths were verified from photos.

SUMMARY OF SECTION 404 IMPACTS

1. Sta. 998+10 – A tributary to Grassy Creek consisting of 126 ft. (38.4 m) of ephemeral stream will be filled (Sheet 48a). Impacts to waters of the U.S. is 0.01 acres (0.004 ha).
2. Sta. 1005+00 – Construct a 48 in. (1200 mm) entrance pipe, 52 ft. (15.8 m) in length (Sheet 48a). The watershed is 16.9 acres (6.8 ha). This impacts 603 ft. (183.8 m) of existing stream. Field investigations indicate this is an ephemeral stream and is an unnamed tributary of Grassy Creek. Impact to waters of the U.S. is 0.01 acres (0.004 ha).
3. Sta. 1007+12 – Construct a double 12 ft. (3.7 m) by 12 ft. (3.7 m) RCBC, 715 ft. (217.9 m) in length (Sheet 48a and 48b). The watershed is 4205 acres (1702 ha). This impacts 749 ft. (228.3 m) of existing Grassy Creek, a perennial stream. Impact to waters of the U.S. is 0.26 acres (0.11 ha).
4. VA 80, Sta. 59+34.57 – Construct a 9.46 ft. (2.9 m) by 10 ft. (3.0 m) RCBC, 83 ft. (25.3 m) in length (Sheet 48a and 48c). The watershed is 4288 acres (1735 ha). This impacts 90 ft. (27.4 m) of existing Grassy Creek, a perennial stream. Impact to waters of the U.S. is 0.02 acres (0.008 ha).

STRUCTURE	LENGTH		WATERSHED		IMPACT TO WATERS OF THE U.S.	
	Feet	Meters	Acres	Hectares	Acres	Hectares
Sta. 998+10, Fill	126	38.4	NA	NA	0.01	0.004
Sta. 1005+00, Entrance Pipe	603	183.8	16.9	6.8	0.01	0.004
Sta. 1007+12, RCBC	749	228.3	4205	1702	0.26	0.11
VA 80, Sta. 59+34.57, RCBC	90	27.4	4288	1735	0.02	0.008

In-lieu fees calculations were completed using the *In-Lieu Fee Compensatory Mitigation Calculator (version 2002.8)* and are explained in the Stream Mitigation Report US 460, Section 9. The in-lieu fee for the 839 feet of perennial stream impacts is \$233,969.40. The in-lieu fee for 729 feet of ephemeral stream impacts is \$45,592.50 (\$9,442.50 and \$36,150.00, respectively).

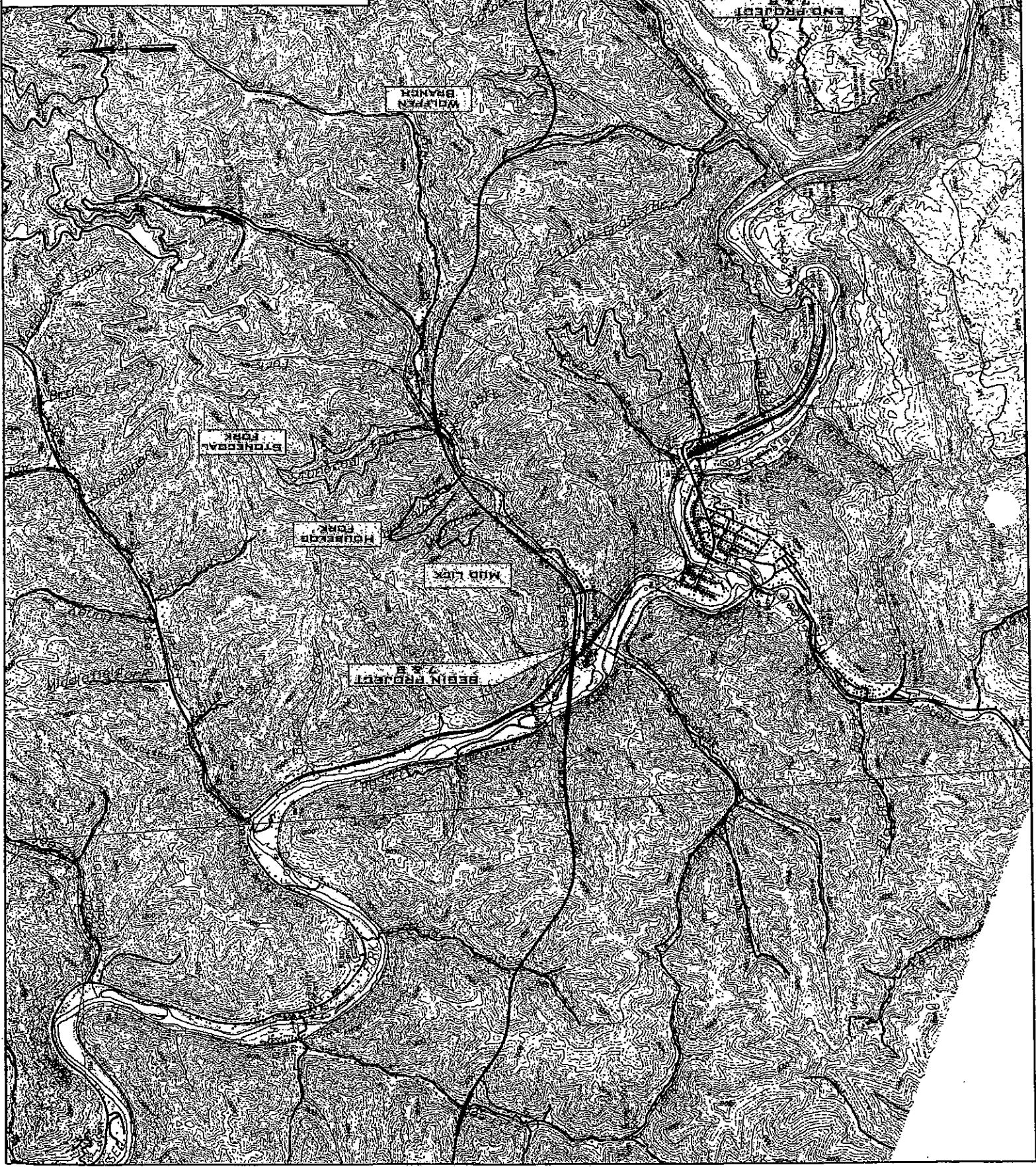


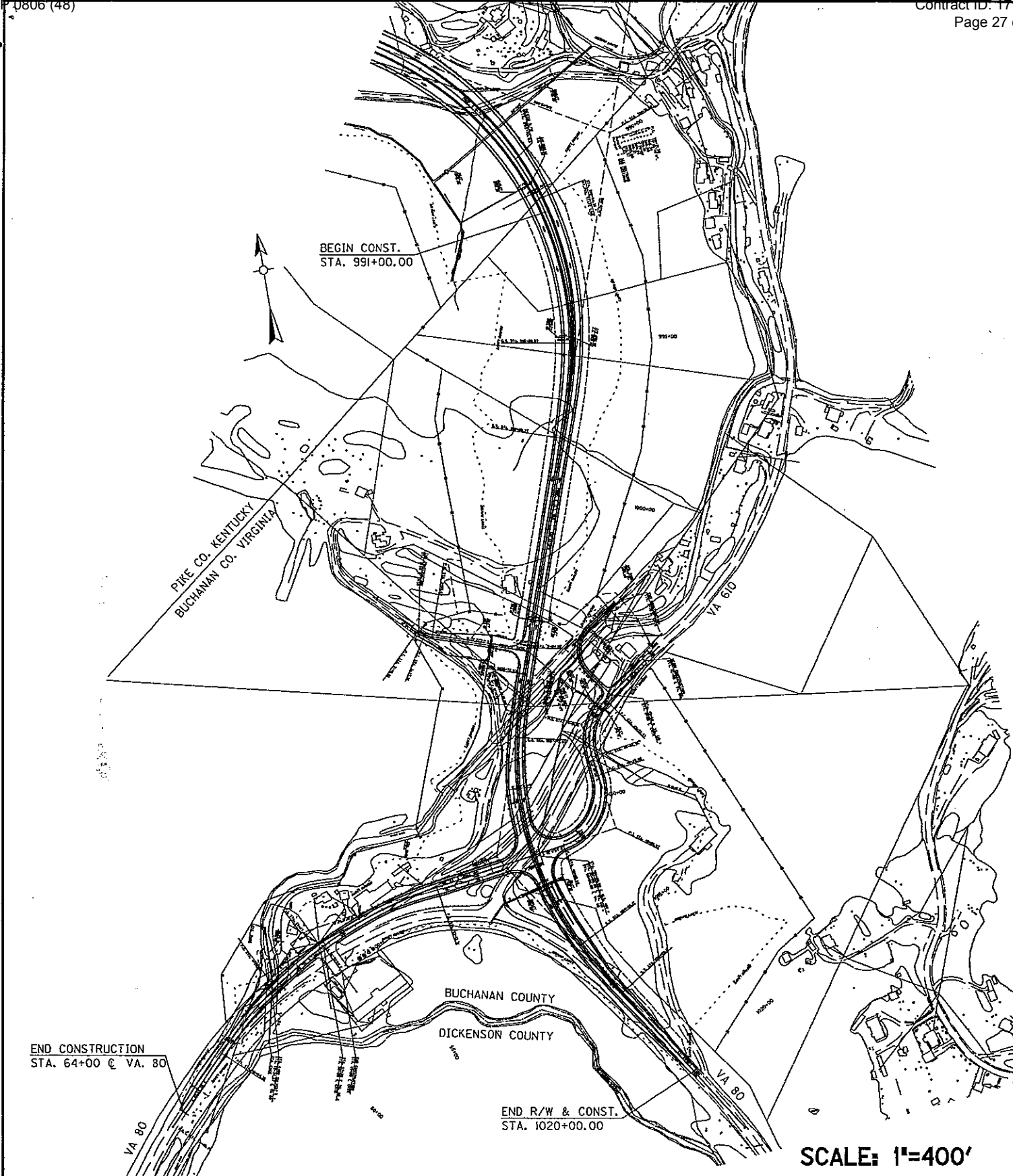
Project Location Map

Sections 7A, 7B, 8 & 9V
 Permit Application
 Pike County, Kentucky
 Buchanan County, Virginia



Vicinity Map
US 460
Section 7 & 8
Pike County, Kentucky



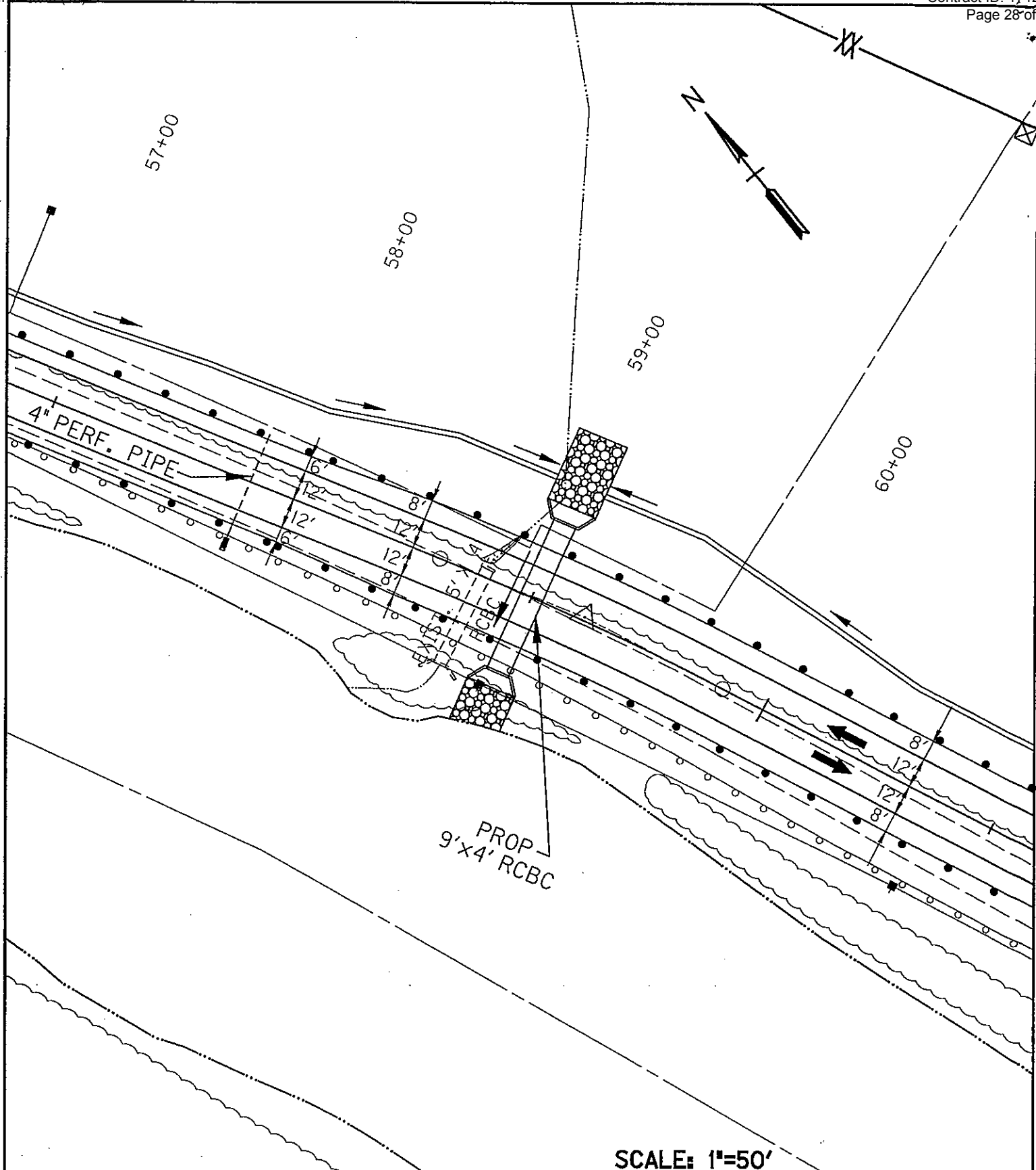


SCALE: 1"=400'

~NOTES~

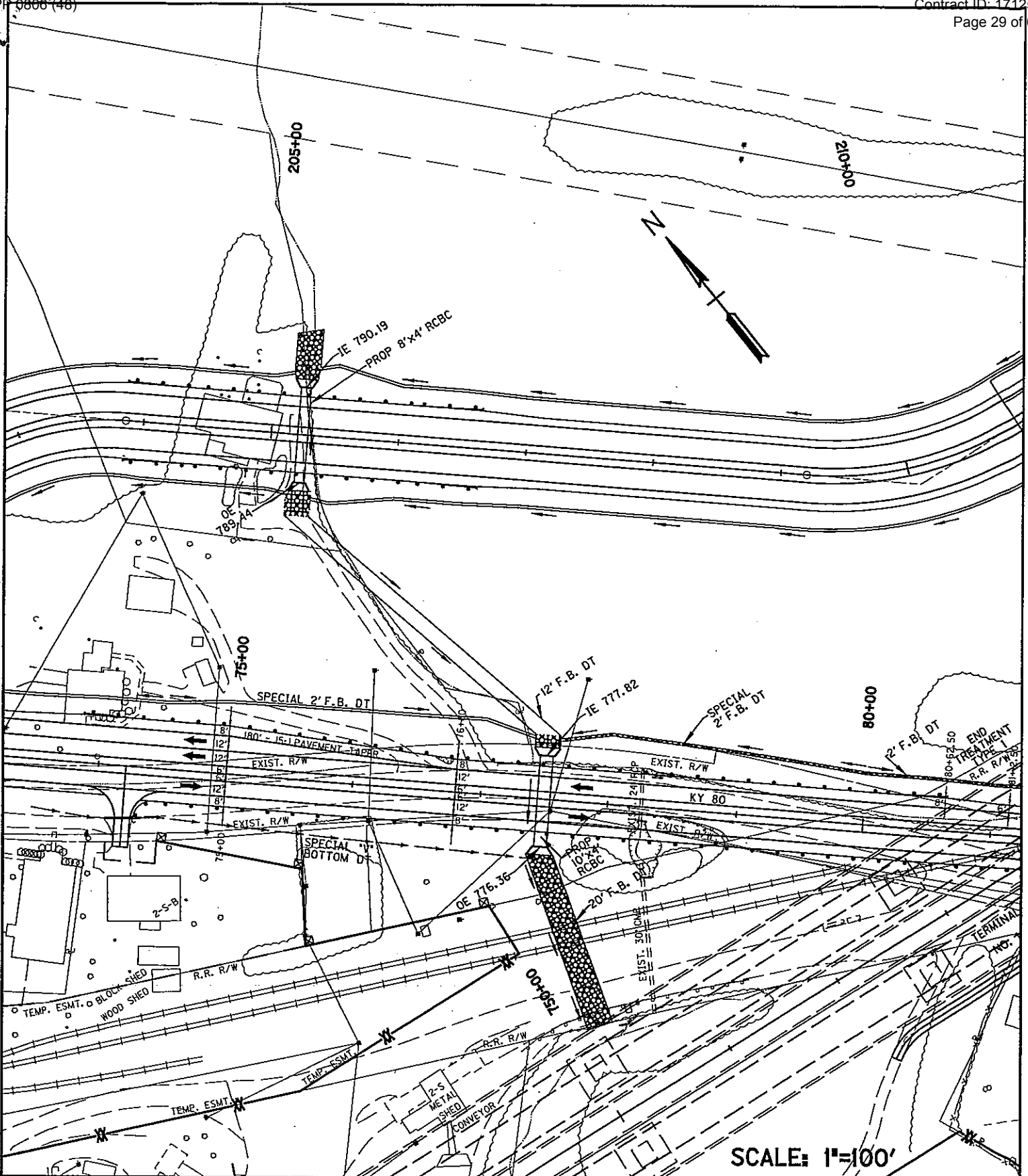
APPLICATION BY
KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS

Footprint - US 460 Section 9V	
PROPOSED ACTIVITIES:	
STREAM NAME:	AT OR NEAR:
Buchanan	VIRGINIA
COUNTY OF:	STATE OF:
MILE POINT:	12-263.90
ITEM NO.:	48 OF 48
SHEET NO.	



SCALE: 1"=50'

<p align="center">~NOTES~</p>	<p align="center">APPLICATION BY</p> <p align="center">KENTUCKY TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS DIVISION OF ENVIRONMENTAL ANALYSIS</p>	<p>KY 80, Sta. 59+00 - 9' x 4' RCBC Const.</p> <p>PROPOSED ACTIVITIES:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Tributary to Russell Fork</td> <td style="width: 30%;">AT OR NEAR:</td> </tr> <tr> <td>STREAM NAME:</td> <td></td> </tr> <tr> <td>Pike</td> <td align="center">KENTUCKY</td> </tr> <tr> <td>COUNTY OF:</td> <td>STATE OF:</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 60%;">MILE POINT:</td> <td style="width: 20%;">12-263.72</td> <td style="width: 20%;">1 OF 48</td> </tr> <tr> <td>ITEM NO.:</td> <td></td> <td>SHEET NO.</td> </tr> </table> <p align="right" style="font-size: small;">DATE: mo. /yr.</p>	Tributary to Russell Fork	AT OR NEAR:	STREAM NAME:		Pike	KENTUCKY	COUNTY OF:	STATE OF:	MILE POINT:	12-263.72	1 OF 48	ITEM NO.:		SHEET NO.
Tributary to Russell Fork	AT OR NEAR:															
STREAM NAME:																
Pike	KENTUCKY															
COUNTY OF:	STATE OF:															
MILE POINT:	12-263.72	1 OF 48														
ITEM NO.:		SHEET NO.														



SCALE: 1"=100'

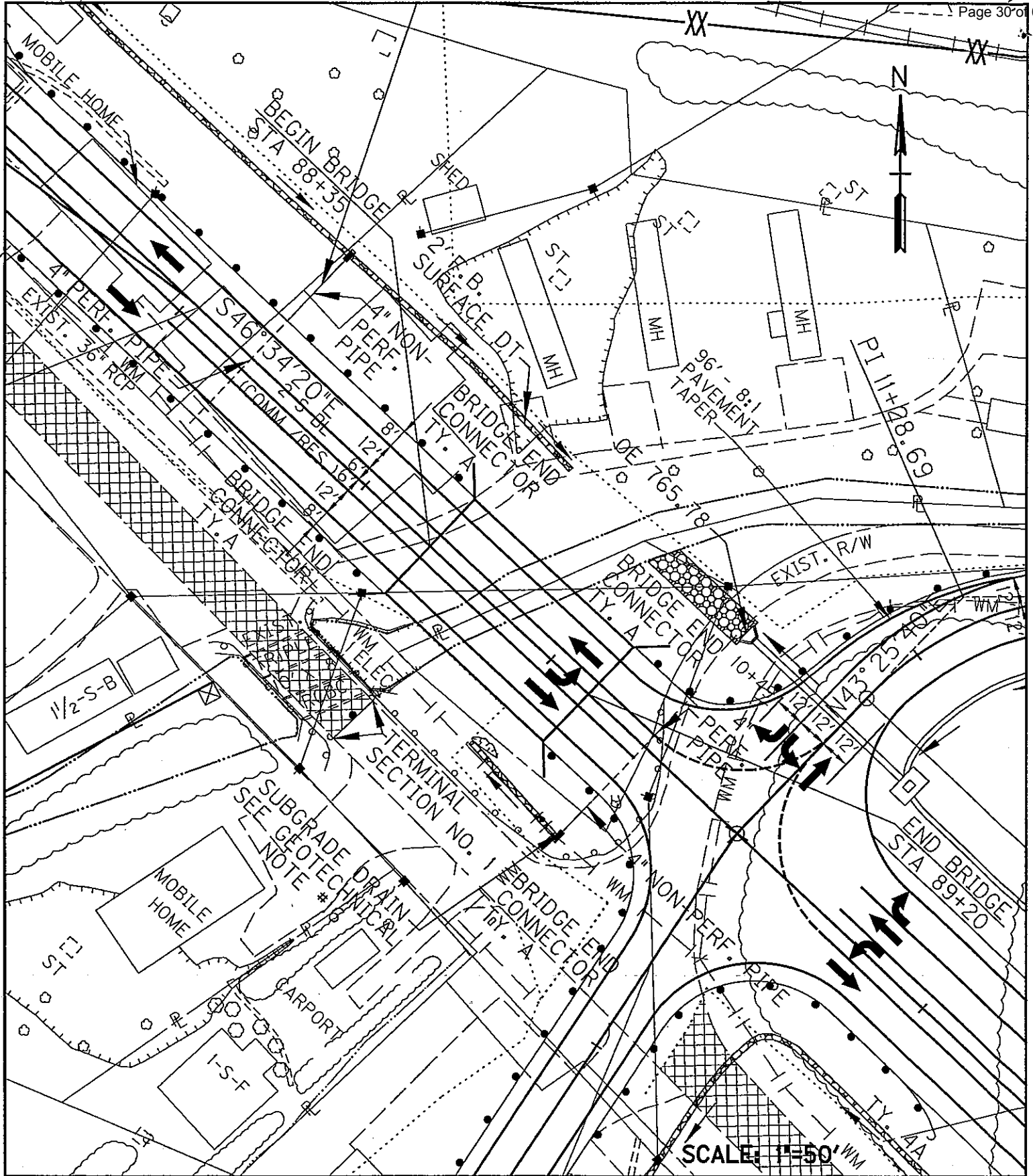
~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS

KY 80, Sta. 77+50 - 10' x 4' RCBC Const.
Ramp 1, Sta. 205+25 - 8' x 4' RCBC Const.
PROPOSED ACTIVITIES:

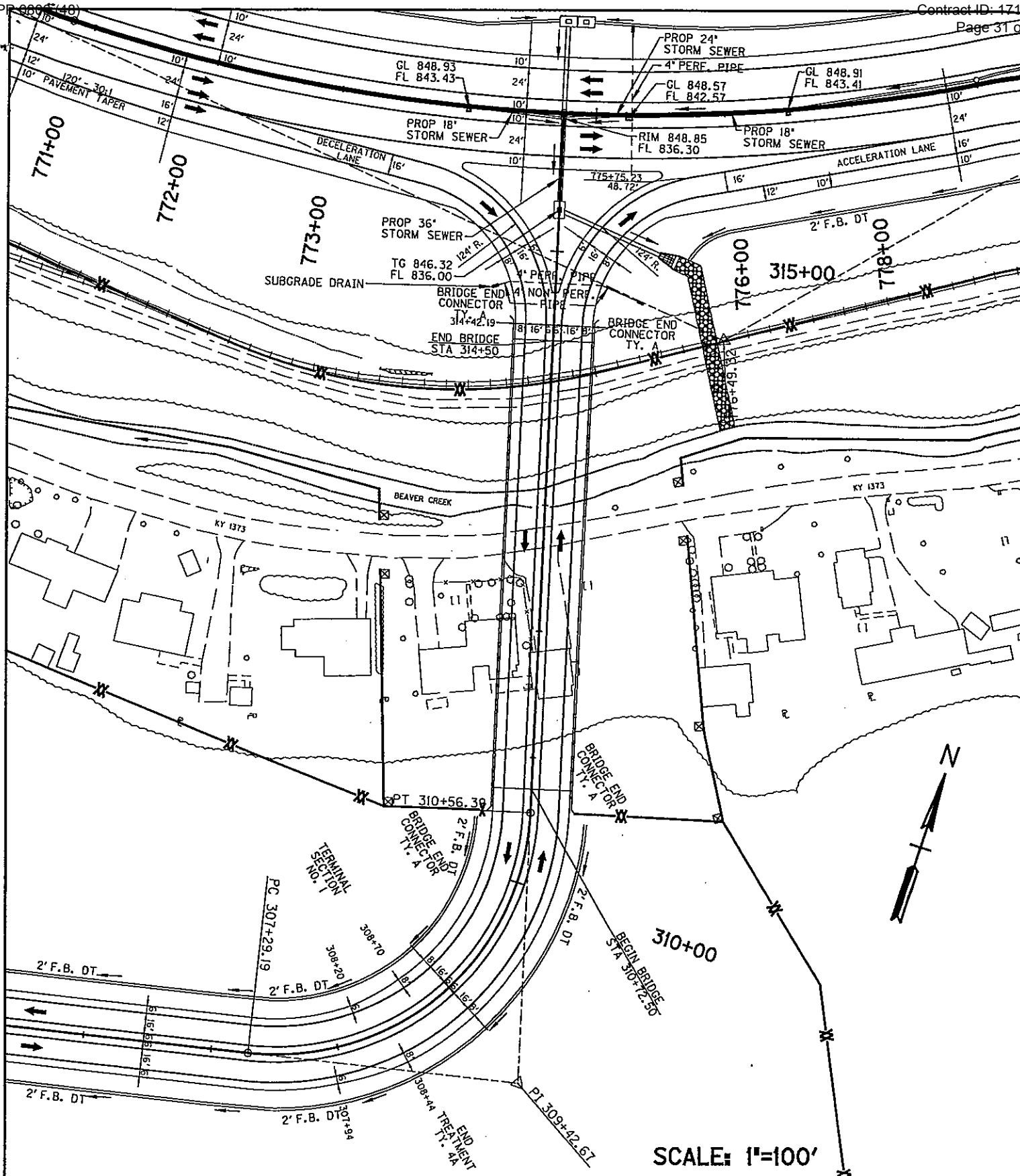
Tributary to Russell Fork	
STREAM NAME:	AT OR NEAR:
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	12-263.72
ITEM NO.:	3 OF 48
DATE: mo. /yr.	SHEET NO.



~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

KY 80 Bridge @ 88+35 over Beaver Creek	
PROPOSED ACTIVITIES:	
Beaver Creek	
STREAM NAME:	AT OR NEAR:
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	12-263.72
ITEM NO.:	6 OF 48
DATE: mo. / yr.	SHEET NO.

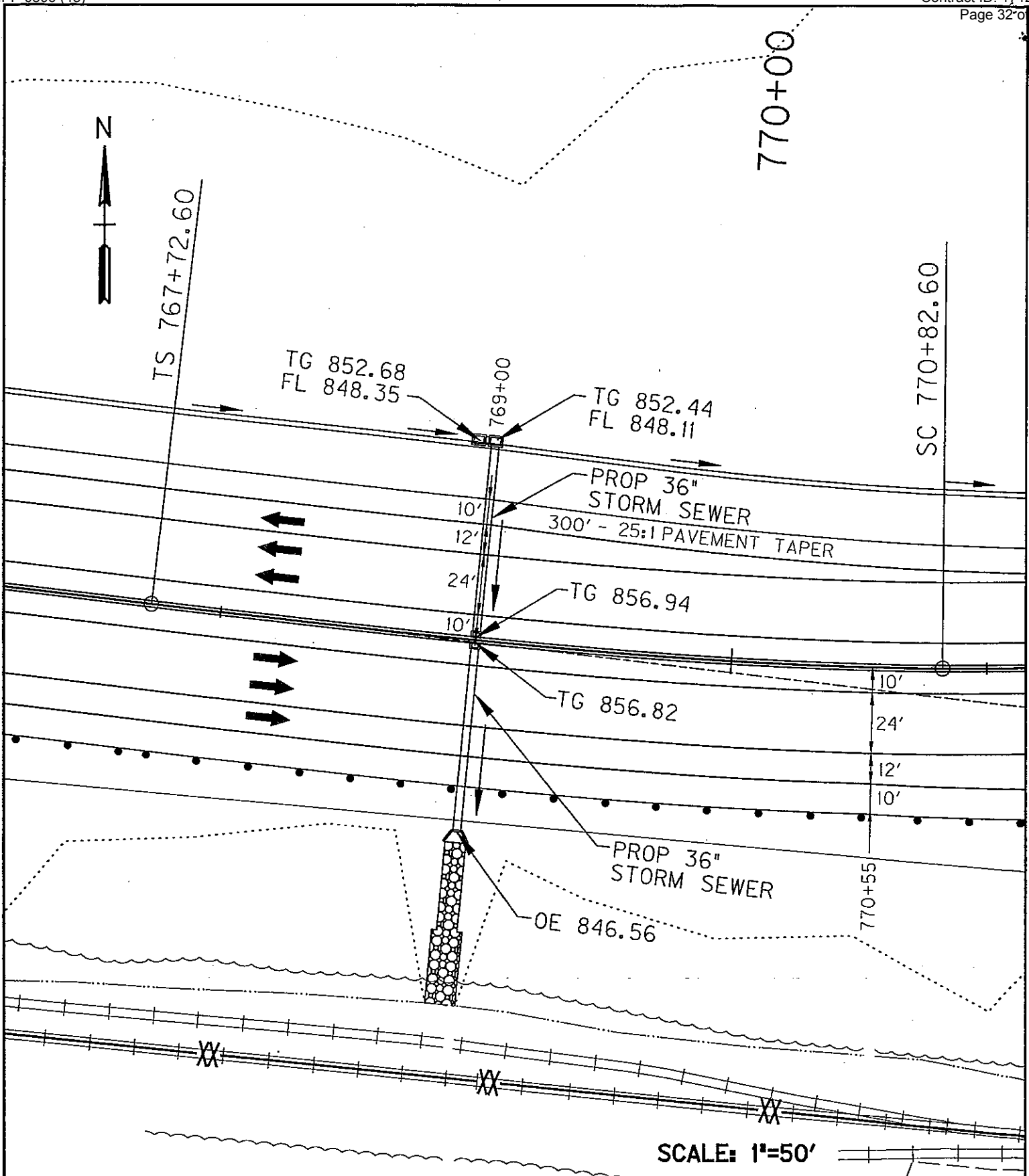


SCALE: 1"=100'

~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

Ramp 2 Bridge @ Sta. 310+72.50 over Beaver Creek	
PROPOSED ACTIVITIES:	
Beaver Creek	AT OR NEAR:
STREAM NAME:	KENTUCKY
Pike	STATE OF:
COUNTY OF:	
MILE POINT:	12-263.72
ITEM NO.:	8 OF 48
DATE: mo. /yr.	SHEET NO.



TS 767+72.60

770+00

SC 770+82.60

TG 852.68
FL 848.35

TG 852.44
FL 848.11

PROP 36"
STORM SEWER
300' - 25:1 PAVEMENT TAPER

TG 856.94

TG 856.82

PROP 36"
STORM SEWER

OE 846.56

770+55

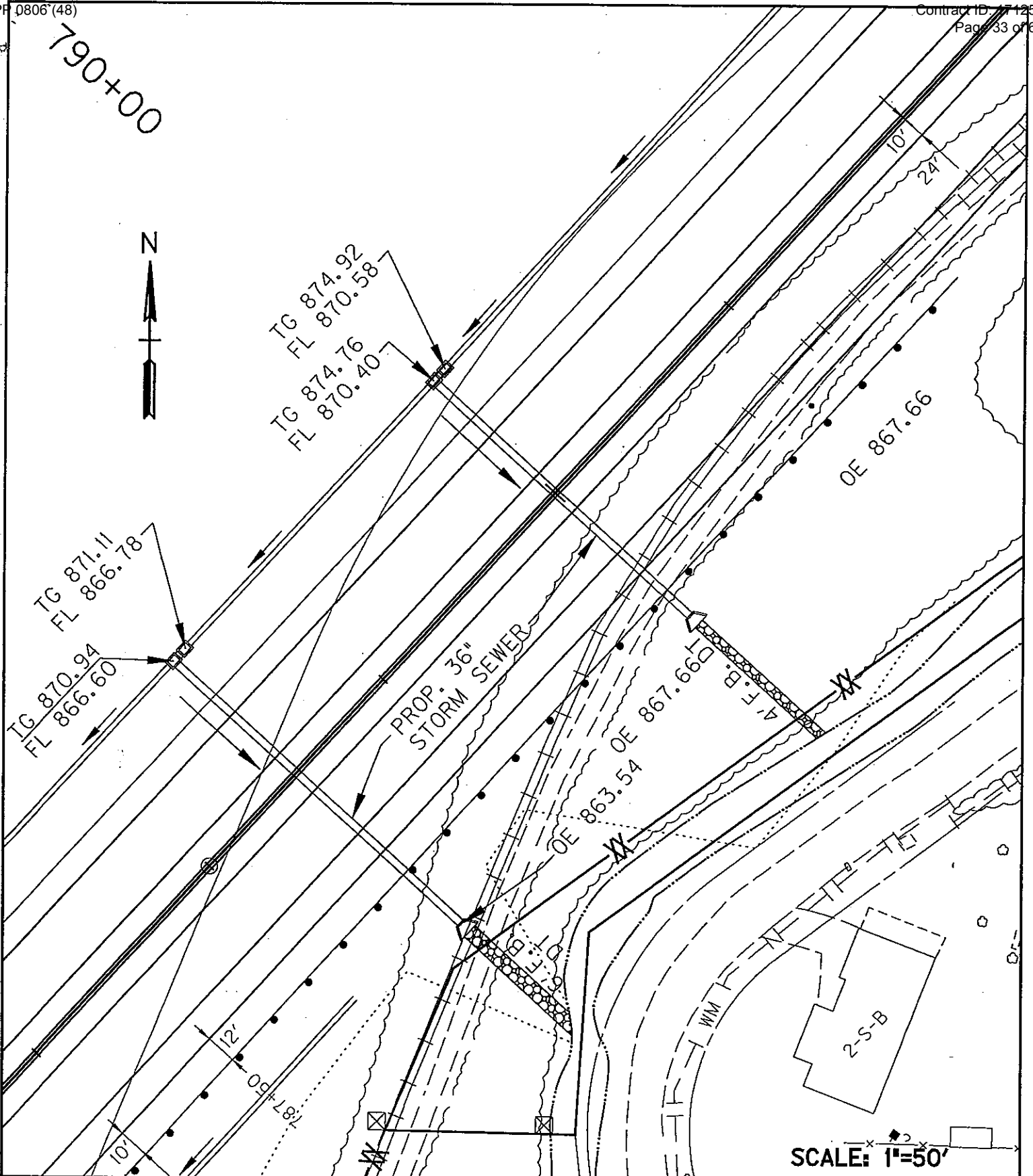
SCALE: 1"=50'

~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS

Sta. 769+00 - 36" Storm Sewer Const.		
PROPOSED ACTIVITIES:		
Tributary to Beaver Creek		AT OR NEAR:
STREAM NAME:		STATE OF: KENTUCKY
Pike		STATE OF: KENTUCKY
COUNTY OF:		STATE OF:
MILE POINT:	12-263.72	10 OF 48
	ITEM NO.:	SHEET NO.

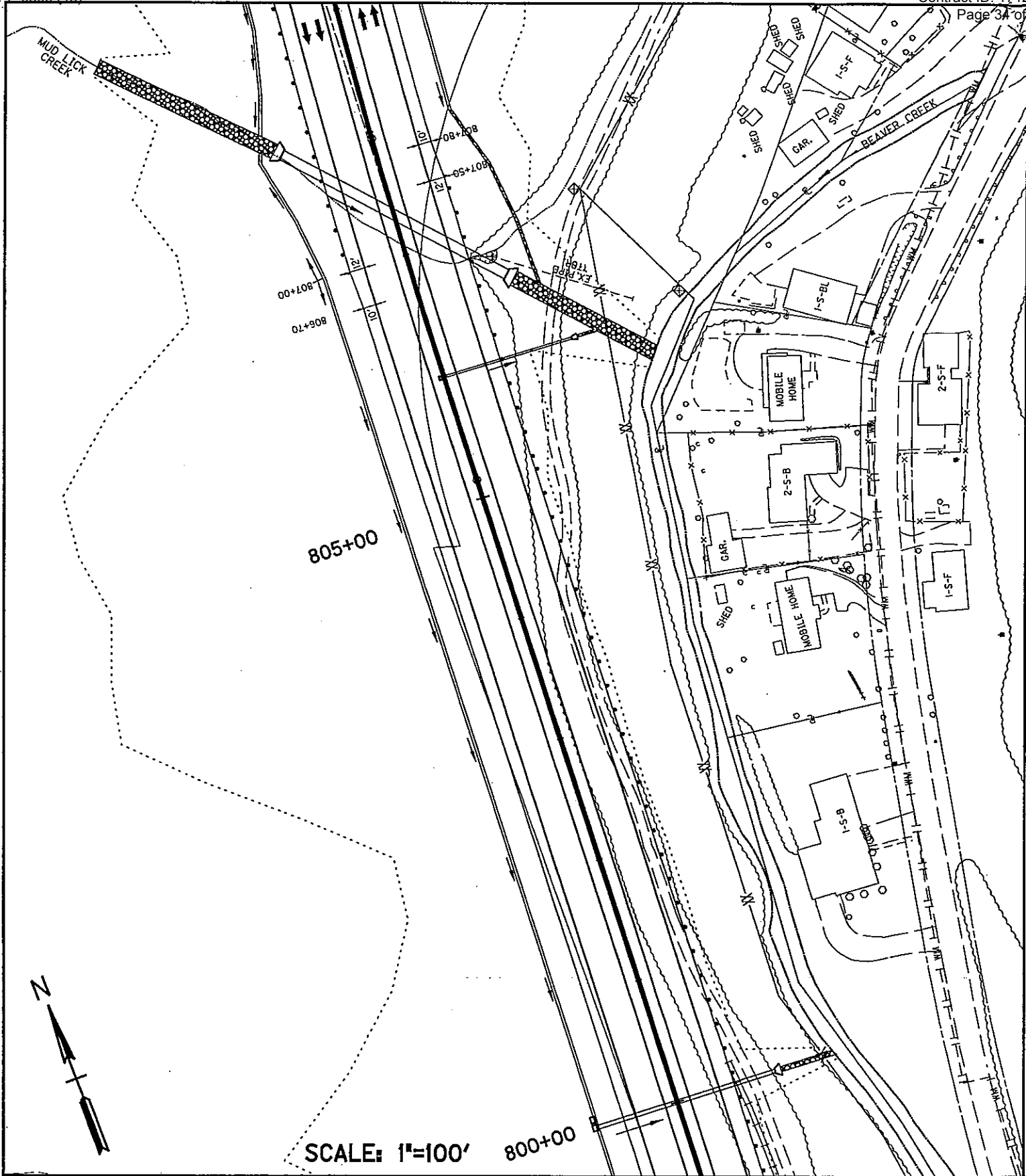


~NOTES~

APPLICATION BY
 KENTUCKY TRANSPORTATION CABINET
 DEPARTMENT OF HIGHWAYS
 DIVISION OF
 ENVIRONMENTAL ANALYSIS

Sta. 788+50 - 36" Storm Sewer Const.		
PROPOSED ACTIVITIES:		
Tributary to Beaver Creek		
STREAM NAME:	AT OR NEAR:	
Pike	KENTUCKY	
COUNTY OF:	STATE OF:	
MILE POINT:	12-263.72	12 OF 48
	ITEM NO.:	SHEET NO.

DATE: mo. /yr.



~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS

Sta. 807+33 - 8' x 4' RCBC Const.

PROPOSED ACTIVITIES:

Tributary to Beaver Creek

STREAM NAME:

AT OR NEAR:

Pike
COUNTY OF:

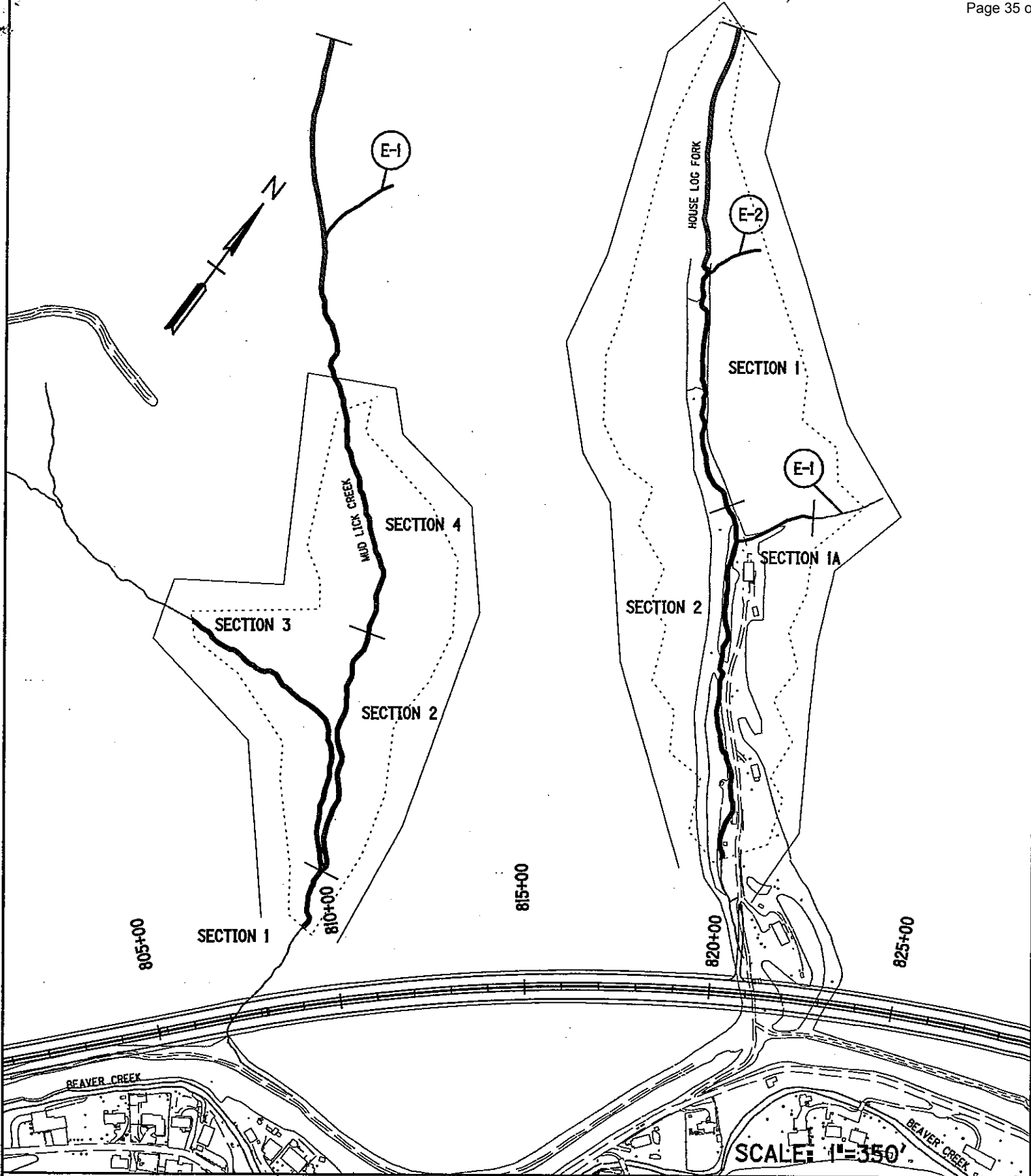
KENTUCKY
STATE OF:

MILE POINT:

12-263.72
ITEM NO.:

14 OF 48
SHEET NO.

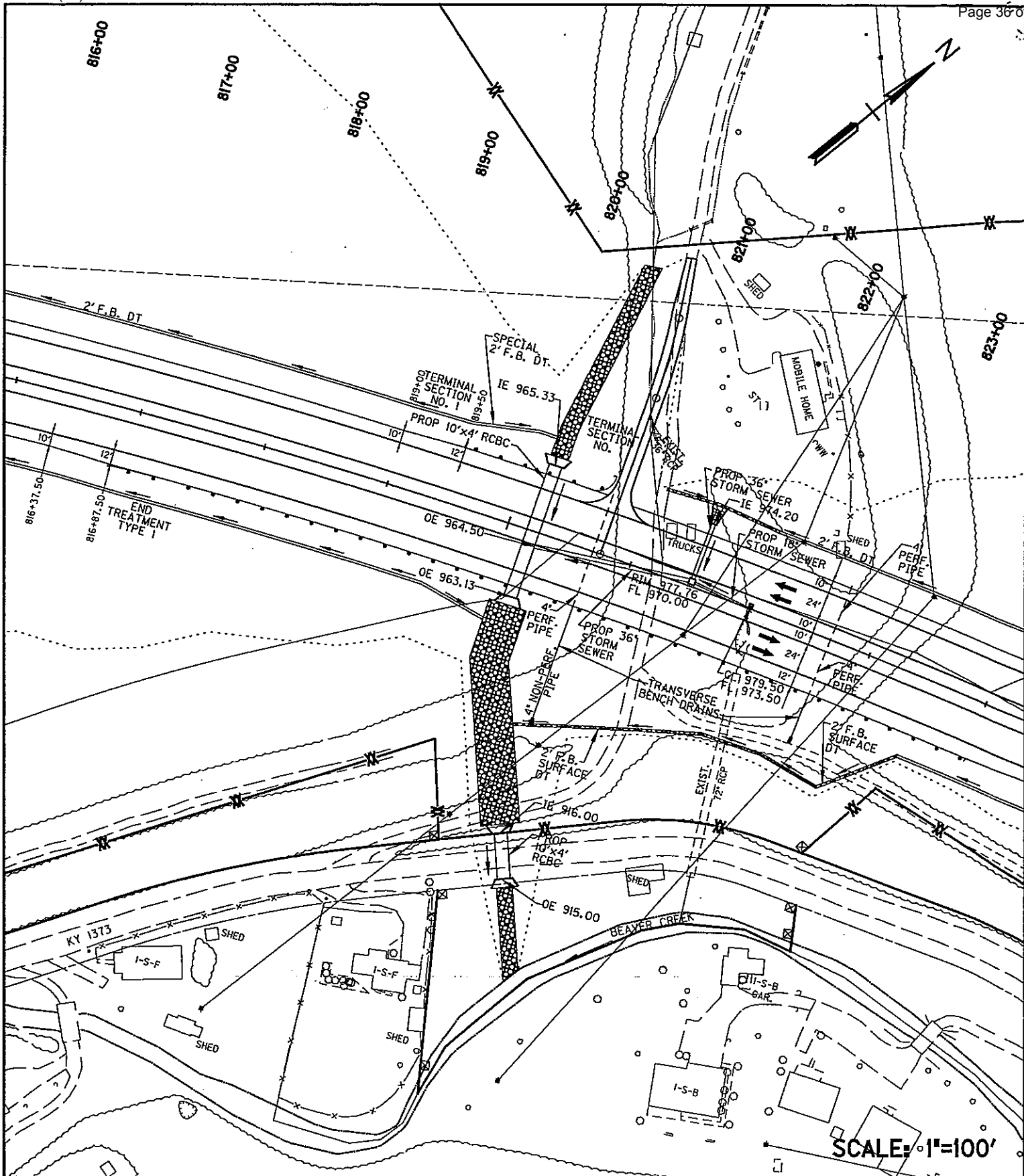
DATE: mo. /yr.



~NOTES~

APPLICATION BY
 KENTUCKY TRANSPORTATION CABINET
 DEPARTMENT OF HIGHWAYS
 DIVISION OF
 ENVIRONMENTAL ANALYSIS

Sta. 807+00 Mud Lick Excess Material Site. Sta. 821+50 House Log Excess Material Site.	
PROPOSED ACTIVITIES: Mud Lick Creek House Log Fork	
STREAM NAME:	AT OR NEAR:
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	12-263.72
ITEM NO.:	14A OF 44
DATE: mo. /yr.	SHEET NO.



SCALE: 1"=100'

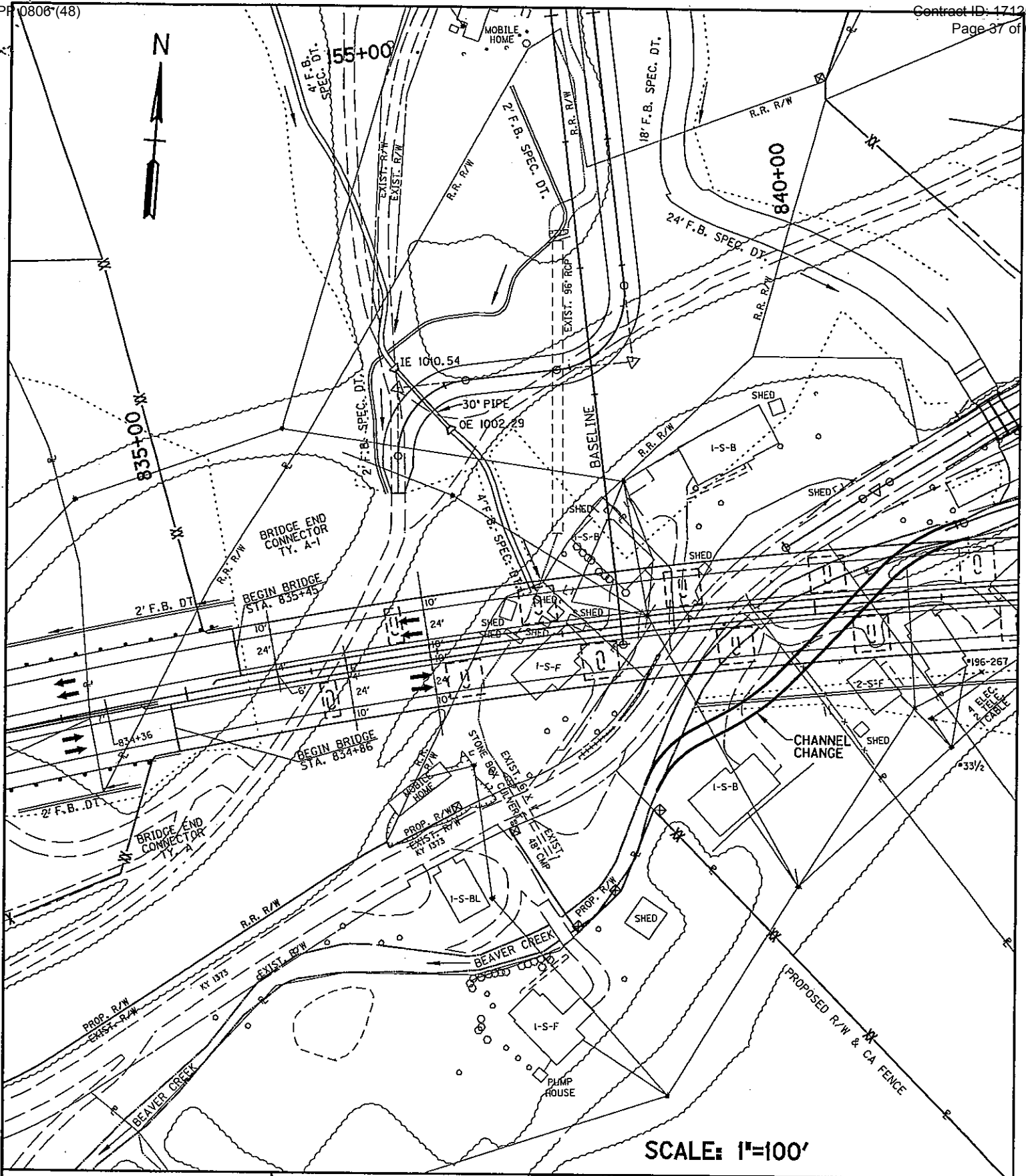
~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF ENVIRONMENTAL ANALYSIS

Sta. 820+20 - 10' x 4' RCBC Const.
Rt. Sta. 820+84.44 - 10' x 4' RCBC Const., KY1373

PROPOSED ACTIVITIES:	
Tributary to Beaver Creek	
STREAM NAME:	AT OR NEAR:
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	12-263.75
ITEM NO.:	16 OF 48
	SHEET NO.



SCALE: 1"=100'

~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
 DEPARTMENT OF HIGHWAYS
 DIVISION OF
 ENVIRONMENTAL ANALYSIS

US 460 Bridge @ Sta. 834+86 over Beaver Creek

PROPOSED ACTIVITIES:

Beaver Creek

STREAM NAME:

AT OR NEAR:

Pike

COUNTY OF:

KENTUCKY

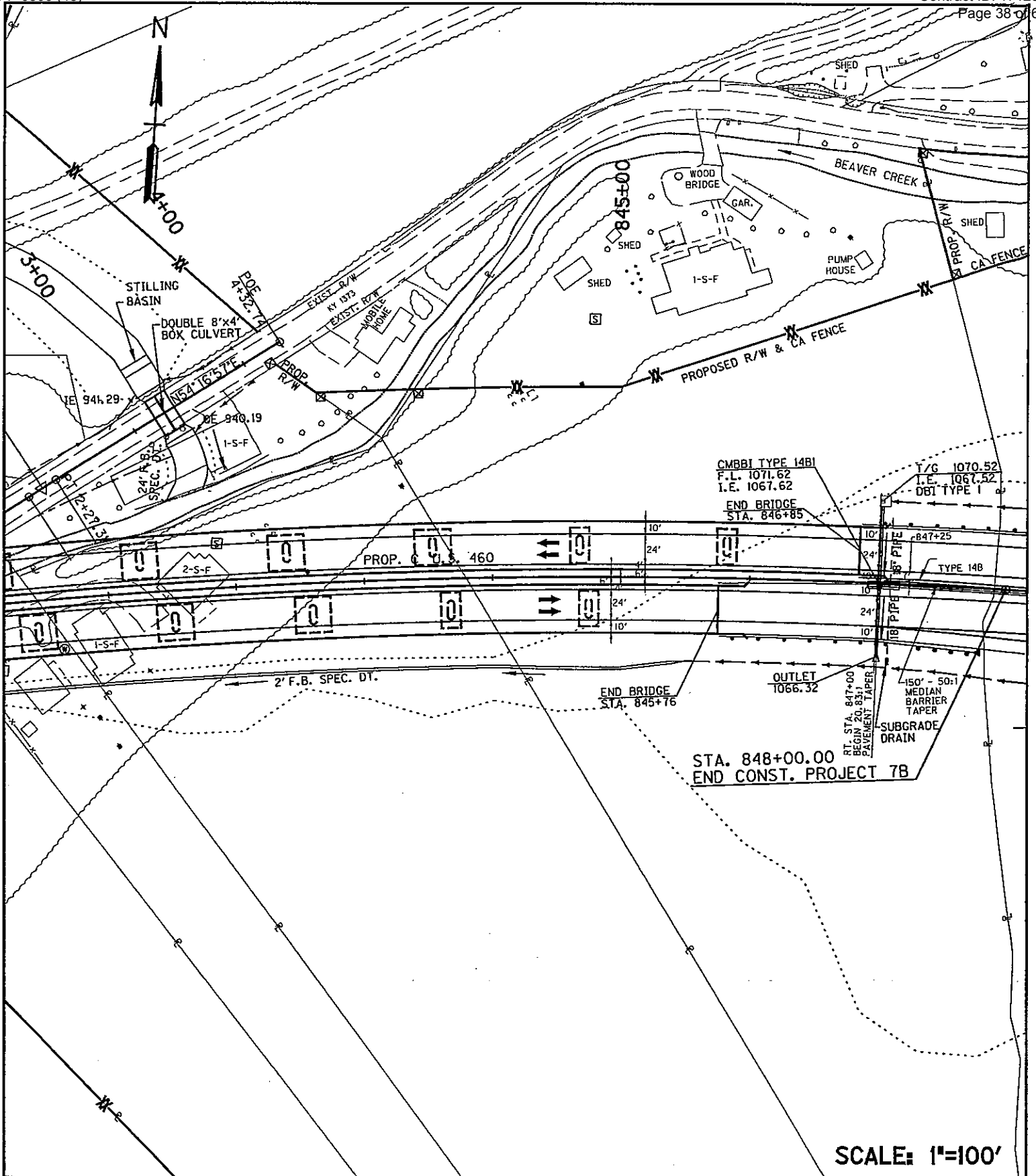
STATE OF:

MILE POINT:

12-263.75
 ITEM NO.:

20 OF 48
 SHEET NO.

DATE: mo. /yr.



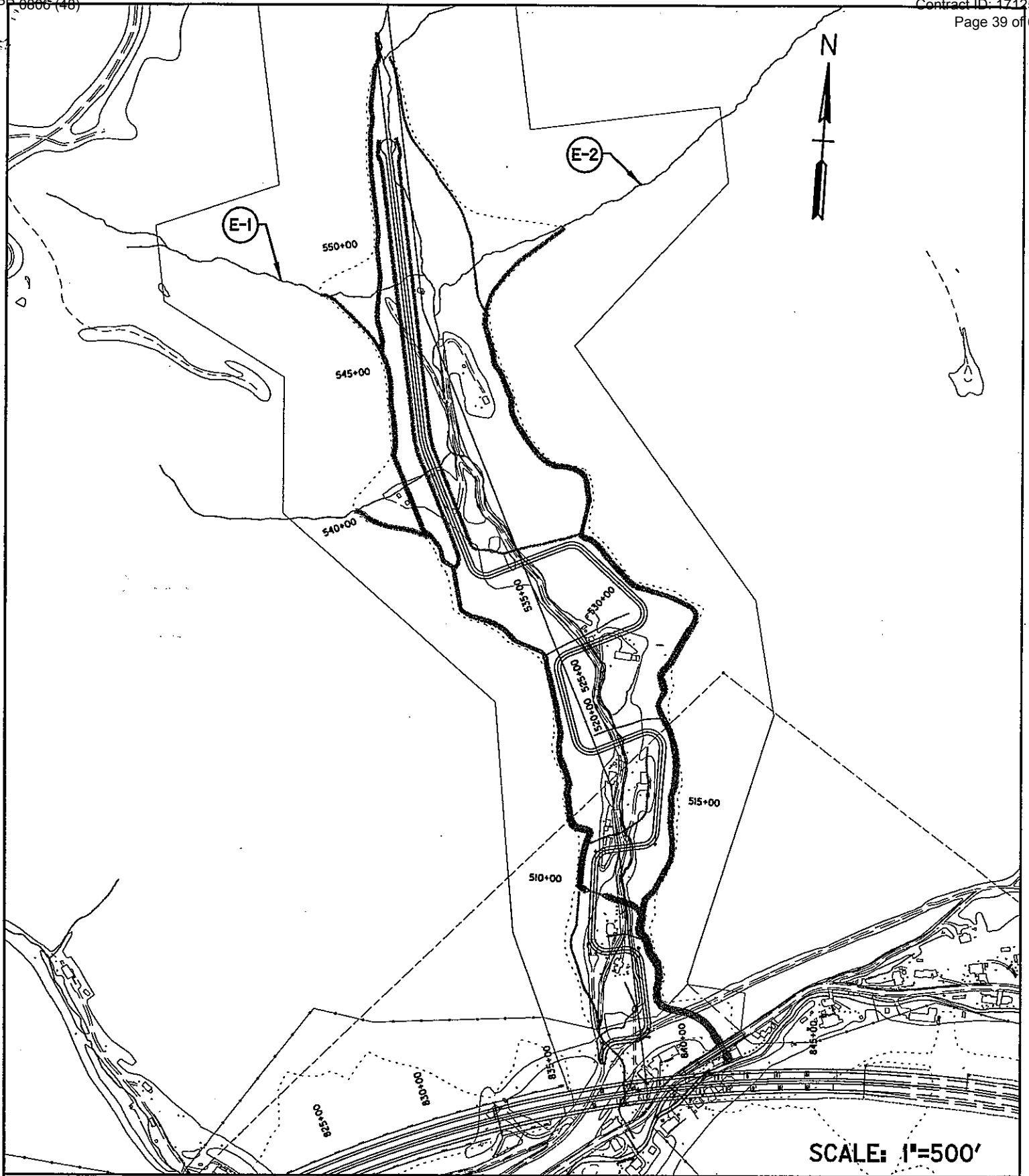
SCALE: 1"=100'

~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

US 460 Bridge @ Sta. 834+86 over Beaver Creek
Sta. 841+60, KY 1373 Sta. 3+27.38 Double 8'x4' RCBC
PROPOSED ACTIVITIES:

Beaver Creek	AT OR NEAR:
STREAM NAME:	
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	21 OF 48
12-263.75	SHEET NO.
ITEM NO.:	



~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

Sta. 837+00 Excess Material Site, Stonecoal Fork

PROPOSED ACTIVITIES:

Stonecoal Fork

STREAM NAME:

AT OR NEAR:

Pike

COUNTY OF:

KENTUCKY

STATE OF:

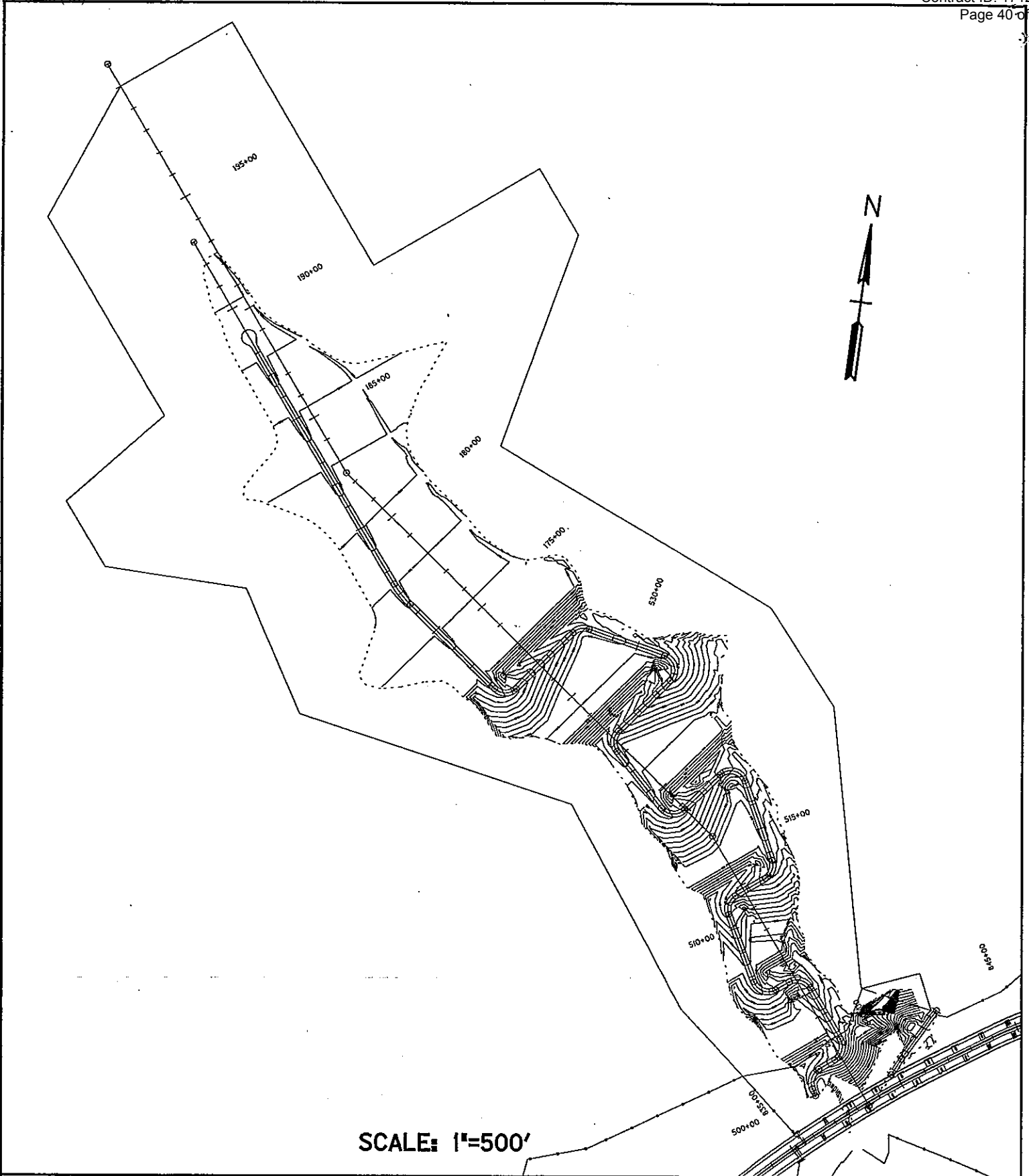
MILE POINT:

12-263.75
ITEM NO.:

24 OF 48
SHEET NO.

DATE: mo. /yr.

SCALE: 1"=500'

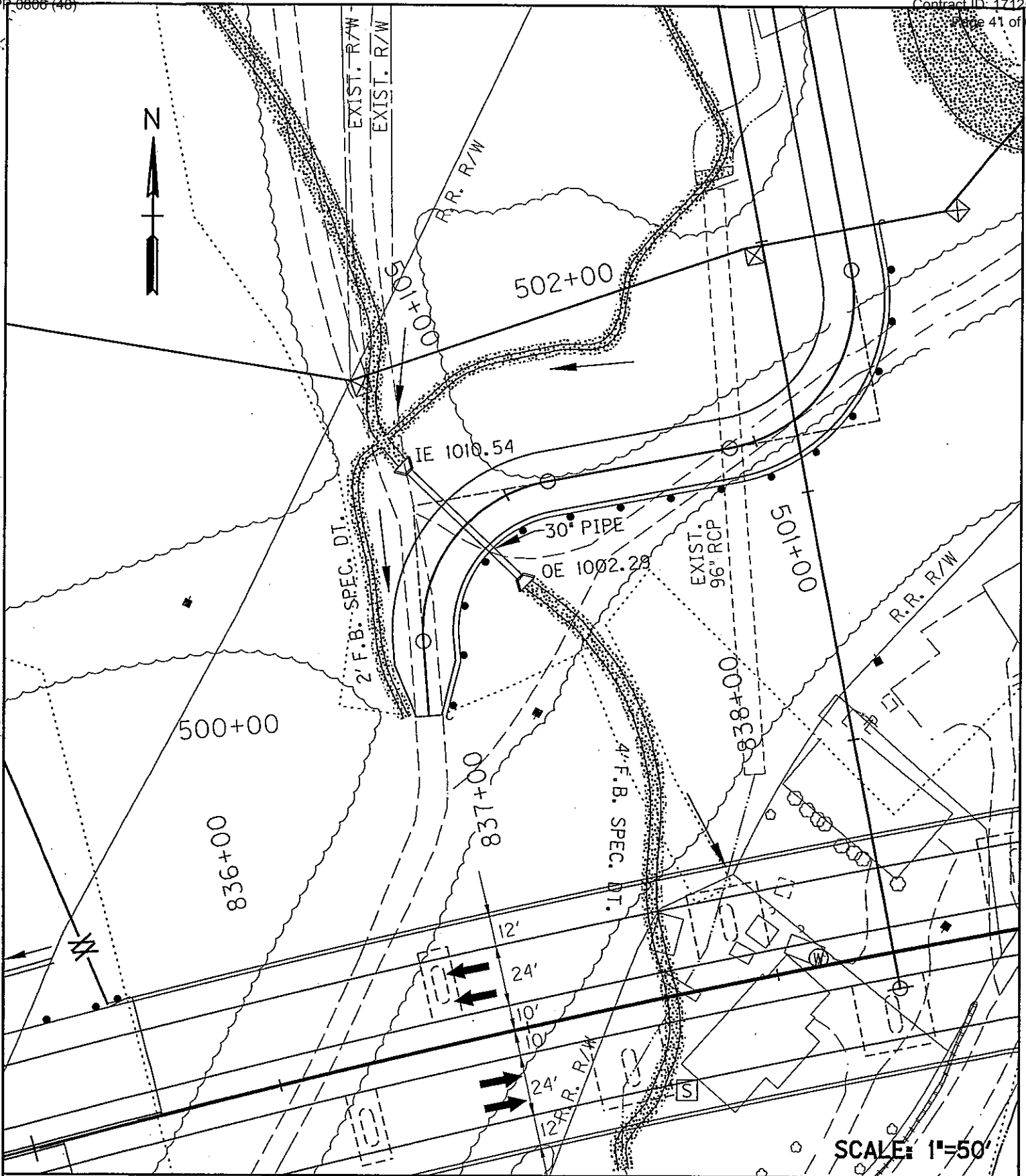


SCALE: 1"=500'

~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

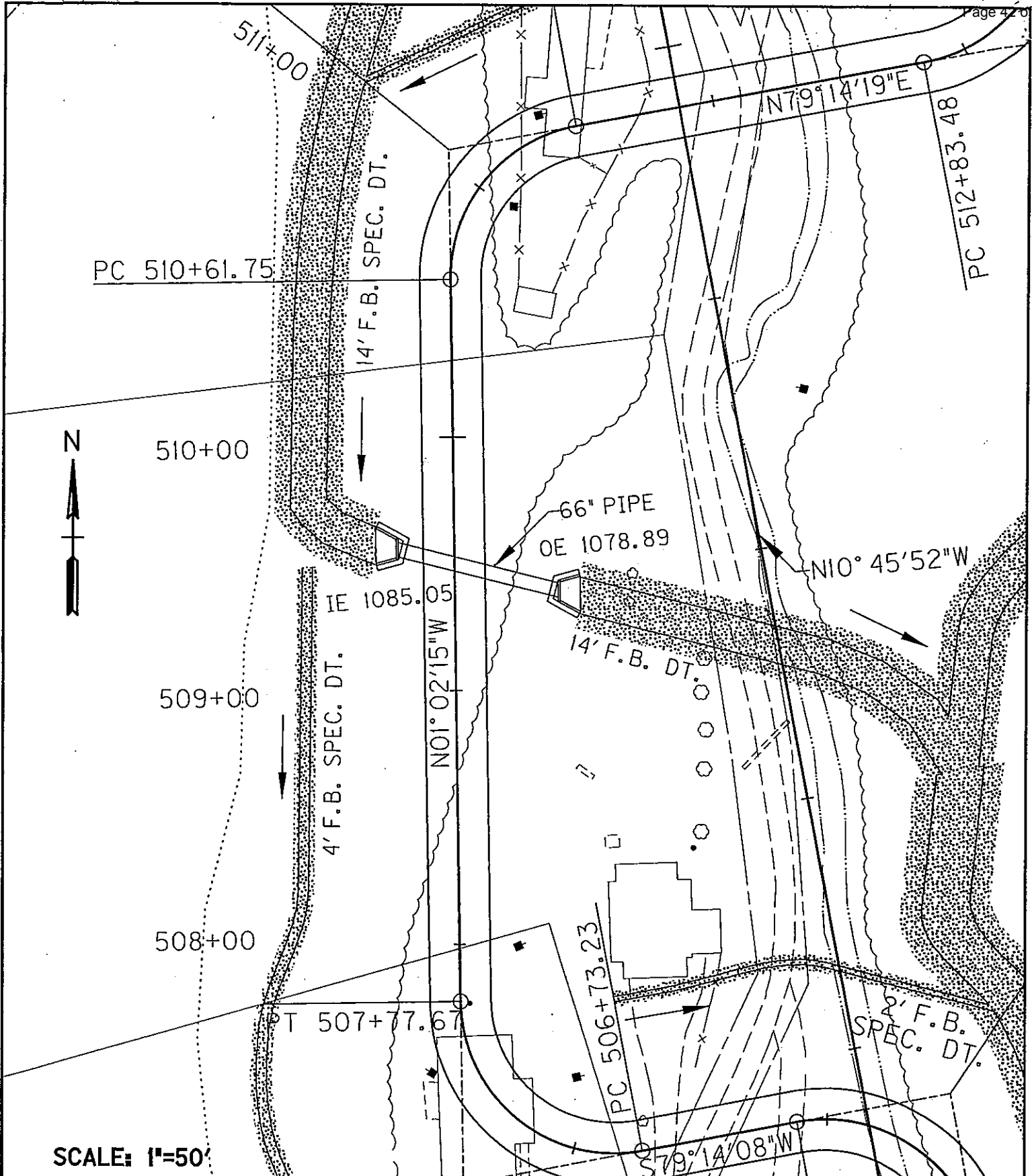
Sta. 837+00 Excess Material Site Stonecoal Fork. Proposed Contours		
PROPOSED ACTIVITIES:		
Stonecoal Fork	AT OR NEAR:	
STREAM NAME:		
Pike	KENTUCKY	
COUNTY OF:	STATE OF:	
MILE POINT:	12-263.75	24A OF 48
ITEM NO.:	SHEET NO.	
DATE: mo. /yr.		



~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
 DEPARTMENT OF HIGHWAYS
 DIVISION OF
 ENVIRONMENTAL ANALYSIS**

Stonecoal Fork Road Sta. 500+80 - 30" Pipe Const.	
PROPOSED ACTIVITIES:	
Stonecoal Fork	AT OR NEAR:
STREAM NAME:	PIKE
COUNTY OF:	STATE OF: KENTUCKY
MILE POINT:	DATE: mo. /yr.
12-263.75	25 OF 48
ITEM NO.:	SHEET NO.

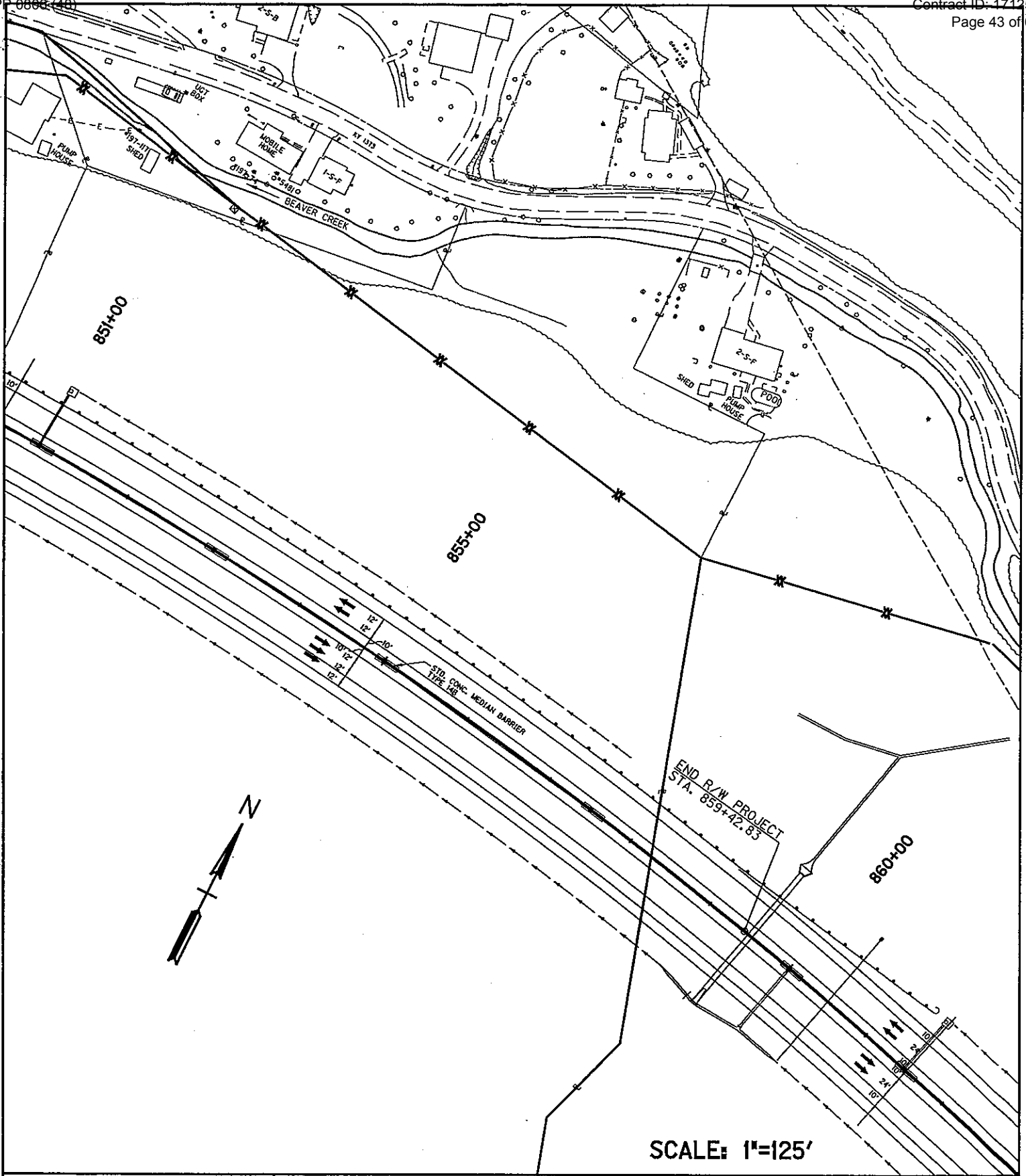


SCALE: 1"=50'

~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

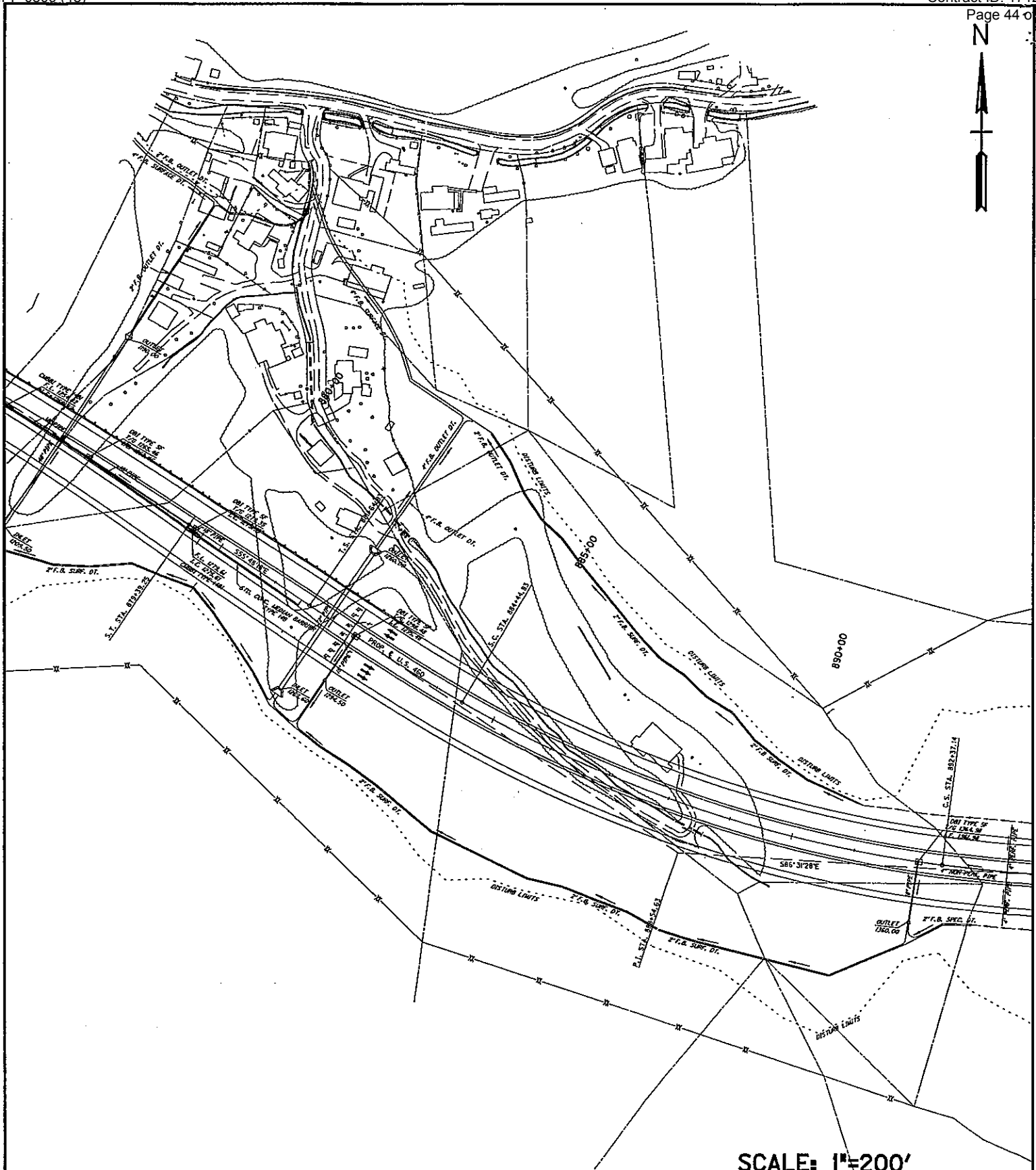
Stonecoal Fork Road Sta. 509+50 - 66' Pipe Const.	
PROPOSED ACTIVITIES:	
Stonecoal Fork	
STREAM NAME:	AT OR NEAR:
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	27 OF 48
ITEM NO.:	SHEET NO.



~NOTES~

APPLICATION BY
KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS

Sta. 859+50 - 60" Pipe Const., Section 1 Perennial Impact	
PROPOSED ACTIVITIES:	
Tributary to Beaver Creek	
STREAM NAME:	AT OR NEAR:
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	DATE: mo. /yr.
12-263.80	29 OF 48
ITEM NO.:	SHEET NO.



SCALE: 1"=200'

~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

Sta. 882+00 - 72' Pipe Const., Diversion of Tributary to Right Fork of Beaver Creek		
PROPOSED ACTIVITIES:		
Tributary to Right Fork of Beaver Creek		
STREAM NAME:		AT OR NEAR:
Pike		KENTUCKY
COUNTY OF:		STATE OF:
MILE POINT:	12-263.80	31 OF 48
	ITEM NO.:	SHEET NO.



SCALE: 1"=300'

~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
 DEPARTMENT OF HIGHWAYS
 DIVISION OF
 ENVIRONMENTAL ANALYSIS

Diversion of tributary to Wolfpen Branch

PROPOSED ACTIVITIES:

Tributary to Wolfpen Branch

STREAM NAME:

AT OR NEAR:

Pike

KENTUCKY

COUNTY OF:

STATE OF:

MILE POINT:

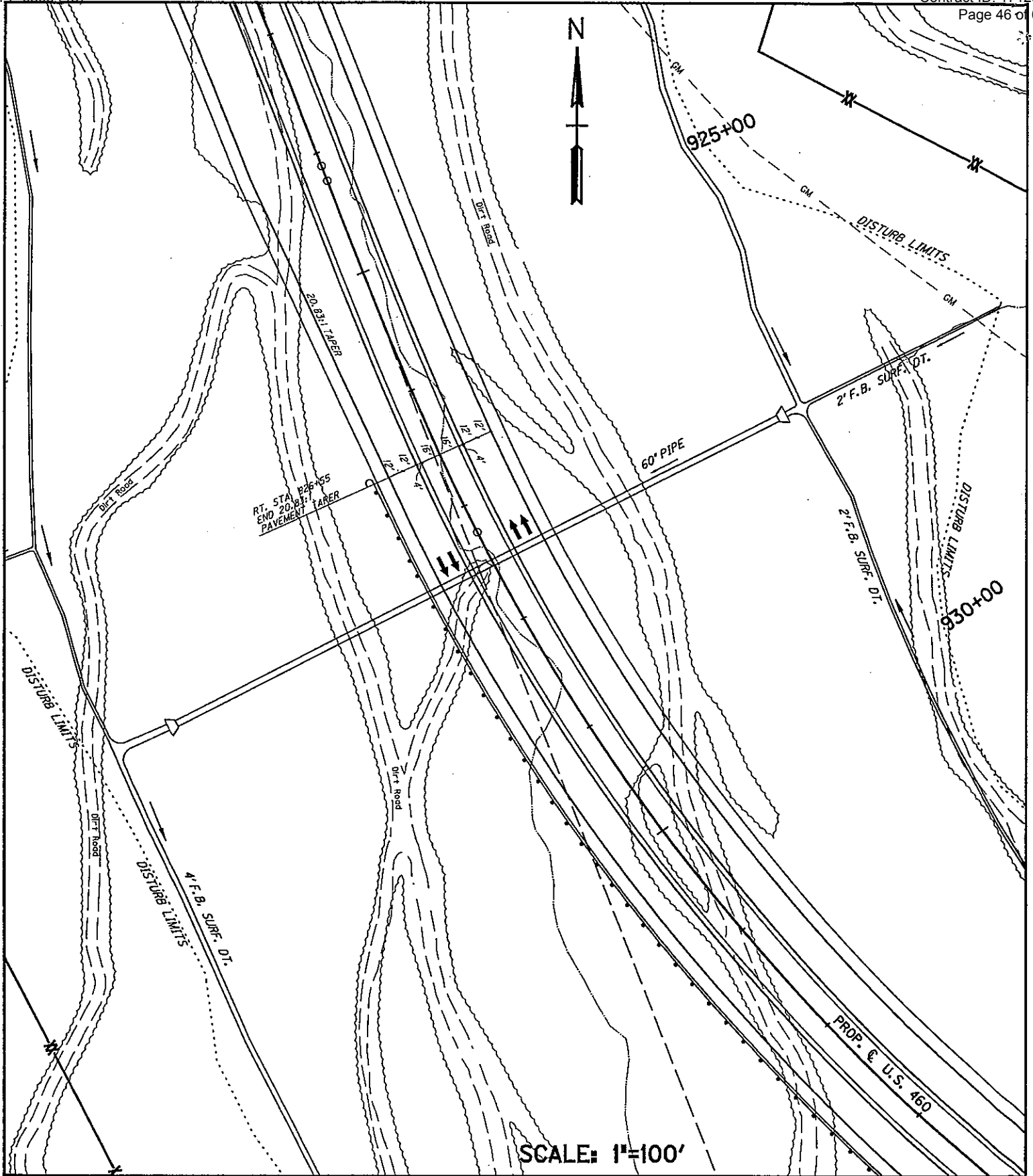
12-263.80

ITEM NO.:

33 OF 48

SHEET NO.

DATE: mo. /yr.

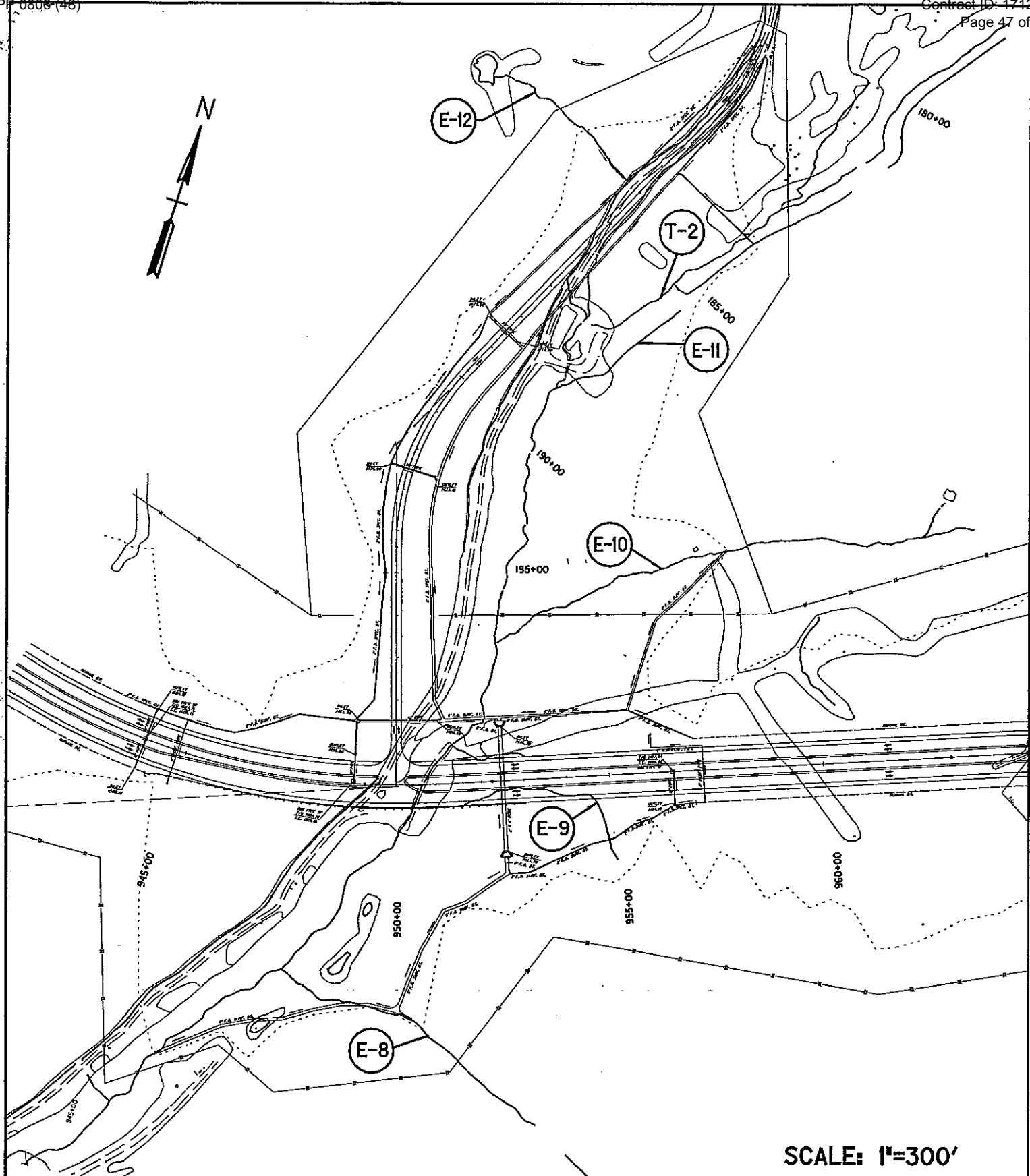


SCALE: 1"=100'

~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

Sta. 927+50 - 60" Pipe Const.		
PROPOSED ACTIVITIES:		
Tributary to Wolfpen Branch		
STREAM NAME:	AT OR NEAR:	
Pike	KENTUCKY	
COUNTY OF:	STATE OF:	
	12-263.80	34 OF 48
MILE POINT:	ITEM NO.:	SHEET NO.



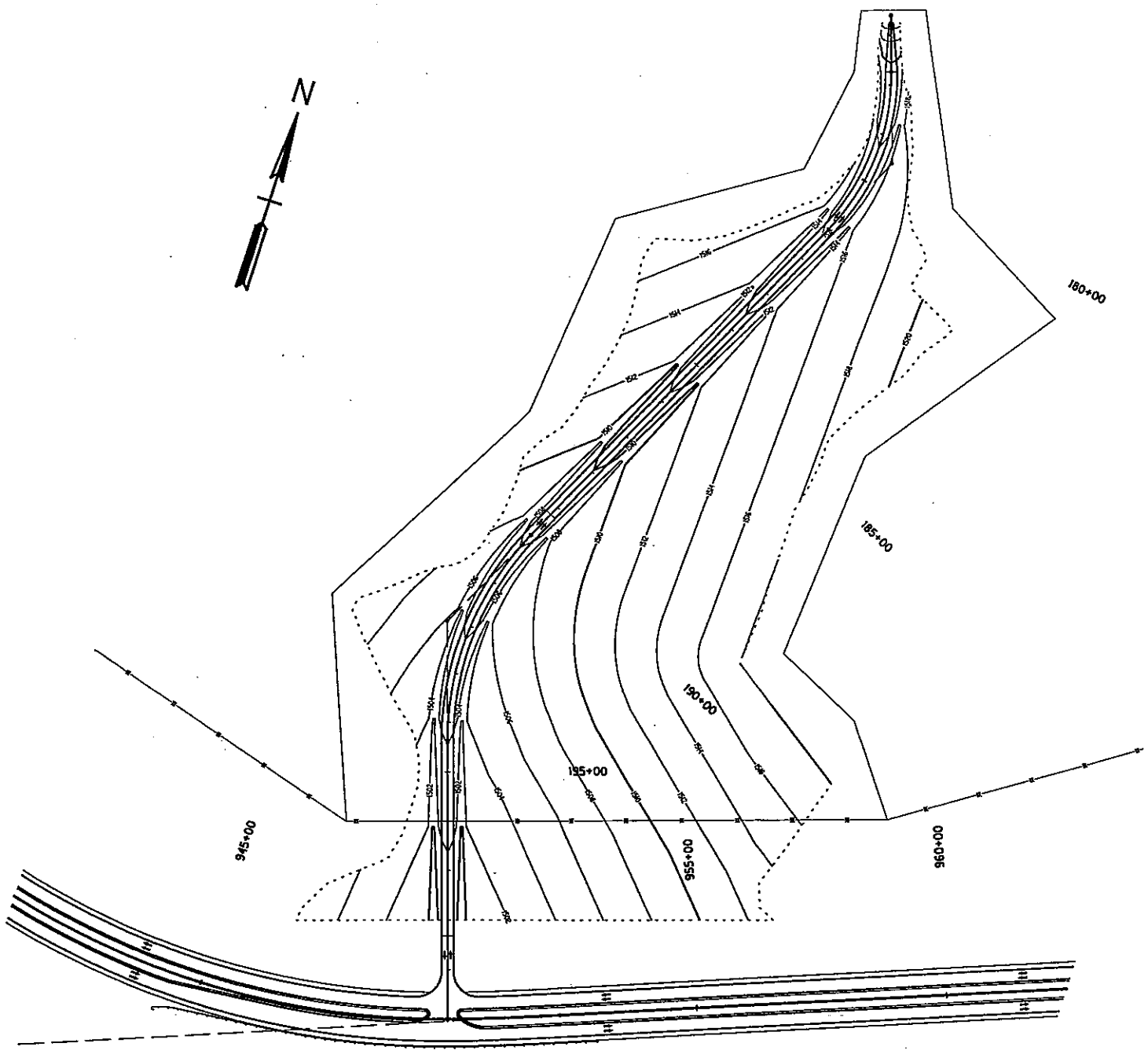
SCALE: 1"=300'

~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
 DEPARTMENT OF HIGHWAYS
 DIVISION OF ENVIRONMENTAL ANALYSIS

Sta. 950+00 Excess Material Site. Diversion of Wolfpen Branch	
PROPOSED ACTIVITIES:	
Wolfpen Branch	AT OR NEAR:
STREAM NAME:	KENTUCKY
Pike	STATE OF:
COUNTY OF:	
MILE POINT:	12-263.80
ITEM NO.:	36 OF 48
DATE: mo. /yr.	SHEET NO.

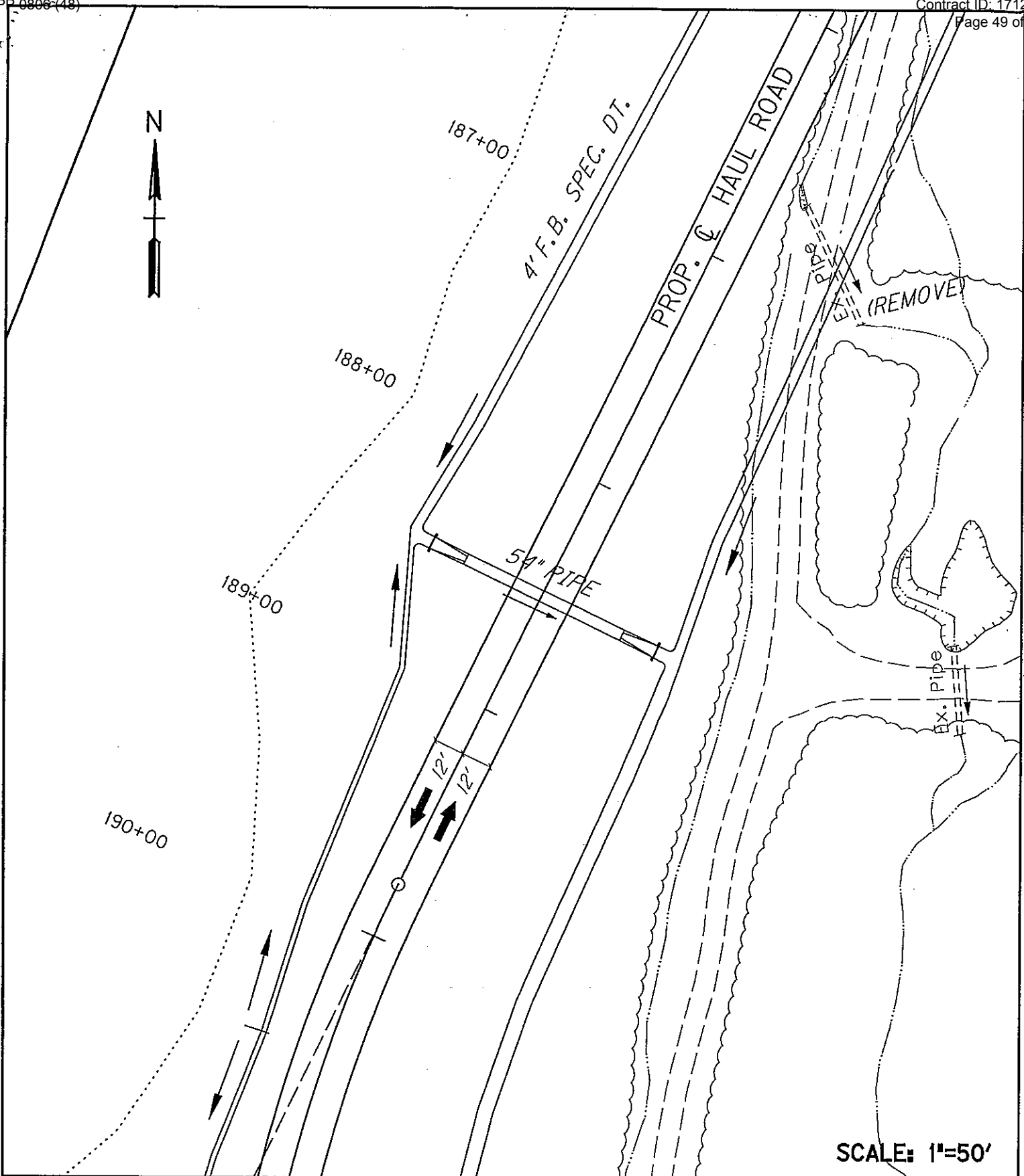


SCALE: 1"=300'

~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

Diversion of Wolfpen Branch, Proposed Contours PROPOSED ACTIVITIES:		
Wolfpen Branch STREAM NAME:	AT OR NEAR:	
Pike COUNTY OF:	KENTUCKY STATE OF:	
MILE POINT:	12-263.80 ITEM NO.:	36A OF 48 SHEET NO.
DATE: mo. /yr.		



SCALE: 1"=50'

~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF ENVIRONMENTAL ANALYSIS

Mainline Sta. 950+00, Haul Rd. Sta. 188+50 - 54" Pipe Const.

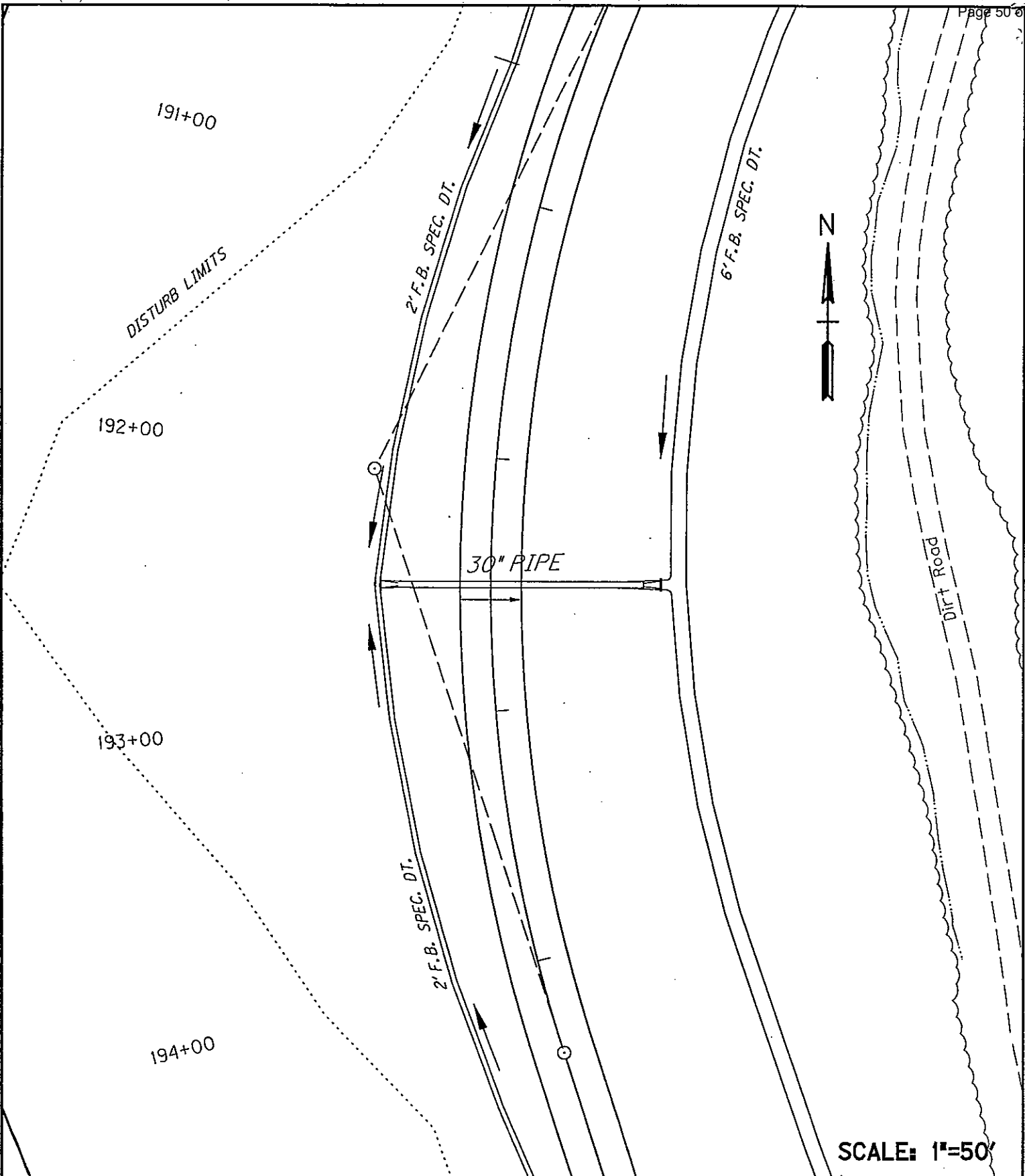
PROPOSED ACTIVITIES:

Wolfpen Branch
STREAM NAME: AT OR NEAR:

Pike
COUNTY OF: STATE OF: KENTUCKY

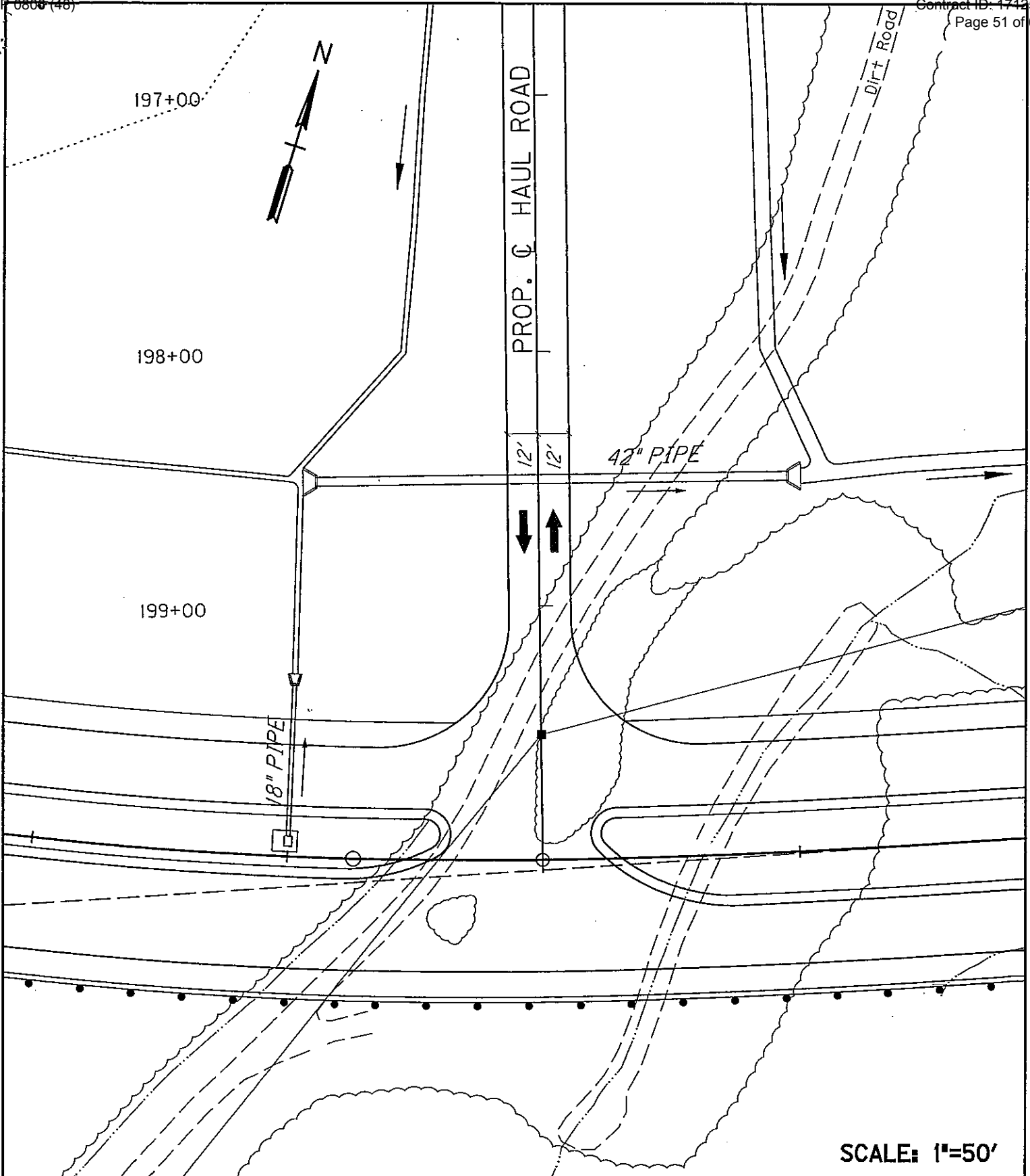
MILE POINT: 12-263.80
ITEM NO.: 37 OF 48
SHEET NO.

DATE: mo. /yr.



SCALE: 1"=50'

<p>~NOTES~</p>	<p>APPLICATION BY</p>		<p>Mainline Sta. 950+00, Haul Rd. Sta. 192+50 - 30" Pipe Const.</p>	
	<p>KENTUCKY TRANSPORTATION CABINET DEPARTMENT OF HIGHWAYS DIVISION OF ENVIRONMENTAL ANALYSIS</p>		<p>PROPOSED ACTIVITIES:</p>	
	<p>WOLF PEN BRANCH</p>		<p>AT OR NEAR:</p>	
	<p>PIKE</p>		<p>KENTUCKY</p>	
<p>COUNTY OF:</p>		<p>STATE OF:</p>		
<p>MILE POINT:</p>		<p>12-263.80</p>	<p>39 OF 48</p>	
<p>ITEM NO.:</p>		<p>SHEET NO.</p>		



SCALE: 1"=50'

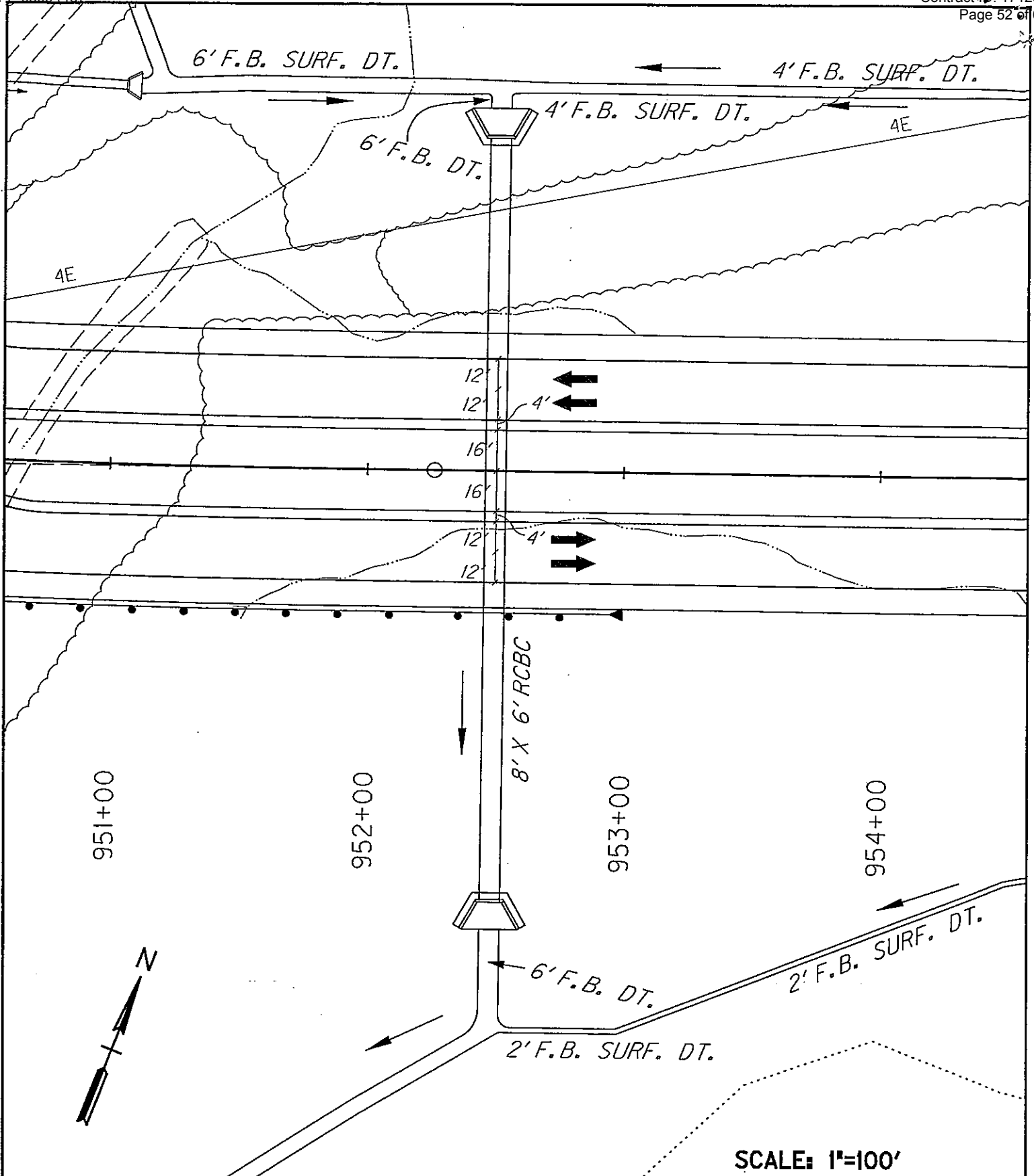
~NOTES~

APPLICATION BY

KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS

Mainline Sta. 950+00, Haul Rd. Sta. 198+50 - 42" Pipe Const.

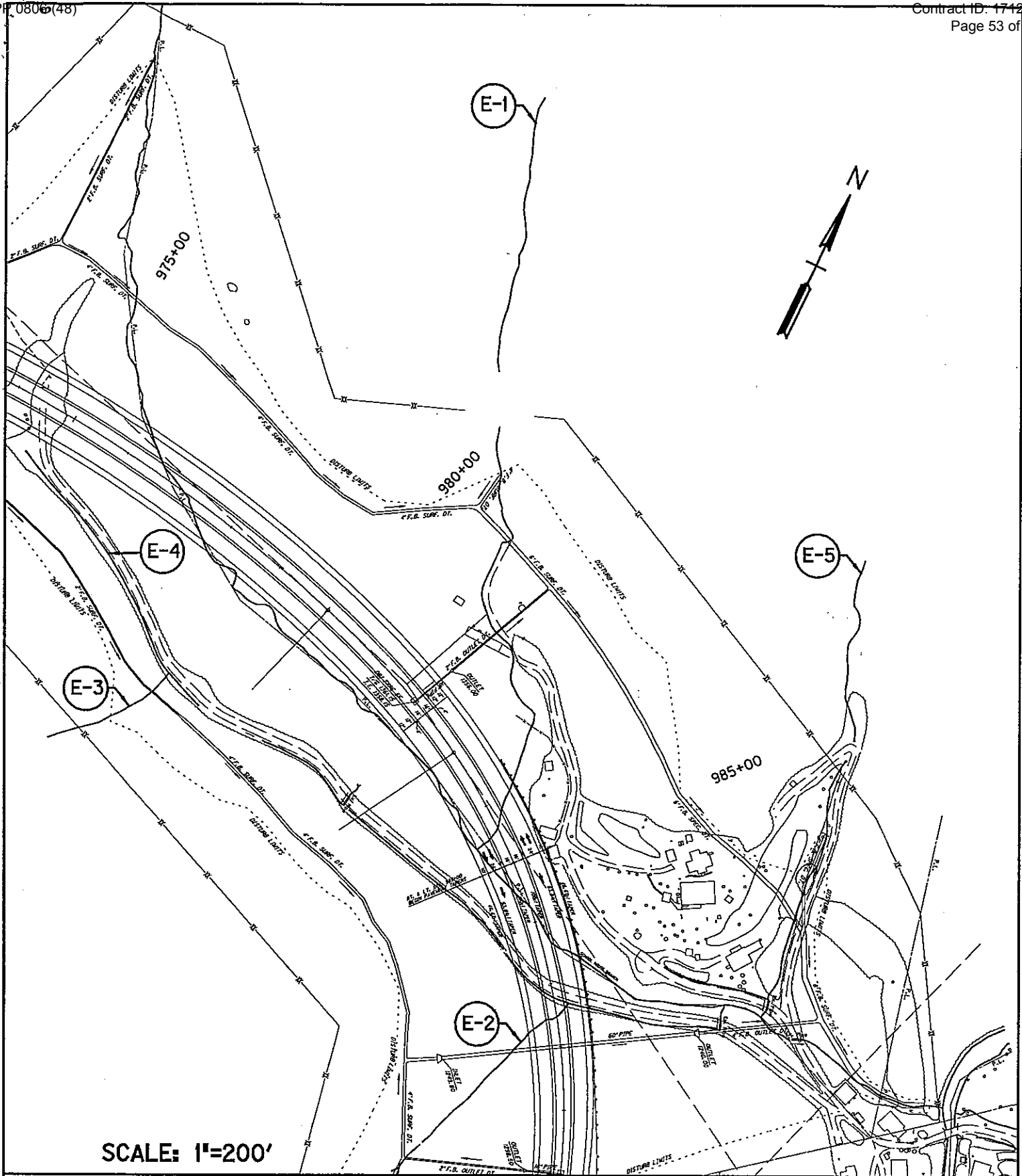
PROPOSED ACTIVITIES:	
Wolfpen Branch	
STREAM NAME:	AT OR NEAR:
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	DATE: mo. /yr.
12-263.80	41 OF 48
ITEM NO.:	SHEET NO.



~NOTES~

APPLICATION BY
KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS

Sta. 952+50 - 8 x 6' RCBC Const.	
PROPOSED ACTIVITIES:	
Wolfpen Branch	AT OR NEAR:
STREAM NAME:	
Pike	KENTUCKY
COUNTY OF:	STATE OF:
MILE POINT:	DATE: mo / yr
12-263.80	43 OF 48
ITEM NO.:	SHEET NO.



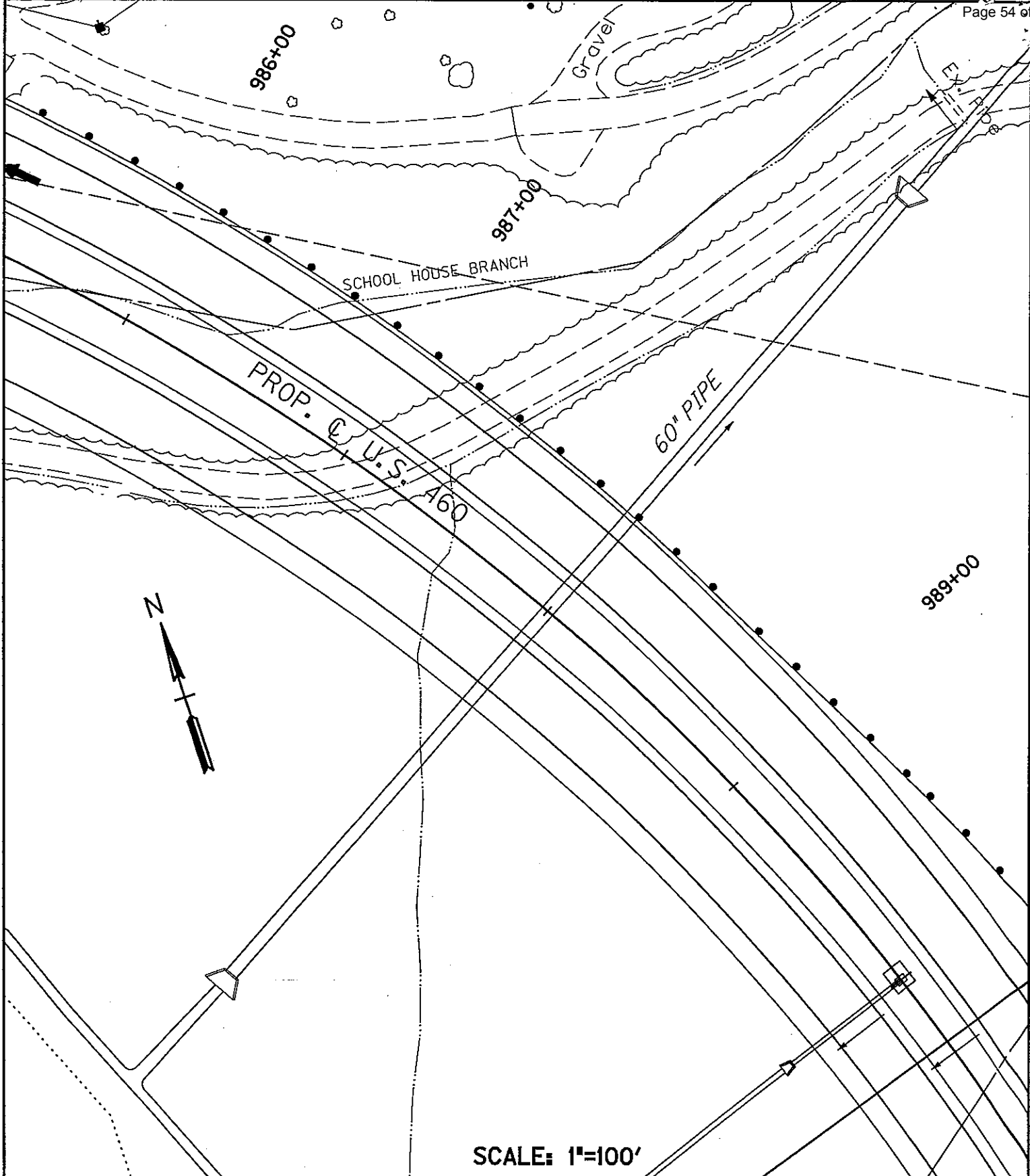
SCALE: 1"=200'

~NOTES~

APPLICATION BY
KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS

Diversion of School House Branch		
PROPOSED ACTIVITIES:		
School House Branch		
STREAM NAME:	AT OR NEAR:	
Pike	KENTUCKY	
COUNTY OF:	STATE OF:	
	12-263.80	45 OF 48
MILE POINT:	ITEM NO.:	SHEET NO.:

DATE: mo. /yr.

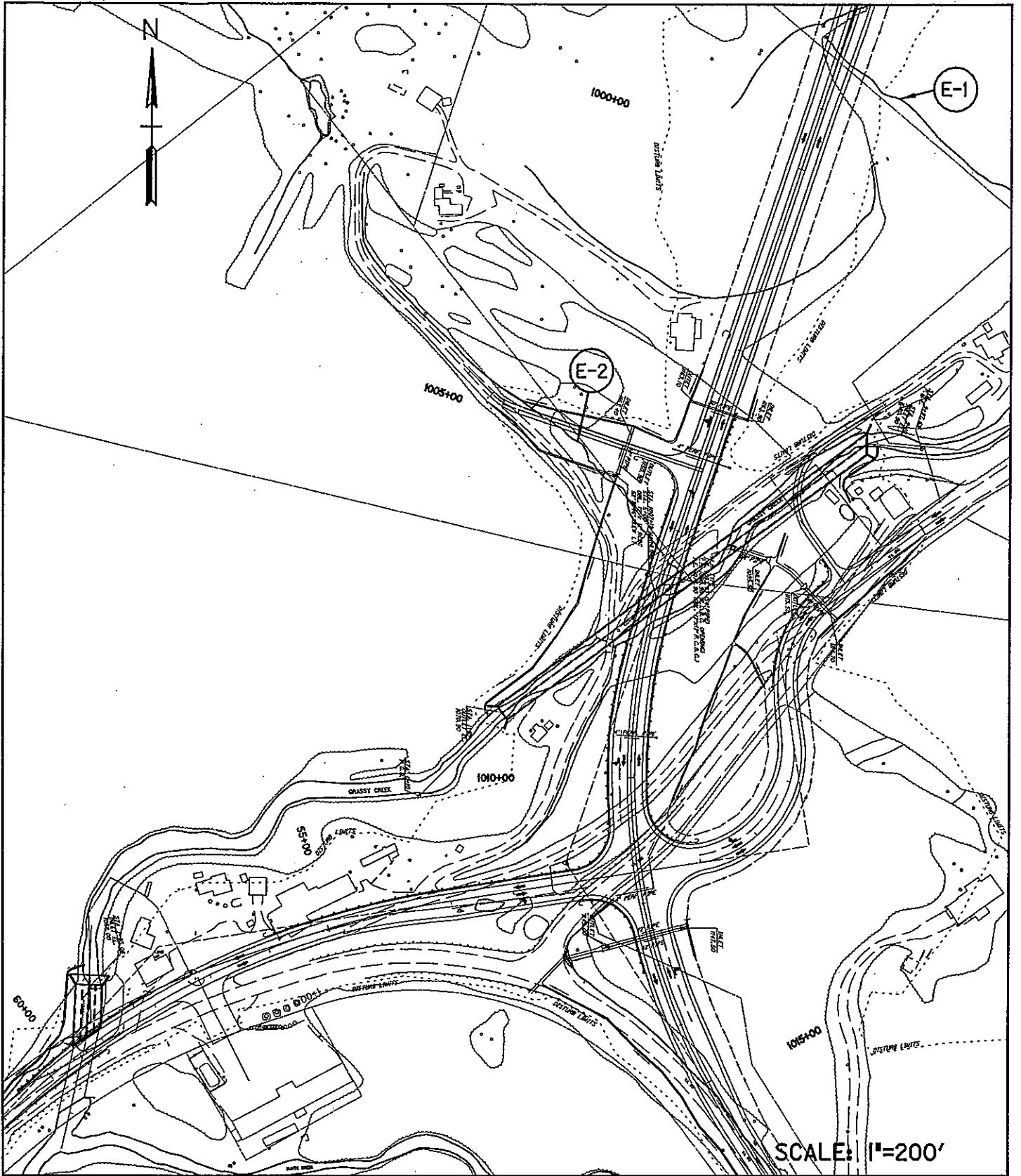


SCALE: 1"=100'

~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

Sta. 988+00 - 60" Pipe Const.		
PROPOSED ACTIVITIES:		
School House Branch		
STREAM NAME:	AT OR NEAR:	
Pike	KENTUCKY	
COUNTY OF:	STATE OF:	
	12-263.80	46 OF 48
MILE POINT:	ITEM NO.:	SHEET NO.



~NOTES~

APPLICATION BY
**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
DIVISION OF
ENVIRONMENTAL ANALYSIS**

Sta. 998+10, fill; Sta. 1005+00, entrance pipe;
Sta. 1007+12, RCBC; VA 80 Sta. 59+34.57, RCBC

PROPOSED ACTIVITIES:

Grassy Creek	
STREAM NAME:	AT OR NEAR:
Pike, KY / Buchanan, VA	KENTUCKY/VIRGINIA
COUNTY OF:	STATE OF:
	12-263.90
MILE POINT:	ITEM NO.:
	48 OF 48
	SHEET NO.

DATE: mo. /yr.



ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Ernie Fletcher
Governor

Division of Water
14 Reilly Road
Frankfort, Kentucky 40601-1190
www.kentucky.gov

NOV 28 AM 10:40
Juana S. Wilcher
Secretary

November 22, 2005

Mr. David Waldner
Transportation Cabinet
200 Mero Street
Frankfort, Kentucky 40601

Re: Water Quality Certification # 2005-0038-1
USACE Public Notice No. 2004000681
AI No.: 34826,
KTC Item # 12-263.70, Sections 7, 8, & 9V
Activity ID: APE20050001,
US-460 Russell Fork, Beaver Creek and tributaries,
Pike County, Kentucky

Dear Mr. Walden:

Pursuant to Section 401 of the Clean Water Act (CWA), the Commonwealth of Kentucky certifies it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 5, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated by the above referenced project provided that the U.S. Army Corps of Engineers authorizes the activity under 33 CFR part 330, and the following conditions are met:

The work approved by this certification shall be limited to:

- Station (Sta) 49+00 to 52+25 Relocation of 347' feet of Beaver Creek for the placement of a bridge.
- Station 1007+12 Placement of a RCBC resulting in 749' of stream loss.
- The Kentucky Division of Water (KDOW) requires mitigation for the above listed losses. KTC has chosen to pay the Kentucky Department for Fish and Wildlife Resources Stream Restoration Fund for all required mitigation. The US Army Corps of Engineers shall determine the amount of this payment.
- Sta 59+00 Placement of a box culvert into an Unnamed Tributary (UT) to Russell Fork resulting in 221' of stream loss.
- Sta 77+50 Placement of a RCBC within an UT to Russell Fork resulting in 470' of stream loss.
- Sta 205+25 Placement of a RCBC within an UT to Russell Fork resulting in 229' of stream loss.
- Sta 769+00 Placement of a pipe culvert within an UT of Beaver Creek resulting in 407' of stream loss.



Mr. Walden
Page Two

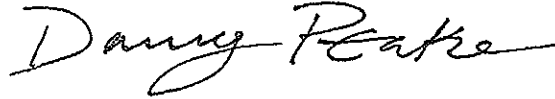
- Sta 788+50 Placement of a pipe culvert within an UT to Beaver Creek resulting in 300' of stream loss.
 - Sta 807+33 Placement of a pipe culvert within an UT to Beaver Creek resulting in 587' of stream loss.
 - Sta 859+50 Placement of a 452' RCBC within an UT Beaver Creek.
 - Sta 205+25 Placement of a RCBC within an UT to Russell Fork resulting in 229' of stream loss.
 - Sta 877+00 to 890+00 Converting 804' of a UT to Right Fork Beaver Creek to a flat bottom ditch.
 - Sta 882+00 Placement of an 852' culvert within an UT Right Fork Beaver Creek.
 - Sta 906+00 Converting 5300' of an UT to Wolfpen Branch to a flat bottom ditch.
 - Sta 927+50 Placement of a 969' culvert within an UT to Wolfpen Branch.
 - Sta 952+50 Placement of 300' box culvert within Wolfpen Branch; the KDOW shall not require mitigation for this impact.
 - Sta 967+50 to 991+00 Converting 3939' of School House Branch to a flat bottom ditch.
 - Sta 988+00 Placement of 2191' of culverts into an UT to Grassy Creek.
 - Sta 807+00 Placement of fill within an UT to Mud Lick resulting in 3939' of stream loss.
 - Sta 821+50 Placement of fill within an UT to House Log Fork resulting in 2602' of stream loss.
 - Sta 837+00 Placement of fill within an UT to Stone Coal Fork resulting in 4792' of stream loss.
 - Sta 950+00 Placement of fill within Wolfpen Branch resulting in 3472' of stream loss.
 - Sta 1005+00 Placement of a culvert within Grassy Creek resulting in 603' of stream loss.
- The KDOW does not require mitigation for the above listed impacts due to the size of the watershed (less than 250 acres) and/or length of impact:
 - KTC shall receive a CWA Section 404 permit from the Army Corps of Engineers prior to beginning this work, and shall comply with all terms and conditions of that 404 permit.

Other permits may be required from the Division of Water for this project. If this project takes place within the floodplain, a permit may be required from the Water Resources Branch. The contact person is Ali Daneshmand. If this project will disturb one acre or more of land, a KPDES general storm water permit will be required from the KPDES Branch. The contact person is Ronnie Thompson. Both can be reached at (502) 564-3410.

Mr. Walden
Page Three

All future correspondence on this project must reference AI No. 34826 shown at the top of this letter. If you should have any questions concerning the conditions of this water quality certification, please contact Mr. Danny Peake of my staff by calling (502) 564-3410.

Sincerely,



for **Jennifer Garland, Supervisor**
Water Quality Certification Section
Division of Water

JG:DP:cw
Attachment

c: Ginger Mullins, USACE; Huntington District
Stephanie Fulton, USEPA; Atlanta
Roger Martin, KDOW; Hazard Regional Office
Ted Withrow, KDOW; Morehead Regional Office

Water Quality Certification
US 460 - Pike Co
Facility Requirements

Activity ID No.: APE20050001

Narrative Requirements:

Condition No.	Condition
T-1	The work approved under this certification shall be limited to: PLEASE REFER TO COVER LETTER. [Clean Water Act]
T-2	All work performed under this certification shall adhere to the design and specifications set forth in the application received March 9, 2004. [Clean Water Act]
T-3	The DOW shall be notified of the date of any pre-construction meetings with the contractor selected for this project. [Clean Water Act]
T-4	The DOW shall be notified when work begins on the stream relocation portion of this project. [Clean Water Act]
T-5	The person responsible for the design of this stream relocation project shall inspect the progress of this project to assure its correct construction. [Clean Water Act]
T-6	If site conditions prevent the construction of this stream relocation project as approved, construction on the stream relocation must cease and the DOW must be contacted. [Clean Water Act]
T-7	No changes may be made in the approved stream relocation design without prior approval by DOW. [Clean Water Act]
T-8	Once the stream relocation project has begun, KTC shall submit a weekly report to DOW showing photographic evidence of the status of the project. E-mail transmittal of this report is satisfactory. [Clean Water Act]
T-9	DOW shall perform a final inspection of the stream relocation project prior to the completion of the highway project. The intent of this stream relocation project is to create a naturally stable stream channel in a new location. Should this final inspection show that this was not accomplished, KTC will be responsible for further compensatory mitigation to be determined by DOW. [Clean Water Act]
T-10	During site construction, sediment control structures shall not be placed within the channels of intermittent or perennial streams. [Clean Water Act]
T-11	During construction, heavy equipment must not enter any stream channel except over approved low water crossing structures. [Clean Water Act]

Water Quality Certification
US 460 - Pike Co
Facility Requirements

Activity ID No.: APE20050001

Narrative Requirements:

Condition No.	Condition
T-12	Existing vegetation shall be retained on site as long as possible and permanent seeding of finished areas will take place as soon as possible. [Clean Water Act]
T-13	The applicant is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sedimentation control plan must be designed, implemented and maintained in effective operating condition at all times during construction. [Clean Water Act]
T-14	The Division of Water reserves the right to modify or revoke this certification should it be determined that the activity is in noncompliance with any condition set forth in this certification. [Clean Water Act]
T-15	If construction does not commence within one year of the date of this letter, this certification will become void. A letter requesting a renewal should be submitted. [Clean Water Act]
T-16	Attached with this letter is a listing of General Conditions for Water Quality Certification that apply to this project. [Clean Water Act]
T-17	Other permits may be required from the Division of Water for this project. If this project will disturb 1 acre or more of land, a KPDES general storm water permit will be required from the KPDES Branch. The contact person is Ronnie Thompson. He can be reached at 502/564-3410. [Clean Water Act]



ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Ernie Fletcher
Governor

Division of Water
14 Reilly Road
Frankfort, Kentucky 40601-1190
www.kentucky.gov

LaJuana S. Wilcher
Secretary

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: Ronnie Thompson

- **Projects that involve filling in the floodplain will require a floodplain construction permit from the Water Resources Branch.**

Contact: Ali Daneshmand

- **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: Jenni Garland

All three contacts listed above can be reached at 502/564-3410. A complete listing of environmental programs administered by the Kentucky Department for Environmental Protection is available from Pete Goodmann by calling 502/564-3410.

GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION

1. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
2. All dredged material shall be removed to an upland location and/or graded on adjacent areas (so long as such areas are not regulated wetlands), to obtain original streamside elevations, i.e. overbank flooding shall not be artificially obstructed.
3. In areas not riprapped or other wise stabilized, revegetation of stream banks and riparian zones shall occur concurrently with project progression. At a minimum, revegetation will approximate pre-disturbance conditions.
4. To the maximum extent practicable, all instream work under this certification shall be performed during low flow.
5. Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances where such instream work is unavoidable, then it shall be performed in such a manner and duration as to minimize resuspension of sediments and disturbance to substrates and bank or riparian vegetation.
6. Any fill or riprap including refuse fill, shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If riprap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created because of its placement.
7. If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when work will be done.
8. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.
9. Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/564-2380.

N O T I C E

KY DIVISION OF WATER

WATER QUALITY CERTIFICATION

WQC #2011-052-1
AI # APE20090002

PROJECT: Pike County (US-460), Item No. 12-0263.61
Relocation

The Kentucky Division of Water has previously approved the Section 401 activities for this project by issuance of a Water Quality Certification. In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Water Quality Certification in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain **written** permission from the Division of Construction and the appropriate permit agency. A copy of any request to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.



STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

August 10, 2011

Mr. David Waldner, Director
KYTC, Division of Environmental Analysis
200 Mero Street, 5th Floor
Frankfort, KY 40622

Re: Water Quality Certification #2011-052-1
US 460 - Pike Co
KYTC Item No. 12-0263.60
AI No.: 34826
Activity ID: APE20090002
Pike County, Kentucky

Dear Mr. Waldner:

Pursuant to Section 401 of the Clean Water Act (CWA), the Commonwealth of Kentucky certifies it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated by the above referenced project provided that the U.S. Army Corps of Engineers authorizes the activity under 33 CFR part 330, and the attached conditions are met.

All future correspondence on this project must reference **AI No. 34826**. **The attached document is your official Water Quality Certification; please read it carefully.** If you should have any questions concerning the conditions of this water quality certification, please contact Adam Jackson of my staff by calling (502) 564-3410.

Sincerely,

A handwritten signature in black ink that reads "Alan Grant".

Alan Grant, Supervisor
Water Quality Certification Section
Kentucky Division of Water

AG:AJ:aj
Attachment

cc: Todd Hagman, USACE: Louisville District
Lee Andrews, USFWS: Frankfort
Ronald Rigney II, KYTC DEA

Water Quality Certification

US 460 - Pike Co
Facility Requirements
Permit Number: WQC# 2011-052-1
Activity ID No.: APE20090002

AAZZ0000000001 (KYTC Item No. 12-1263.60) US 460 Pike County:

Submittal/Action Requirements:

Condition No.	Condition
S-1	The Kentucky Transportation Cabinet shall submit notification: Due prior to construction commencement to the Kentucky Division of Water, Water Quality Certification Section. Notification shall confirm the purchase of 17,710.98 Ecological Integrity Units (EIUs) due to the permanent, temporal, and cumulative intermittent and perennial stream impacts (listed within this certification) and 0.9864 Wetland Credits due to the permanent, temporal, and cumulative wetland impacts from the Kentucky Department of Fish and Wildlife Resources Stream and Wetland Restoration Fund. The USACE may require a different amount. [Clean Water Act]

Narrative Requirements:

Condition No.	Condition
T-1	The work approved by this certification shall be limited to: <ul style="list-style-type: none"> - the loss of 17457 linear feet of intermittent and perennial streams within the Laurel Branch Watershed (HUC 14 #05070202030470) (Stations 546+24-590+45, 551+00, 567+11, 588+45; as well as the Laurel Branch West, South, and East Fill Areas (intermittent impacts)). - the loss of 8266 linear feet of intermittent and perennial streams within the Jessie Branch Watershed (HUC 14 #05070202030210) (Stations 645+00-658+50 (intermittent impacts), 658+50-660+70, 660+00-681+75; as well as the Jessie Branch Fill Area (intermittent and perennial impacts)). - the loss of 7246 linear feet of intermittent and perennial streams within the Dunleary Hollow Watershed (HUC 14 #05070202030160) (Stations 699+50-736+45 (perennial impact), 658+50-660+70; as well as the Dunleary Hollow Fill Area (intermittent impacts)). - the loss of 0.411 acre of wetland within the Jessie Branch Watershed (Jessie Branch Fill Area). [Clean Water Act]
T-2	The Kentucky Division of Water (KDOW) requires mitigation for the intermittent and perennial stream impacts listed within this certification for the Laurel Branch, Dunleary Hollow, and Jessie Branch Watershed areas, as well as wetland impacts listed for the Jessie Branch Fill Area. The Kentucky Transportation Cabinet (KYTC) has proposed to make an in-lieu-fee payment to the Kentucky Department of Fish and Wildlife Resources (KDFWR) to mitigate for the stream and wetland impacts associated with this project. Using the Eastern Kentucky Stream Assessment Protocol (EKSAP), the KDOW requires that the KYTC purchase 17,710.98 Ecological Integrity Units (EIUs) from the KDFWR to address the permanent, temporal, and cumulative stream impacts, as well as 0.9864 wetland credits for the permanent, temporal, and cumulative wetland impacts associated with this project. The USACE may require a different amount. [Clean Water Act]
T-3	All work performed under this certification shall adhere to the design and specifications set forth in the Water Quality Certification Application package received by the Kentucky Division of Water on November 9, 2009, as well as the revised Summary of Impacts Table submitted to the Kentucky Division of Water on June 7, 2011. [Clean Water Act]

Water Quality Certification

US 460 - Pike Co
Facility Requirements
Permit Number: WQC# 2011-052-1
Activity ID No.: APE20090002

AAZZ0000000001 (continued):

Narrative Requirements:

Condition No.	Condition
T-4	The Kentucky Transportation Cabinet shall notify the Kentucky Division of Water, Water Quality Certification Section prior to the start of project construction. [Clean Water Act]
T-5	The Kentucky Transportation Cabinet shall notify the Kentucky Division of Water, Water Quality Certification Section once project construction is complete. [Clean Water Act]
T-6	The Kentucky Transportation Cabinet is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sedimentation control plan must be designed, implemented, and maintained in effective operating condition at all times during construction. [Clean Water Act]
T-7	The Division of Water reserves the right to modify or revoke this certification should it be determined that the activity is in noncompliance with any condition set forth in this certification. [Clean Water Act]
T-8	If construction does not commence within two years of the date of this letter, this certification will become void. A letter requesting a renewal should be submitted. [Clean Water Act]
T-9	Other permits may be required from the Division of Water for this project. If this project takes place within the floodplain, a permit may be required from the Surface Water Permits Branch. The contact person is Todd Powers. If this project will disturb one acre or more of land, a KPDES general storm water permit will be required from the Surface Water Permits Branch. The contact person is Allen Ingram. Both can be reached at 502-564-3410. [Clean Water Act]



STEPHEN L.
BESHEAR
GOVERNOR

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LEONARD K. PETERS
SECRETARY

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 an acre or more**

- **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) NOI-SWCA stormwater permit shall be required from the Operational Permits Section. This permit requires the creation of an erosion control plan.**

Contact Allen Ingram.

- **Projects that involve filling in the floodplain will require a stream construction permit from the Floodplain Management Section.**

Contact Todd Powers.

- **Projects that involve work IN a stream, such as bank stabilization, road culverts, utility line crossings, and stream alteration will require a stream construction permit and a Water Quality Certification from the Water Quality Certification Section.**

Contact Alan Grant.

All three contacts listed above can be reached at 502/564-3410. A complete listing of environmental programs administered by the Kentucky Department for Environmental Protection is available from Pete Goodman by calling 502/564-3410.

GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION

1. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
2. All dredged material shall be removed to an upland location and/or graded on adjacent areas (so long as such areas are not regulated wetlands), to obtain original streamside elevations, i.e. overbank flooding shall not be artificially obstructed.
3. In areas not riprapped or other wise stabilized, revegetation of stream banks and riparian zones shall occur concurrently with project progression. At a minimum, revegetation will approximate pre-disturbance conditions.
4. To the maximum extent practicable, all instream work under this certification shall be performed during low flow.
5. Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances where such instream work is unavoidable, then it shall be performed in such a manner and duration as to minimize resuspension of sediments and disturbance to substrates and bank or riparian vegetation.
6. Any fill or riprap including refuse fill, shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If riprap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created because of its placement.
7. If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when work will be done.
8. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.
9. Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/564-2380.